0008

File ACT/015/015

United States Department of the Interior

~~Copy to Sally~~

~~Elyne~~

OFFICE OF SURFACE MINING
Reclamation and Enforcement
818 Grand Avenue, Scarritt Building
Kansas City, Missouri 64106

October 22, 1981

UT 0005

OCT 29 1981

DIVISION OF OIL, GAS & MINING

JIM

OCT 28 1981

Mr. Jim Smith
Division of Oil, Gas & Mining
1588 West North Temple
Salt Lake City, Utah 84116

Dear Jim:

Enclosed are two draft copies of the Apparent Completeness Review for the Coal Preparation Plant and the Ancillary Facilities at the Emery Deep Mine. My staff will review the ACR and submit comments to Hart Associates who will update the draft and submit a final report. You will receive copies of the final report upon completion. Information identified in the ACR for the Mine Plan is needed before Hart can complete the final report for the Coal Preparation Plant ACR. This information is identified in Hart's cover letter of October 14, 1981, and a copy is provided for your use.

Hart Associates is under contract to complete a Technical and Environmental Analysis for both the Mine Plan and the Coal Preparation Plant. You will need to provide information that is identified in the final ACR's for the respected plans before we can proceed with the TEA's for each of these plans.

Sincerely,

Edwin D. Pentecost
for RICHARD E. DAWES
Deputy Administrator
Technical Service Center (West)

Enclosures

FRED C. HART ASSOCIATES, INC. • CONSULTANTS

MARKET CENTER • 1320 17TH STREET, DENVER, COLORADO 80202 • (303) 629-1818

October 14, 1981

RECEIVED
TECHNICAL SERVICES &
RESEARCH DIVISION-IV
OCT 19 1981

Mr. Bob Bamburg
Technical Project Officer
Office of Surface Mining
Scarritt Bldg., Room 4
Kansas City, Missouri 64106

Dear Bob:

Enclosed is the draft report on the Apparent Completeness Review for the Coal Preparation Plant and Ancillary Facilities. In addition to the information requested in this ACR, information requested in the previous ACR on the mining operation is needed to complete a TEA for the coal preparation plant and ancillary facilities. This information is needed to understand the impacts to the environment and reclamation plans. Questions which we feel should be answered from the mine ACR are noted below by number in the ACR.

783.14(e)	783.20	784.14(a)(2) for Ivie Creek only
783.14(f)(ii)	783.22	784.15(a)
783.16	783.27	784.20(b)(2)(ii)
783.19(a)	784.13(b)(5)	784.21(a)(2)
		Socioeconomics

We may be able to get by without some of the information if we were to use stipulations in the TEA. However, it would make our impact analysis incomplete.

Since I will be out of town the latter half of this week, if you have any questions on the ACR call Burke Lokey or Sandy Wright. I will be back in the office on October 19th.

Sincerely,

FRED C. HART ASSOCIATES, INC.

Deborah L. Richardson

Deborah L. Richardson
Mining Engineer

DLR/nat

782.17 Permit Term Information

(a)

In the September submittal, the applicant increased the coal production over the permit term by 2,336,000 tons yet no change was made in the mine maps. These maps should be resubmitted showing the revised mining schedule.

783.21 Soil Resource Information

Soils maps 8-1, 8-2 and 8-3 are not certified by a qualified, registered professional engineer or professional geologist as required in 783.25(1). Soil descriptions for the Billings, Kilpatric and Sanpete soils and mapping unit Gu are not provided within the permit application. This information needs to be provided.

784.11 Operation Plan: General Requirements

(b)

The production values used to determine the quantity of coal refuse which will be produced as presented on page 15-18, do not match the production values on page 3-44. This apparent discrepancy should be clarified.

The applicant must provide plans for the two topsoil stockpile areas and the disposal area material stockpile shown on plates 15-1A and 15-1B. These plans must include surface drainage control to a sedimentation pond, topsoil removal in the case of the disposal area, stabilization to prevent air and water erosion, and maintenance and reclamation of the areas.

784.13 Reclamation Plan: General Requirements

(b)

(1)

What is the anticipated time frame for the slurry pond to dry so backfilling and grading can commence?

(2)

The bond estimate provided in Chapter 3 must be substantiated. The applicant should provide volumes, areas, and unit costs for all categories shown in the estimate. Background documentation should be included showing how the information was derived.

(3)

A reclaimed contours map, preferably at the same scale and contour interval as the existing contour maps must be submitted showing the anticipated final surface configuration of the refuse disposal area and preparation plant area.

