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DRAFT

APPARENT COMPLETENESS REVIEW
DETERMINATION OF COMPLETENESS

CRANDALL CANYON MINE
GENWAL COAL COMPANY, INCORPORATED
ACT/015/032, Emery County, Utah

UMC 771.25 Permit Fees

The applicant must submit to the Utah Division of Oil, Gas and Mining a \$5 fee pursuant to 771.25.

Determination of Completeness

Applicant has provided the \$5 permit filing fee.

UMC 771.27 Verification of Application

The applicant must provide a notarized verification of permit application.

Determination of Completeness

Applicant has provided a notarized verification of permit application (see Item A of the ACR resubmission).

UMC 782.13 Identification of Interests

(f) The applicant shall provide MSHA and section identification numbers to the application when numbers are assigned.

Determination of Completeness

The applicant has provided the MSHA Legal Identification Number 42-01715 and will provide the section identification numbers when they are assigned (see page 1 of the resubmission).

UMC 782.15 Right of Entry and Operation Information

(a) Map D of the permit application shows an area of patented lands and minerals owned by the Swisher Coal Company. Some of the Crandall Mine surface facilities are located within the boundary area designated as Swisher Coal Company.

The applicant shows the proposed use of private and Forest Service lands not contained in the lease for surface facilities.

The applicant must delineate these areas on the legal boundaries map along with the corresponding documents or application for legal right-of-entry for the following:

1. Access road through Forest Service lands from Huntington Canyon through the portal facilities.

2. Use of lands for portal facilities not contained in the boundaries of Federal Coal Lease.
3. Use of lands for portal facilities on Swisher Coal Company's fee surface.

Determination of Completeness

The applicant has provided a copy of the document for legal right-of-entry and construction of access road through Forest Service lands (Item B of resubmission). The applicant presently has approval to construct the access road up to station 70.00 on Forest Service lands outside of the mine permit area.

Map No. 1 of the resubmission designates those areas of private and Forest Service lands where proposed surface facilities are planned, but were not covered by the leases presented in the original permit application.

The applicant has enclosed a copy of the application for a Forest Service special use permit (Item C) to utilize certain Forest Service lands for Genwal's portal facilities. The permit has not been approved as of this date.

Item D of the resubmission is a copy of the lease agreement between Beaver Creek Coal Company and Genwal Coal Company, Inc., for legal right to utilize certain surface lands as outlined in the mining and reclamation plan.

UMC 761.11 Areas Where Mining is Prohibited or Limited

The Board of Oil, Gas and Mining must schedule a hearing in accordance with UMC 761.11(a)(4)(ii)(A) and provide findings in accordance with UMC 761.12(d)(4).

Determination of Completeness

The Board of Oil, Gas and Mining held a public hearing on the proposed mining activities of the Crandall Canyon Mine within 100 feet of a public (Forest Service development) road on June 2, 1981, in Huntington, Utah.

UMC 782.17 Permit Term Information

(a) The permit application states the anticipated starting date for four phases of mining operation. The dates of termination were not given. Please provide them.

Determination of Completeness

The applicant has provided the projected termination dates for the four phases of the mining operation on page 2 of the resubmission.

UMC 782.19 Identification of Other Licenses and Permits

(a-d) Item II-7 of the permit application contains a list of the permit type, the issuing agency, application number and date of approval or disapproval. The list in Item II-7 is not complete.

Determination of Completeness

The applicant has provided an updated listing of the other permits and licenses required, but several are still pending dependant upon application approvals.

The applicant shall complete Item II-7 by providing addresses of the issuing agency and listing the type of permit or license issued. The applicant shall also provide the identification numbers of applications for the permits or licenses and the date of approval or disapproval by each issuing authority if the decision has been made. If the permit or license was issued, the applicant shall provide the identification number.

Determination of Completeness

In reference to the responses provided by the applicant under the listing of permits required (Appendix A, Item E of the resubmission) from Utah State agencies. The applicant is reminded that this Division may not be totally aware of every permit required by other State agencies, and irregardless, the applicant is still responsible for compliance with the requirements of any and all other State statutes and/or regulations pertaining to the mining of coal in Utah (i.e., Notice of Intent to Mine Coal, requirement issued under the General Safety Orders for Utah Coal Mines by the Industrial Commission of Utah, Section 7, page 8).

UMC 783.14 Geology Description

The applicant shall provide a structure map and accurate stratigraphic section(s) based on field analysis of distances between the mineable coal seams and the depth to the mineable coal seams (thickness of overburden) throughout the mine area. This information is necessary to support extrapolation of ground water hydrology projections from the nearby mine to the Crandall Canyon Mine (Item VII-1) and to support projections of subsidence (Part 12.3).

Determination of Completeness

* The geologic information given for the Crandall Canyon Mine is very general. The maps and cross sections provided are not of sufficient scale to enable prediction of mining conditions. The geologic structure of an area (i.e., faulting) can have an important influence on the ground water conditions encountered. The Division suggests that a more detailed geologic study be carried out.

Not Sufficient

*

(iii) The applicant should provide information addressing the pyrite content and alkalinity of stratum immediately above and below the coal seams.

The clay content of the stratum immediately below the coal seams to be mined should also be provided.

These chemical analyses should be submitted in a lab report. Sulphur and iron sulfide content of the coal seams(s) should also be indicated as these are also important for identification of potential acid forming materials.

Determination of Completeness

* The pyrite, alkalinity and clay content information requested is given but not referenced. The origin of this information must be provided to be technically complete. *What are you talking about? Value of ?? where & when taken?*

O.K.?
These are

UMC 783.15 Ground Water Information 877.5.1

The site at which Crandall Creek was sampled for water quality should be indicated on the map. *provide the name*

*

The applicant has not provided sufficient ground water information to adequately define seasonal trends in quantity and quality. A minimum of one complete year's baseline data or applicable published data is required. Sample parameters, frequency, and duration of monitoring should be as suggested in the guidelines attached.

Determination of Completeness

* Ground-water information to adequately define seasonal trends in quantity and quality has not been provided. Ground-water sources appear to be limited in reference to the mine permit and adjacent area. There are no core holes in the immediate vicinity to correlate existing data or to monitor.

Not

The applicant has committed to monitor one spring for quantity and quality which may be impacted by the mining operations. Monitoring frequency, duration and parameters will be as outlined in the guidelines developed by the Division.

Water quality and flow data from the Vaughn Hansen report (two samples, one in November 1977 and one in June 1977) does not adequately define a surface or ground water system (i.e., baseline information incomplete). If more extensive data is presented in the "208 Report," this should be provided to the Division in order to adequately identify baseline conditions.

The applicant has presented a copy of a Vaughn Hansen study for Swisher Coal Company's, Huntington #4 Mine. The data as related to the Crandall Canyon watershed should be summarized and presented as directly applicable to the Crandall Canyon Mine site and adjacent area. Several assumptions, hypothesis and conclusions as projected and presented within the Swisher report, would

At
1977
1977



lead the reviewer to expect an increase in the number of springs, quantity of flow and improved water quality as related to the Crandall Canyon area. This appears to contradict the information and general conclusions as presented in Chapter VIII of the plan. The applicant should provide information supporting and/or clarifying which conclusions or hypotheses are applicable.

The text states: Two major springs have been identified by USGS in Crandall Canyon and that they are close enough to the permit area to provide information pertinent to this application and plan." What constitutes a major spring? Are there any "minor" springs within the permit area or adjacent area which may potentially be affected by the mining operation? The extent of the spring survey should be discussed.

Determination of Completeness

The applicant has committed to performing a spring and seep survey over the entire mine permit area next spring to identify any additional sites which may necessitate mapping and monitoring.

