0038

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
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4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

June 9, 1983

Mr. Dan Guy
Beaver Creek Coal Company
P. O. Box AU
Price, Utah 84501

RE: Determination of Completeness
Beaver Creek Coal Company
Gordon Creek #2 Mine
ACT/007/016
Folder No. 2
Carbon County, Utah

Dear Mr. Guy:

The Division of Oil, Gas and Mining (DOGM) technical staff has completed an in-depth review of Beaver Creek Coal Company's Mining and Reclamation Plan (MRP) submitted for the Gordon Creek #2 Mine. Enclosed please find the Division's combined Determination of Completeness (DOC) and Technical Deficiency (TD) review documents for the Gordon Creek #2 Mine.

In the DOC portion of the review, requirements pertaining to the UMC 700 regulations which have not been adequately addressed in Beaver Creek's revised MRP are stated as they originally appeared in the Apparent Completeness Review (ACR), including the concerns or deficiencies which have not been adequately answered in the ACR response and outlining what is required to complete the MRP.

The TD section of the review relates to the UMC 800 regulations and those concerns or deficiencies which must be addressed by Beaver Creek in order for the Division to proceed with the Technical Analysis (TA).

It must be emphasized that a timely and adequate response to those deficiencies or concerns listed under the DOC (UMC 700 regulations) should be of immediate priority. This is necessary for the MRP to be determined "complete" so that the Division can then notify all federal, state and local agencies and other interested parties that a complete plan has been received.

A determination of completeness by the Division allows the operator to publish the consecutive four week notice in a local newspaper as required by UMC 786.11. Upon submission of the information requested in the TD, the Division will proceed with the Technical Analysis (TA) portion of the mine plan review. Beaver Creek's response to the TD must be received by the Division no later than August 5, 1983. An earlier response would be appreciated. Final approval of the Gordon Creek #2 Mine permit application is scheduled for October 21, 1983.

If you have any questions regarding the enclosed documents, or about the review schedule, please contact me or Steve Cox of my staff.

Sincerely,

JAMES W. SMITH, JR.
COORDINATOR OF MINED
LAND DEVELOPMENT

JWS/CY:btb

Enclosures

cc: Allen Klein, OSM, Denver
S. Cox, DOGM
C. Young, DOGM
T. Munson, DOGM
P. Grubaugh-Littig, DOGM
D. Darby, DOGM
T. Portle, DOGM

DETERMINATION OF COMPLETENESS

AND

TECHNICAL DEFICIENCIES

Beaver Creek Coal Company

Gordon Creek #2 Mine

ACT/007/016, Carbon County, Utah

June 9, 1983

DETERMINATION OF COMPLETENESS

UMC 782.19 Identification of Other Licenses and Permits

The permit for the sanitary system has not received final approval by the Utah Department of Health. The applicant should take the necessary measures to acquire this permit.

DETERMINATION OF COMPLETENESS

Approval from the Utah Department of Health is listed as "pending" in Table 2.4, while Appendix 4 contains an apparent approval for this system. The status of the approval is still confusing in the MRP, perhaps a narrative describing the approval in Appendix 4 is warranted.

UMC 783.12 General Environmental Resources Information

(b) Present an archaeological survey map which includes present and proposed surface disturbance and potential subsidence to show the relationship between these areas and the recorded sites. If there are plans for future expansion of facilities or possible impacts from subsidence, etc., to the four historic sites mentioned, a commitment to reconsider these structures for eligibility on the National Register of Historic Places should be made. During mining operation, if any previously unidentified cultural resources should be discovered, the operator should agree to ensure that the site is not disturbed and to notify the regulatory authority immediately.

DETERMINATION OF COMPLETENESS

The applicant has submitted Plate 5-1 showing present and proposed disturbance in relation to recorded sites. However, they have not mapped potential subsidence. This should be included on the map.

According to State History (letter of March 22, 1983), before the cultural resources section can be determined adequate, the eligibility of the four historical archeological sites 42 cb 209-212 needs to be determined so that project managers, and the Office of Surface Mining, along with DOGM can make a recommendation for concurrence on the determination of eligibility for these sites.

