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

AUG 24 1983

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DIVISION OF
OIL, GAS & MINING

Mr. James W. Smith, Jr.
Coordinator of Mined Land Development
Division of Oil, Gas, and Mining
4241 State Office Building
Salt Lake City, UT 84114

Dear Mr. Smith:

I would like to thank your staff for their cooperation last week when they met with representatives of OSM and Engineering-Science to discuss the Belina Complex permit application. The two days of meetings resulted in a better understanding of the issues for all concerned.

As a result of the August 17-18, 1983 meetings, a final technical deficiency document has been prepared and is enclosed for your review. The contractor has noted under each rule where revisions have been made. The document should be forwarded to the applicant as soon as possible to facilitate their response to the identified deficiencies.

Two questions arose at the meetings regarding the application of Utah's permanent program rules to the Belina Complex. These were as follows:

UMC 817.12G(a) Subsidence Control: Buffer Zone

The information required by this rule and the subsequent decision by Utah DOGM regarding material damage are necessary if the Whiskey Gulch, Boardinghouse Creek, Finn Creek, Long Creek are perennial. Tom Tetting of your staff indicated that Utah DOGM would make a decision as to which of these streams were perennial and which were intermittent or ephemeral.

UMC 817.72 Disposal of Underground Development Waste and Excess Spoil: Valley Fills

The applicability of this rule to the Valley Camp operation is dependent upon whether UDOGM considers the pad in Whiskey Gulch, adjacent to the Belina Nos. 1 and 2 portal areas, to be a valley fill as defined by UMC 700.5. Tom Tetting also indicated that a decision would be made here as well.

Resolution of these two issues by the division will assist in the technical analysis of the Belina Complex permit application.

As discussed at the August 18th meeting the applicant stated that the conveyor system was proposed and not intended to be included in this permit; therefore explaining lack of sufficient information in the permit application concerning proposals to construct additional facilities and open new areas for mining.

Specifically, there are limited details provided for the proposed overland conveyor, expansion of the existing Utah No. 2 mine, mining of the McKinnon seam, and development of federal lease U067498. The applicant should either state in writing that these proposals are not intended to be permitted or provide the required information. The applicant may select to adjust the permit boundaries and acknowledge in the application text that proper plans for these proposals will be submitted at a future date. A new permitting action would be initiated when the applicant submits these plans.

If you have any questions, please feel free to contact Sarah Bransom or Walter Swain at (303) 837-3806.

Sincerely,

Richard E. Dawes

for Allen D. Klein
Administrator
Western Technical Center

Final Technical Deficiencies Document

UMC 761.11(a)(3) AREAS UNSUITABLE FOR MINING - PROTECTION OF CULTURAL RESOURCES

I. Background

An OSM review of the cultural resources information contained within the Permit Application in 1981 identified nine significant deficiencies which required the submittal of additional information. The list of deficiencies was transmitted by OSM to the Utah Division of Oil, Gas, and Mining (UDOGM) on December 4, 1981, and UDOGM transmitted the comments to the applicant on June 15, 1982.

The apparent completeness review conducted by OSM in 1981 was thorough, and all deficiencies in the application appear to have been identified. The applicant's response to two of the nine deficiencies (May 11, 1982) is, however, inadequate. Additional information, as described below, will be required to allow OSM to comply with Section 106 of the National Historic Preservation Act as outlined in 36 CFR Part 800. In addition, the applicant's response contains information which contradicts certain statements made in the application. Clarification of the discrepancies will be necessary to ensure that OSM has met its responsibilities to identify and evaluate all cultural resources under Executive Order 11593.

II. Adequate ACR Responses

The applicant has provided adequate responses to ACR Items 1, 2, 3, 6, 7, 8, and 9. However, inconsistencies in the responses to Items 1, 2, 4, and 7 should be corrected (see Section III., below). The adequate responses fulfill the requirements of 30 CFR 783.24(i) and fulfill, in part, the requirements of UMC 783.12(b).

III. Inadequate ACR Responses

* Item No. 4 of the ACR directs the applicant to conduct a sample inventory of the area that will be subject to subsidence. A report of this investigation must be submitted.