The applicant refers to ground water baseline data from Utah Power & Light Company's 1979 Annual Hydrologic Report, yet this data has not been presented or demonstrated to be directly applicable to the Crandall Canyon ground water system with the plan.

not going to do any more work

Determination of Completeness

Since the applicant has not provided any additional comment in relation to a number of the other questions posed by the Division under this section, we are assuming that the applicant no longer wishes those portions of the original MRP submission to be considered as applicable for review and that the latest resubmission of information relating to ground water, supercedes the original information presented (i.e., Vaughn Hansen study for Huntington #4 Mine, "208 Report," UP&L 1979 Annual Hydrologic Report). If this is not the case, then the applicant should respond accordingly.

out

The applicant has provided a topographic map of the mine plan area with the approximate coal outcrop lines and strike and dip delineated for the Blind Canyon and Hiawatha seams (Map No. 2). Also included are three copies of figures (No. 2A, 2B, 3) reproduced from H. H. Doelling (Utah Geological and Mineral Survey Monograph Series No. 3, 1972) showing generalized geologic structural and stratigraphic maps of the Wasatch Plateau coal field.

The Division cannot make an adequate technical assessment of the probable geohydrologic conditions or potential impacts from the general extent of detail provided by these documents. No real attempt has been made to extrapolate the information regarding the geology and/or hydrology from the Huntington No. 4 Mine as presented in the original mine plan submission. This was asked for in the first Apparent Completeness Review

*Not provided
Apparent Completeness Review
to leave it
T/A*



(ACR). It is assumed this latest information is presented in lieu of the previous hydrologic data in response to the completeness review. This information provides insufficient technical detail, explanation or extrapolation to the Genwal minesite and adjacent area to permit the reviewer to develop a reasonable accurate assessment of the hydrogeologic conditions characteristic of the site specific area, or make a negative determination as to potential impacts to the hydrologic regime.

As previously stated in the first ACR, the regulatory authority did not feel it would be necessary to drill exploration holes or to perform geophysical analyses over the mine plan area, provided the applicant could present sufficient existing data with appropriate interpretation to support the extrapolation of the known geologic and hydrologic information to the Crandall Canyon Mine.

The response provided to the ACR for this section may be acceptable to make a completeness determination, but will be technically deficient to demonstrate compliance with the requirements of the permanent performance standards.

Overall not addressed incomplete

UMC 783.16 Surface Water Information

The applicant should provide a topographic map accurately representing the mine area and the Crandall Canyon watershed. The map should depict permit area boundaries, disturbed and undisturbed areas, and all watershed boundaries utilized in determining runoff characteristics and sizing of all runoff control structures.

Determination of Completeness

The applicant has submitted a USGS topographic map reproduction of the Rilda Canyon Quadrangle and has outlined the Crandall Canyon watershed and the disturbed area utilized in determining the runoff characteristics and design criteria for surface runoff control structures on the minesite (Map No. 11).

The completeness review conducted at this time indicates that extrapolation of conclusions regarding geology and hydrology from the Huntington Canyon No. 4 Mine are likely to be acceptable but that the applicant provides inadequate representation of the results of the extrapolation in order to enable a technical evaluation by the regulatory authority. While it does not appear necessary to drill exploration holes or to perform geophysical analyses, site specific geologic map(s) (based upon outcrops), structure map(s), and at least two geological cross sections based upon these analyses are necessary to support the extrapolation.

Determination of Completeness

The applicant has submitted two (2) plates, one depicting the surface water monitoring points, the other exhibiting the ground-water monitoring point.

The applicant makes reference to the water quality seasonal variation, as depicted in the Vaughn Hansen study. The two samples presented do not adequately define seasonal variability. A minimum of one complete year of surface flow and quality measurements (actual or applicable published) as outlined in the attached water monitoring guidelines is required to define baseline seasonal trends (see attached guidelines).

The use of the Vaughn Hansen study for direct application to Genwal's surface water information would, again, be best accomplished by summarizing those parts which are actually applicable to Crandall Canyon. The applicant states: "These two spring locations will be sampled once in spring and once in fall for said parameters, and a complete water quality analysis run on a quarterly basis, with results reported quarterly" (pages 134-135, 3rd paragraph). Applicant then states: "These two spring locations will be sampled once in spring, only for said parameters, and a complete analysis once a year during low flow in fall, with analytical results reported within quarter analyzed." Please clarify what the applicant is committing to. Refer to attached guidelines for suggested monitoring frequency, parameters and duration for baseline, operational and postmining.

The applicant should clarify what monitoring stations are actually springs and to be considered ground water monitoring stations and which stations are surface water monitoring sites. The text and maps are confusing. The springs should be designated as surface water monitoring sites or ground water sites, not both, as would seem to be indicated in text. Surface and ground water monitoring sites should be clearly indicated on one map.

On page 130, the applicant refers to an attached USGS computer printout of Crandall Creek discharge information. This attachment cannot be located in the plan. Please supply copies if these are pertinent to the application review.

Determination of Completeness

Additional information on the quantity and quality of Crandall Creek has been provided and is sufficient to deem this portion of the mine plan complete. The continued monitoring program will be in accordance with the Division's latest water monitoring guidelines.

UMC 783.18 Climatological Information

(a)(2) The applicant should provide average velocity of the prevailing winds representative of the proposed mine plan area.

(a)(3) Seasonal temperature data in part 11.3 of the mine plan shows summer temperatures ranging from -32°F to +90°F, and winter temperatures ranging from -10°F to +40°F. The summer low should probably be +32°F.

The applicant should verify or change the low summer temperature.

Determination of Completeness

Genwal Coal Company has satisfied the completeness requirements as requested in this section with submission of new information contained in their response to the ACR review.

UMC 783.19 Vegetation Information

The plan lists seven communities to be disturbed while it appears that, within the permit area, only five will be disturbed. Cottonwood and sagebrush communities will be disturbed only in connection with the Forest Service access road.

Determination of Completeness

The applicant has revised the text to show five communities within the permit area that will be disturbed, rather than seven.

Revise Table 4 to show the correct acreages for the permit area. The lease area is 80 acres; the permit area is larger than 80 acres. The riparian community will then be included also. Revise the second table to show correct acreages of each vegetation type which will be disturbed by surface operations. These five vegetation types should be (according to proposed plans and the vegetation map); SFA, MSCA, MSG, D and R.

Determination of Completeness

O.K. *** The acreages in Table 4 have been revised to show a total of 4.22 hectares (10.4 acres) to be disturbed in the total permit area of 83.65 acres. Disturbance acreage is broken down into five vegetation types. The data given here does not match the 8.4 acres slated for final reclamation (response to ACR, page 16). The applicant must clear up this discrepancy and determine exactly how much acreage will be disturbed.

Provide information and calculations to show that sample adequacy has been met on areas already sampled as well as for reference areas sampled this year, if the reference area method will be utilized.

Determination of Completeness

No may be OSM * Sample adequacy has been determined for potentially disturbed areas and the reference area. However, sample adequacy for woody plant density was not shown for the reference area. This problem must be addressed.

Please note the dates of collection and analyses and arrange to field sample within the same time frame for reference areas, if this will be the method used.

Criteria for determining revegetation success must be developed. If the reference areas method is used, the reference areas should be located on the vegetation map, and data to represent the reference area(s) should be submitted. Data needed are cover, and shrub density. (The requirement for shrub density is based on the assumption that wildlife use will be part of the postmine land-use. This needs to be verified; see discussion in 783.22 below.) The reference area(s) need only correspond to the vegetation community(ies) that will be restored to the disturbed area to meet the approved postmining land-use. If areas to be revegetated will differ from vegetative communities that existed on the site prior to disturbance, a discussion of how the revegetated area will achieve the postmining land-use should be provided. The applicant is urged to meet with the regulatory authority since an alternative method to reference areas is available. The method and the information needed to fulfill the requirements (which would be less than that required for reference areas) could be explained in a meeting with the Division.

