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May 26, 1981

Mr. Don A. Crane
Regional Director
Office of Surface Mining
Brooks Towers
1020 Fifteenth Street
Denver, Colorado 80202

#2
Re: Request for Concurrence
Apparent Completeness Review
SUFCO Mine
ACT/041/002

Dear Don:

Attached please find the draft response finding the applicants Mining and Reclamation Plan incomplete, along with the Division's recommendations for resubmittal. Most of your staffs comments have been incorporated. I will refrain from mailing this to the applicant until June 3, 1981, to allow your staff time for review. I will assume that our Division and the Office of Surface Mining concur on these findings, if no response from your staff is made.

Sincerely,

GILBERT L. HUNT
RECLAMATION GEOLOGIST

GLH/bb

Enc

APPARENT COMPLETENESS REVIEW

SOUTHERN UTAH FUEL COMPANY
Convulsion Canyon Mine
ACT/041/002

782.19

The applicant must show the application for an NPDES for water discharge at the sedimentation pond as well as for the mine water discharge at present their is mixing at the sediment pond with no sampling.

783.12

The staff of the Utah State Historic Preservation Officer has reviewed SUFCO's application and it is the opinion of that office, that one area needs to be addressed further.

The question of significance of the sites is somewhat confused in that the report suggests that some of the sites meet Criteria D of 36 CFR 60.6, as being of scientific value, and then addresses the question of their not being eligible based on the Bureau of Land Management CRSS rating system. This is inconsistent, and the sites thus are not adequately addressed as to whether they are eligible or not eligible.

The confusion is again reflected in the recommendations of the cultural resource report. It is stated that there are indirect impacts on some of the sites, and gives a detailed listing of the kind of mitigation that may solve this indirect impact problem. If the sites are not eligible, there is no impact.

Applicant must submit readable copies of the site forms. The top of each page is cut off and the site number cannot be read.

Applicant must submit a statement relating the results of the survey with the research objectives.

There are a variety of minor omissions from the archaeological report which will be detailed in the final TEA.

783.13

Applicant should present a discussion concerning the direction of groundwater flow and possible discharge areas for aquifers identified and/or encountered within the permit area.

The applicant should indicate the areas of inflow into the mine on the underground map. The applicant states that the mine is dry on Page 30, Vol. 2, this contradicts a 600 gpm discharge rate.

The applicant should futher discuss the rôle of the aquicludes which prevent inflow of ground water into mine . What evidence is available to support this contention?

783.14

Applicant should supply lithologic logs of the observation wells installed to date.

783.15

(b) The recharge areas should be identified for springs sites being monitored at the surface and from within the mine.

The applicant states that various faults and fractures are producing the increasing amounts of water intercepted within the mine (600 gpm at present). Has any attempt been made to map the areas producing significant amounts of inflow? This information may provide a means of projecting and identifying potential surface recharge areas.

It is necessary for the applicant to provide the water well injection information stated to be derived from tests during the fall of 1980. This was to be compiled on four observation wells showing the extent of the hydraulic connection within the Blackhawk Formation. (p. 18, vol. 4)

Have the holes in the 001 spring area been completed yet? If so information thus attained should be submitted along with a monitoring schedule.

Will mining or subsidence effect the domestic spring 048, if so what is an alternate water supply (UMC 783.17)?

783.16

The applicant has provided semi-annual surface water monitoring data to identify seasonal variation. Extra-polated data has also been generated from empiracal formulas for the Quitchupah Creek drainage area. These data are apparently complete, but may be technically deficient (i.e., specific information delineating similarities between watersheds has not been provided).

783.19

The applicant should provide in the plant community description section, the acreage calculations for each major vegetation type in the affected area and in the reference areas.

The "statistically acceptable techniques" to be used in determination of percent cover and vegetation composition in revegetated disturbed area (p. 37, Vegetation and Soils, Vol. 4) should be specifically indicated by the applicant.

The applicant should submit standard deviation data which correlate with the mean species cover and production data for each plant community.

The applicant has indicated only Site 12 (pp. 75-76, Report of Studies of Vegetation and Soils, Vol. 4, Mine Plan Application) as a vegetation reference area. Site 12 includes the Pinyon/Juniper vegetation community at a sedimentation pond site. The applicant must establish and describe adequate

reference areas, indicate their locations on a map, and submit reference area data for cover, productivity, and shrub/tree density for each vegetation community. The applicant should also clearly indicate the status of vegetation reference areas with respect to a grazing plan and restrictions.

