



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

January 25, 1984

Mr. Alan W. Smith, Controller
North American Equities, NV
1401 17th Street, Suite 1510
Denver, Colorado 80202

RE: Determination of Completeness
Review
Blazon #1 Mine
ACT/007/021, Folder No. 2
Carbon County, Utah

Dear Mr. Smith:

Please find enclosed the Division's Determination of Completeness (DCC) review of North American Equities' October 1983 submittal for the Blazon #1 Mine permanent program permit application. As you will note, there are still many areas which are seriously deficient. The requested information must be provided before the application can be determined complete and the Technical Analysis (TA) can proceed.

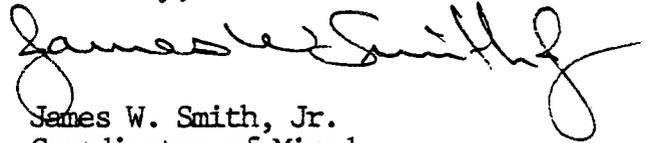
The Division's letter of November 8, 1983 containing the compliance review schedule is not flexible. A decision on completeness of the application must be made by February 24, 1984. Therefore, it is imperative that the requested information be provided to the Division no later than February 17, 1984. Failure to submit the required information will result in the action outlined in the Division's November 8, 1983 letter.

The Division has been hampered in its efforts to effectively review the permit application due to poor organization of the permit documents. There is no correlation between the original permit application and the October submittals. There also are several independent reports (i.e., soil survey, stability analysis) that appear to be part of the Permit Application Package (PAP), but are not officially incorporated into it. Therefore, any resubmittal must comprise one complete PAP with all information previously submitted, along with any new information, that is to be part of the permanent permit application.

Mr. Allen W. Smith, Controller
ACT/007/021
January 25, 1984
Page 2

The Division staff would be glad to meet with you to discuss the DOC review and/or more effective permit application organization. Please contact me or Susan Linner of my staff if you have any questions or wish to arrange a meeting.

Sincerely,



James W. Smith, Jr.
Coordinator of Mined
Land Development

JWS/SCL:btb

Enclosures

cc: Allen Klein, OSM
R. Daniels, DOGM
S. Linner, DOGM
L. Kunzler, DOGM
D. Darby, DOGM
R. Summers, DOGM
T. Portle, DOGM
S. Storrud, DOGM
D. Davis, DOGM

DETERMINATION OF COMPLETENESS

North American Equities, NV

Blazon #1 Mine

ACT/007/021, Carbon County, Utah

January 25, 1984

DETERMINATION OF COMPLETENESS

UMC 771.23 Permit Applications: General Requirements for Format and Contents

DETERMINATION OF COMPLETENESS

(c) and (d) Please supply the dates of collection, the names of persons and organizations which collected and analyzed the vegetation data and the name, address and position of each individual consulted by the applicant in preparation of the vegetation report.

UMC 783.13 Hydrology and Geology Description

(a) A monitoring plan is included in the plan for monthly sampling, but no data are incorporated into the plan and no discussion of the characteristics of seasonal variations of the waters are included. Data submitted later by Vaughn Hansen and Associates on September 18, 1981 does not correspond to the monitoring plan included in the Permit Application Package (PAP). A new narrative and the map submitted on October 8, 1981 indentifying the monitoring points and scheme must be incorporated into the PAP. The data must be submitted monthly for the baseline period. Therefore, data for August and September 1981 must be submitted.

(a)(1) The operator is requested to provide the Division with the elevation(s) of the water table(s) as penetrated by all drilling to date (including the water well), and related lithologic data from these drill holes.

DETERMINATION OF COMPLETENESS

(a) The applicant must still submit a discussion of the characteristics and seasonal variations of the waters sampled. The applicant must provide data and discussions for the ground water monitoring sites for the baseline data period. Also, a discussion of ground water quality and quantity must be provided.

(a)(1) The applicant must submit current water levels for the drill holes if no other data are available.

UMC 783.14 Geology Description

(a) The applicant does not provide an adequate description of the geology within the mine plan area.

DETERMINATION OF COMPLETENESS

Information regarding the (1) lithology, (2) stratigraphy, (3) structure (including bedding, thicknesses, folding, jointing and alteration), and (4) competency of the different members of the Blackhawk Formation or Starpoint Sandstone which are or may be involved in the overburden of the permit area and the stratum immediately below the coal seam should be provided.

Depth to the top of the Starpoint Sandstone from the lower Clear Creek Seam must be stated in the permit application as well as the strikes and dips of this coal outcrop or seam.

(a)(1)(i) Applicant has not delineated on any map the location of areas where subsurface water will be or is exposed at face-up areas.

DETERMINATION OF COMPLETENESS

Location of areas or zones where subsurface waters are or will be exposed at face-up areas must be delineated and labeled clearly on a map whose scale is suggested to be the same as Map 8 (1" = 100').

(a)(1)(ii) The applicant has provided all logs of drill holes except for the water well drill hole.

DETERMINATION OF COMPLETENESS

The applicant must supply the log of the water well showing lithologic characteristics of the cutting.