(4 and 5)

The applicant did not include contour maps or cross sections that show the anticipated final configuration of the proposed permit area as required in (b)(3). The applicant should clarify whether or not vegetation cover will be removed prior to topsoil stockpiling. The location of topsoil stockpiles must be located more precisely than on Maps 15-1A and B and the seed mix to be used to stabilize the stockpiles should be given. The applicant must include a soil testing plan as required in UMC 817.25. Shrub/tree transplanting as mentioned on page 3-58 should be done according to the density of woody plants in the reference areas rather than a general density of 6' x 6' centers for the entire area.

784.14 Reclamation Plan: Protection of the Hydrologic Balance

(a)

(1)

Field work and/or analyses used to determine the permeabilities of material underlying the refuse area (page 15-29, 0.06 ft./day to 2.70 ft./day) and information on how the void ratios and volumetric water content were determined should be provided.

Information, such as drill logs, used to determine the ground water levels in the alluvium and Ferron sandstone and, the top of the Blue Gate Shale should be provided.

The applicant must demonstrate that sufficient material is available to line the slurry cells with 2 feet of compacted shale. If a borrow area is utilized, the applicant must address the disturbance and reclamation of these areas in terms of the appropriate regulations. A materials balance should be provided showing the volume of material to be excavated, placed as a liner and liner protector, stockpiled, and used in the embankment.

The assumption that the pore-size distribution is between one and three must be verified (page 15-32). McWhorter and Nelson (1979) state only that the equation is viable for strata with a pore-size distribution between one and three not that this situation is always true.

The information used for the determination of porosity and the basis of the assumption of the value of specific retention stated on pages 15-32, 15-33 and 15-34 should be provided.

How was the value for the water level of 2.7 feet in the fine refuse determined? It appears that from the cell bottom to the top of the dewatering pipe is 2.25 ft.

How was the value for the TDS content of 5,000 to 10,000 mg/l of the slurry water estimated?

The analysis of the hydrologic impacts to Quitchupah Creek and downstream as requested in the Apparent Completeness Review for Emery Deep Mine (Part 784.14) should be modified to reflect the decreased salt loading from the mine sedimentation pond and seepage from the slurry pond.

On Page 15-36, it states that initial samples from monitoring wells will be submitted for complete major and minor components. A list should be provided stating what these components are.

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

(d)

To comply with the requirements of 817.81 to 817.85, the applicant must provide the following information.

817.81 Coal Processing waste: General Requirements

(a)

(1)

The method used for disposal of organic material cleared from the coarse refuse site prior to construction must be identified in accordance with 817.89.

According to the requirements of 817.102(b), benches may not be wider than 20 feet unless shown to be necessary for stability, erosion control, or roads. The applicant should provide justification for using a bench width of 25 feet.

The applicant should demonstrate that the foundation will be stable under all conditions of construction and operation. Sufficient investigations should be provided to determine design requirements. The effects of the underground operations should be included in the analysis.

817.82 Coal Processing Waste Banks: Site Inspection

The applicant must submit an inspection program which details how the applicant intends to comply with this part and any additional information required by Part 817.71(j).

(b)

The applicant must demonstrate that the waste pile diversion ditch channel is lined adequately and will remain stable during the design flow of 75 cfs, as required by 817.72(d), 817.43(f)(1), and 817.43(f)(2). In addi-

tion, the applicant should either show that the velocity of flow at the diversion ditch discharge does not exceed that of the receiving stream, or provide energy dissipators as required in 817.43(f)(3).

(c)

The applicant should provide specific plans for the revegetation of all disturbed areas associated with the preparation plant and refuse disposal area upon completion of construction. These would include temporary construction roads, borrow areas, and temporary storage areas.

817.85 Coal Processing Waste Banks: Construction Requirements

(b)

The applicant must provide an analysis of the stability of the coarse refuse pile. The minimum static safety factor must be at least 1.5.

(d)

The applicant must specify that the refuse pile will be covered with 4 feet of the best available non-toxic material. The availability of this material in sufficient quantities must be demonstrated. Chemical analyses of the material should be provided to demonstrate that it is non-toxic.

(e)

To show compliance with parts 817.91 through 817.93, the following information is required.

817.92 Coal Processing Waste: Dams and Embankments: Site Preparation

(a)

The method used for the disposal of organic material cleared from the refuse site prior to construction must be identified in accordance with 817.99. The statement provided on page 15-62, parts 2.06 and 2.07 is not adequate and plans must be submitted to the regulatory authority for approval.

(b)

It appears that the slurry pond is acting as a sediment pond for the area south of the diversion ditch. If this is the case, the applicant must submit calculations of sediment volume for the slurry pond. If the USLE method is used, factors R, LS, and C must be justified. The applicant must show that storage for the run-off from the 10 year-24 hour storm event is available after taking into consideration slurry volume and sediment volume for the worst-case circumstances.