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The applicant's response appears to be an argument that the surface terrain within the area above the underground workings is, for the most part, so severe that cultural site occurrence is precluded. The possibility that archaeological sites will occur on ridge crests is acknowledged. However, Map D5-0063 shows moderate terrain over the underground mining area, and there are numerous loci in which cultural sites could occur.

OSM requires that a sample survey be conducted of the subsidence area to identify cultural sites (either a random or nonrandom sample). Therefore, if there are areas in which the likelihood of site occurrence is extremely low (e.g., steep, forested slopes) these areas may be excluded from consideration in the survey. Random or nonrandom sampling designs and the exlusion of any areas from consideration in the survey should be explained and justified in the inventory report.

The objectives of the survey are to estimate the frequencies and locations of certain types of sites that may be damaged through subsidence. Types of sites that are sensitive to the effects of subsidence include rock art, rock shelters, and historic or prehistoric structures. If previous surveys indicate that these types of sites are infrequent in the region, a "declaration of negative findings" may be submitted in lieu of an inventory report. The statement must adequately justify the opinion that sensitive sites will not occur in the subsidence areas, and should substantiate that environmentally comparable areas of sufficient size have been examined to support the declaration. Specificially in regard to the Belina Mines, most of the reported sites are historic structures. The applicant should therefore explain why this sensitive site type is not expected to occur within the subsidence area. The presence or absence of surface formations conducive to the occurrence of rock art sites or rock shelters should also be discussed.

The applicant should be reminded that a subconsultant retained to conduct a pedestrian survey must hold a valid Forest Service Cultural resources permit for Manti LaSal National Forest, since the inventory will be conducted on National Forest System lands. If an inventory report is prepared, it must contain sufficient information for OSM to

seek Determinations of Eligibility and Effect for all sites recorded in the subsidence area.

Item No. 5 of the ACR requests clarification of the eligiblity for nomination to the National Register of Historic Places for the recorded cultural sites within and immediately adjacent to the permit area. The applicant has provided documentation of ineligiblity for site 270U/1 and 270U/2. Site 381N/4 is located well beyond the permit area and therefore, is not of concern in the approval of this permit application. However, the issue of eligiblity is still unclear for three recorded sites. The applicant's response indicates that 381N/1 has the greatest potential of all the sites for nomination and that 381N/2 and 381N/3 could yield information significant to areal history. Unclear positions such as these render it impossible for OSM to seek Determinations of Eligiblity for the sites within and adjacent to the permit area. The applicant should supply a justified statement of eligibility or ineligiblity (not potential eligiblity) for sites 381N/1, 381N/2 and 381N/3 or to outline the investigations that will be necessary to assess site eligibility. (Note: Although all three sites are apparently located outside the direct impact areas, (and therefore, will not be affected), it is recommended that OSM seek Determinations of Eligiblity and Effect to ensure that eligible sites are treated property in the future, and/or that ineligible sites be removed from the applicant's future concern.)

IV. Inconsistencies

The applicant should clarify the following inconsistencies:

1. The inventory report submitted as Appendix C of the application states that crew members were spaced 15 to 25 m. apart, whereas the response claims that personnel were 10-15m. apart.

2. The narrative response to Item 1 states that part of the loadout and the southern extreme of the conveyor in section 30 have not been examined. However, Map D5-0063 shows that all impact areas are contained within the survey area. The survey area depicted on Map D5-0063 appears to encompass the

Belina Road Modification and Utah #2 portals. If the survey area is changed, additional pedestrian survey may be required to assure adequate coverage of these impact areas.

3. The response to Item 6 claims that certain prehistoric sites could be obscured by vegetation yet the response to Item 7 claims high (80 percent) ground surface visibility that would allow any significant sites to be noted. The applicant's consultant is claiming that ground cover, in part, explains why prehistoric sites weren't recorded during the inventory, then claiming high ground surface visibility to support the adequacy of the field methodology. Clarification should be required. This information, which deals with the quality and thoroughness of the inventory, is necessary to allow OSM to meet its responsibilities under EO 11593 to ensure that all cultural resources within the area of impact were identified and recorded.

(No changes)

UMC 782.13 IDENTIFICATION OF INTERESTS

UMC 782.13(b)(3). The applicant states that it has only operated underground coal mines under the name of Valley Camp, Inc. in the last five years. It does not give any information on those operated by Quaker State, Valley Camp Coal Company or any of their subsidiaries. The applicant must supply this information.