(a)(1)(iii) The applicant has provided a chemical analysis of the stratum of the overburden and the stratum immediately below the coal seam to be mined. Potential toxic forming materials were identified by measuring pH, total sulphur, acid-base potential and neutralization potential. Potential alkalinity forming materials were identified by Neutralization Potential. Potential acidic forming materials were, however, not identified.

DETERMINATION OF COMPLETENESS

Because Potential Acidity can be related to percent sulphur by the equation: $Y = 4.93 + 52.29X$ where Y is potential acidity expressed as millequivalents of hydrogen per one hundred grams and X is percent pyritic (plus) organic sulphur, organic and pyritic sulphur in percent must be reported.

Note: Obtaining the pyritic sulphur content in percent will also satisfy (a)(2)(iii) and 817.71(1)(2).

(a)(2) The applicant has provided two maps both of which exhibit geological information: (1) Geologic-Structure Map (drawing No. 3032); and (2) Hydrology/Geology (Map 5).

The Geologic-Structure Map is unfortunately not certified, yet yields information pertinent to the geology of the area as well as to satisfying UMC 784.15 and 783.25. This involves nature, depth and structure of the overburden and depth to the coal seam. The delineation of joints and/or joint patterns/zones/trends has not been addressed.

Depth and structure of the overburden as portrayed on the Geologic-Structure Map (drawing No. 3032) should be updated and revised as it was noted that the last time this map was revised was in 1913. Strikes and dips of the coal seam outcrop shall also be included on this map.

Ambiguity exists in the interpretation of the legend of the Geologic Structure Map concerning structure contours of Clear Creek No. 1 and 2 Mines. The statement reads: "Structure contours based of Clear Creek No. 1 & 2 Mines. . . ." What does this mean?

The Hydrology/Geology Map (Map 5) is far too simplified, does not delineate depth and structure and character of overburden and has a scale which is too small to be useful for geology and consequently will not satisfy UMC 783.25(c), (d) and (1).

DETERMINATION OF COMPLETENESS

The applicant shall update, revise and certify the Geologic-Structure Map (No. 3032) utilizing recent and past drill hole data and any geologic information which has come available since 1913.

The map shall be made to a scale compatible with Map 8 & 6 (1" = 100') and must include: (1) strikes and dips of coal outcrops; (2) location and elevation of drill holes; (3) delineations of faults, dikes and joints/joint patterns, zones or trends; and, (4) labeled geologic formations or members.

(a)(2)(iii) The applicant has provided total sulphur and sulfate sulphur, however, pyritic sulphur (percent) content of stratum immediately above and below the seam to be mined must be supplied.

DETERMINATION OF COMPLETENESS

The amount of pyritic and organic sulphur (in percent) should be determined, preferably on the same samples as indicated by the lab numbers.

UMC 783.15 Ground Water Information

Chapter VII, Section 7.1.2.2 states "that no aquifers have been discovered yet." An assessment of the area's ground water resources must be made and evidence presented to support this statement. Appendix VII contains a brief description of some potential aquifers. These must be described fully as described under this section. This information must include for each aquifer:

1. The depth below the surface and horizontal extent of water table and aquifers.
2. Lithology and thickness of the aquifer.

3. Quality reports of encountered subsurface water as committed to on page A-15 of the MRP.
4. Any uses (or a statement of no use) of the ground water.
5. Description of the recharge area.
6. Storage and discharge characteristics.
7. Quality and quantity data.

DETERMINATION OF COMPLETENESS

This information has not been sufficiently provided. The applicant must cite all sources (literature and personal communications) used to describe the ground water resource in the PAP. This must include what governmental agencies, and the detail of the investigations, that were consulted to substantiate the statement that ground water systems are not continuous, but are a series of perched, discontinuous water zones. Discussion should also address the applicant's contention of lack of aquifers in the area by discussing for each formation or member which has aquifer potential why no aquifer exists in the Blazon area (i.e., permeability, transmissivity coefficients, storage characteristics, etc.).

The applicant must describe how it was determined that "little or no ground water contributes to flow in the stream." The applicant should depict regional directions of ground water flow as the PAP states that structural features control ground water movement.

UMC 783.16 Surface Water Information

(a) An updated map must be incorporated into the PAP identifying all water discharges into surface waters.

A narrative and data summary must be incorporated into the PAP describing the seasonal variations of the surface water quantity and quality in sufficient detail to address all the items of section (b) of this code.

DETERMINATION OF COMPLETENESS

(a) Map 5 should include the sediment pond discharge point (NPDES point) and any other expected discharges into surface waters.

The surface water information supplied is not sufficient. The applicant must submit narrative of seasonal variations in quality and quantity. Discuss and summarize data using necessary graphics and tables. Discuss individual parameters and number of samples for each used to draw conclusions. The plan lacks complete baseline data and a similar narrative for sites G-1 through G-6. The narrative must include all items of section (B) of this regulation.

The data submitted on the Vaughn Hansen sheets have been reduced to such a point as to make reading the values difficult. The applicant should submit clear copies.

