File K7/007/001
Copy to Lee & Tom T. w/ large sheets
Jim

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202

30 APR 1981

RECEIVED
MAY 4 1981
DIVISION OF
OIL, GAS & MINING

Mr. James Smith, Jr.
Coordinator of Mined Land Development
Division of Oil, Gas and Mining
1588 West North Temple
Salt Lake City, UT 84116

Dear Jim:

Enclosed please find an edited version of an "ACR" for Belina #1 and #2. I hope we have provided adequate information for your hard-worked staff to review. If not, please let John or I know what the questions are.

Also enclosed is a copy of my version of the spread sheet and copies of other portions of the spread sheet filled out by certain of the staff. This may facilitate your review.

Please let us know if we are slipping up or overdoing things. A few of the comments are low-key and are retained more to allow your staff to judge whether they be covered in a letter or a meeting.

Please, as last time, call us.

I hope this helps. (Did the MICOM disk work?).

Sincerely,

John E. Hardaway, Chief
Technical Analysis and
Research Division

Enclosures

1. It is presumed that the permit area is as shown on Maps A and B and concides with the mine plan area except in the southwestern part of the mine plan area. This includes the conveyor, haul road (except Highway 96), coal loadout and Utah #2 facilities. Thus all operations within this area are expected to be addressed. Please confirm since the notations on the cited figures are not clear.

It is noted that part of the currently-sealed Utah #2 mine workings extends past the permit boundary (Map B "Belina #1). Until the bond covering this mine is reduced or released, all operations for which there remains a liability should be included within the permit area. Therefore, it is recommended that the permit area be extended to include the Utah #1 Mine workings.

2. (762.13) At the top of page 5, a W. Hays, Jr., associated with Valley Camp of Utah, Inc., is listed. In what function is he serving? There is no description of his function on the preceeding or following text.

3. (782.13(d) On Table I of Appendix B, there are two abbreviations which do not appear in the text ("DON" and "ENR"). Could you please clarify?

4. (782.14) Editorial comments: The last paragraph on page 15 does not connect to the following page 15a such that the description of the violations of page 15a appear to be incomplete.

5. (782.14) Valley Camp Coal Company and subsidaries are listed as the operators of operations in West Virgina (Appendix B), however, no violations are listed. If Valley Camp, Inc. is the permittee (page 4), it is necessary to address violations received for the other West Virgina operations during the period (approximately) February 1978 - February 1981.

6. (782.17) Editorial comment: It is noted that the schedule for mine sections for Belina #1 is duplicated on pages 26, 26a and 26b. Is there a reason for this duplication?

7. (782.18) The liability insurance expires on 4/1/81 (Figure 1-7). The policy must be in effect for the permit to be issued. Please submit revised policy or evidence of renewal.

8. (782.19) Figure 1-7 lists some permits for which no information is provided regarding license #, approval, or submittals (i.e. status). These include "Crossing of State 96", County right-of-ways, Sewage Disposal System. What approval has been obtained from MSHA regarding the underground waste structure noted on page 41a?

9. (782.21) With respect to the Notice, and in the opinion of the regulatory authority, it will be necessary to indicate to the public exactly when the comment period, and the period in request for informal conference, will expire. The period for requesting a conference must, at a minimum, extend thirty days after the last publication. The appropriate mechanism to notify the public of close of the comment period should be discussed with the regulatory authority. The notice provided in Figure 1-8 does not provide any indication of the period provided for public comments.

10. (783.14) The waiver requested regarding geologic information is considered applicable only to the general geology of the area (see pages 12 and 13). In addition to requesting waiver, the applicant should cite the specific information (text, maps, or related analyses) that it believes equivalent to that normally required to adequately describe the site. The waiver is not appropriate with respect to the geology of the surface-disturbed areas nor with regard to coal recovery and associated engineering analyses related to subsidence analyses. The geologic information for disturbed areas (portals, roads, loadout, conveyor, right-of-way, waste disposal, and sediment control areas) is considered necessary to support analyses of compliance with stability projections. It is also requested that all flowing springs be related to the stratigraphy and geologic structures (fractures and faults) of the area.

Isopach maps of the three coal seams, coal seam interburden, and overburden are needed to evaluate subsidence. Are contours on maps B-2 and B-3 ("coal surface contours") drawn on top of the two seams? Drill logs for all holes used in construction of the cross sections shown on maps F-1 and F-2 must be made available. Only two logs are provided (B-1a and B-1b). Location of these holes (75-30-3 and 76-7-1) on map H indicate that "as more information becomes available, cross sections will be updated." Will the source of this additional information be mining, or drilling, or both? Does this statement relate to hydrology and geological information? What type of new information is expected?

In order for the mining plan submitted to be complete it should contain all the information contained in earlier submittals and/or approvals.