If the slurry pond is collecting sediment, then the applicant must address the clean out frequency for the pond.

817.93 Coal Processing Waste: Dams and Embankments: Design and Construction

(a)

The applicant must state that compliance with all appropriate MSHA regulations will be achieved.

A plan must be submitted for the routine inspection of the impoundment in compliance with 30 CFR 77.216-3.

A plan for the maintenance of the impoundment during the mining operation must be submitted.

A plan for certification of the construction and maintenance of the impoundment must be submitted in compliance with the requirements of Part 817.49(h).

(1)

The applicant must submit calculations showing that 3 feet minimum freeboard will be maintained during the maximum water elevation based on the freeboard hydrograph criteria of the US SCS (as referenced in 30 CFR 817.49).

(3)

The appliant has satisfactorily addressed the safety factor issue for slope failure. However, the applicant must also address failure by piping caused by cracking of the liner. This cracking could occur due to differential settlement of the clay/silt strata on which the embankment is founded or if subsidence as a result of mining occurs. Detailed calculations showing the amount of settlement possible along with an evaluation of the adequacy of the liner thickness must be submitted.

(b)

The applicant must demonstrate the adequacy of the emergency spillway lining to protect against erosion during the design peak flow.

The applicant must provide details on how clogging of the outlet pipes from Cell 1 to Cell 2 will be prevented or demonstrate that clogging will not occur.

(c)

The applicant must quantify the 10 year runoff volume and show with a mine operation water balance that the requirement of this part is met or justify an alternative dewatering schedule.

784.20 Subsidence Control Plan

The subsidence analysis presented by the applicant for the area around the slurry pond and refuse pile did not include an analysis of the effects of retreat mining. Overlaying plates 15-16 and 21-1 indicate that retreat mining will occur in this area in the mid-1980's. Subisdence from this operation and its potential effects on the refuse pile and slurry pond should be carefully analyzed by the applicant.

784.24 Transportation Facilities

The following information must be provided to show compliance with Parts 817.150 to 817.176.

817.152 and 817.162

(c)

(2)

The applicant must provide plans for replacement of topsoil and vegetation on cut slopes on the entrance road.

(d)

(3) or (4), and (5) through (9)

The applicant must provide plans for the placement of fill material on the main entrance road in lifts in compliance with parts 817.152(d) (3) or (4) and, (5) through (9).

(14)

The applicant must provide plans for replacement of topsoil and vegetation on fill slopes for the main entrance road.

817.155

Plans for the maintenance of the Main Entrance Road must be provided to show compliance with this part.

817.162 (NOTE: These comments refer to roads other than the main entrance road)

(c)

(2)

The applicant must provide plans for replacement of topsoil and vegetation on cut slopes on all roads.

(d)

(3) or (4), and (5) through (9)

The applicant must provide plans for the placement of fill material in lifts in compliance with parts 817.152(d)(3) or (4) and, (5) through (9).

(14)

The applicant must provide plans for replacement of topsoil and vegetation on fill slopes.

817.163

(c)

The applicant must provide plans for replacement of topsoils and vegetation on fill slopes.

817.163

(c)

The applicant must provide calculations showing that the culverts in the coal refuse haulage road for Quitchupah Creek are sized to pass the 20 year-24 hour precipitation event as required by this part. Plans for compliance with parts 5(1)(ii) through (v) must also be supplied.

The applicant must provide plans to install culverts along the coal refuse haulage road that meet the requirements of part (2)(i). Culvert design must incorporate the requirements of Parts (2)(iv) through (vi).

817.165

Plans for maintenance of the main entrance road must be provided to show compliance with this part.

784.26 Air Pollution Control Plan

The applicant should provide a specific air pollution control plan which includes a monitoring program. There should also be an explicit statement of the fugitive dust control practices that will be undertaken. At present such practices are mentioned in the calculations for dust emissions but they should be drawn together under one heading.

The applicant needs to give more information on the kind of topography in the area in order to justify the use of the WCDM model over other models such as VALLEY.

Wind roses from all three nearest recording stations should be given and further justification for using, as model input, records from 80 kilometers away. In complex terrain this may not be representative information.

More information on why plume rise is being considered should be given. The operation proposed does not really deal with hot gases existing from stacks.

If this methodology is to be used how is the data on u (wind speed at stack height) obtained?

The applicant should justify the assumption that "during stable conditions unlimited mixing occurs" and identify the processes by which it occurs at the site in question.