The Division performed a anion-cation balance analysis for the submitted samples and found samples G-1 and G-2 to be inadequate (29 percent imbalance). These data must be checked and if still inadequate will not be acceptable for the PAP. The applicant is requested to perform this analysis for the other samples in the PAP and any new samples submitted.

UMC 783.17 Alternative Water Supply Information

Page 8 of the Division of Wildlife Resources (DWR) report for the Clear Creek Mine (Chapter 10) states that significant losses of water will require that alternative sources be established for wildlife use. The operator must identify potential sources and commit to this statement in the PAP.

The applicant must also discuss the potential extent of interruption of any ground water or surface water source and fully describe the quality and source of an equivalent water supply.

DETERMINATION OF COMPLETENESS

The Division considers sources of water used by wildlife to be valuable and will require alternative sources to be described. See comments under UMC 817.97.

The applicant states on page 783.17-1 that no impact will occur in the canyon floor because mining operations will occur at elevations above perennial drainages. This contradicts the statement made on page 784.14-3 which describes mining activity beneath Mud, Snider and Long creeks which are all perennial streams.

This contradiction needs clarification. If mine workings are to extend beneath any perennial drainages, then alternative sources of water must be described as required by this section.

UMC 783.19 Vegetation Information

The applicant has submitted a soils and vegetation survey prepared by the U. S. Soil Conservation Service (SCS) for meeting vegetation information needs. A review of this survey indicates that more detailed information is needed:

1. The report for the field trip to assess present vegetation, productivity and range condition should be submitted (see page 1, paragraph 3 of the above-referenced report).
2. The site specific species list for each of the range types that is referred to on page 8 should be submitted.

3. The report lacks density (plants per unit area) calculations. This parameter needs to be assessed and reported (using acceptable methodology).
4. Cover estimates reported are given as a range. Ranges reported exceed the precision level of the performance standards (UMC 817.111-.117). Please provide cover estimates to the nearest one percent increment.
5. Sample adequacy was not analyzed nor were the means or the standard deviations reported. This information is needed. (A copy of the field data sheets may be requested in the future pending a review of the information requested.)
6. A discussion of sampling methodology (i.e., a description of methods used) should also be supplied.

This information is needed to establish the standards for reclamation success.

DETERMINATION OF COMPLETENESS

The applicant provided a new vegetation study, however, there are several inadequacies with this vegetation report that must be corrected before it can be accepted. Please submit the following information so that a technical analysis may be completed:

1. Please document the production figures found on page 16 of Exhibit 6 (i.e., a letter signed by the SCS).
2. Justify why the vegetation type (of the reference area) is classified as a spruce/fir/aspen type when there was no spruce found in sampling.
3. How was sampling randomized (i.e., beginning point, orientation, etc.). Was a random numbers table or generator utilized, or were other methods employed? Please describe.
4. It appears that two samples were obtained from each transect. While 50 points per sample is generally acceptable, each sample must be independantly located. Thus, each 50 m tape (of 100 hits) is only one sample. It is also unclear as to the exact sample size obtained. Page 15 states that 17 transects were taken. Is this referring to the 50 m tape or the number of "50 hit" samples?
5. Page 13 indicates that the belt transects (for shrub density) were 2 m X 50 m, yet on page 15 it's reported to be 1 m X 50 m. Please clarify.
6. Why was the "total amount of rooted species within the transect divided by 17" (see page 21)?

7. With regards to tree density, how was it determined which points were to be used for Douglas fir vs. aspen?
8. The acreage of each vegetation type that was disturbed must be submitted.
9. All sample points (transects) should be shown on the vegetation map.
10. Pursuant to the possible need for additional sampling, please submit a copy of all field data sheets for cover, shrub density and tree density. Once the Division reviews these data, a determination will be made as to what additional sampling (if any) will be required.

UMC 783.25 Cross-Sections, Maps and Plans

(a)(c)(d) and (l) The applicant has provided a cross-section which shows the nature and thickness of the coal seam as well as the structure and thickness of the overburden. However, the cross-section is mislabeled and not certified.

The applicant has provided a map, revised in 1983, Geologic-Structure Map; Drawing No. 3032 which shows (1) source of the test holes, (2) nature, depth and thickness of the coal seam to be mined, the stratum of the overburden and the stratum immediately below the coal seam to be mined, and (3) all coal crop lines. However, this map lacks certification, strike and dips of coal outcrops, the rest of the test hole and water well locations and elevations, etc. (see UMC 783.14[a][2][iii]).

DETERMINATION OF COMPLETENESS

The applicant must complete, certify and update the Geologic-Structure Map (Drawing No. 3032) as requested in UMC 783.14(a)(2). The applicant must update, certify and correctly label the geologic cross-section.

(e) The applicant has provided a map showing location and extent of known workings of the Clear Creek No. 1 & 2 Mines, however, the map is not certified.

DETERMINATION OF COMPLETENESS

The Utah Fuel Company Progress Map of Clear Creek No. 1 & 2 Mines must be certified.