If this submittal is to be complete mining and reclamation plan we require the following to be submitted as a part of this plan to meet the requirements of 30 CFR 211.10, and where appropriate, the UMC:

a. The estimated recoverable reserves and reference to the General Mining Order No. 1 (send confidential natural to the USGS - Conservation Division except for the actual tonnage which is required pursuant to the UMC).

b. Show the mining of all reserves in the logical mining units in 40 years or less.

c. The sequence of mining shown for the first 5 years must also include the remainder of the mine life in 5-year increments.

d. Narrative or maps showing and explaining the specifics of maximum practicable recover of the mineral resource.

e. Coal thickness isopachs for each minable seam, overburden isopachs and delineate the areal extent of mining of each seam.

f. The USGS must participate and approve plans for abandonment of underground operations and entries to the surface. Please include this comment in the plan.

g. Involve USGS in situations for not recovering any coal deposits that may be detrimentally affected in terms of future recovery by the coal development operations proposed and submit a narrative and analysis of the rationale for not mining such beds or portions of seams. This committment must be in the plan.

h. A mine plan layout projected to cover the entire property.

i. Submit the Roof Control and Ventilation System and Methane and Dust Control Plans approved by MSHA as part of the mining and reclamation plan.

j. Structural contour map of bed(s) to be mined covering the entire property.

k. Interburden isopach map(s) on 10-foot intervals.

l. Isopach map of overlying strata on 250-foot (maximum) intervals.

m. Plan uses 35° angle of draw from the lowest seam to protect gas lines. Collect information and data to compute a site-specific angle of draw and change accordingly. Present information shows the angle of draw in this coal field to be somewhat less, like 20°.

The application relies on the Skyline plan for information regarding sulfur and alkalinity of the roof (and floor) of each minerals (page 12). However, no information is provided to demonstrate that geologic conditions support extrapolation of the Skyline data. Nor are the specific data referred to in the Skyline plan identified. Please identify the information you wish to be used. It is also requested that the physical and chemical nature of the underground development wastes be discribed.

In the discussion of soils, 3 soils with unstable (soil creep) characteristics are described (page 87). Are there any landslide features in the mine plan area? Please describe the method used to determine whether there are. If there are, how were these taken into account in the design and construction of the facilities?

11. (785.15) Figure 2-9 provides water quality for wells and mines. Since no information is provided on the completion of the wells, it is not possible to determine whether the variations in water quality are correct. Please provide a better estimate of how wells were completed and sampled. Also, with the logs requested above, it will be easier to evaluate the ground water system to determine if additional information is required. Are the four wells the only ones sampled? Are there periodic depth to water measurements available?

How were the water table surfaces constructed in Figures F-1 and F-2? What data were used and what assumptions were made? As noted above, information on the completion of these wells is required. The cross sections appear to have ignored the hydrologic effects of the faults.

As also noted above (#10), what are the stratigraphic and structural relationships of the springs? From what strata do they issue? Are the discharges related to the fracture system? Do the relative flow rates and water quality identify the extent of recharge?

How was the average annual ground water discharge to Eccles Creek calculated (Figure 2-10)?

On page 24, selected water quality analyses for ground water are reported for four wells. Only three of these wells appear to be located on Map F. Where is the other located? These wells do not appear to overlap the mine area. Please explain the basis for conclusions regarding the ground water system overlaying the mine workings.

It is observed that the application pre ents only a very general description of the ground water system over the mine area. Thus it is nearly impossible to assess the effects of mining and the efficiency of monitoring. A hydrologic survey report was submitted to the Forest Service but has not been provided with this plan. It is possibl that incorporation of that report with this plan would provide a sound basis for the regulatory authority to evaluate the mining and reclamation proposal.

Probably one of the most efficient ways of determining the effects of mining on the ground water system is to document the existing mine discharges. This includes quantity and quality of total mine discharge, location in the mine where ground water is encountered (i.e. from the floor, roof, faulted areas),

variations in flows (i.e. water flow terminates 500 feet from face, water flow increases, or water flow remains constant over time), and quantity of water encountered. The applicant should document the existing effects of mining on the ground water system and provide this information to the regulatory authority.

Please note that Map B-3 incorrectly identifies section 26 as Section 2 in the Section corner with section 25 and that this map has no legend.

The mine plan would have us believe that water measurements were terminated in 1979. It is our informal understanding that the measurements have not been terminated and additional data exist. Please clarify and, if additional data are available, provide them and indicate how these data affect the values reported.

12. (783.16) The lack of correlation between the topography and surface water hydrology maps and the detail map for surface facilities (the C-series maps) makes it impossible to calculate runoff volumes and associated velocities. One (or more) topographic map which delineates the water sheds and areas leading to disturbed areas of the same scale as the C-series maps is required.

Two of the topographic maps provided (F and F-3) are very poor copies, especially in the mine plan area, and should be replaced with legible copies.