Determination of Completeness

No * Applicant has used the reference area method to set criteria for determining revegetation success. One reference area was set up, which is shown on the Vegetation Community Study Map, received in the October 1, 1981, submission. Data on cover and tree density have been submitted, however, density figures on shrubs are not included. These data are necessary since big game use will be part of the postmining land-use (Response page 12). Only one reference area was chosen since revegetation plans for the disturbed area call for uniform treatment with a grass/forb mix. This mix will meet the postmining land-use of light livestock grazing and wildlife use to some extent. However, shrubs will need to be planted to enhance the habitat for wildlife use (UMC 817.116[3][iv]). In order to meet the above deficiencies, the applicant will need to submit data on shrub density so that a revegetation success standard can be established. A plan for planting of shrubs, at a rate consistent with the revegetation standard must also be included. It is also required that the Soil Conservation Service certify that the reference area is in at least fair range condition.

*Maybe
CEM??*

UMC 783.21 Soil Resources Information

Applicant needs to assess present and potential productivity of soil within disturbed area in order to determine the volume of suitable growth materials and distinguish the topsoil from subsoil. The following data should be provided for each horizon of a pedon from each soil map unit. Data will determine depth to which suitable growth materials should be removed.

1. SAR--sodium absorption ratio.
2. Electrical conductivity.
3. Saturation percentage.

- 4. Soluble calcium, magnesium and sodium.
- 5. Organic matter content.
- 6. Lime requirement.

Determination Completeness

This section of UMC has been remanded by Judge Flannery and can no longer be used in mine permitting. It has been presented anyway because applicant has provided the information and the Division can require determination of suitability under Section UMC 817.21-.26.

Item L provides soil survey and data on chemical and physical analysis of soils in the disturbed area.

Data submitted on soil fertility requirements (Appendix to Chapter VIII) does not specify which soils were analyzed. Need to specify to which soils the results correspond.

Topsoil and subsoil stockpiles should be amended after redistribution rather than before to assure even distribution of fertility amendments. Section 3.5.6.1.

Determination of Completeness

Plan already

- * Soil fertility samples should be taken for analysis prior to redistribution of topsoil. This will allow for changes in soil fertility that will take place while the soil is stockpiled.

UMC 783.22 Land-Use Information

(a)(1) The map provided by the applicant (Map D) shows an area proposed to be disturbed which is owned by Swisher Coal Company. The applicant shall provide a map clearly showing ownership of land within and contiguous to the permit area. The mailing addresses of all surface owners should be included in the discussion of Part 2.2.

Determination of Completeness

The applicant has submitted a map clearly showing ownership of land within the permit area and it is understood that he has not provided contiguous land ownership because it is the same. Therefore, this portion of the plan is deemed complete.

The planned postmining land-use is unclear, as now presented in the mine plan. Section 4.4.2, Land-Use in the Mine Plan Area, states that the Forest Service has the (mine) area shown on their land-use map as suitable for dispersed, nondeveloped recreation and unsuitable for grazing. However, Item IX-1, page 7, states that Crandall Canyon is currently being used as summer range for cattle. Page 52 states that the numerous game trails attest to heavy use by deer and elk. Will livestock use and big game use be part of the postmining land-use? An accurate description of the postmining land-use is necessary to assess the type of vegetation which should be restored to the disturbed area.

O.K. check W/ EV

Determination of Completeness

On pages 11 and 12 of the ACR response, the applicant discusses postmining land-use and current grazing practices on the permit area. Dispersed grazing currently occurs in the permit area while cattle are moved through to higher elevation grazing areas. It is expected that this sporadic grazing will continue after mine life. Big game use will also be part of the postmine land-use.

The applicant has stated that the land was used historically for mining and recreation activities but does not state what kind of land uses preceded the original mining prior to 1939. The applicant shall provide discussion in the text of the application about the historic use of the land within the proposed permit area and adjacent areas prior to the original mining activities, and also from the termination of the original mining activity to the present.

Determination of Completeness

The land uses of the area prior to original mining in 1939 included dispersed nondeveloped recreation and migrating and grazing by native big game species. The same uses are indicated from the time of termination of original mining activities to the present (Response page 12).

The applicant states that the area has recently been re-zoned to CE-1 which is a critical environment zone. A county zoning of CE-1 prohibits mining. The applicant must provide evidence that the land has been rezoned to allow mining.

Determination of Completeness

TD
check w/ Don Almond & get in writing.

*** Based upon a phone call with Don Almond, the Emery County Mining Commissioner, on October 9, 1981, the designation of CE-1 and consequently the status of possible mine development in Crandall Canyon was ascertained. Although mining is not prohibited, page 38 of the Emery County Zoning Resolution states that conditional use must comply with their code and be approved by the County Commission under provisions of Article 9. A review by the Emery County Commission scheduled for October 22, 1981, was postponed until November 19, 1981, because of a lack of information submitted by Mr. Wollen. Mining has not been officially permitted in Crandall Canyon by the county to date.

UMC 783.24 Maps: General Requirements

The mine application is accompanied with 17 maps and plans. All maps were found to be deficient in at least one requirement.

The applicant should review all maps and make necessary corrections.

Two maps marked E and F show very general mine projections and the sequencing order of the panels. Map E-1 shows the proposed development through the old works in the Hiawatha seam. The maps and the narrative in Chapters III and XII reveal in a general way how this resource will be recovered, however,

considerable detail is missing and will be required by USGS-CD before actual mining is started. The Roof Control and the Ventilation, Methane and Dust Control plans are a part of the mining and reclamation plan and are referred to as such in the submittal. When MSHA approves these plans, the USGS-CD will require complete copies of each. We will review these plans, and if the missing detail referred to above is not included in the roof control and ventilation plans, it will be necessary to request from the company what is needed.

Determination of Completeness

Applicant has replaced Maps E, E-1 and F with Maps 4047-1 and 4047-2, Item P. Mining plans for upper and lower seams are illustrated on Maps 4047-1 and 4047-2. A description of the sequence of seam development is included in Item P-page 3. The applicant has submitted no anticipated timing schedule for sequence of underground development (show one year increments for five years; and five year increments for the total life of the mine).

There is a wrong scale on many of the maps (i.e., Map E, E-1 and F) and there is no professional engineer certification for the maps.

Determination of Completeness

*** Applicant has corrected map scales. Applicant shall provide evidence that all maps were prepared by or under the supervision of a registered professional engineer.

(a) All maps should show section corners and legal subdivisions so that the reviewer can orient the information presented to the land status and permit boundaries. Map D does not clearly delineate section corners and subsurface ownership nor provide all surface ownership and subsurface ownership along and adjacent to proposed facilities. Applicant should include adjacent areas (within 1/4 mile) to the permit area.

(b) The applicant must clearly delineate the permit area and label accordingly. The permit area should account for the projected angle-of-draw from subsidence.

Determination of Completeness

Map D has been replaced with Map No. 1. Applicant shall include subsurface ownership on and adjacent to the permit area and surface ownership adjacent to the permit area (within 1/4 miles) on a map included within the permit application. A topographic map outlining the permit area and clearly delineating the above would be adequate. Map No. 1 does not show permit area boundaries to the north or west of the mine, nor include the above ownership information.

(e) The applicant must show all surface and subsurface man-made features within or passing over the permit area as well as a description of any grazing leases or the lands renewable resources.

C.K.
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P. 34
TA

Determination of Completeness

The applicant has included a statement that there are no surface and subsurface man-made features or grazing leases. Renewable resources consist of range feed for wildlife, page 13.

* (g) The applicant should provide a map of the proposed water diversion point in relation to the mine operation, according to existing or proposed water right appropriation.

The proposed underground storage location for the appropriated water should also be provided on the underground workings map delineating the proximity to the active workings.

Determination of Completeness

*** Applicant states water diversion point is 1.5 miles from permit area. Applicant shall show the location of the intake with relation to the mine operation. Underground location shall be provided when applicant determines location.

UMC 783.25 Cross Sections, Maps and Plans

(b) The applicant should delineate the permit area on maps for reference to monitoring stations.