(k) Applicant has provided a premining Topography Map where slope measurements have been taken. However, slope measurements do not accurately represent the range of natural slopes and do not reflect geomorphic differences of the area which has been disturbed or will be disturbed. Lengths over which these measurements have been determined are too long, for instance, a slope measurement averaged over 300 feet may be 26.2°, however, along that 300 feet actual slope measurements may range from 60° to 20°.

The premining and postmining cross-sections do not accurately portray the existing land surface configuration of the area affected by surface operations.

DETERMINATION OF COMPLETENESS

Slope measurements must accurately represent the range of natural slopes and reflect geomorphic differences of area which is or will be disturbed within the guidelines of this section.

The premining and postmining cross-sections must accurately portray the existing land surface configuration of the area affected by surface operations, i.e., channel width of streams, height of riprap, width of road surfaces, etc.

It is noted on the cross-sections that stream drainages will be affected by postmining fill, please explain and justify this feature.

(b) A current monitoring map showing the elevations and locations of the sampling points for water quality and quantity must be submitted. The Vaughn Hansen submittal of October 8, 1981 will be adequate if the map is complete and current and it is incorporated into the MRP (scale of map is 1:24,000).

DETERMINATION OF COMPLETENESS

(b) Map 5 should depict the NPDES monitoring point (sedimentation pond discharge).

UMC 784.12 Operation Plan: Existing Structures

If there are existing structures on the permit area which are to be used in connection with or to facilitate underground coal mining activities, then applicant must address UMC 784.13 Section (A - 1, 2, 3, 4) and (B - 1, 2, 3, 4).

DETERMINATION OF COMPLETENESS

Incomplete, although applicant has described the existing structures, proof and verification of present condition must be submitted. The easiest way of accomplishing this is to submit photographs of all existing structures (i.e., buildings, sedimentation ponds, conveyors, waste pile, etc.) with explanation.

UMC 784.13 Reclamation Plan: General Requirements

(b)(2) Applicant should submit a more detailed cost of reclamation (i.e., show how applicant arrived at hours of use for machine costs - acres, ft³, haul distances, etc.).

DETERMINATION OF COMPLETENESS

Incomplete, applicant should submit more detailed costs for reclamation machinery (i.e., costs must include labor and operating costs). Dollar figures for hourly costs must be submitted including a 10 percent contingency. The State cannot assume a salvage value for buildings in the event the State has to reclaim the site. Therefore, demolition and disposal costs must be submitted in the reclamation costs for all structures.

(b)(5) The applicant should specify which grass species and the rate of application for contemporaneous reclamation. Also, it is highly recommended that at least one legume (e.g., alfalfa, yellow sweetclover, lupine, sweetvetch, etc.) be added to the contemporaneous seed mix.

It is suggested that the operator use (where possible) the same seed mix, methods, mulch, etc., that is proposed for final reclamation. With proper monitoring, this could provide valuable information regarding the reclamation plan as to whether the proposed methods, species, etc., will be successful for final reclamation efforts.

(b)(5)(ii) The applicant must provide a list of species to be used for final reclamation as well as the amounts per acre of seed (in terms of Pure Live Seed [PLS]) or seedlings for each of the species to be used. Pursuant to the area being high-priority deer summer range, the seed mix should also include several forb species (the proposed seed mix in the MRP excludes this life form of vegetation). The use of any and all introduced species for final reclamation must be justified as per the requirements of UMC 817.114.

(iii) The applicant needs to be more specific as to the methods to be used for planting and seeding, i.e., what type of seeder will be used - drill, whirlybird, handseeder, etc. What spacing will be used for hand-set seedlings? The applicant should consider grouping trees and shrubs to maximize "edge" and enhance wildlife habitat. Hydromulch seeding as described on page A-29 is not acceptable due to the fact that as the mulch dries, it tends to "lift" off the soil, thus uprooting the sprouts. Hydromulching could be used if the applicant sprays the seed first and then applies the mulch in a second operation. A map showing where the different methods of planting will be used is requested.

(iv) Mulching must be discussed in greater detail, i.e., the type of mulch to be used, rates of application, how it will be anchored, etc. (see also hydromulching comment under part [iii] above).

(v) The applicant should discuss irrigation and pest and disease control measures to be used, if any, or a statement as to why they are not planned.

(vi) Measures proposed to be used to determine revegetation success (as per UMC 817.116) must be discussed (refer also to comments under UMC 783.19).

DETERMINATION OF COMPLETENESS

The applicant has revised the revegetation plan to answer these concerns. However, the following items still must be addressed:

(i) The applicant must provide a detailed schedule for revegetation, including the time of year for seeding and planting.

(ii) Under Section UMC 817.111-.117, the applicant states that only native species will be used. However, the proposed seed mixes include several introduced species. Please revise the seed mixes to include only native species or provide a demonstration that the introduced species meet the criteria of UMC 817.112.

On page 784.13-5, it states that bare root or containerized stock (woody plants) will be used. Specifically, what species will be used? What is the proposed stocking rate? And what will be the size of the "seedling islands" created?

Are the proposed seeding rates indicated for broadcast or drill seeding methods? Also, the rates for several individual species are extremely high or low (due to the size of the seed). These rates should be appropriately revised.