13. (783.18) Please identify location of new precipitation gauge in Eccles Canyon and provide all available monthly records. It is presumed that the value of 29.8 inches of rainfall reported for this station in 1980 is precipitation including snowfall. Please confirm. The reference to USGS, 1978 is expected to be USGS, 1979 (page 37). Is that correct? Are any site data for wind speed and direction available? Please submit if available, or if not available, discuss basis for air quality analyses and any determinations of need for dust control.

14. (783.19) There are numerous discrepancies between numbers in the text (pp. 39 et. seq) and Figure 244. While these differences are generally small, they are confusing and should be eliminated. Examples are: on page 41, what is the basis to report 94 species in the Spruce-Fir coomplex when 49 species, plus trees are reported in Appendix H? On page 43, the sagebrush community cover is reported at 130 percent and 34 species while Table 14, supposedly describing the same community, shows 26 species and 107 percent cover. (The reference area (Table 17) does show 34 species and 129.5 percent cover.)

Table 16 has the incorrect label on the left side of the second page where "grasses" should be "browse."

The plan does not identify the acreages of each vegetation community type (i.e. spruce-fir, aspen, grass-forb-elderberry, three sagebrush types, riprarian, revegetated, and disturbed) that are to be (or have been) disturbed, nor are the areas of disturbance related to the vegetation communities. Map G shows the communities and is of scale 1:12,000 while the disturbed areas are shown on maps C-3 and C-4 which are scaled 1"=200' (1:4,800). The conveyor corridor is shown on Maps H, but the areas to be disturbed, that is, the width of the disturbance, is not identified. It is suggested that vegetation maps be prepared at the same scale as the site layout maps and that the specific areas of disturbance be delineated. This delineation is necessary both for establishment of reference areas, evaluation of seeding and planting proposals, and calculation of bond.

The application does not provide an analysis of whether the reference areas selected (Map G) represent the premining vegetation communities. Appendix H provides data for the conveyor route and only one table is for other than the conveyor route. This discussion is also related to 784.13. The applicant is requested to provide a clearer description, accompanied by measurments, of premining vegetation communities in areas to be disturbed, and of reference areas. The sampling methods must be clearly described and the means and standard deviations for the individual measurements clearly stated, along with the derivation procedures. Measurements of cover, production and density, and adequacy of sampling techniques were either deficient for many of the community types or were lacking. The present condition of the areas to be disturbed has not been described nor has the reference area management procedure been identified. If the data collected are limited to that provided in Appendix H, a meeting should be held to discuss the specific location of samples and the methods of measurement used. In any event, a meeting should be held with the applicant to discuss the sampling, sample adequacy, shrub density, the nature of the riparian community, and the reclamation plan.

15. (783.20)* The application should explain the methods used to survey passerines. The application lacks a drawing showing the key wildlife areas. It is suggested that one map, provided adequate resolution were achieved, which related wildlife activities to the proposed and existing mining operations, would suffice. Such a map should show locations of raptor nests, winter range for moose and the general direction of ungulate migration in relationship to the proposed conveyor route; This will provide the needed supplement to the excellent, but generalized, discussion in the text.

*This information is required pursuant to the Federal Land Management Policy Act, the National Environmental Policy Act, the Mineral Leasing Act, and Fish and Wildlife coordination requirements.

It is noted with respect to raptors (page 72) that "prior to the drawing of any final conclusions, that autumn time period will be examined." We concur that this information is required prior to completing the analysis.

16. (783.21)* As noted under vegetation above, productivity must be reported for the vegetation communities to be disturbed. This information is also necessary for the assessment of soil productivity. As also noted in the discussion of vegetation, it is most difficult to assess what soils will be disturbed. The soils data for disturbed areas should be correlated with the site facilities maps (C-series) to show where soils are to be disturbed. If soil mapping units B, 6, and F, all of which are reported as showing evidence of soil creep, are to be disturbed, the reclamation measures necessary to restore equilibrium conditions should be discussed.

17. (783.22) The discussion of postmining landuse appears to omit wildlife as planned-for use. Was this intentional? It would appear that it was an unintentional omission.

18. (783.23 - cultural resources). A detailed, item-by-item analysis of the plan is attached. A summary of the additional requirements follows.

1. Unable to determine exact boundaries of the areas surveyed. Do not know whether all areas of proposed surface disturbance were surveyed for cultural resources. Provide specific legal descriptions and acreage involved in areas surveyed.

2. Maps included in cultural resource report are of poor quality and inappropriate scale. Recorded sites, survey area, and disturbance areas should be plotted on a life-of-mine map. Old mines in the area should also be plotted.

3. Site descriptions for all sites encountered are needed within the report. Site forms and descriptions complement one another to give a detailed description of a cultural resource site.