Determination of Completeness

The applicant has submitted Map No. 5.

(c) The applicant must provide a map delineating the coal outcrop lines and subcrop lines and show the strike and dip of the coal.

Determination of Completeness

* The applicant has provided a map delineating coal outcrop lines for the Hiawatha and Blind Canyon seams and stated the strike and dip at one point. Again, the Division suggests that a more detailed geologic study be performed for the mine area.

(h) The applicant should show the location and dimensions of existing portals, areas of spoil, waste, etc., from previous mining.

Determination of Completeness

Applicant has shown location of existing areas of waste and spoil on Map No. 6.

Not addressed

Not Adequate (a TA?)

average of 100 ft

(k) The applicant must include a more detailed analysis of slope measurements to depict the existing land surface configuration of the area of proposed disturbance. This can be used in comparison with a submittal of postmining profiles (topographic) to assess compliance with UMC 817.101(b). In addition, the applicant must label slope angles for proposed slopes to be constructed for the operation layout and the postmining layout to show slopes meet applicable performance standards and safety factors.

*
profile
in map
boundaries
& near
maps

Determination of Completeness

*** Applicant must submit cross sections to adequately represent the existing land surface configuration of the area affected by surface operations. Cross sections shall be measured and recorded according to UMC 783.25(k)(1)(2) and (3).

Many
says
D.K. for
completeness
technical

UMC 783.27 Prime Farmland Investigation

Applicant must contact the SCS in Salt Lake to obtain a letter of negative determination for prime farmland within the permit area.

Determination of Completeness

Applicant has provided a letter from T. B. Hutchings, State Soil Scientist, indicating a negative determination of prime farmland (Item G).

UMC 784.11 Operation Plan: General Requirements

The operation and reclamation plan in Chapter III of the mine plan refers to maps as Item Number One, Two, Three, etc. The maps included with the mine plan are labelled A, B, C, D, etc. It is difficult to correlate the map reference used in the mine plan text and the reference marked on the map.

The applicant should eliminate confusion by referring to maps by either a letter or a number which is consistent with the labeling on the map.

Determination Completeness

It is understood that the applicant finds no difficulty correlating his maps with his text; however, if during the technical analysis review performed by the Division, it is not possible to understand his method of correlation, the review may be prolonged.

The applicant should provide a description, by date, of planned coal removal. The timing sequence could be added to maps E and F.

7/11/85

Determination of Completeness

LCC O.K.

* The applicant has provided a sequential description of planned coal development as requested. However, no dates have been included and the Division is unable to determine the adequacy of the coal recovery plan as it may relate to the five year life of mine. This section of the mine plan may be termed complete if a stipulation that a yearly, calendar approach method sequence of development be correlated with the relative numerical itemization presented on page 3 of Item P.

Report
on T/A

Coal deposit and reserve information is required by 30 CFR 211.10(c)(5)(i). The submittee should be aware that information submitted in the General Mining Order No. 1 must conform with the mining and reclamation plan or vice versa. The two submittals are not consistent. The U. S. Geological Survey has contacted the lessee for revisions as required.

6.5

Determinaton of Completeness

It has been stated that revisions to the GMO No. 1 have been submitted to the USGS as required.

(b)(1) The applicant must provide an explanation of the sedimentation pond construction methods as per UMC 817.46(n)(o) and (p).

Determination Completeness

The applicant has provided an explanation of the sediment pond construction methods.

The applicant shall provide a postmining topography map and cross section of the area disturbed by surface facilities comparable in detail to the premining topography map required in Section UMC 783.25.

Determination Completeness

The applicant has not provided the postmining topographic map requested.

(b)(3) The applicant must provide an explanation of road construction, unless roads are not the responsibility of the applicant, provide designs in enough detail to demonstrate the provisions of UMC 817.150-.176 will be adhered to.

Determination Completeness

The applicant has submitted an explanation of road construction designs prepared by Boyle Engineering to cover those sections of road development up to the mine permit area only. Those road construction designs through the mine permit area are required prior to technical analysis review.

ok for completeness, but T/A step is to be accepted. Division will determine what is "practical".

* check maps to consultant

still may be Tech Deficient

consider to prepare only!

784.11 cont'd.

(b)(4) The applicant must assure the Division that all development waste from roof falls, brushing bottom, overcasts, etc., will remain in the mine. Such a discussion should include how much development waste is expected and how it will be stowed underground to comply with MSHA regulations.

Determination Completeness

The applicant has not discussed how much development waste will be generated or stored underground. The Division will deem this section complete, however, as long as the following information is understood.

The MSHA approval is concerned with storage of coal underground. Normally, development waste generated underground contains coal in amounts that MSHA has, in the past, demanded not be disposed of by the working face. As a consequence, the Division is concerned that after a period of mining the applicant will need a disposal site and will ask the Division for an approval of a site, noting that a Division "delay" in approval of a site could interfere with operation.

*** The USGS has also asked the applicant to show how the material will be stored underground since they feel this storage can affect recovery. Additional information should be submitted by the applicant.

(b)(5) The applicant must discuss and show on appropriate maps the use of portable facilities. The applicant must also address material storage areas, powder and cap magazines, hydraulic oil storage, parking areas, and location and handling of noncoal waste such as trash, portable toilet sewage, etc. (UMC 817.89).

Determination Completeness

*** Applicant has stated that if development waste is encountered (no development waste has been determined from mine development plans) it will remain in mine. Applicants states that MSHA has no regulations regarding storage of development waste underground. MSHA has requirements concerning maximum percentage of coal in waste stored underground. Applicant should address these requirements.

Chapter III, part 3.5.3.1, states that when mining is complete, the mine openings will be backfilled, regraded and reseeded. Prior to final sealing of any openings, the GS will require an on-site inspection and a submission of formal sealing methods for approval of the GS. The applicant should note this in the plan.

Determination of Completeness

*** Applicant must submit evidence of approval from the Emery County Sanitary Landfill to dispose of noncoal waste at the landfill.

TNT
+ GS?
check

DOC
o.k.
check
w/ GS
for TA

TNT
DOC
maybe?
check
w/ MSHA
get in
writing

?

DOC
o.k.
TA
o.k.

UMC 784.13 Reclamation Plan: General Requirements

(3) The applicant should expand the backfilling and grading plan pursuant to UMC 784.13(3) with postmining contour maps or cross sections that show the final surface configuration of the proposed disturbed permit area to demonstrate compliance with UMC 817.101-.106.

Determination of Completeness

*** Applicant shall submit contour maps or cross sections that show anticipated final surface configuration of permit area. The plans should be such that a comparison between the existing and final reclamation contours can be assessed for compliance with UMC 817.101-.106.

(b)(5) The applicant should identify the annual and perennial plants which will be used to stabilize topsoil stockpiles. Interim (during the mine life) plantings need only consist of one or a few species as per UMC 817.114(c).

Determination of Completeness

The applicant has indicated a plan on page 16 of the response to use the same species for interim reclamation as for final reclamation. These species will satisfy the requirements for topsoil stockpile stabilization.

Of the seven proposed species in the seed mix, all but Lewis flax has been introduced. It is stated in the plan that native species will take over as occurred on the previously disturbed area. Most probably, the previous mine site was not seeded with "aggressive" introduced species as those which are proposed in the plan. Consideration must be given to meeting the postmining land-use. Therefore, reference must be made to appropriate field trials concerning competition and/or succession occurring when these species are used for revegetation as per UMC 817.112.

Determination of Completeness

Use of introduced species in the seed mix is justified by stating that this mix had previously been used on U. S. Forest Service land under similar conditions and that these species have proven to be acclimatized and have stabilized the soil without competing with native species which try to reestablish. Applicant states that no further data will be submitted on the seed mix feasibility due to adequacy of the above argument.