Name the author and principal investigator of the archaeological study either on the title page or in the introduction. Descriptions of the historic sites (architecture, environment, etc.) and associated site forms should be included in the mine plan

DETERMINATION OF COMPLETENESS

The applicant has failed to name the author and principal investigator of the archaeological study.

UMC 783.14 Geology Description

(a)(2)(i) Provide map of piezometric surface if data are available from boreholes.

DETERMINATION OF COMPLETENESS

No map showing the projected piezometric surface was submitted by the applicant. If no such data are available, it should be addressed in the narrative.

Plate 7-1 identifies water production information for five drill holes. However, lithologic information describing the water producing zones in these drill holes are lacking for four of them. Please provide lithologic information GC-9, GC-10, GC-6 and W-BC-6-S, if available, to document the characteristics of the producing rock strata.

(a)(2)(iii) Provide chemical analysis of roof and floor in terms of pyrite, marcasite, potential alkalinity, salinity (EC), pH and clay content for Hiawatha and Castlegate "A" seams.

DETERMINATION OF COMPLETENESS

The application does not include information on the marcasite content, salinity (EC) or pH. The applicant must do so to allow a determination of completeness.

UMC 783.13-.15 Ground Water Information

The applicant has provided information regarding the regional ground water conditions and used this information to describe the ground water conditions in the mine area. Specific information regarding the recharge areas and the direction of flow within the aquifers in the mine area is requested.

DETERMINATION OF COMPLETENESS

The information provided in Sections 7.1.2.1 and 7.1.2.2 is an adequate description of the regional ground water conditions in the Gordon Creek area. However, confusion still exists in these sections regarding the literature citations and references to figures and plates. A bibliography of the references cited must be submitted and proper references to figures and plates inserted (page 7-7 - Plate 7-1, page 7-8 - Plate 7-2, page 7-9 - Figure 7-2 was not found in the permit application). Lastly, flow in the Gunnison Homestead spring is said to be augmented by ground water discharge from alluvium in Beaver Creek Valley (page 7-8). Plates 6-1 and 7-1 do not show alluvium in the Gunnison Homestead spring area. Please clarify this situation.

UMC 783.16 Surface Water Information

The applicant does not include information on the quality and quantity of receiving waters. Water quantity and quality data collected at the monitoring stations during 1981 and 1982 should be included in the application to provide information on seasonal variation of the parameters.

DETERMINATION OF COMPLETENESS

Section 7.2.2 of the recent submittal contains an adequate description of the surface water hydrology for the Gordon Creek area. However, as in Section 7.1.2, a bibliography for the literature citations must be submitted. Also, some clarifications need to be made on Plates 7-2 and 7-3. These include: Plate 7-2 - locate monitoring station USGS 2-5 on this plate, Plate 7-3 - locate the North Fork of Gordon Creek on this plate (this is described on pages 7-53 and 7-58 but designated as Sweets Canyon on Plate 7-3), on page 7-56 the North Fork of Bryner Canyon is discussed but this is shown as the Right Fork of Bryner Canyon on Plate 7-3, please clarify this discrepancy. Lastly, the Utah Department of Health classification for Beaver Creek should be submitted along with the addresses of Hydrosciences and the date of their literature review as required under UMC 771.23.

UMC 783.17 Alternative Water Supply Information

The applicant lacks a description of the quality of the alternative water supply.

DETERMINATION OF COMPLETENESS

The alternative water supply described in the MRP is only applied to the Gunnison Homestead Spring. Beaver Creek Coal Company must commit to providing an alternative water supply for any valid water right associated with Beaver Creek (in the mine plan area vicinity), Jewkes Spring and the North Fork of Gordon Creek.

UMC 783.18 Climatological Information

Indicate the distances of Wild Horse Ridge, Valley Floor and Meetinghouse Ridge monitoring station from the permit area and given the meteorological data from each if available. Figures 11-1, 11-2 and 11-3 on pages 11-5, 11-7 and 11-8 showing wind roses for these monitoring stations are missing.

DETERMINATION OF COMPLETENESS

Meteorological data from the stations has not been provided. If available, these data would enchance the climatological description of the area.