4. A sample cultural resource survey will be needed for areas potentially affected by subsidence. Since a large portion of the mine plan is situated within the Manti-LaSal National Forest, a survey permit will have to be obtained. Sampling strategy should be presented and should be reviewed by the regulatory authority.

5. Site evaluations of eligibility and significance are confusing. Use of the CRRS system seems to confuse rather than help the issue.

*See previous note.

Unless information to the contrary is presented, OSM considers the S2 and S3 sites to have potential to yield information important in history and prehistory, and are therefore eligible for nomination to the National Register. Information to clarify these inconsistencies needs to be supplied.

6. A short discussion addressing the absence of prehistoric remains (including isolated finds) should be presented within the cultural resource section of the mine plan.

7. A more detailed survey methodology action is needed. Ground visibility, slope steepness, problems, areas not surveyed (and why) are among the things that should be included in the discussion.

8. Several of the sites have been cleared (AERC 27OU/1 and /2) by OSM and the SHPO for another project (Skyline). This documentation should be added to this mine plan submission.

9. What is the current status of 38IN/4, 38IN/1, 38IN/3, 38IN/2? Are they in the mine plan area? What will be the impacts of mining. (see 5)

19. (783.27) The applicant is requested to obtain confirmation from the Soil Conservation Service that no prime farmland is present within the proposed permit area.

20. (784.11) Since no mine workings plan is submitted for the McKinnon seam it is assumed that no mining of the McKinnon seam is planned for the next 5 years. Please confirm. In order to enable the regulatory authority to confirm that no major environmental issues will arise when actual mining is proposed, would it be possible for the application to incorporate a very general, conceptual plan for extracting the McKinnon showing the general area to be mined and the associated portal areas?

Please identify the size of trucks currently used (and indicate, for 784.26 the methods of covering or otherwise controlling spillage).

The conveyor system is assumed to have no cuts or fills associated with it and therefore, no drainage modifications. The provisions considered for passage under the conveyor by wildlife should be discussed in specific terms.

21. (784.12) In order to ensure that existing structures, specifically roads and associated culverts, drains and diversions, are in compliance with the relevant performance standards, their location and characteristics, along with monitoring data (observations) must be submitted. This will include location

of all diversions, drainage controls and drainage associated with roads on detailed maps showing "as-built" conditions, profiles and dimensions of diversions, culverts, drains, trash racks, locations, types, and methods of installing any other erosion controls, and other features of the facilities that are pertinent to compliance with applicable performance standards, including stability of fills and enbankments.

Please note that the specified plans, cross-sections and profiles of engineering facilities such as roads and sedimentation ponds must be certified by a registered professional engineer. Mr. Phillips, a RPE, has provided a general certification of the application and the hydrologic and waste disposal in particular (pages 41 and 41a). However, one cannot be assured all engineering structures are properly certified. If possible, Mr. Phillips could specifically list those drawings that he certified to satisfy the requirements.

22. (784.13) Bonding. The total bond has been estimated to be $77,572. Appendix A shows that a "salvage value" has been subtracted from the costs of reclamation. Salvage valve cannot be subtracted since the regulatory authority, who must be able to perform the reclamation using a third party, cannot assume it will have first lien on the material to be salvaged. The bond amount must, therefore, be reestimated to include the total costs of removal with no credits for salvage. In the recalculation, the source of the units and unit costs contained in Appendix A shall be identified. The calculations, as presented in Appendix A, do not relate the volumes of material to be moved, areas to be seeded, amounts of materials to be used, or the unit costs for these activities, to any drawings which in turn identify the assumptions that went into the calculations. Please provide more information on the nature of the calculations. The unit volumes or amounts should be related to maps and cross-sections used to calculate the numbers.

Since salvage cannot be taken into account, the cost of hauling and complete disposal of buildings, concrete, and other debris must be taken into account.

23. (784.13) Soils. As briefly mentioned in the previous discussion of baseline soils data, the areas of soil to be, or which have been, disturbed should be identified. Based on this identification, the volumes of topsoil removed, possibly stockpiled, and replaced, should be identified (e.g. page 3a). Any segregation of soils should be identified. The depths of replaced soils should be estimated. The amounts removed, stockpiled, and replaced should correlate. In those areas where topsoil was not salvaged, either adequate topsoil must be obtained from somewhere or analyses of substitute material are required. This is also applicable to slopes greater than 1.5h:1v (page 26).

24. (784.13) Revegetation. It is presumed that topsoil replacement will occur as soon after disturbance is complete as the topsoil can be safely moved. We presume this would usually be within days of grading overburden and the only delays would be (1) weather, including freezing of soil, and (2) inability to seed or plant or otherwise stabilize immediately after replacement. Please confirm.