The applicant must be more specific concerning the methods to be used in seeding and planting particularly for slopes of 1:1 or greater. Will both hydromulching and burlap netting be used on these slopes? Will the seed and mulch be applied as one step during hydromulching? If this is the case, dessication of seeds during germination may occur. Topsoil placement will be ineffective on slopes this steep. Has gouging or creating basins on the slopes, then planting woody plant seedlings in the depressions been considered? The extensive root systems of woody species would be more effective than herbaceous species in stabilizing the slope.

Determination of Completeness

On slopes 1:1 or greater, the ground will be hydroseeded, then mulched with burlap netting (Response page 17). Applicant does not address whether seed and mulch will be applied as one step, or the question of gauging or creating basins on the slopes, then planting woody plant seedlings in the depressions.

*** The questions asked in the original ACR must be addressed by the applicant.

Is the seed mixture in Section 3.5.5.2 (page 33) expressed as pure live seed (PLS)? If not, provide the PLS rate.

Determination of Completeness

The seed mixture is expressed as Pure Live Seed (Response page 17).

The applicant should indicate the rate at which the straw mulch will be applied and in what manner it will be secured to prevent blowing and to make its use effective.

Determination of Completeness

The applicant has decided not to use straw mulch and to hydromulch all slopes, due to their steepness (Response page 17).

The applicant should identify two distinct areas on a reclamation map, one area for postconstruction contemporaneous reclamation (UMC 817.100, 817.97) and one for final reclamation.

Determination of Completeness

*** The applicant has submitted a map (No. 5) showing postconstruction contemporaneous and final reclamation areas.

The applicant should provide the correct number of acres to be revegetated (6.6 or 8.4?). (10.4 Acres)

Determination of Completeness

Applicant claims that 8.4 acres will be revegetated in final reclamation. This conflicts with the 10.4 acres given as disturbed under Item 9. Please clarify as per response under paragraph 2, UMC 783.19.

The applicant must provide a cost estimate for monitoring of revegetation success as committed to on page 33 of Chapter III. Also, the discussion of revegetation standards should be made in relation to the requirements of UMC 817.116(b)(3) and 817.117 which set forth different standards according to the various pre and postmining land uses. If wildlife use is to be the postmining land-use, then the plant species selected should more adequately reflect this.

*DOC
OK
TIA??*

*O.K.
for Doc
& TA*

Determination of Completeness

DOC ?
ok.
partially
incomplete
CSM
submission?

*** A cost estimate for monitoring revegetation success is not included in the Reclamation Cost Table (page 30). No discussion of revegetation standards in light of the postmining land-use of wildlife habitat has been made. The applicant must answer these questions and devise a plan for shrub planting consistent with wildlife use, as discussed under paragraph 5, UMC 783.19.

(6) The applicant aspires very high recovery (78 percent), however, fails to justify this assumption by methods required to be shown in Section 784.11(a).

Determination of Completeness

O.K.
DOC
TH

*** This section is not complete. The applicant has not addressed this item as requested in the ACR. Unless accepted by the USGS, the plan will not be complete without it.

*
T.H.
↓
G.S.

(b)(8) The applicant must provide a narrative and plans including cross section to demonstrate that the measures taken to seal or manage mine openings will comply with UMC 817.13-817.15.

Determination of Completeness

DOC
O.K.
T/A
incomplete

*** Not complete. The applicant has not addressed this item as requested in the ACR. Unless accepted by the USGS, the plan will not be complete without it.

UMC 784.14 Reclamation Plan: Protection of Hydrologic Balance

*

Applicant states there will be no effect on surface water in that there is no surface water in the proposed mine plan area. It appears the mining operation may have a potential impact upon Crandall Creek due to its close proximity. The applicant should address a protection or mitigation plan for any potential impacts that the operations may have upon said surface water source (i.e., the area(s) where encroachment of operations upon the stream course is proposed).

NOT
addressed

Determination of Completeness

T/A
deficient*

The applicant has not proposed a plan or adequate response to address this section of the review. The applicant must provide the mitigation plans requested or justify how during the construction phase and throughout the active mining operation, impacts to Crandall Creek will be minimized.

(a)(2) Applicant must provide a copy of the contract or an approval letter from the North Emery Water Users Association and the Forest Service to cover the proposed diversion location and the leased water rights.

*

Determination of Completeness

The applicant has provided a copy of a lease agreement (Item H) for 100 shares of Huntington-Cleveland Irrigation Company water rights for the 1981 irrigation season.

No indication is given as to where or how these shares will be withdrawn. If the water shares are to be obtained from Crandall Creek, then the Forest Service may become involved, if access to the creek is on Forest Service land. No statement or letter to this effect has been included in the resubmission. This information is required before a technical analysis can be completed.

Upon final approval, the permit term will be for a five-year period, yet there is no provision of water rights past the 1981 irrigation season included in the plan. What will be the source of water required for the duration of the permit term?

The applicant must address these concerns prior to final approval of the permit.

In addition, approval from the State Engineers office is required for diversion point, and for a change in water usage (i.e., agricultural to industrial). A letter of approval verifying this change must be submitted.

Determination of Completeness

WCC *** The applicant has not presented a direct comment to this question in the text of the resubmission, but upon review of Item E (State Permits Required) it appears that the application has been made as the approval is listed as pending. Is this correct?
TA problem

WCC *** Prior to issuance of final approval, all necessary State and Federal licenses and permits must be approved or show verification of application.
TA problem

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

It is unclear why some undisturbed drainage is mixed with disturbed drainage and routed to the sediment pond and other portions are not. Drainage maps as presented appear over complicated, are difficult to interpret and the design is possibly more costly than would be required. Has the sediment pond been sized to handle both disturbed and undisturbed drainage, or just portions of undisturbed areas?

Determination of Completeness

The resubmission states that the sedimentation pond has been designed for both disturbed and undisturbed drainage.

(1)(i) The applicant has resubmitted design maps for a single stage sediment pond (March 5, 1981) to replace the original two-stage sediment pond design. In the new pond design, the pond is shown butting up against the main access/haul road. The pond has apparently not been located in reference to the original pond site on the drainage control map (A-1). As presented, the Division cannot assess the adequacy or function of said pond as applicable to the surface drainage plans submitted. A new drainage map depicting the newly designed pond locations should be presented.

Determination of Completeness

The applicant has shown the newly designed sediment pond in proper alignment with the overall surface facility layout (see Map No. 5). Upon preliminary technical review of the design slopes for the pond, it does not appear that the design requirements as per 817.46(m) apply. The minimum combined upstream and downstream side slopes for the settled embankment shall not be less than 1V:5h, with neither steeper than 1V:2h.

*40%
OK
T/A
incomplete
?*

*** The applicant's latest submission indicates a 2:1 upstream and 1:1 1/2 downstream embankment slope. A variance to the existing design requirements must be requested with the appropriate stability analysis justification included (static safety factor of at least 1.5).

In addition, no defined inlet to the pond has been shown, nor have any erosion control or energy dissipating measures been described for the inlet.

Determination of Completeness

*DOC
OK
T/A
incomplete*

*** On page 18 of the resubmission the applicant states, "Design drawings showing a defined inlet to the pond and erosion control or energy-dissipating measures will also be described for the inlet."

*

The Division is interpreting this to mean that the final design drawings are being prepared and will be submitted in the near future. The designs must be submitted and approved by the Division during the technical analysis prior to final permit approval. These plans must be received at least 60 days prior to the anticipated construction date.