UMC 783.19 Vegetation Information

Productivity measurements for reference areas are not critical until the time of comparison with the revegetated areas and do not need to meet statistical adequacy until that time. However, a statement of productivity (preferably a letter from the Soil Conservation Service) should be provided. Reference areas should be in fair condition or better or they will have to be managed for improvement.

DETERMINATION OF COMPLETENESS

A statement of the productivity and range condition of each reference area (preferably a letter from the Soil Conservation Service) should be submitted. If the reference areas are in less than fair condition, a management plan for each should be proposed.

UMC 783.24 Maps: General Requirements

(e) The exact location of the following structures should be included on the Surface Facilities Map 3-1: access roads; lower substation and transmission lines; water supply system; and, sewage system. Also include the location of all other surface and subsurface man-made features within, passing through or passing over the permit area. Topographic expression is requested for this map.

DETERMINATION OF COMPLETENESS

The applicant has updated the Surface Facilities Map 3-1 in light of recent changes to the mine yard. However, the locations of the lower substation and transmission lines, water supply system and sewage system are not shown, and the upper water supply tanks and system are not labeled.

UMC 783.25 Cross-Sections, Maps and Plans

(b) The locations of the surface and spring monitoring stations (Plate 7-3) are not consistent with the written description of the stations (page 7-27).

DETERMINATION OF COMPLETENESS

Water monitoring station USGS 2-5 (Table 7-3) should be shown on Plate 7-2. An unexplained (not numbered) stream gaging station is shown downstream of monitoring point 2-9-W on Bryner Canyon. Please clarify this situation.

(f) Portray season differences of head in the different aquifers in the mine area.

DETERMINATION OF COMPLETENESS

The description of the regional ground water hydrology does not include a discussion of seasonal variations in head associated with the local aquifers. A discussion of the seasonality of local springs and seeps should be incorporated into the response to this regulation.

(i) Design data and calculations for sizing the culverts is lacking.

DETERMINATION OF COMPLETENESS

Culverts U-1 and U-2 are not designated as such on Plate 7-5. Provide a discussion of the methods used to determine the curve numbers given for the land surface categories on page 7-61. Provide a technical reference citation for the Fletcher-Farmer rainfall distribution (7-61) and a description of how this distribution was applied in the design of the sediment control structures at Gordon Creek #2 Mine.

UMC 784.11 Operation Plan: General Requirements

DETERMINATION OF COMPLETENESS

It is stated on page 1-1 that the current production rate for the Gordon Creek #2 Mine is 2,400 tons of coal per day and that Beaver Creek Coal Company is planning to maintain that rate for life of the mine. However, on page 3-12, the production figure of 1,500 tons per day is given. Please clear up this apparent discrepancy.

UMC 784.12 Operation Plan: Existing Structures

The application should contain a description of each existing structure proposed to be used in connection with or to facilitate the underground coal mining activities and a compliance plan for each existing structure proposed to be modified or reconstructed for use in accordance with UMC 784.12(a)(b.

DETERMINATION OF COMPLETENESS

The applicant has not adequately described the fuel tank and the sewage system. A complete description should be given for each of these structures.

The plan narrative is inconsistent with the surface structure maps in the identification of active portals. Plate 3-5 shows two portals at the west intake, two portals in the coal conveyor area and three portals on the east end by the exhaust fan. The plan narrative concerning reclamation and surface structures refers to four portals (3-3 and 3-61) and five portals (3-4). Which is correct?

DETERMINATION OF COMPLETENESS

Plate 3-3 of the new submittal shows an access road and three portals across from the old Swisher No. 1. It is the Division's understanding that this area has been reclaimed and the portals sealed. If so, the applicant should include a discussion concerning this reclamation.

UMC 784.13 Reclamation Plan: General Requirements

(b)(2) Provide bonding calculations for reclamation of roads and appurtenant structures.

DETERMINATION OF COMPLETENESS

The bond calculations need to be revised to provide for inflationary factors. The removal of foundations is not considered. Please include detailed cost estimates.

(b)(3) The applicant should provide a map indicating the pre- and postmining contours. Please describe how the postmining contour will be designed to accommodate drainage patterns as well as ensure adequate stability (see UMC 817.101).

DETERMINATION OF COMPLETENESS

This section needs to be addressed by the operators.

