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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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January 25, 1989

TO: Sue Linner, Permit Supervisor

FROM: Randy Harden, Reclamation Engineer ~~1244~~

RE: Five-Year Permit Renewal Review, Utah Fuel Company,
Skyline Mine, ACT/007/004, Folder #2, Carbon County,
Utah 5

The following comments are in regard to the five-year permit renewal submittal information received by the Division on December 1, 1988 and update information received on January 13, 1989 from Utah Fuel Company.

UMC 700.14 Availability Of Records - JRH

The operator has indicated that maps 3.1.8-1 and 3.1.8-2 are confidential. Accordingly, these drawings need to be referenced to and relocated to Appendix Volume A-4. Please provide appropriate reference for revision to the plan.

UMC 783.22 Land Use Information - JRH

The operator has revised section 4.12.2 page 4-61 of the MRP to address previous comments on this section.

Within the text of the MRP, the operator has sufficiently responded to the requirements of this section. However, details and delineation of the final reclamation of the site with regard to facilities left for post-mining land use are not clear.

Maps and plans presented in the plan do not provide specific details as to the reclamation treatments within the permit area. The reclamation drawings should clearly delineate areas not to be revegetated, roads to be left as part of the post-mining land use, extent and description of pads or other facilities to be left in conjunction with the post-mining land use.

For example, the loadout facilities reclamation maps should clearly indicate that the approaches from the roads will remain, provide the extent of the area not to be revegetated in anticipated of corral areas. Will the pre-mining corrals be reconstructed as part of this post mining land use? Those areas which are to be completely reclaimed should be delineated to indicate the acreage requirements for topsoil distribution and revegetation, as well as other reclamation treatments that may be required.

The maps and drawing utilized for Phase I and Phase II reclamation must sufficiently show all the aspects of reclamation including determination of quantities for bonding calculations, delineation of the areas for each specific post-mining land use, and determination of the acceptability of the proposed post-mining land use.

While this section of the regulations could be considered complete, other aspects involved in the reclamation plan need further consideration.

Items Required for approval:

1. A map clearly indicting those facilities (roads, pads, culverts, etc.) which are currently within the disturbed area boundaries and are to be left as part of the post-mining land use.

UMC 784.13 Reclamation Plan: General Requirements - JRH

Map 3.2.3-3 indicates the conveyor route permit boundary. The operator has added acreages to those areas previously indicated on the drawing. However, additional details of these areas were not provided as requested. The operator needs to provide reclamation drawings for these areas which will show the existing and the final configuration for these areas. Sections of these bench areas are in the original design for the road and conveyor route. These sections could be used to provide reclamation details for the areas.

Map 4.2-1 provides a good reference for the reclamation of the surface facilities. However, the South Fork Portals and access road should be added to the drawing. Reference to detailed reclamation drawings for each specific area shown on this drawing would also be beneficial.

Map 4.4.2-1A and B provide details of the reclamation plan for the mine surface facilities. Because these maps provide contour information for backfilling and grading, the drawing should be certified. Additionally, several problems are apparent on the drawing. No recontouring of the topsoil storage area is shown on the drawing. Consequently, the drainage through that area is not shown either. Earthwork is indicated outside of the existing disturbed permit and bonding boundary. Either the boundary must be revised or recontouring must be made within the disturbed area boundary. This problem is most pronounced at Section D-D' where the contours show a 10' cut right at the boundary line.

Cross sections shown on map 4.4.2-1B do not correspond to the contours shown on map 4.4.2-1A. As an example, Section H-H' should show the Mine #3 Access Road but it is not seen on the section. Contours in that area also indicate that the access road and pad will remain virtually unchanged, but Section H-H' indicates filling of the road. These maps should more specifically and precisely identify the recontouring to be accomplished in the area. Reclamation contours located at the temporary gob pile location on the drawing are incorrect and should be redrawn.

Map 4.7.2-1 shows the final reclamation vegetation plan for the portal area. The contours and reclamation treatments shown on this drawing represent the old proposed reclamation of the site. This map needs to be redrawn over the revised base and reclaimed contours provided on map 4.4.2-1A.

Maps 4.4.2-1C and D are reclamation plans and sections of the railroad loadout facilities. Similar to 4.4.2-1A and B, information is not clear on the drawings. Earthwork is indicated outside of the existing disturbed permit and bonding boundary. Because these maps provide contour information for backfilling and grading, the drawing should be certified.