783.25

(g) Potentionmetric surface levels should be shown on a map or cross-section.

The precise locations of the air quality monitoring stations should be plotted on one of the topographic base maps in order to facilitate the Technical Analysis phase of this review.

784.11

(a) Explosives. The applicant should clarify whether or not any surface blasting will occur as part of the operation. If none will occur the explosives sections is complete. If surface blasting will occur a narrative description of the surface blasting procedures must be submitted that demonstrates how the applicant will comply with 30 CFR 817.61 through 817.68.

(b) Underground waste disposal areas should be shown on a map.

784.13

In the 1980 Vegetation and Soils study (Vol. 4), several conclusions and recommendations were made. The applicant should address the following statements which were made in this report and verify what is to be actually performed.

(a) A list of only native species was recommended on pages 35-36 of the Vegetation and Soils study to be used for the revegetation mix. This list is in contradiction with those species proposed for revegetation in the 1979 Mine Plan submission (Vol. 2, pages 53-54). The applicant needs to clarify what seed mixture, seedlings, or transplants will be used for revegetation. Also, indicate the rates of application (as pounds pure live seed per acre), and the species, subspecies, and scientific name for each species in the mixture. The applicant should also address if specific revegetation seed mixtures will be utilized for different situations, including steep areas, mesas, along drainages, around sedimentation ponds, topsoil piles, and any saline, alkaline, or sandy soil areas. The applicant must also address if any introduced species (such as Yellow Sweetclover) is to be used in revegetation. The applicant should demonstrate that each introduced species to be utilized is necessary for controlling erosion, consistent with the approved postmining land use, compatible with native plant and animal species, and not poisonous or noxious.

(b) On page 36 of the Vegetation and Soils study, a recommendation is made that reclamation on steeper slopes (1.5:1 or steeper) be accomplished without application of topsoil. In the 1979 Mine Plan submission, topsoil was to be spread at a one-inch minimum depth. The applicant should clarify plans for topsoil redistribution and should substantiate that no harm will be caused to vegetation with a topsoil thickness of less than six inches. The applicant

should also provide clarification as to the source, quality, and quantity of additional topsoil needed for revegetation. The applicant should also address what amount of fertilizer will be used, since 150 lbs./acre was proposed in the 1979 Mine Plan submission and 100 lbs./acre was recommended in the 1980 Vegetation and Soils study.

(c) With respect to both the reference areas and the affected area, plans for fencing and a livestock grazing management plan should be addressed by the applicant.

(d) Shrub and subshrub density data should be provided in the applicable tables of the 1980 Vegetation and Soils study. The applicant should indicate the tree, shrub, and subshrub species, stocking rates, and mapped planting locations to be utilized for wildlife habitat.

(e) The proposed schedule of revegetation seeding (p. 35, Vegetation and Soils, Vol. 4) is too general in its reference to spring, summer, and early fall plantings. The schedule should be more specifically discussed.

(f) More specific information needs to be submitted with respect to mulching techniques. The rates of application, the type of mulch, and areas of use should be specifically discussed. The applicant should also address if temporary cover crops will be used, providing specific details about the type of crop, application rates, locations where utilized, and that the cover crops will not adversely affect revegetation efforts.

(g) The applicant should address if irrigation and/or pest and disease control will be utilized in revegetation efforts. If either is used, the applicant should discuss the details which will be utilized.

(h) The applicant should include sufficient discussion that a perennial vegetation cover will be established within a year of the final regrading of topsoil, how this will be accomplished, and whether a cover crop will be used between the time topsoil is prepared and the perennial seed mixture is used.

784.14

(a) A description of potential quantitative changes in ground water recharge and discharge should be presented.

(b) The postmining reclamation plan (Exhibits 11 and 12) shows final stream restoration for East Spring Canyon. The applicant proposes to restore the channel over the fill at a slope of 17.5 percent for approximately 1,600 feet. The applicant has estimated the peak runoff resulting from 100 year precipitation event to be 761 cubic feet per second. The use of riprap as proposed by the applicant will not provide long-term stability for the stream channel. The applicant must demonstrate that the stream channel will be stable or that a permanent maintenance plan will be implemented for the stream channel.

(b)(2) The applicant states that TSS and Oil and grease concentrations have exceeded the NPDES effluent limits for surface and mine water discharges on occasions. Possible solutions to correct the surface water effluent problem have been presented, but not for the mine water discharge.

The applicant should present adequate methods to bring the mine water discharge into the acceptable effluent standards.