(b)(7) In Section 3.5.4, the applicant states that "coal outcrops resulting from this operation" would be covered with incombustible material. What is the nature of this incombustible material, to what thickness will it be placed?

DETERMINATION OF COMPLETENESS

The operator has not described the anticipated thickness of placement of the noncombustible material.

UMC 784.14 Reclamation Plan: Protection of the Hydrologic Balance

(b)(1) The applicant lacks plans to minimize contact between surface water and existing or future stockpiles. These plans should include erosion control methods to be employed on these stockpiles and be incorporated into the drainage control system map.

DETERMINATION OF COMPLETENESS

On page 7-48, it is stated that mineralization of the surface water at Gordon Creek #2 Mine does not occur. Provide a further discussion of the reasons why this does not occur, including design dimensions and computations for the berms which prevent disturbed area drainage from entering undisturbed drainage flow paths.

UMC 784.16 Reclamation Plan: Ponds, Impoundments, Etc.

The removal of the diversion, sedimentation ponds and dams is mentioned. However, the plan for these areas should be provided. These should contain a description map and cross-section of the structure and its location.

DETERMINATION OF COMPLETENESS

A more complete cross-section of the sedimentation pond is required detailing the pond storage dimensions found in Table 7-9. The pond inlet and outlet elevations and embankment construction specifications must be included, as well as sediment storage level marker design.

Applicant needs to identify "approved location" for storage of sediment from pond or locations proposed. By identifying the chemical nature of sediment unloaded, the proper procedures for disposal of them can be taken.

DETERMINATION OF COMPLETENESS

The refuse disposal site for sediment removed from the sedimentation pond must be identified. The statement provided on page 7-78 of the resubmittal does not specify the disposal location.

(b)(1) A discussion regarding the compliance of the drainage system with current effluent limitations is lacking (UMC 817.42). The overflow spillway design must be detailed in cross-section and plan drawings and computations submitted regarding its ability to pass the 25-year, 24-hour flow. Stabilization and repair of the structure should also be addressed (UMC 817.46[s]). Postmining hydrologic effects of the surface disturbance should be discussed in terms of infiltration, runoff and ground water recharge. In the application, it is stated that excess ground water encountered in the mine will be released into the sedimentation pond. The pond design calculations should include this potential input such that mine discharge plus the 10-year, 24-hour storm flow will not exceed the capacity of the pond. The structures routing disturbed flow to the pond should be shown to be designed for the 10-year, 24-hour flow.

DETERMINATION OF COMPLETENESS

The overflow spillway structure must be shown in more detail in a cross-sectional diagram. Please include elevation detail for the pond inlet and outlet structures and include designs for the outlet structure and erosion control devices at Bryner Canyon as required by UMC 817.47. Provide design cross-sections for all drainage ditches and diversions, detailing total diversion depth and design flow, thus verifying adequacy of freeboard required by UMC 817.43.

UMC 784.19 Underground Development Waste

Discuss proposed methods of disposal of waste rock developed through cutting of rock slopes, ramping between mineable seams, etc., as prescribed in this section. If storage is on the surface, discuss toxicity or acidity of waste material, possible exposure to mine water and diversion of surface drainage. Storage location and drainage control should be discussed if surface storage is considered.

DETERMINATION OF COMPLETENESS

The applicant did not address this section in the resubmittal. The applicant must submit the required data and descriptive narrative.

UMC 784.20 Subsidence Control Plan

Is subsidence expected to occur due to mining beneath Beaver Creek? If so, how much and what effects are expected on Beaver Creek? If not, what is being done to protect Beaver Creek from the effects of subsidence. Please provide calculations substantiating subsidence or no subsidence. Since control stations have been established, has monitoring shown the occurrence of any subsidence? Map location of extent of disturbance with location of streams.

DETERMINATION OF COMPLETENESS

In Plate 3-3, the applicant shows that retreat mining has occurred in two areas under Beaver Creek. The applicant further states that there has been no indication of flow depletion over the past four years. The applicant has not addressed the long-term effect that retreat mining in the Hiawatha Seam may have. The applicant should also discuss whether or not pillars will be pulled under the stream in both seams. It is the Division's opinion that mining in both seams could cause substantial subsidence (60-70 percent of the combined seam heights) and this possibility should be considered before pillars are pulled in the Castlegate "A" Seam.