Map 4.4.2-1E indicates the water tank site reclamation plan. The drawing is a planimetric map with insufficient spot elevations or sections to consider it adequate for reclamation design. Contour maps/cross sections must provide sufficient information for orientation and slope within the disturbed area boundary and at least 100 feet beyond.

Map 3.2.6-1A shows the North Fork Drainage Design. This drawing would be an appropriate base map to indicate topsoil volume, reclamation contours and reclaimed drainage reclamation in the reclamation plan of the MRP. This map would also be suitable in determining the topsoil volume available for mass balance calculations.

UMC 784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams
and Embankments - JRH

The operator has revised the text and the drawings to indicate that the mine facilities sediment pond is to be reclaimed including backfilling the structure. This response is considered to be adequate for the text of the MRP. However, the drawings need to be revised to indicate how this will be accomplished during Phase II reclamation. These details should include the location and the size of the stockpiled fill and topsoil material to be temporarily stored during Phase I reclamation and then used to backfill the pond during Phase II reclamation.

Similarly for Pond 002 at the railroad loadout facilities, the embankment volume should be checked to determine if additional fill material will be required to supplement backfilling of the pond during Phase II activities.

UMC 784.19 Underground Development Waste - JRH

The operator has revised the text within this section to reduce the lifts to 1-2 feet rather than 3-4 feet. This revision is considered adequate.

UMC 800 - Bond and Insurance Requirements - JRH

Cost estimate calculations for reclamation are found in Volume 5, tab 17 of the mining and reclamation plan.

Some information is presented in the calculations indicating the amount of earthwork involved for reclamation. This information is identical to that previously submitted in earlier proposals. Reclamation contours have been changed since the time of these calculations and the earthwork is not reflected in these calculations. See also UMC 817.101 regarding further comments on earthwork and mass balance.

The calculations provided by the operator are difficult to read and follow in consideration with the maps and plans provided for reclamation. A reclamation treatments map should be provided in conjunction with the reclamation cost estimate to clearly indicate the location of reclamation activities provided.

Items Required for approval:

1. Revised calculations encompassing changes to the reclamation plan as proposed in the MRP. These revisions should include changes in the disturbed area boundaries, in earthwork, and in the quantities required for treatments such as topsoil distribution, grading, seeding and mulching.

2. A map(s) indication the location for specific reclamation treatments. Designs and drawings should have sufficient detail in order to determine the quantities provided in the cost estimate. These drawings should also clearly indicate work to be accomplished in Phase I and Phase II reclamation activities.

UMC 817.56 Hydrologic Balance: Postmining Rehabilitation Of Sedimentation Ponds, Diversions, Impoundments, And Treatment Facilities - JRH

The operator has committed to backfill and reclaim the sediment ponds in conjunction with Phase II reclamation. The reclamation designs and drawings do not determine the location and the amount of fill material that will be required for accomplishing backfilling of the sediment ponds. A rough estimate indicates that about 10,000 cubic yards of fill material will be required for the mine facilities sediment pond plus about 1,000 cubic yards of topsoil material. The operator must provide drawings, designs and calculations showing how Phase II reclamation work will be accomplished. These calculations should identify the location and type of material that will be utilized for Phase II backfilling and grading as well as topsoil materials if required.

The operator has indicated in the text of the mining and reclamation plan that the major culvert diversions located in the mine facilities area are to remain. Several problems are apparent because the culverts are large in diameter and deeply buried in most of the locations at the site. From the standpoint of reclamation ease during Phase I operations and cost, it is reasonable to consider their retention. However, due to the size of these culverts, it is not considered to be a reasonable reclamation practice.

If the culverts are to remain buried, and upon initiation of Phase II reclamation, the culverts will have to be backfilled. A rough estimate of the amount of fill material required to accomplish this is about 2,000 cubic yards of material would have to be stowed in the culverts at the end of Phase I reclamation. The methodology, and determination of a reasonable fill and compaction factor for the culverts should be established. Designs for backfilling should allow for the potential failure of the culverts, resulting in collapsing ground, channeling of water into the culverts, piping or other erosional problems that may occur as a result of failure of the culvert or inadequate backfilling of the culverts. Additionally, the source and storage of this fill material for the culverts should also be determined.

UMC 817.101 Backfilling and Grading: General Requirements - JRH

The following information was cited in the November and December review of the five-year plan. This information has not sufficiently been addressed by the operator:

The operator has included in the plan, a mass balance calculation in Volume 5, tab 17, of the MRP.