*on k
approved*

*Changes need to
made T/A*

UMC 784.17 Protection of Public Parks and Historic Places

All of the areas potentially affected by surface-disturbing activities (6.6 acres) in Genwal's Grandall Canyon Mine Plan were investigated for cultural resources. No prehistoric remains were located in the mine plan area. A single site, however, near a haul road from the mine was recorded in 1975 by the Forest Service. The site (42EM722), a rock shelter, is some 50 meters in length and contains at least one meter of cultural deposits. Remains include stone tools, pottery, lithic debris, abundant charcoal and bone and pictographs on the cliff face above. Extensive vandalism has taken place; however, undisturbed areas in the shelter still remain. The site is eligible

for inclusion to the National Register of Historic Places. Therefore, it needs to be protected. The major threats to the site appear to be a direct impact from possible road improvement and present and ensuing impacts caused by increased vandalism brought about by the improvement of the road. The suggested fencing of the site appears to be a solution to the vandalism problem; however, if the site is threatened by road improvement, a mitigation plan may be needed.

Determination of Completeness

The initial road development has progressed up Crandall Canyon past site (42EM722) and the applicant has fenced off the designated site accordingly.

The archaeological report mentions the presence of a scattering of historic mining remains. Documentation and evaluation of these remains should be included within the mine plan. In future submissions, a general cultural resource overview of both prehistoric and historic developments in the area will be needed. Additionally, a clear map of areas surveyed in relation to areas of potential surface disturbance is required.

Determination of Completeness

On page 18 of the addendum, the applicant states that the historic mining remains are of habitation and human use rather than mining. Remains consist of a rusty automobile body (1939-40) Ford or Mercury, numerous tin cans and bottles, piles of wood from old cabins destroyed by vandals and old bedsprings. Applicant states that any of these habitation remains (1939 to 1955) are of absolutely no historic value, and the company refuses to undertake any study to document the worthless remains.

In a letter dated August 8, 1980 (attached), from the State Historic Preservation Office of Utah, cultural resource clearance is given for the Genwal Crandall Canyon Mine. The Office of Surface Mining will proceed with compliance to the SHPO's findings when the forementioned requests are addressed. Additionally, upon completion of subsidence studies, this office may request, by stipulation in the approval package, that a cultural resource sample survey of lands potentially impacted by subsidence be undertaken.

Determination of Completeness

The Utah State Historical and Preservation Office and OSM have provided conditional clearance for the mine plan by letters dated August 8, 1980 (SHPO), and April 17, 1981 (OSM). The applicant has followed the recommendations of the archaeological report and fenced site (42EM722). A subsidence monitoring plan is included as part of the resubmission (Item P).

UMC 784.18 Relocation of Use of Public Roads

The applicant has stated that they will provide a 20- to 26-foot wide access road to accommodate passage of other traffic as requested by the U. S. Forest Service.

The applicant must provide plans and a map delineating the Forest Service right-of-way through the facilities if the road is a public road.

Determination of Completeness

Plans and maps for the access road have been submitted in Design Report: "Crandall Canyon Mine Access and Coal Haul Road." Design maps submitted must be certified by a registered Professional Engineer.

UMC 784.20 Subsidence Control Plan

The applicant must provide a survey showing that no structures or renewable resource lands exist above the areas where there is potential subsidence of the surface. The applicant should carefully read the definition of renewable resource lands (UMC 700.5). In the event that renewable resource lands exist, the application should include a subsidence control plan in accordance with UMC 784.20.

Determination of Completeness

Based upon the response to the ACR review, Item P, the subsidence control plan prepared by Coal Systems, Inc., has satisfied the requirements of this section for a DOC.

UMC 784.22 Diversions

The applicant must address the drainage out of the side canyon which intersects the portal pad in accordance with UMC 817.43-.44. Overland flow from this drainage appears to be diverted through a culvert.

Determination of Completeness

*** The applicant has included a topsoil cross-sectional map and a new topsoil location map (Map Nos. 7 and 8). The drainage from the side canyon referred to above appears to be directed through a 48-inch culvert under the topsoil stockpile. The drainage question still remains unanswered as to how the undisturbed runoff is routed through the minesite? Design details of the inlet and outlet erosion control measures for this diversion must be depicted prior to technical completeness. Map No. 8 refers the reviewer to Sheet No. (?) for complete profile designs on the 48-inch CSP, but no number or page is given. This information must be submitted if pertinent to the technical review for said structure.

*** Design calculations utilized for sizing of the diversion (48-inch culvert) are also necessary prior to technical review.

Those areas near the topsoil stockpile where undisturbed drainage is passed, should be designated as a diversion with demonstration that it will meet the criteria of UMC 817.43 (i.e., riprap, pass peak 10-year, 24-hour, etc.)

OK
DOC+TA *

DOC
OK
TA
?

DOC
OK
TIA??

will be needed
areas of potential

check

Determination of Completeness

Applicant states on page 21 that the area near the topsoil stockpile where undisturbed drainage is passed is designed to pass the peak 10-year, 24-hour flood event, this may be adequate for a completeness determination, but will require the submission of detailed design calculations prior to completion of the technical analysis.

How will erosion of the topsoil stockpile be controlled until contemporaneous reclamation is completed (i.e., will berms or other sediment control measures be utilized?)

Determination of Completeness

Applicant states on page 20 that topsoil erosion will be controlled from the stockpile area by construction of an 18-inch minimum berm on the downslope portions until contemporaneous reclamation is achieved.

UMC 784.23 Operation Plan: Maps and Plans

(b) See comment 784.11(b)(5). Show all facilities.

Determination of Completeness

* The applicant states that all surface facilities are shown on Map No. 4 of the resubmission. The applicant should include the topsoil stockpile as part of the surface facilities and to be included in the disturbed area.

(b)(3) The applicant must submit a map clearly delineating the disturbed area which should coincide with the permit area surrounding surface facilities. The disturbed area(s) will be subject to reclamation.

Determination of Completeness

*** Map No. 4 submitted by the applicant to delineate the disturbed area does not adequately present the disturbed area in relationship to the permit area. Applicant must provide a topographic map showing the entire permit area with the disturbed area shaded or cross-hatched of an adequate scale (1"=200') to permit the reviewer to make a technical assessment of the drainage patterns through the permit area and disturbed area.

The applicant has not provided a map which indicates areas of land which will be disturbed or for which subsidence may be a concern.

Determination Completeness

The applicant refers the reviewer to map No. 5 of the resubmission as designating those areas for which subsidence may be a concern. This map delineates the apparent disturbed area to be revegetated upon reclamation and the surface water monitoring stations.

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TA
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DOC
ole??
TA
not needed

Upon further review of the resubmission, a series of maps were located in the subsidence control plan, (Item P), which address this section adequately.

(b)(5) The applicant shows a plan of the topsoil stockpile on map A-3, but does not show a cross section of the topsoil stockpile area. The only cross sections provided are shown on maps A-2 and A-1.

The applicant shall provide a map showing the cross section of the topsoil stockpile and the area of topsoil stockpile. The cross section shall be through the center of the topsoil stockpile and shall also show the cross section of Crandall Creek.

Determination of Completeness

Applicant has provided a cross-section map of the topsoil stockpile--Map No. 8. Cross section of the Crandall Creek drainage is no longer applicable. Applicant has submitted Map No. 7 showing location of topsoil stockpile with respect to the proposed surface facilities and Map No. 8 showing cross sections of topsoil stockpile. (See comments under Determination of Completeness response, UMC 784.22)

(b)(9) Applicant must show each explosive storage and handling facility on a map and demonstrate how the applicant will comply with 817.61, .62, .65, .67 and .68 for construction and operations.

Determination of Completeness

Applicant states that there will be no explosive storage or handling facility within the permit area, page 21. Applicant has demonstrated compliance with Section 817.61, .62, .65, .67 and .68 on pages 21-28.

(b)(13) The applicant should show the location of each facility that will remain as a permanent feature, after completion of underground mining activities.

Determination of Completeness

Applicant states that no facilities will remain as permanent features after completion of underground mining activities, page 29.

(c) All designs, maps, plans and cross sections required in the application shall be prepared and certified by a qualified professional engineer, or professional geologist pursuant to UMC 784.23(c).

Determination of Completeness

*** Applicant refers to Item F; no Item F is contained in the ACR response document. This certification is required to complete this section.