Those areas which have been or will be disturbed during operations as well as those areas in which all disturbance is completed require either temporary or permanent seeding or planting. In the discussion of earlier revegetation efforts (pages 42-42b) it would appear that the revegetation procedures employed were either incompletely described (e.g., tree and shrub plantings, "basin" plantings on steep slopes, erosion pin use, criteria for mulching, monitoring of vegetated areas) or were incomplete in themselves (weed control, standards and procedures for evaluating revegetation success). Since no data are provided to indicate progress toward successful revegetation of either a temporary or permanent nature, we solicit more information on (1) the suitability of seed mixes used for both short-term stabilization (temporary) and long-term stability (permanent), (2) the methods used to ensure covering of seed, (3) the methods used to mulch or otherwise stabilize and retain soil moisture during the germination and early growth stages, (4) the nature of the chemical binder used (page 42a). The plan should clearly identify all areas that will be temporarily stabilized with vegetation and the nature of the seed mix.

The seeding mixes should be described in terms of pure live seed. The hydromulch seeding referred to on page 26 is considered generally inappropriate for the semi-arid climate of the area. Broadcast seeding, raking, and hydromulch may suffice. However, steep slopes will likely need additional stabilization procedures. The applicant is requested to revise the plan to eliminate hydromulch seeding unless demonstrated to be appropriate for the specific area.

The permanent vegetation mixes identified for the various communities do not appear to have been analyzed in terms of their suitability in terms of approximating the natural vegetation (Appendix B). The mix proposed for the north-facing slopes consists of two grasses and two forbs. The diversity of species indicated by the baseline data is much higher than that represented by the seed mix. The proposed riparian mix does not include forbs. The thought that went into the development of the change in species, or rather rates, for the different aspects is appreciated, but these mixes appear to fall short of approximating the diverse communities present prior to mining.

25. (784.13) Backfilling and Grading. On page 22, it is stated that "the graded slopes in the portal area have been designed within the guidelines of geotechnical engineering practices (Golder, 1980)." The reference is to a

"Surface Facilities Grading Plan for Belina Mine Area." Please provide the report if it covers the geotechnical analysis as implied. Apparently there is no grading of roads proposed (pages 24 and 30). This appears to be based on the proposal to change to a postmining land use which differs from the premining land use (see 784.15). A thorough description of the regrading proposal is necessary. It is our understanding that two roads to the Utah #2 site and the road to the Belina portals are to be kept in place after operations (pages 28 and 30) to "support" the proposed postmining land use. If the postmining land use is not approved (see 784.15), these roads will have to be removed and factored into the reclamation procedures and the bond.

The applicant is requested to provide a postmining contour map in order to enable a perspective of how much grading is proposed and what will happen to natural drainage systems that have been disturbed.

26. (784.14) Please advise if it is expected that the Utah #2 mine will have gravity drainage.

Supporting calculations and design consideration for runoff volumes, flow velocities, sediment delivery, and detention time are needed. The site specific calculations for the culverts must be provided (pages 74-81). The reports by Vaughn Hansen Associates (Hansen, 1978, 1980) should be included to provide a basis for analysis of the sediment control measures in place.

According to Figure 3-5, the pond #4 embankment is 20 feet high and, therefore, meets the criterion of 30 CFR 77.216(a). Thus, the information required for rock structures must be submitted, including the appropriate geotechnical information.

Using the postmining topographic map requested in the previous item (#25), please also prepare a postmining longitudinal profile for Whiskey Canyon Creek and compare with premining profile to enable a more precise analysis of postmining stability of the disturbed drainages.

In what areas and to what specifications will temporary sediment control ("reclamation") ponds be built along the conveyor route? The potential for building such ponds is noted on page 35.

The "inlet configuration for culvert" shown in Figure 3-31 shows the inlet "flush with fill line" and no erosion controls are shown. What measures will be taken to stabilize the fill when, as is indicated on page 79, the head water elevation exceeds the culvert diameter?

27. (784.14) The application states that since mines act as interceptors of ground water, TDS concentrations are decreased and thus slightly beneficial impacts may result. No water quality analysis of the ground water and mine discharges is provided to support this allegation. The ground water data provided in Figure 2-9 might suggest this trend, but the data do not represent ground water located over the mine area. The spring water quality data presented in the plan suggest that shallow ground water quality is better than mine discharge. Thus, no data presented in the plan supports the hypothesis tendered in the plan. Further, on page 40, it is essentially concluded that there will be no impact on beneficial use of water because there will be no discharge. If there is no discharge, the question of the applicability of the hypothesis is moot.

To further complicate the analysis, we are aware that there is a discharge from the Belina #1 Mine. This discharge does not appear to be addressed in the application. Since this discharge should be monitored in accord with the monitoring plan, the resulting data describing the discharge, and the general sources of the water, should be addressed.

On page 39 (paragraph 1), it is indicated that the bentonite shale layers tend to swell and become impervious, thereby creating springs. On page 36 (paragraph 1), it is implied that water moves through the shale layer as it does through the sandstones, picking up dissolved solids. Please clarify this apparent contradiction and indicate which procedure rules in the site-specific case of the Belina Mines.