(iii) A major goal of seeding, to insure the highest germination and establishment, is to cover the seed with the appropriate amount of soil. This is best accomplished when seeding occurs prior to mulching. The seeding and mulching plans should be revised to reflect this concept. Also, please document that the use of a chisel plow will provide proper coverage of seed.

(v) With regards to the applicant's proposal to determine the necessity of and develop pest and disease control measures based on revegetation monitoring, the Division finds this acceptable., However, these plans must be approved by the Division prior to implementation. Please revise this plan to include consultation with and approval from the Division.

(vi) Reclamation success must also be based on the successful establishment of woody plants at a level at least 90 percent of the reference area (see UMC 817.117[c][2]). From the discussion on page 784.13-5, it appears that the applicant intends to use the 1983 "baseline data" for reclamation success evaluation. This is not acceptable! Success evaluation must be based on data collected from the reclaimed areas and the reference area(s) at the time of bond release. Please revise your plan to make it clear that the reference area will be resampled at the end of the liability period.

Even though the Division did not require a reference area per se for the meadow community, the applicant must still have a success standard for this type. Please propose a standard for the Division approval.

Please provide more detail for the proposed vegetation monitoring plan, including, but not limited to: a discussion of what parameters will be sampled and at what time(s) of the year; the frequency of sampling; location of sampling points; and, sample size to be achieved.

The applicant must also submit a detailed reclamation plan for the mine development waste pile, based on the results of fertility and toxicity analysis of the material.

UMC 784.14 Reclamation Plan: Protection of Hydrologic Balance

(b)(3) A plan for the monitoring of water quality and quantity during the mining operation and reclamation phases of the project must be submitted.

DETERMINATION OF COMPLETENESS

The applicant must submit a postmining (reclamation) monitoring plan including monitoring frequency, monitoring points, parameters to be sampled, site access and reporting procedure (see UMC 817.46[u]). The applicant should note that this regulation requires drainage entering ponds be sampled.

ADDITIONAL DEFICIENCIES

(a) The applicant is requested to investigate and submit conclusions concerning subsidence and mining beneath perennial streams in the area. This should include angle of draw calculations, depth of overburden along channels and any other data to substantiate any conclusions.

(d) The applicant should present a description of entry seals and downsloped barriers as required by this subsection or discuss why none are required at the Blazon site.

UMC 784.15 Postmining Land-Use

The applicant must submit a detailed description of how the postmining land-use will be achieved, and how underground mining activities will be consistent with surface water plans and applicable state and local land-use plans and programs.

DETERMINATION OF COMPLETENESS

Please provide details as to how the applicant intends to protect reclaimed areas from biological processes such as noxious weeds or animal grazing.

The applicant also fails to identify that wildlife habitat will be a major postmining land-use.

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

DETERMINATION OF COMPLETENESS

The applicant shall supply cross-sections of all berms and diversions. The cross-sections should identify the structures height or depth, angle of side slope and width.

The slopes of all channels, culverts and diversions should be indicated. Channel velocities should be calculated and protection provided in those areas where velocities exceed five feet per second. Calculations should be provided to illustrate the integrity of any structures, i.e., riprap sizing, etc.

The applicant shall describe inlet and outlet control on culverts and illustrate the type of trash racks to be used. The Division will require trash racks to be emplaced on all culverts 50 feet in length or longer.

On the main stream channel, the uppermost 84 inch culvert CSP will be the only culvert requiring a trash rack.

The applicant shall provide a timetable and plans to remove each structure.

The applicant shall submit sizing calculations for all culverts and headwaters.

The applicant shall submit sizing calculations for all culverts and headwaters.

The applicant shall discuss and describe the operation of all structures. What oil skimming devices will be used on the sedimentation ponds? How will the sedimentation pond be drained for cleanout or repairs? Are emergency spillways riprapped or constructed of concrete? What type of liners are used in the sedimentation ponds?

The applicant shall describe how undisturbed runoff above the mine pad area will be separated from the disturbed area runoff. Will diversions be used?

UMC 784.20 Subsidence Control Plan

The applicant has not provided a complete survey or made a statement as to whether structures or renewable resource lands exist within the proposed permit and adjacent areas. There are two springs in and adjacent to the permit boundary, G-4 and G-5, which may be affected as the result of subsidence.

DETERMINATION OF COMPLETENESS

The applicant must complete his/her survey as to whether structures or renewable resource lands exist within the proposed permit or adjacent area.

(a)(2) The applicant has not outlined areas with potential for subsidence within the permit area on a map nor areas which have undergone subsidence (see 6.6.1 in MRP).

Although little or no subsidence is anticipated on the basis that subsidence effects due to old workings are minimal, it should be kept in mind that the overburden for these workings is on an average 200 feet deeper while the overburden for the Upper Clear Creek Seam ranges from 0-300 feet thus increasing the potential for subsidence.

The applicant refers to an angle of draw in Section 3.4.8.1, but does not specify the measure of the angle of draw nor give an explanation on what basis this angle of draw was determined.