OK
TCP
+
JA

784.24 Transportation Facilities

The applicant shall provide a detailed layout of all roads. The access haul road will be located on federal lands under the supervision of the Manti LaSal National Forest. The Manti LaSal National Forest has already contacted the applicant to discuss deficiency in road plan detail identified to date. OSM comments are also being sent to the Manti LaSal National Forest.

Even though the applicant has indicated that the maximum road cut is to be 1.5:1 slope, this does not agree with what is shown on maps B-1 and B-2 (which show a cut of 1h-2v). The applicant has also shown a fill embankment slope of a maximum of 1:5.1 which is assumed to be a typographical error and is really meant to be 1.5:1. The applicant should correct this.

The applicant must provide designs, drawings and maps in enough detail to show the stability of cuts, fills, culverts, drainage structures and each haul and access road, including width, gradient and surface with regard to UMC 817.150-.176.

The applicant shall provide with supporting calculations sufficient information on traffic volume, weight and speed of vehicles to verify design of haul and access roads.

The applicant shall provide typical cross sections for all roads to be constructed by the applicant. Cross sections shall include typical cut and fill embankment sections, especially for those sections requiring geotechnical analyses.

The applicant shall provide a structural and foundation analysis (certified by a professional engineer) for all cut slopes which exceed steepness standards.

The applicant shall provide a structural and foundation analysis (certified by a professional engineer) on foundations for appropriate embankment fills.

The applicant shall discuss placement of embankment fills and compaction methods to meet the requirements for compaction of fill material.

The applicant shall discuss temporary erosion control measures to be implemented during construction of roads.

The applicant shall discuss proposed maintenance of roads.

Information on Class III roads (Part 3.2.10) to be constructed as part of the surface facilities is also needed.

Determination of Completeness

*** Applicant has submitted no information (i.e., design parameters, cross sections) on roads within the permit area to show compliance with UMC 817.150-.176. No cross sections from the mine permit area were analyzed in the slope stability study submitted for the haul-access road. Cut

TOC
ok
TA
77
no

slopes within the permit steeper than 1v:1.5h in unconsolidated materials or 1v:0.25h in rock, will require a stability analysis demonstrating a minimum safety factor of 1.5. Embankment slopes steeper than 1v:2h will require demonstration of a minimum safety factor of 1.25.

Applicant is not in compliance with Section 817.150-.156.

The application shall discuss vegetation and topsoil removal and disposal during construction of embankments.

Determination of Completeness

*** See Section 817.21-.25.

DOC
ok

The applicant shall discuss topsoil removal and storage prior to road construction.

Determination of Completeness

See Section 817.21-.25.

785.19 Underground Coal Mining Activities on Areas or Adjacent to Areas Including Alluvial Valley Floors in the Arid or Semi-Arid Areas of Utah

Applicant must justify the negative AVF determination made in Part 7.3, page 61 and show how determination was made.

Determination of Completeness

On page 29 of the resubmission document, the applicant states that a negative determination was reached through currently available published geological data and by geological field examination.

UMC 785.19(c)(1) requires the applicant to either affirmatively demonstrate to the satisfaction of the Division, based on available data, the presence (or lack of) an alluvial valley floor, or submit to the Division the results of a field investigation of the proposed mine permit area and adjacent area.

DOC
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TA-NO

*** The applicant must submit the extent of available data and/or field survey results utilized for the negative determination. A written response from the Soil Conservation Service may aid in developing the determination.

UMC 805 Bonding Requirements for Underground Coal Mines

The applicant has furnished copies of two bonds each in the amount of \$5,000. It is unclear whether both bonds apply to the proposed mining operation. Section 805.12 of the regulations requires a minimum bond amount of \$10,000.

The applicant shall submit cost breakdown of reclamation costs in the form of units, unit cost, quantities and how accomplished.

*

Determination of Completeness

TA NO

The applicant has satisfied the completeness requirements of this section based upon the additional information supplied on pages 29-31 of the response to the ACR review. However, the applicant has not taken into consideration in his response to UMC 805.11(3) and (4) particularly, estimates that would include inflationary factors that would prohibit adequate reclamation by the State in the future.

*

UMC 817.21-.25 Soil Resources

From map 1-3, the stockpile runs from approximately 7,880 feet to 7,920 feet. Applicant should provide a geotechnical stability analysis using realistic material properties, to show that topsoil stockpile will be stable on the 35 percent slope.

Determination of Completeness

The applicant has submitted Map Nos. 7 and 8 indicating new locations and slope stability information of topsoil stockpiles.

Applicant should address the volume of topsoil to be removed and at what thickness the topsoil will be redistributed on the disturbed areas.

Determination of Completeness

*** The applicant states that the area of total disturbance is 8.5 acres. A total volume of 10,285 cubic yards of topsoil will be removed and used for reclamation. The average topsoil redistribution thickness will be 0.75 feet.

DOC
OK

The applicant's calculated volume of 10,285 cubic yards of topsoil to be removed does not coincide with the figures provided in the soil survey. The volume of available topsoil provided in the soil survey is 8,000 cubic yards of topsoil for reclamation (page 10, Item L, ACR Response). Applicant must indicate from what location the topsoil deficiency will be supplemented. If it is proposed to use soil material that has not previously had chemical and physical analysis provided, then analysis must be done. This will allow for determination of suitability as a plant growing media.

TA
??
EV

Describe how topsoil and subsoil will be removed and procedures for storage. Section 3.5.2., page 31.

Determination of Completeness

*** Applicant indicates the topsoil will be removed in a single lift and stored on a stable site. The soil will be protected from erosion, compaction and contamination.

DOC
OK

TA
?
?
EV

Applicant needs to indicate how the single lift of topsoil is to be removed, transported to the stockpile and procedures for minimizing compaction of the topsoil stockpile.

The soil survey was conducted between about 7,500 feet and 7,800 feet while the actual surface disturbance occurs above 7,800 feet. Need to provide accurate soil survey information and productivity analysis of the entire disturbed area (Ex. A-1, A-3 surface facilities; J-1, J-3 soils).

Determination of Completeness

Soil survey information for surface disturbed areas above 7,800 feet has been provided in Item L.

UMC 817.43 Hydrologic Balance: Diversions and Conveyance of Overland Flow, Shallow Ground Water Flow and Ephemeral Streams

Use of rational formula to derive discharge to be diverted through drainage ditches may be miscalculated for the following reasons:

1. Area 28,600 feet² = .65 acres while plan states there are 6.6 acres disturbed. Is the .65 acres as computed, undisturbed drainage? Need to delineate watersheds for drainage ditch diversions.
2. The calculation for (i) = intensity as presented in design calculations for sizing of drainage ditches is computed incorrectly. When using $Q = CiA$, rainfall intensity (i) should be determined for the desired rainfall frequency and have a duration equal to the time of concentration (t_c) of the area. The rainfall intensity for a 10-year, 24-hour design storm is not the rainfall amount divided by 24 hours. These calculations should be re-evaluated and the design of ditches adjusted accordingly so that the Division can make a proper technical assessment (TA).

The applicant should provide information by map or narrative as to channel linings and maintenance to be utilized on drainage ditches, or provide velocity calculations which show none is needed.

Determination of Completeness

*** The applicant has not provided any response to this section. This information is required prior to the initiation of the technical analysis (TA).

UMC 817.46 Hydrologic Balance: Sedimentation Ponds

Sediment pond design sizing calculations, formulas and references utilized are not presented. Calculations for all culverts, formulas and references utilized must be provided. Please submit in response to completeness review this information so that a (TA) can be made. The latest sediment pond design

DOC
OK
TA??



map depicts 8.42 total acres disturbed. The plan states 6.6 acres disturbed. Please clarify which figure is correct and how the numbers were derived. Cursory review of pond sizing appears questionable to adequately handle all drainage as depicted.