The applicant has submitted a subsidence monitoring plan which includes a base map showing the proposed monitoring station locations. The applicant still needs to discuss the timing for installation of the monitoring program. When the markers are established, a map should be sent to the Division showing the base evaluations for each station. At the same time, a visual survey should be made of the surface to determine if there is any evidence of subsidence such as tension cracks or compression ridges. Any such sitings should be included on the base map.

UMC 784.22 Diversions

A cross-section and longitudinal profile of the diversion are required. Computations confirming the design capability (passage of the 10-year, 24-hour flow) of the diversion are required (UMC 817.43[a]). Appropriate sediment control structures for the diversion should be addressed (UMC 817.43[c]). Peak flow calculations for culvert size determination (page 7-36, 37) needs further explanation, specifically steps 6 and 7. Trash rack design for the culvert is requested.

DETERMINATION OF COMPLETENESS

The cross-section submitted (on Plate 7-5) is not drawn to scale. Consequently, it is unacceptable. Longitudinal profiles of the diversion channel and the permanent channel to be constructed during reclamation should be submitted as required under UMC 817.44. These profiles should be drawn adjacent to the Bryner Canyon profile (Plage 7-4) and a commitment to UMC 817.44(b)(1) and (d) must be made on the part of Beaver Creek Coal Company. Peak flow calculations should include justification of selection of curve number 54 for undisturbed area. A trash rack should be installed on culvert U-1, given the potential for clogging of this culvert with organic debris. Rebar dimensions and spacing for the trash racks shown in Figure 7-6 should be specified. Maintenance of the box inlet culverts (i.e., frequency of sediment cleaning) should be addressed (UMC 817.45).

UMC 784.24 Transportation Facilities

More detailed maps, cross-sections and diagrams are needed to complete the engineering review for roads, parking lots, coal storage areas and the conveyor system. These should show depth or road base, gravel, slopes, berms, length of roads, etc., for all roads in the mine plan area. Data provided should be in accordance with the requirements of UMC 784.24 and 871.151-.180.

DETERMINATION OF COMPLETENESS

As stated under UMC 784.12, the application should include a discussion of the old road across from the Swisher No. 1 Mine.

UMC 785.19 Alluvial Valley Floors

DETERMINATION OF COMPLETENESS

The applicant has failed to address the hydrologic function of the identified alluvial valley floor areas. So subirrigated vegetation species (willows) occur on these areas? Are these areas discharge zones for ground water? Could the hydrologic function/importance of these areas be impacted by interruption or contamination of surface or ground water flow patterns? Mitigation plans must be specified for all possible impacts (UMC 822.11).

UMC 786.19 Criteria for Permit Approval or Denial

The applicant should demonstrate that revegetation can be feasibly accomplished under the plan proposed. Obtain information by establishing experimental plots, or from other minesites, published literature, etc.

DETERMINATION OF COMPLETENESS

The operator fails to describe methods or provide rationale aimed at insuring that substitute materials are capable of meeting reclamation needs. This section intended to meet this criteria, 3.5.6, does not address experimental plots or provide any documentation for the reviewer.

TECHNICAL DEFICIENCIES

UMC 805.11 Determination of Bond Amount

The applicant states in 3.5.4.3 that fencing will be provided with an effort to facilitate revegetation success. However, no detail on the cost of the fencing or its removal are provided in the bond amount. Please provide all information necessary relating to the type and amount of fencing as well as the cost of removal. The applicant states in Section 8.6 that fill materials prior to being utilized as substitute soil materials have coarse material removed. What size material will be removed? Provide additional detail on the implements to be utilized as well as the fate of the rock material. What methods will be used? Please describe the cost of the procedures considering such factors as cubic yards removed, the screening process, implements to be utilized, man-hours, etc.

DEFICIENCIES

Fencing has been addressed. However, the amount of cubic yards removed, implements to be utilized has not been adequately addressed. Please include.

UMC 817.11 Signs and Markers

Application lacks Figures 3-1 and 3-2 on pages 3-17a and 3-18a. Please provide details regarding how perimeter markers were or will be designed and placed (such as interval, durability, color, etc.).