The Division would suggest an additional monitoring site at the point where the mine water exits the by-pass culvert and discharges into the natural drainage of East Spring Canyon.

(b)(3) Applicant should present an adequate surface and ground water monitoring plan for operational and postmining periods. Will the same schedule be utilized as for baseline monitoring? What is the monitoring frequency of the identified within the mine?

² Springs

(c) The applicant should address the potential impacts of subsidence up on the quantity and quality of Quitchupah Creek waters utilized by downstream irrigation projects and upon the baseflow contributions from North Fork of Quitchupah Creek after cessation of mining operations.

It appears that discharges from the mine portal to East Spring Canyon will offset any impacts to baseflow which may be lost during mining operations.

784.15

The applicant should submit statements of confirmation that the proposed postmining land use is consistent with the surface owner plans and the local land use plan and programs.

The applicant needs to describe how the postmining land use will be achieved and the support activities which will be necessary to achieve the postmining land use.

784.17

Summary of Major Deficiencies for Cultural Resources

(1) 180 acres were reported surveyed as a 10% sample of areas to be impacted by subsidence; however, the mine plan states that approximately 5,230 acres will be affected or disturbed, not 1,800 as stated in the survey report. If the total area surveyed, including access roads and seismic lines, but excluding drill holes, is less than 10% it is suggested SUFCO require the original contractor or hire another competent entity to complete the survey.

(2) The areas in the canyons that will be broken out for ventilation entries need to be surveyed, and the information added to the existing report.

(3) An explanation of sampling strategy is needed of why the size, shape, and placement of surveyed areas was chosen; i.e., why nine 20-acre plots instead of 20 nine-acre plots?

(4) A statement of ground visibility and vegetative cover must be provided, as it relates to the potential for unknown sites.

(5) Legal descriptions for sites 1435, 1436, 1437, 1438, 1439 and 1440 do not agree with map locations. Furthermore, the site number has been cut off site forms for 1439, 1440 and 1441 and the end of the legal description cut off 1439 and 1440. UTM grid locations are needed for all sites.

(6) Site maps are needed for sites 983 and 984. Clear photographs or drawings are needed for site 1440. The remaining site maps need to be redrawn with scales to show details of site, not just area of topographic location. Photos of sites need to be discernable, especially for site 1440.

(7) The stated research goals need to be related to the resources located by survey.

(8) Possible impacts to cultural resources must be discussed in a consistent fashion. Table 7 indicates all known sites may be impacted by the effects of subsidence. Yet on page 43 it is stated "...the potential for direct impact of these types of sites is considered to be nil." One site (1435), however, is a rock shelter (considered a susceptible site) with a CRRS-S2 designation. What is the potential for impacts?

(9) National Register eligibility statements are inconsistent. Several sites are assigned an S2 or S3 designation, which by definition makes them eligible for nomination to the National Register. Yet no recommendations to this effect are made; in fact it is stated that none are eligible. This is very contradictory. If, on the other hand, no sites are eligible, no further mitigation measures (avoidance, testing for eligibility) are necessary. Consistent statements of eligibility, determinations of impact (see 36 CFR 800) and recommendations for further mitigation of adverse impact are needed throughout the survey report, including site forms. We would also recommend dropping the use of the CRRS system, as BLM no longer utilizes the system, and it leads to confusion in recommendations of eligibility of sites to the National Register, pursuant to 36 CFR 60.6.

(10) According to the site forms, artifacts were collected from a National Forest. Is this permitted? What is the Forest Service Permit Number and expiration date? Why is it stated in B. Laboratory Research that artifacts were not collected? Inconsistencies need clarification.

(11) Page 16 "...no Paleo-Indian sites or materials have been discovered in the project area."

Page 38 "The Plano phase of the Paleo-Indian period is shown in the Cascade bipoth collected in 1976."

This inconsistency needs clarification.

(12) Sites need more interpretation--ceramic analysis, diagnostic artifact analysis, and site size (dimensions and/or m²). Additional discussion of Fremont ceramics is necessary.

(13) Reports detailing all previous surveys in the mine plan should be included in the mine plan.

(14) A more thorough statement on the local significance of the Addley Monument (42Sv1440) would be helpful for an eligibility determination. Documented conversations with local informants and consultation with SHPO would help in reaching a decision.

All the above deficiencies will need correction before the mine plan can be considered complete and OSM can begin consultation with the SHPO pursuant to Section 106 of the National Historic Preservation Act of 1966 and 36 CFR 800. Items 1 and 2, however, could be completed after approval of the mine plan.