Determination of Completeness

*** The applicant states on page 32 of the resubmission that, "sediment pond final design and placement are indicated in maps designated as such submitted with this document."

Information requested above is still required prior to initiation of the technical analysis for this section.

UMC 817.57 Hydrologic Balance: Stream Buffer Zones

The applicant has made no reference to the establishment of stream buffer zones within the plan. If mining operations (surface disturbances) will occur within 100 feet of an ephemeral stream, UMC 817.57 must be addressed.

* Determination of Completeness

The applicant has requested on page 32 of the resubmission authorization to conduct surface activities within 180 feet of Crandall Creek. The Division assumes this is a typo and should be within 100 feet of Crandall Creek.

Based upon the review of the preliminary extent of the design specifications submitted to date concerning construction and operation of the surface facilities to be implemented at the proposed mine site, the Division cannot justify recommending approval of the request at this time.

The closeness of certain portions of the operations to the stream channel as proposed for the duration of the mine life, will be a continual maintenance concern to prevent or minimize the impact of contaminants (ie., sediment, coal fines, oil and grease, etc.) from entering Crandall Creek. The applicant has not demonstrated to the Division sufficient information to insure adequate protection of the hydrologic system over the short or long term of the mining operations.

Upon completion of detailed technical analysis of the final design plans, an acceptable alternative may necessitate culverting of Crandall Creek through those portions of the minesite where projected impact appears most likely.

A meeting with the applicant, the Division and representatives from all other parties and agencies having a concern or interest in this issue may be required in the near future prior to issuance of final approval.

DCC
06
TA
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TA
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UMC 817.61-.68 Use of Explosives

The applicant shall explain what the explosives will be used for in conjunction with surface face-up operations. The applicant shall provide a map showing location of the explosive area. The applicant shall also discuss how the mine plan will comply with performance standards pursuant to 817.61-.68, if blasting will occur as part of the face-up operation.

Determination of Completeness

The applicant has determined that the use of explosives will not be necessary during face up operations. No explosive or storage handling facility will be located within the permit area. Applicant has demonstrated compliance with Section 817.61-.68 (page 21-28) concerning any surface blasting activities that shall occur within permit area.

UMC 817.71 Disposal of Underground Development Waste and Excess Spoil

If the applicant anticipates disposal of underground development wastes, the nature and ultimate disposal location must be identified.

Determination of Completeness

Refer to Section UMC 784.11(b)(4).

UMC 817.97 Protection of Fish, Wildlife and Related Environmental Values

(b) The applicant must make a firm commitment to report the presence of threatened or endangered species to the regulatory authority.

Determination of Completeness

The applicant has made a firm commitment to report the presence of threatened or endangered species to the regulatory authority (Response page 33).

The applicant states that a golden eagle nest is located 0.8 km from a mine portal. To properly assess impacts, the applicant should provide a map showing the nest's proximity to other disturbances, such as the haul road, and state how high above the nearest disturbance the nest is. The applicant should discuss a monitoring program to determine if and how the nesting golden eagle adapts to nearby mine operations. Will any blasting occur in association with road construction?

Determination of Completeness

* Applicant states that the golden eagle nest site was vacant as of May 16, 1981, however, a U. S. Fish & Wildlife Service memo dated May 6, 1981, indicates that the nest may have been occupied this year. The applicant

See
FAW
memo
Jan 27/1982
TA ??

must commit to monitoring the nest site in the spring of 1982 and reporting immediately to the regulatory authority the presence of any golden eagles in the area. At such time, a permanent monitoring program and/or mitigation measures will be determined.

(c)(2) The applicant states that Crandall Canyon is a migration corridor for elk and mule deer. Please identify the source of this information. The applicant should provide a map illustrating this and nearby migration routes and winter range and their relation to surface facilities and the haul road. The applicant should also illustrate on this map moose wintering habitat in relation to proposed disturbances. Regarding impacts on deer and elk winter range, the applicant should explain how much (percentage) winter range will be disturbed by surface facilities and the haul road. The applicant should discuss expected truck volume and speed and precautions to minimize wildlife-vehicle collisions. The applicant has not explained how impacts on the lower 2 km of the canyon will affect resident moose. How much of the total winter habitat does this represent? Is there adjacent unoccupied habitat suitable to absorb displaced moose? If so, how has this been determined?

Determination of Completeness

ok.
TA
ATP
*** On pages 33-35 of the Response, the applicant discussed big game utilization of the permit area. The applicant states that migration of elk and deer on the Manti-LaSal National Forest occurs as a sheet migration with no specific corridors. Map No. 9 shows elk and deer winter range on the high ridges and ledges of the canyon away from the haul road and surface facilities. Moose wintering habitat is not shown on this map as indicated. This should be corrected.

There will be approximately 15 truck trips per day on the haul road with a designated truck speed of 10 miles per hour. Based on this speed and the width of the road, the applicant feels that the chance of a wildlife-truck collision is minimal. The applicant also comments that the road off the permit area is a public road under the jurisdiction of the USFS.

Impacts on the lower two kilometers of the canyon will remove approximately 1/2 acre of moose habitat, particularly winter habitat. As this represents only a minute portion of winter habitat and there is a tremendous amount of unoccupied adjacent habitat (reference Larry Dalton) the impacts will be minimal.

(d)(4) Page 48--Provide more specific information concerning the location of drumming logs in relation to proposed disturbance.

Determination of Completeness

There are no known locations of drumming logs in Crandall Canyon or near the proposed disturbance areas (Response page 35, reference Larry Dalton).

(d)(6) Chapter III, page 30--refers to expected impacts, mitigation and monitoring plans for fish and wildlife. The referral to Part 10.5 on page 222 of Chapter X mentions that "Enchroachment will be kept at a minimum." Plans for construction should be addressed in this part to prevent any side-casted materials from impacting the adjacent stream. Impacts and mitigation measures for the stream and adjacent habitat should be related to the approved air pollution control plan.

Determination of Completeness

Applicant states that any impacts to the stream and adjacent habitat will be caused by construction of the haul road which is under the jurisdiction of the USFS. Impacts and required mitigation are addressed in the approved environmental assessment authorizing the construction of the Crandall Canyon road and bridge, dated May 18, 1981. The approved air pollution control plan contains itemized mitigation for dust abatement during construction (Response page 35).

Monitoring plans on page 30 of Chapter III state, "Applicant proposes none" whereas page 10 of the Aquatic Resources report discusses specific monitoring plans. This monitoring is important and should also be tied to contingency plans for mitigation if it appears that the stream is being unduly impacted by the mine construction or operation.

Determination of Completeness

*T/A
reiterate*

* The applicant feels that the initial aquatic study and report provides sufficient baseline data, and, therefore, proposed to continue monitoring for stream flow and water quality only. The applicant must commit to develop and carry out appropriate mitigation plans with the help of the regulatory authority should stream flow diminish significantly, or water quality deteriorate (Response page 36).

The applicant should provide information and commitments in the plan to show how UMC 817.97(d)(1), concerning the location of haul and access roads, will be met.

Determination of Completeness

The applicant refers the regulatory authority to the USFS, the agency having jurisdiction over the road, for information and commitments to show how UMC 817.97(1) will be met (Response page 36).

UMC 817.153, 817.173 Roads: Class I or III: Drainage

(c)(ii) Provide cross sections of a typical culvert installation showing adequate inlet and outlet erosion control measures to be implemented.

*Check
Mater
comment*

Determination of Completeness

*** Applicant has not addressed the above. Refer to comments UMC 784.24.

* This is an area of concern; information supplied is adequate but problems may develop on the Technical Analysis (TA). A stipulation on the final approval may result upon completion of the final review.

*** Incomplete; more information is required prior to the initiation of a Technical Analysis (TA). *The approval of pollution control plan requires attention for this statement*

*mc de
Technical
Review*

The applicant shall... *The applicant shall... and, therefore, proposed to continue monitoring for stream flow and water quality only. This monitoring shall be done...*