DETERMINATION OF COMPLETENESS

The applicant is required to perform a survey to determine if there are any tension or compression effects on the ground surface over present mining or past mining areas. The results of such a survey whether positive or negative must be documented and included as part of the permit application.

The angle of draw must be specified and referenced.

The amount and extent of subsidence shall be calculated. Equations and references shall be noted. The permit application lacks the Stability Analysis of Earthen Structures by Boyle Engineering and Land Group.

(b) The applicant has delineated buffer zones for Snider Canyon and Clear Creek where pillars will not be pulled, however, they have not specified and explained pillar design nor proven that the 100 foot buffer zone is adequate based on the angle of draw and depth of overburden. In addition, subsidence may potentially effect (1) the unnamed stream channel north of Snider Canyon, (2) the stream channel and cliff face along Long Canyon, and (3) Springs G-4 and G-5.

The applicant has committed to leave a barrier behind all outcrops. However, the applicant neither delineates these barriers on any map nor specifies barrier width.

DETERMINATION OF COMPLETENESS

The potential for subsidence along the above mentioned features must be addressed.

The effectiveness of leaving a 100 foot buffer zone where pillars will not be pulled must be presented and must include references, mathematical derivations, etc.

Constraints on barrier widths to ensure the protection of outcrops shall be enumerated, explained and referenced.

(b)(v) The applicant has delineated monitoring stations which will be surveyed and visually inspected each spring and fall during mining.

DETERMINATION OF COMPLETENESS

The applicant shall include additional subsidence monitoring stations to coincide with each year block of mining. In addition, a station located on either side of the east-west trending fault on the west portion of the permit area which coincides with the year 8 block should be included, as well as adding a monitoring station in the year 6 block between monitoring stations 5 and 4 and a monitoring station in the northeastern section of the year 1 block.

The applicant shall make a statement specifying that monitoring stations will be surveyed prior to underground mining below the station locations in order to ensure and establish premining elevations for these stations.

The applicant will commit to submitting all subsidence survey reports to the regulatory authority no later than two months after finishing each spring and fall survey.

(c) The applicant has not provided a detailed description of measures to be taken to mitigate damage to Springs G-4 and G-5 as the result of mining operations (see also UMC 817.97).

DETERMINATION OF COMPLETENESS

The applicant should describe what, where and when mitigation measures will be employed concerning impacts on these springs as the result of mining operations.

UMC 784.22 Diversions

DETERMINATION OF COMPLETENESS

The applicant shall submit calculations for all diversion structures showing their capacity to transmit the peak flows from the precipitation event they are designed to control plus provide for the proper freeboard. Any diversion used above the mine pad area to prevent undisturbed runoff from coming in contact with disturbed area runoff will need to be indicated on a map and calculations submitted.

UMC 784.23 Maps and Plans

(b)(1) Maps #9 and 11 which show surface facilities on the permit area do not show the conveyor and coal refuse shoot that terminate above Mud Creek.

DETERMINATION OF COMPLETENESS

All surface facilities maps must be revised to show these facilities.

(b)(2) The applicant has provided surface and cross section maps depicting the final surface configuration of the permit area. However, the cross-section does not accurately portray the streambed.

DETERMINATION OF COMPLETENESS

The applicant must explain and justify the fill within the streambed on the postmining topography map.

(b)(7) The applicant provides a cross section of the mine development waste pile, however, the waste pile is neither delineated nor labeled on the plan view of the Blazon Mine Site Layout Map and the Blazon #1 Drainage and Sediment Control Plan.

DETERMINATION OF COMPLETENESS

The Mine Development Waste Pile should be delineated and labeled on the plan view of Blazon Mine Site Layout Map and the Blazon #1 Drainage and Sediment Control Plan.

UMC 784.24 Transportation Facilities

Applicant must submit specifications and detailed descriptions of Class I (primary) and Class II (secondary) roads with cross-sections and maps showing width, gradient, surface cutouts, fills, culverts, bridges, ditches and drainage structures. A description of measures for alteration or relocation of natural drainage way. A detailed description including maps and cross-sections of conveyors and rail systems to be constructed used or maintained.

DETERMINATION OF COMPLETENESS

Applicant should submit typical cross-sections and long section of secondary roads also.

TECHNICAL DEFICIENCIES

UMC 817.22 Topsoil: Removal

DEFICIENCIES

A soil study was performed by the Soil Conservation Service (SCS) to comply with the requirements of this part. This report should be included in the Permit Application Package (PAP). Actual soils data are found in Chapter 8. The soil sample points must be shown on the soil map which depicts soil mapping units as specified under UMC 784.23. This information and the SCS study must be incorporated into the Soil Removal and Storage section under 3.5.2 to produce a complete document.

Further, the applicant must respond to the probable topsoil deficit (see comments under UMC 817.24).

UMC 817.23 Topsoil: Storage

DEFICIENCIES

The plan in its most recent version is deficient in that the seed mix(es) actually used on topsoil stockpile(s) is/are not specified.