DEFICIENCIES

It is suggested that the operator place the statement "Do not Disturb" on any topsoil markers (should they be necessary) and buffer zone signs. It is questionable that wood would be sufficiently durable as a sign or post.

UMC 817.22 Topsoil: Removal

(b) The operator proposes to utilize the existing pad as a source of substitute topsoil material. The substitute material from this area, particularly in locations such as the coal stockpile, the oil and grease storage area as well as other locations, may be subject to special disposal methods the operator has not addressed? How will contaminated areas be identified? How will degraded materials be disposed of?

DEFICIENCIES

The operator has yet to address the material (coal fines) from the coal stockpile area. This must be done to adequately address the concerns.

Visual observation may need to be supported by testing in oil and grease storage areas. The operator should identify the landfill to which such materials will be removed and give the haulage distance. Estimate the volume of such materials to be hauled.

How does the operator define coarse rock fragments? For the purpose of the reclamation plan, how will this material be separated out of the fill and where will this material be disposed of?

DEFICIENCIES

The operator defined coarse rock fragments as being greater than 18 inches. Separation as a procedure is not addressed. More detail on the required equipment to accomplish this separation is needed. More definite statements regarding disposal are needed. Under the "buried" option, the operator may wish to consider their use as backfill.

It is strongly recommended that the applicant evaluate the feasibility of retrieving original topsoil which remains "in place along the shoulders" as the result of original pad construction. This material should be analyzed for fertility and the volumes of such material should be determined.

DEFICIENCIES

The operator has not submitted fertility data nor supplied the volumes of material along the road "shoulder."

Please address fertility amendments including organic amendments. For example, wood chips and sewage sludge may be employed to aid reclamation of these areas. It has been shown in past reclamation efforts that placement of even a minimal (two inches) depth of topsoil over fill material serves to enhance reclamation efforts. The applicant alludes to topsoil redistribution from road shoulders in 3.5.4.4. Use in this manner would also serve to innoculate fill material with soil microbes more rapidly. These measures can, in turn, facilitate bond retrieval by decreasing the time involved in establishing adequate vegetation.

DEFICIENCIES

The operator addresses this in section 8.9. What type of tests are proposed to be run to determine fertilizer needs. The operator does not speak to the use of sewage sludge or wood chips. While hay, wood fiber and straw mulches are addressed, no application rate or method of incorporation into soil is provided. Would additional nitrogen be necessary to compensate for that used by microbes during breakdown of straw, etc. The operator should cite the research he alludes to from Colorado State University on Indian ricegrass and rubber rabbitbrush and their relationship to soil microbiology.

To demonstrate that the pad material will be adequate as a topsoil substitute, the applicant must propose either field or greenhouse trials.

DEFICIENCIES

The operator failed to proposed field and/or greenhouse trails to aid in establishing the suitability of substitute materials.

The applicant states in 7.3.3.2 that sediment cleaned out of the ponds during maintenance could be stored adjacent to the topsoil. What topsoil is the applicant referring to, since there is no topsoil storage presently at this operation? Also, how will the quality of this material be determined. The objective of this determination should be to preclude any adverse effects on revegetation due to the presence of contaminated material or coal fines. Please discuss mitigation

DEFICIENCIES

The operator states on page 7-78 that sediment resulting from pond maintenance will be taken to an approved refuse site for final disposal. Will this happen immediately after cleaning or will temporary on-site storage occur? Where is the proposed disposal site?

UMC 817.46 Sediment Ponds

DEFICIENCIES

(b)(1) Provide technical reference citation for a K value (in the USLE) of 0.5.

(h) A sediment clean out level marker should be installed in the sediment pond to achieve compliance with this section. Disposal of the sediment removed from the pond must be further specified (see UMC 784.16).

(i) The outlet discharge rating curve referenced on page 7-76 must be included in the permit application.

(s) Address the requirement of this section, describing the erosion control methods employed at the sediment pond embankment.

UMC 817.47 Discharge Structures

DEFICIENCIES

The design of erosion control devices used at the outlet of all culverts (especially U-2) and the stream diversion must be specified, including the design computations for all riprap material.

UMC 817.52 Water Monitoring

DEFICIENCIES

Permanent water monitoring points must be specified in fulfillment of the requirements of this section.