28. (784.15) The proposal for postmining land use is generally for a return to forest, shrub, brush, rangeland (page 48). In both the premining land use discussion and the postmining land use discussion, use of the land for wildlife is neglected. This neglect is also addressed in 784.21 and should be corrected by addressing wildlife habitat locations, vegetation needs of wildlife, and any effects on migration routes of the facilities proposed to be left after mining.

The application proposes to leave the road to the Belina portals and two roads to the rail loadout facilities. The buildings, parking lot and flat area around the portals are proposed to be retained. On page 31, it is suggested that the general office-warehouse area have potential value as a campsite while on page 48 it is stated that the owner will want to use the portal area for a cattle-holding facility. (There is some minor degree of conflict with the statement, also on page 48, to the effect that UCI proposed to return the loadout area and general office areas to original premining uses.)

The application does not support these changes in land use. The provisions of UMC 817.133 must be satisfied. Otherwise, the areas shall be regraded and revegetated. The resubmission must both show the need and support for the change and must address continued maintenance of the features of the drainage system necessary to maintain the land use. "Specific and feasible" plans must be submitted.

Map I-1 (premining land use map) shows the land uses in the Belina Portal Area and the loadout area to be industrial. It is not clear that these are, premining uses and, therefore, the application should more clearly relate those premining uses to the proposed postmining uses. If the area of the loadout was industrial use prior to any mining, then no land use change would be involved to encompass the proposed activities and only the Belina portal road and "recreational land" to be established would involve a land use change. Please provide additional information.

29. (784.16) On page 28, the reclamation plan for the sedimentation pond is not clear. The text appears to say that the #4 dam will be cut to drain but that the emergency spillway will remain intact "to receive drainage from the surface." Please clarify exact steps and show results on longitudinal profile requested earlier (#26).

30. (784.19) On page 56, the discussion on underground development wastes references a Golder Associates Report c mpleted in 1979. The description of the analysis gives the impression that the analyses may have been conducted correctly, but the discussion gives no specific evidence of the method used to obtain foundation characteristics utilized in the analysis. Please provide copies of the referenced report. Please also ensure that proper certification of the engineering drawings is provided.

The potential toxicity of the fill material has not been discussed. At a minimum, please provide analysis of material as a plant growth medium.

31. (784.20) On page 82, it is stated that there are no renewable resources over the mine plan area. Since the land is rangeland and since there are springs over the mine plan area, there are renewable resources over the mine plan area. Therefore, the demonstration claimed in the plan is not adequate. On page 83, it is stated that there is an approved U.S. Forest Service subsidence control plan. The results of implementation of the plan should be submitted. According to Appendix C, the initial survey should be completed.

The plan lacks any engineering or geologic analysis of the potential for subsidence. If the report referenced on page 82 (Hansen, 1980) provides this type of analysis, please submit copies of that report. Otherwise, an improved discussion of the engineering properties of the roof and overburden materials will be required to provide a more quantitative basis to project effects of collapse of the underground workings.

The applicant is requested to develop a short-term subsidence monitoring program for a representative surface area(s) under which sufficient coal will be removed to cause collapse of the underground workings during operations. This may occur in the NE 1/4 of Section 25, T. 13S., R. 6E. The area(s) should be selected based on the potential to represent roof and overburden conditions throughout the mine area and thus to represent the type of subsidence expected. This area(s) should be "instrumented" with "rebar" markers trending in at least two directions across the mine area and should be surveyed before underground collapse, immediately after collapse, and at an agreed-upon (with the regulatory authority) schedule after collapse. The purpose of this monitoring will be to design the necessary subsidence monitoring program for subsequent operations.

32. On page 83, it is stated that gas pipelines exist in the area and that a 35° angle of draw will be observed to limit extraction beneath the pipelines. It is not clear from Map K or Map B2 or B3 just where these pipelines are or where extraction will be limited. There is no evidence that the owners of the pipelines have been contacted. The applicant is requested to carefully label all pipelines, to identify owners of these pipelines, to identify the specific areas in which coal extraction is to be limited, and to provide the engineering analyses supporting the proposed subsidence.

33. (784.21) The applicant has submitted an excellent generic fish and wildlife protection plan developed by the Utah Division of Wildlife Resources. The plan appears to contain several outstanding suggestions applicable to the Belina operations. However, there are no indications in the plan that the applicant intends to adopt any of the plan. The applicant is requested to develop a thorough analysis of the feasibility of implementing the suggestions of the Division and adopting the appropriate mitigating measures. Undoubtedly, further consultation with the Division would result in identification of appropriate mitigation measures. Without this further analysis, the plan does not provide for the necessary mitigation of wildlife impacts.

The applicant is requested to provide a reference to support the claim on page 87 that Goshawks and Cooper's hawks can withstand considerable human impact.