In addition, topsoil stockpile locations are depicted on Maps 9 and 11. Volume figures have been provided by the applicant. However, there are actually three stockpile sites (DOGM memo, David Lof, October 9, 1981). "The third topsoil stockpile is located along the Class III access road to the disposal site." The applicant must show this site on a map pursuant to UMC 784.23(b)(5) and provide volume estimates.

The applicant must provide plans addressing measures to protect topsoil from erosion due to surface drainage.

UMC 817.24 Topsoil Redistribution

The applicant must provide the volume of topsoil that has been removed and placed in the storage pile for use at time of final reclamation and the depth of topsoil that will be redistributed over the regraded areas.

These figures are needed to determine if enough soil material is available for a proper seedbed to insure revegetation success. If enough material is not available, the applicant must propose a source and volume necessary for reclamation. All substitute soil material is subject to the requirements of UMC 817.22(e).

DEFICIENCIES

The applicant has again failed to provide the depth of topsoil redistribution as requested in the Apparent Completeness Review (ACR). While volumes pertaining to two of the stockpiles are provided, the volume in the third stockpile is not (see UMC 817.23). Assuming a one foot replacement depth on 3.2 acres, approximately 5,200 cubic yards will be required. Since the applicant cites 1,400 cubic yards of available material, a deficit of some 3,800 cubic yards of topsoil exists. The applicant is deficient in not addressing substitute materials pursuant to UMC 817.22(e).

UMC 817.25 Topsoil: Nutrients and Soil Amendments

DEFICIENCIES

The applicant cites soil tests to be performed on A-26 and alludes to soil testing to determine fertilization needs in 3.4.5.2, 3.5.2, page A-26 and Section 8.9. This section on A-26 and Section 8.9 should be amended to omit acidity and include organic matter and electrical conductivity in the list of tests or commit to testing and fertilizing as per Division guidelines at the time of reclamation.

UMC 817.43 Hydrologic Balance: Diversions and Conveyance of Overland Flow

DEFICIENCIES

The applicant should classify which structures are permanent and temporary. All permanent structures should be properly sized and meet the requirements established in the regulations.

What permanent protection will be utilized to prevent erosion of mine development waste?

UMC 817.46 Hydrologic Balance: Sedimentation Ponds

DEFICIENCIES

Sedimentation ponds shall be designed to control the disturbed area runoff and sediment volume generated during a 10-year, 24-hour precipitation event plus any mine water discharged to the sedimentation ponds.

Sedimentation ponds shall not be removed until the disturbed area has been restored and vegetation requirements are met and drainage entering the pond has met the applicable State and Federal requirements for receiving streams.

UMC 817.50 Hydrologic Balance: Underground Mine Entry and Access Discharges

DEFICIENCIES

The applicant should discuss the potential for (and substantiate) gravity discharge from the mine. If that potential exists, then the narrative should describe measures to comply with this regulation.

UMC 817.52 Hydrologic Balance: Surface and Ground Water Monitoring

DEFICIENCIES

(a)(1) The applicant must state in the PAP document what months are to be sampled, rather than "those specified by DOGM." The application lacks a years baseline data for the springs in the area. Sites G-1 through G-6 should be sampled for these data and then sampling may continue on the schedule previously approved by the Division.

Monitoring Map 5 depicts six springs to be sampled, whereas page 784.14-2 states only three locations will be monitored. This contradiction must be clarified. Also, include a discussion of why Spring G-5 is not included in the monitoring program. Narrative should substantiate that mining cannot affect flow of this spring.

(b)(1)(ii) The NPDES permit submitted in the application has expired as of December 31, 1980. This permit must be current before final mine permit approval.

UMC 817.53 Hydrologic Balance: Transfer of Wells

DEFICIENCIES

The applicant must discuss the postmining use and ownership of the well. If it is to be plugged, then the applicant must submit plans to abandon and plug the well. If the well is to be transferred, a document must be submitted addressing item by item each subsection of this regulation including approval by the State Engineer.

UMC 817.54 Hydrologic Balance: Water Rights and Replacements

DEFICIENCIES

The applicant must supply an alternative water supply for any potential contamination, diminution or interruption of any water right as the result of mining activities. This includes potential losses as the result of subsidence and loss of stream flow due to mining beneath perennial streams.

UMC 817.55 Hydrologic Balance: Discharge of Water Into an Underground Mine

DEFICIENCIES

The applicant must state in the PAP any intention to divert any surface or mine discharges into abandoned mine workings. If any such action is to occur either during operation or postmining phases, the applicant must submit plans insuring compliance with this regulation.

UMC 817.57 Hydrologic Balance: Stream Buffer Zones

The applicant must submit protection measures for Mud Creek adjacent to the coal refuse shoot. The regulations' requirement for a 100 foot buffer zone for this area was not met at the time of construction. It is impractical to require that such a buffer zone be instituted at this time, however, the operator will be required to insure that the stream will not be further impacted, should mining resume. This will probably require installing a barrier, such as a pipe arch and fill over the stream.

DEFICIENCIES

The applicant has failed to identify how streams (and buffer zones) will be protected from surface operations.

UMC 817.71 Disposal of Underground Development Waste

Applicant must clarify any disposal of underground development waste including location, compaction and projected extent of disturbed area other than the portal pad area, if applicable.