UMC 817.54 Water Rights and Replacement

DEFICIENCIES

Beaver Creek Coal Company must commit to replace any water supplies associated with Jewkes Spring, Beaver Creek and Gordon Creek that could be impacted as a result of the mining operations at the Gordon #2 Mine.

UMC 817.57 Stream Buffer Zone

DEFICIENCIES

Provide a thorough description of the measurements taken (page 7-56) that were used to determine that Bryner Creek is an ephemeral channel.

UMC 817.71 Disposal of Underground Development Waste and Excess Spoil and Nonacid and Nontoxic-forming Coal Processing: General Requirements

The applicant proposes in 3.5.4.3 to backfill drainage diversions. What is the source of material proposed for backfilling? How will the operator ensure that these materials have not been contaminated as a result of the mining operations so as not to have an adverse effect on the drainages to be filled?

DEFICIENCIES

This concern has been adequately addressed. However, the larger question of controlling underground development waste has not been addressed in this document. Also, where will the discarded contaminated material be stored?

UMC 817.89 Disposal of Noncoal Waste

A plan addressing the placement and storage of noncoal wastes in a controlled manner on the permit area as well as final disposal should be provided.

DEFICIENCIES

No plan has been submitted. Volume of anticipated waste, storage capacity. Removal frequency are items yet to be detailed.

UMC 817.97 Protection of Fish, Wildlife and Related Environmental Values

If the applicant plans to use spring surveys of the area conducted by the U. S. Fish and Wildlife Service (USFWS) to identify any potentially active raptor nests, results of these surveys should be promptly reported to the regulatory authority. The location of the golden eagle nest first reported by Springer and Truett (1980) should be included on Figure 10-11.

DEFICIENCIES

The applicant should commit to reporting the results of all aspects of their wildlife monitoring program outlined in Section 10.7 to the Division. This would include the results of the spring survey for active raptor nests

Due to the poor visual quality of Figures 10-11 and 10-12, the location of the golden eagle nest cannot be determined. Better quality figures should be submitted.

Submit a map in accordance with UMC 784.23(b)(8) showing the locations of aquatic sampling sites NFG-1, NFG-2, BC-1, BC-2, BC-3, SC01. Also, plot the locations of stations presently used for inspection of sediment load in Bryner Creek and North Fork Gordon Creek. Discuss mitigation measures to be directed toward wildlife in the event that mining operations negatively impact flows at seeps and springs on and adjacent to the permit area.

DEFICIENCIES

The applicant has failed to submit an adequate map showing aquatic sampling sites and stations for inspecting sediment load in Bryner Creek and North Fork Gordon Creek.

No discussion of mitigation measures for wildlife, in the event that mining operations negatively impact any seeps and springs on or adjacent to the permit area, has been presented.

All fences used to preclude wildlife use should be designed so that big game will not attempt to pass and become entangled. Specifications for their design should be included. If the road kill monitoring plan indicates that the number of kills is increasing, it is suggested that the plan include consultation with the Utah Division of Wildlife Resources (UDWR) for recommendations to minimize these losses.

DEFICIENCIES

If the fencing proposed to protect revegetation efforts from overgrazing (Section 3.5.4.3) is intended to preclude wildlife in addition to livestock, specifications should be submitted. Two rolls of net--one 48 inches and one 36 inches--and two strands of barbed wire on top of the net and spaced eight inches apart would be adequate.

Plans should be given to ensure that the arrangement and placing of trees and shrubs are in accordance with UMC 817.97(d)(9). For most wildlife species, the clumping or grouping of shrubs/trees provide the best cover and edge effect. Since wildlife habitat is a postmining land-use, plant groupings to create edge effect should be used.

DEFICIENCIES

The recommended procedures listed in Sections 3.5.5.6 and 10.5.1, which include clumping or grouping of shrubs for edge effect, must be committed to in order to be acceptable as mitigation procedures.

The UDWR has also pointed out the following discrepancies in the MRP:

Page 3-41, 3.4.6.2 - Legal hunting activities are not viewed as having a significant negative impact to wildlife. Thus for the company to preclude hunting on the mine plan area cannot be viewed as a mitigation technique. The company may wish to control trespass in order to safeguard surface facilities; this does not necessarily improve conditions for wildlife.