The mass balance information referred to by the operator is the summary information included in the bonding calculations with hand calculations presented as appendicies. These hand calculations provided by the operator are not clear as to the maps from which the information was derived, or the locations in which the cross sections were taken. Additionally, the cross sections provided in the plan represent contours from a previous submittal and do not show the currently proposed reclamation contours.

Map reference and indication of the locations of the cross sections used to generate the cut and fill requirements should be presented in the plan. Earthwork calculations should be revised to reflect those modifications to the reclamation plan as proposed.

The information presented is not sufficient to determine that there is a mass balance in the backfilling and grading requirements for the reclamation plan. The operator needs to provide sufficient contour detail and cross sections and volume calculations to indicate mass balance for the backfilling and grading requirements at the site. Backfilling and grading calculations need to indicate the amount of material required, or excess, be determined for general fill material, excess spoils and mine development waste, topsoil material, and waste materials to be disposed of on site.

The operator has committed to conduct geo-technical investigation of slopes in excess of 2:1 in conjunction with the design of the site for final reclamation. Response by the operator states that such information at this time is not required and will be accomplished in conjunction with the actual reclamation of the site. The operator has further referenced engineering designs used during in the construction of the facilities. In accordance with the requirements of this section, the operator will need to provide sufficient geo-technical analysis in those areas which do not meet the criteria for stability as mentioned above. Long term stability of the site upon reclamation is an important determination in the final configuration of the site, and costs associated with reclamation.

In order to determine the reclaimability of the site and the cost estimation for reclamation, more specific details involved with reclamation will have to be provided by the operator. Revisions to the plans for reclamation could vary considerably depending on the stability of the site and affect those costs involved in reclamation.

Surface facilities established in conjunction with the mining operations are static in a sense that little change in the shape and contour of the surface will occur throughout the life of the mine. The operator should accordingly, be able to provide detailed design specifications, drawings and plans for the reclamation of the site. Such detail will afford the Division the capability of determination of reclaimability of the site and associated costs for reclamation.

Items Required for approval:

1. Earthwork calculations which reference maps and sections from which they were derived. Calculations should be in sufficient detail to confirm the quantities obtained. Cut and fill volumes should be accumulated in the calculations and appropriate swell and compaction factors should be applied.
2. geo-technical analysis on slopes created during reclamation operations which exceed 2h:1v.
3. Revised disturbed area boundaries which encompass all disturbances to be accomplished during reclamation activities.
4. Topsoil volume, removal and reclamation in the North Fork Drainage area.
5. Backfilling drawings and plans for sediment ponds, culverts, diversions and other work to be accomplished during Phase II reclamation. (See also UMC 817.59)

UMC 817.150-.176 Roads - JRH

In response to previous deficiencies as noted in the reclamation plan regarding roads, the operator has revised some of the drawings to incorporate roads and approaches to public roads into the disturbed and permit area boundaries. Not all of the drawings have been revised to reflect these changes. Further, some of the approaches have not been included in the disturbed area as required. Although these facilities are within the right-of-way and under the jurisdiction of UDOT, the

facilities are still considered to be under the jurisdiction of the Division and the permit area, and affected area must include them. Where an approach or access road enters such a right-of-way the permit boundary shall extend to the road to a point where the adjoining road has not be affected by the surface mining activities.

In the event that the approach is to be removed in conjunction with reclamation, costs associated with the removal of the structure and re-establishment of drainage through the area, and revegetation requirements must be incorporated into the plan. In the event that the structure is to remain, design criteria for suitability of the structure must be included in the plan, and any modifications if necessary for the facility to remain as part of post-mining land use. All of this, of course, must be made in consideration with permit requirements of UDOT and the Forest Service.

Items Required for Approval:

1. Revisions of the plans and drawings to incorporate all roads, approaches and other facilities associated with surface mining activities into the permit and disturbed areas.

UMC 817.180 Other transportation Facilities - JRH

No map or drawing was found within the MRP indicating the permit area for the conveyor route. Although the disturbed area has been delineated on the drawings, there is no continuous area showing the location and the extent of the permit area for the conveyor system. The plan and the drawings must be revised to incorporate this area into the plan.

UMC 817.181 Support Facilities and Utility Installations - JRH

Those facilities which are located within the right-of-way of UDOT roads, and, those facilities which are within special use permit areas of the USFS must be incorporated into the permit area and affected area. Similarly to access roads, the facilities are still considered to be under the jurisdiction of the Division and the permit area, and affected area must include them.