784.18

Maps and cross-sections of the East Side Road and Mine Access Road should be submitted. Vertical and horizontal alignments should be shown.

The applicant must further clarify the right-of-way boundary of the east road as a public road, and describe the potential use of this road as a diversion. The applicant must discuss erosion prevention measures that will be implemented.

784.19

The applicant should describe plans for an underground waste disposal site proposed. Applicant must show he has the Salina City approval to use city dump for disposal of sediment pond sediment or underground waste.

The applicant should describe plans for disposal of development waste underground and show that these plans comply with MSHA requirements. A letter of MSHA compliance would be appropriate. The applicant states that 2,000-3,000 tons of rock ore disposed annually. Does the applicant have plans for a future surface disposal site, if so, he should discuss.

784.20

(a)(2) Figure 4, Vol. 4. The "x" coordinate has no scale. It should be in feet to correspond with the report, in which case decimal points are misplaced. This indicates less subsidence than actually occurs and gives a false impression of the situation. It should be corrected.

(d) Have any plans been made to mitigate the effects of subsidence on springs 001 and 033?

784.21

The fish and wildlife plan has a number of inadequacies which should be addressed by the applicant. These inadequacies are discussed in the following paragraphs.

In the wildlife Section of 1979 Mine Plan submission (Vol. 2, p.44) the applicant has discussed the possibility for enhancement of wildlife habitat. However, the applicant needs to specifically address how this enhancement will be accomplished. The applicant should submit in a discussion and map specific plans for shrub/tree stocking, including a verification of the proposed revegetation plant species, stocking rates, and locations of the stocking areas. The applicant should also indicate if shrubs and trees will be stocked in the vicinity of ponds or impoundments (and other areas) for wildlife. The applicant should verify and discuss plans for fencing in the vicinity of impoundment and other areas, roads, and migration routes with respect to wildlife and domestic grazing use.

In the Wildlife Section of the 1979 Mine Plan submission, four methods are discussed (p. 45, Vol. 2) for possibly controlling public recreational use in the mining area. Four measures are also discussed for enhancing wildlife habitat away from the mine area (p. 45) with the coordination of appropriate regulatory agencies. The applicant needs to specifically update each of these potential recommendations and verify which will be actually done.

In the 1980 Wildlife Assessment Report (Vol. 4, pp. 1-63) various recommendations were made with respect to wildlife mitigation. The applicant needs to verify which recommendations will be incorporated into the Fish and Wildlife Plan and how they will be accomplished.

The applicant should address in more detail the plan to prevent, control, and suppress range forest and coal fires.

The applicant must ensure that all electric power lines and other transmission facilities are constructed in accordance with the documents cited in 817.97(c)?

784.23

The applicant should show the location of the sewage drainage field on maps, any proposed location for additional facilities during the term of the permit (5 years) including any proposed waste disposal areas.

784.24

The applicant should describe how all roads belonging to the applicant are classified, class or public, etc.

The applicant should update the application to show the access road to the sedimentation pond, including profiles and cross-section. The applicant must make the stability study for this road part of the application and commit to maintaining this road and embankment in conditions for which it was recommended for stability.

The applicant should discuss final reclamation of roads, will roads be left, etc.

The applicant must show how compliance on the Water Tank Road will be achieved. Does the applicant need access to the tank if he intends to reclaim this road?

784.26

There is no listing of any fugitive dust emission permit in the application.

817.21

The soils analysis should include the saturation percentage; if not available, a statement to that effect should be made.

No productivity data for the various soils, either present or potential was found. An association between vegetation communities and soil should be provided.

817.44

The applicant must show the design calculations for the riprapped channel to show that it is designed for the 100-year, 24-hour event; that the exit and entry to the channel are designed to prevent erosion; that the riprap is properly designed to prevent head-cutting through the fill after reclamation; that maintenance of the riprapped channel will not be necessary upon abandonment; and that the present culvert will either be removed or filled, to prevent collapse.

817.46

(d) Following an on-site inspection (May 12, 1981) it was noted that the outfall to the sedimentation pond decanting device is situated below the designated sediment accumulation level as indicated on the staff gage. A vertical extension of the decanting structure should be provided.

817.89

The applicant must provide plans to show compliance with 817.89 and describe the designated site for all wastes. Has incinerating of trash been approved by the Division of Oil, Gas and Mining?

817.101

The applicant must update Exhibits 11 and 12 to show (on the ground changes) that are now pertinent topsoil stockpile, etc.