Page 3-72 through 3-77 present an acceptable reclamation proposal. However, when this proposal is compared to Volume II, page 9-41, 9.7 it appears that the company may abandon reclamation efforts at a point where the landowner is satisfied. Such a practice may not be in accordance with UMC 817.116.

Page 4-40, 4.4.1 (agricultural) - The redirected use of water in both Carbon and Emery counties from traditional agricultural use to industrial and municipal uses due to growth associated with the energy industry has significantly impacted the agrarian community. Additionally, significant acreages of agricultural lands and associated wetlands have been dewatered due to redirected use of water. These habitat types were of critical value to many wildlife species.

The statement in paragraph 1 of 4.4.1 represent only the applicant's opinion and not the opinion of professional land managers local to Carbon and Emery counties.

Page 4-41, 4.4.1 (recreation) - If the applicant must discuss the regional management of wildlife in the MRP, then the statements presented need be adjusted to portray current conditions and management philosophy. The statements in the MRP relative to deer are not consistent with current knowledge, trends and conditions. The narrative concerning fish is also in error. The MRP states that there are 40 varieties of fish in the region; this is erroneous. Southeastern Utah is inhabited by 38 species of fish. The biogeographic area that surrounds the mine plan area is only inhabited by 14 species of fish and the mine plan area itself may be inhabited by 4 species of fish. This information was provided to the applicant on February 6, 1981. There seems no point in the MRP listing

species of fish pursued on regional basis for recreation. But if it is desirable, the applicant has failed to identify any warm water species. Lake Powell lies within the region and provides one of the best warm water fisheries in the nation.

UMC 817.101 Backfilling and Grading

The applicant indicates the highwalls will be left in place as opposed to mitigation by backfilling. Please discuss the rationale for this in light of other available options such as partial backfilling and/or blasting. What measures will be taken to reduce the highwall to the minimum possible magnitude? These alternative options will be utilized to determine if any better methods exist than to leave the highwalls in place or conversely, to justify leaving them. How do various options relate to proper postmining drainage?

DEFICIENCIES

The operator addressed the concerns in this section by way of attempting justification for leaving highwalls in their present state as permanent features. Acceptance of this assertion is contingent of further justification including a geotechnical demonstration of stability and a showing that no seeps or ground water problems exist which may affect the highwall.

UMC 817.111-.117 Revegetation

It is suggested that the monitoring plan proposed for the reference areas and reclaimed area include not only visual inspection, but also quantitative sampling methods for evaluating revegetation success during the first few years after planting. Include plans for weed control and the initiation of grazing on these areas. A specific management plan for the reference area, dependent upon the range condition of the area, should be proposed. Also, a commitment to submit any grazing management plan that is developed for the reclaimed area, a year in advance of implementing the plan, should be made.

DEFICIENCIES

The applicant should submit a letter from the Soil Conservation Service (SCS) to document the range condition of the two reference areas. If the range condition is in less than fair condition at either area, a management plan should be proposed.

The applicant should propose specific standards of success for cover, production and woody plant density on areas to be permanently reclaimed. Indicate how these parameters will be measured and compared to those of the reference area at the time of bond release. Include plans to encourage species diversity and habitat diversity and the methods to be used to evaluate that diversity.

DEFICIENCIES

The applicant has proposed acceptable standards of success for cover and production on areas permanently reclaimed in Section 3.5.6. However, no justification is given for the standard set on woody plant density. This should be discussed in more detail and justification provided for the figures given.

Plans have been given to encourage species diversity on reclaimed area. If habitat diverstiy is to be enhanced, the applicant should provide plans to vary the seed mixtures, and to group or clump various combinations of trees/shrubs to coincide with topographical diversity.

UMC 817.133 Postmining Land-Use

The applicant lacks a description of specific efforts to provide for postmining land-use of wildlife habitat. The proposed vegetation should be planted in a manner to create an edge effect by clumping the shrub or tree species.

DEFICIENCIES

If wildlife habitat is to be a postmine land-use, the recommended procedures presented in Section 3.5.5.6 and 10.5.1 should be committed to by the applicant.