DEFICIENCIES

Plans must be submitted to address the handling and disposal prior to any additional mining. In light of the applicant's stated intention of maintaining a posture "so the resumption of mining may occur with the minimum of delay" (June 30, 1983 letter from Mr. Alan W. Smith), this problem must be considered to be of high importance.

UMC 817.89 Disposal of Noncoal Wastes

DEFICIENCIES

More detail on the handling and removal of noncoal waste is necessary. Number and volume of receptacles as well as removal frequency, etc., must be detailed.

UMC 817.97 Protection of Fish, Wildlife and Related Environmental Values

Pursuant to seeps and springs being of high values to wildlife, the applicant should discuss mitigation for potential negative impacts to seeps and springs due to subsidence.

To whom will reports relative to wildlife road kills be submitted? Also, at what interval will they be made (refer to MRP, page 17, Section 3.4.6.3)?

The Fish and Wildlife Mitigation Plan presented in the PAP is a verbatim copy of the Division of Wildlife Resources' (DWR) recommendations to the applicant. If the applicant intends to adopt each recommendation, this section of the MRP will need some modification to show it to be a definitive plan. For example, descriptions such as "must be," "could be" and "need to be" accomplished must be changed to read "will be" or "shall be" accomplished.

(d)(9) Pursuant to the permit area containing high-priority summer range for many wildlife species and crucial-critical range for moose, the applicant should propose plans to restore or enhance these habitat areas where practicable.

DEFICIENCIES

The applicant has not provided a mitigation plan for potential negative impacts to seeps and springs in the permit area. This must be done.

The applicant's wildlife plan must include all impacts to wildlife, not just to crucial-critical moose habitat. Please provide a definitive plan that identifies what, where and when mitigation measures will be employed (see also comments under UMC 817.57).

The Utah Division of Wildlife Resources (Price office) has developed a film presentation on wildlife impacts at coal mines. It is designed for use as an employee education/awareness tool to help mitigate wildlife impacts. Although not required, it is recommended that North American Equities, NV obtain and use this film. Please inform DOGM as to whether this film will be used or not.

Also, the applicant is requested to provide information as to the presence (or absence) of any threatened or endangered species of plant or animal.

UMC 817.99 Slides and Other Damage

The applicant has not made a commitment to notify the regulatory authority nor comply with any remedial measures required by the regulatory authority regarding slides or slumps which may have a potential adverse effect on property, health, safety or the environment.

DEFICIENCIES

The applicant must make a statement that he/she will notify the regulatory authority within a specified number of days and comply with any remedial measures required by the regulatory authority anytime a slide occurs which may have a potential adverse effect on public, property, health, safety or the environment.

UMC 817.100 Contemporaneous Reclamation

The applicant should provide a specific plan and seed mix(es) to be used for contemporaneous (temporary stabilization) reclamation that is in concert with UMC 817.113(b) (see also comments under UMC 784.13[b][5]).

DEFICIENCIES

The applicant's plan to use final revegetation plans for temporary and contemporaneous reclamation is acceptable. However, adequate changes must be made to the proposed plan as outlined under UMC 784.13(b)(5).

Also, although not specifically required per se, monitoring temporary and contemporaneously reclaimed areas would provide valuable site specific data to base any future modification to final revegetation plans.

A description of all reclamation measures employed to date (including seed mixes and rates used) must be provided to the Division.

UMC 817.101 Backfilling and Grading: General Requirements

(b)(5)(ii) The applicant must provide documentation to indicate that the backfilled and graded areas achieve a minimum static safety factor of 1.3.

DEFICIENCIES

The applicant failed to respond to the Division comment of March 25, 1983 requiring documentation of a minimum static safety factor of 1.3.

UMC 817.106 Regrading or Stabilizing Rills and Gullies

The applicant must provide the Division with the measures that will be undertaken to eliminate rills and gullies should they occur.

DEFICIENCIES

The applicant misconstrues the Division comment on this part. The intention of the comment was to address contingency plans in the event of a problem. It is redundant to discuss prevention of the problem since that is in the domain of UMC 817.101.

UMC 817.111-.117 Revegetation

DEFICIENCIES

Until a revised reclamation plan (see comments under UMC 784.13[b][5]) is submitted, a complete evaluation of these regulations cannot be made. However, the applicant is reminded that the reclamation plan developed must comply with the criteria of these regulations.

UMC 817.122 Subsidence Control: Public Notice

The applicant has stated that because there are no existing structures or residences within the area potentially affected by subsidence due to underground mining in the Blazon #1 Mine, that Section UMC 817.122 does not apply.

DEFICIENCIES

Because the section states specifically that the mining schedule shall be distributed by mail to all owners of property and residents within the area above the underground workings and adjacent areas which would be affected . . . the applicant must make a commitment to notify such owners with a duplicate sent to the regulatory authority by mail at least six months prior to mining beneath the surface owners' property which shall contain at a minimum:

1. identification of specific areas in which mining will take place;
2. Dates of underground operations which could cause subsidence; and
3. measures to be taken to prevent or control adverse effects.