Due to the extremely high value of the riparian habitat, the applicant must discuss how much of this wildlife habitat will be disturbed. The applicant must also detail plans to restore this riparian habitat, wherever it is disturbed.

34. (784.22) As noted previously, Whiskey Springs Creek is diverted. A postmining and premining longitudinal profile has been requested (#26). Also required are flow (and flood) sizing calculations indicating the postmining channel is adequate to maintain or improve upon the premining erosional equilibrium. We presume the culvert is to be removed. Please confirm and ensure bonding costs cover removal.

35. (784.24) See comments under item 21 (784.12) for roads.

36. (784.26) With respect to the waivers obtained for air quality monitoring, please provide the letters of 7 May '80 and 23 May '75 noted on page 93. These are not included in Appendix G of Volume II.

The applicant is requested to provide specific descriptions of the fugitive dust control measures employed on coal stockpiles. The schedule for paving the Eccles Canyon Road should also be incorporated in the plan.

37. (785.19) The stream channel of Pleasant Valley Creek appears to be composed of unconsolidated, streamland material and appears to have water available for agricultural irrigation activities. However, the plan does not address alluvial valley floors. We are aware that Eccles Creek within Eccles Canyon has been determined not to be an alluvial valley floor (AVF). Therefore, this, and tributary drainages, are not expected to be AVF's. But the plan must address Pleasant Valley Creek in terms of an AVF. We would suggest that the stream and associated lands should be minimal. In other words, if the applicant wishes to agree that for the purposes of the permit the Pleasant Valley Creek is an AVF, the only further analysis likely required will be one of consumptive use of water and effects on downstream agricultural activities (if any). We would be pleased to meet to discuss this issue further.

38. Socioeconomic Information

Please provide the number of employees now and projected for future operations and, if any information is readily available regarding average annual salary for the work force and the general distribution of residences for these employees, this would also be appreciated.

If the applicant has any reports which identify past, present, or future assistance provided communities or counties surrounding the mine in order to plan for the effects of employment, this information would be most helpful to complete responsibilities of the federal government under the National Environmental Policy Act.

Review of the EIS for Central Utah (e.g. page BO-III-S) indicates that the information regarding employment is not clearly correlated with the Belina #1 and #2 Mines. We would also be interested in the applicant's identification of mitigating measures listed in the EIS that have been considered in the mining and reclamation plan.

Belina #1 and #2
Valley Camp of Utah Inc.
Apparent Completeness Review
(Cultural Resources)

Submission Reviewed: Hauck and WEDER - 1980 - Intensive Archaeological Surface Evaluations in the Proposed Whiskey Creek Canyon - Pleasant Valley Project in Carbon County, Utah.

779.12(b), 783.12(b)
A. Description of Existing Environment--Does the application:

1) Provide a professionally acceptable cultural resources inventory report, which sufficiently documents or provides the following:

a) A title page including:

1) Author
ADEQUATE

2) Principal investigator
ADEQUATE

3) Date (Report)
ADEQUATE

4) Sponsor
ADEQUATE

5) Institution
ADEQUATE

b) An abstract including:

1) Summary of sites and significance
ADEQUATE

2) Impacts on sites
ADEQUATE - no sites considered eligible.

3) Recommendations
ADEQUATE - no sites considered eligible.

c) A Table of Contents

ADEQUATE

d) An introduction identifying:

1) Purpose of report
ADEQUATE

2) Contractor
ADEQUATE

3) Scope of work
ADEQUATE

4) Location of mine plan
ADEQUATE: map

5) Dates of survey
ADEQUATE

6) Federal antiquities permit number and expiration date
ADEQUATE

7) Principal Investigator
ADEQUATE

8) Place records and artifacts curated
ADEQUATE

e) A clear description of acreage covered and boundaries (township, range, and Section) of the inventory or inventories (case of multiple surveys) with map(s) which delineate the survey boundaries. Does it correspond to the area of the mine plan (life of mine).

It appears that most of Eccles Canyon and a portion of Whiskey Canyon as well as the West Branch of Pleasane Creek are the lands surveyed in the life of mine area.

1. However a more complete description of areas surveyed including legal descriptions, acreages, contour elevations in canyon surveys are needed to exactly delimated the survey boundaries.

2. The mine plan area, surveyed areas, recorded sites, and disturbance areas (portal, sediment ponds, spoil piles, etc.) should be presented on a map of suitable scale. The map should be clean and readable.

f) The environmental setting of the project area (may reference other elements of plan but a short synopsis should be included) including:

1) geomorphology
ADEQUATE

2) vegetation
ADEQUATE

3) climate, etc.
ADEQUATE

4) flora, fauna
ADEQUATE

g) A general cultural resources overview of the Mine Plan Area?

ADEQUATE

h) Previous cultural resource investigations in the area, and National Register check.

ADEQUATE: the register check is eluded to in the future a specific statement of the check should be included.

i) An explicit research design

ADEQUATE

j) A statement of Survey Methods and Procedures (an explicit statement of survey strategy, discussion of ground cover (visibility), presence of unknown sites, etc.)

INADEQUATE: the survey methodology needs to be expanded to include ground cover, slope problems, areas excluded and why subsurface probing etc.

k) The criteria used to determine whether an area is a site (archeological and historic)

INADEQUATE: not included.

l) An explicit description of collection and testing methods

INADEQUATE: not presented.

m) A description of each site located including:

1) Site number

2) Legal description of the location

3) Site relationship to surrounding landforms and nearest water

4) Surface extent of site

5) Observed features

6) Materials collected - description of the variety and spatial distribution of cultural remains

7) Site type/functon

8) Cultural/temporal affiliation and how determined

9) Elevation

10) Physical condition, i.e., eroded, vandalized, well preserved, etc.

11) Site maps. If testing was conducted, show the locations of test pits.

INADEQUATE: not presented. Complete site discriptions are required in the body of the report. Site forms and discriptions complement each other to give a "clear" picture of the site.

n) Site forms - appendix. Forms should include a detailed map showing site extent, artifactual distribution, location of features, etc.

ADEQUATE

o) A Discussion of Significance - Each site should be evaluated as to why it is considered eligible or not eligible for inclusion in the National Register of Historic Places. Evaluations must be made using the National Register Criteria for Evaluation 36CFR 60.6. These evaluations must be sufficiently justified. The level of documentation for these recommendations must be sufficient to allow use of the information in seeking determination of eligibility from the appropriate State Historic Preservation Officer or the Keeper of the Register.

INADEQUATE: CRRS evaluations no longer used. Ratings of S2 and S3 are considered eligible by OSM. The applicant should provide documentation to clear up the eligiblity inconsistences.

p) List of isolated finds located, along with descriptive information (including line drawings or adequate photographs).

ADEQUATE; none found?

q) An accurate map which clearly shows site locations in relationship to any surface disturbing activity. If any areas were not surveyed a detailed explanation should be included.

INADEQUATE: maps presented of poor reproduced quality and do not present the necessary information.

r) An accurate map which clearly shows the area(s) surveyed.

INADEQUATE: maps of poor reproduced quality. Useable to accurately determine what areas were surveyed.

ADEQUATE

780.31, 784.17
B. Description of Applicant's Proposal - Does the application inventory report:

1) Provide a discussion of project impacts for each identified property which is listed or eligible for listing in the National Register of Historic Places? Impacts should be determined by comparing site locations to areas of proposed disturbance (mine facilities, pit layout, any topsoil removal or stockpiling, areas of blasting, areas of subsidence, etc.). Include in this discussion the potential impacts which may be caused by testing or excavation (mitigation). Has the applicant made this determination by applying the Advisory Council's Criteria of Effect (36CFR 800.3(b)) and the Criteria of Adverse Effect in consultation with the appropriate SHPO? Results must be submitted with application.

   INADEQUATE: If any of the sites are determined eligible an evaluation of direct and potential impacts must be presented.

2) Provide detailed descriptions of the applicant's proposed measures to be used to minimize or prevent impacts to each site listed or eligible for listing on the National Register? Such measures could include avoidance, fencing, mapping, controlled collection, excavation, etc.

   INADEQUATE: If any of the sites are determined eligible a detailed site specific discussion of proposed measures to be used to minimize or prevent impacts must be presented.

770.12, 786.19(e)
C. Evaluation of Compliance

1) For surface mines determine whether the intensive inventory was conducted over the entire mine plan area (life of mine) and whether the applicant's report considered the effects of blasting on sensitive sites located wihin a 1-mile "buffer zone" around the mine plan area. For subsurface mines all areas of proposed surface disturbance must be intensively inventoried and a sample survey of those areas of proposed subsidence. The latter survey should determine presence/absence and frequency of occurence of "sensitive" sites such as rock shelters, archeological and historic structures, and rock art.

   INADEQUATE: unable to determine if all areas of proposed surface disturbance have been intensively inventoried. A sample subsidence survey will need to be conducted.

2) Identify whether the land management agency and the appropriate State Historic Preservation Officer have concurred in the recommendations for site eligibility and the proposed mitigating measures? Documentaton of correspondence, if available, should be provided. If they have not concurred yet, does the report provide sufficient information for OSM to begin consultations with the State Historic Preservation Officer and the Advisory Council on Historic Preservation pursuant to OSM's responsibility under Section 106 of the National Historic Preservation Act of 1966?

INADEQUATE: Several of the site were cleared (AERC 270U/1 and 2) for the Skyline submission. This documentation should be included in this mine plan as well. Upon receipt of revised eligibility statements consultations can begin with the SHPO on the presently recorded sites.