UMC 782.13(c). The applicant does not give the following information on business entities listed in (a) of this section: names and addresses of their respective principals, officers, or resident agents. This information should be supplied for Kanawha and Hocking Coal Company, Kaiser Steel Corp., and Stagstead, Inc.

UMC 782.13(d). The applicant lists coal mining permits held by Valley Camp Coal Company and subsidiary companies in West Virginia

subsequent to 1970 (Volume I, Appendix F). This list is not referenced in the text and does not say whether these are the only additional mines to Belina for which the company has responsibility. There is no list of coal operations for Quaker State. The applicant should identify all of the coal mining permits held in the United States, subsequent to 1970, by Valley Camp, Inc., Valley Camp Coal Company, Quaker State Oil Company and their subsidiaries.

UMC 782.13(f). The name of the mine being permitted is not given. At this point in the application (Volume I), three MSHA identification numbers are listed for Belina #1 and #2 and Utah #2. In Figure 1-7 (Volume I, 782.18-19) the two Belina numbers are listed (it appears there may be a misprint of the number for #2, section 782.13, page 11) and another for coal handling facilities. The number for Utah #2 is omitted. The applicant must list all MSHA identification numbers relating to the permit applicant under 782.13(f).

UMC 782.13(g). The applicant states that there are no properties contiguous to the proposed permit area which are subject to any pending options or other undisclosed interests held or made by the applicant. However, on 20 June 1983, Trevor Whiteside stated that the applicant has acquired two new federal leases to the east of Utah #2 and abutting Beaver Creek. The applicant should identify all properties contiguous to the proposed permit in which it has an interest.

A letter was found in Volume II, Appendix G (Regulatory Agency Correspondence) from Many Ann Wright (UDOGM) to Glen Phillips (Golder Associates) concerning an adjacent area for Belina #1 and #2 and Utah #2, but the letter does not provide details on why the letter was necessary. Please clarify.

(No Changes)

UMC 782.14(c) COMPLIANCE INFORMATION

The applicant lists violations which apparently pertain to the mine covered by the permit application. This is unclear. The listing itself is very confusing (it appears some pages were changed without regard to the content of the pages around them). The applicant does not state whether civil penalties were paid or what the current status of the violations is for every violation listed. A listing is provided in the May 1982 ACR responses, of violations for West Virginia mines the company is involved in (Figure ACR 3, 782.14 pages 2G-2H). This figure does not include abatement measures or the name of the agency issuing the violation. No listings are given for Quaker State or its subsidiaries or for Valley Camp subsidiaries in other states. The applicant must provide the missing information under this section and must clear up the confusion of its listing in Volume I of the original permit application.

(No Changes)

UMC 782.15 RIGHT OF ENTRY AND OPERATION INFORMATION

The applicant identifies several leases and subleases which provide it with the right to enter and begin underground mining activities. It states that the documents necessary to accomplish the transfers are of record and are approved by BLM. Nothing is said about acquiring rights to coal which lies within the mine permit area and belongs to Stagstead, Inc., Kaiser Steel Corp., and Carbon County. The lease descriptions seem not to fit with the associated maps: Land described as being leased from Milton Oman in T13S R7E; Sec. 18 does not show on the map; land in Sec. 31 shown as belonging to Oman is not covered in a lease; we do not find a 40 acre tract leased from Oman in Sec. 19, 20 and 30 as being possible; and description of land leased from Helen and Nick Marakis in Sec. 16 W1/4 E1/2 does not fit permit area (may be NW1/4NE1/4). Page 23 (782.15) describes a lease but does

not identify a lessor. The area is owned by several entities. The applicant does not list any leases with L. and A. Kosec.

The applicant should make a statement regarding the unaquired coal within its permit boundary and about acquiring a lease to land owned by L. and A. Kosec. If leases will not be included a reason should be provided. The ownership map and descriptions of lease holdings should be corrected.

(No Changes)

UMC 782.17 PERMIT TERM INFORMATION

The applicant states that two seams will be mined and refers the reader to Volume III, page 2. That page lists three seams to be mined. A date is given for areas to be mined but whether it is the beginning or end date is not noted. The applicant states that 120 acres will be disturbed at the end of the permit term and 150 acres at the end of the mine life. The additional 30 acres are not accounted for. The applicant should provide both beginning and end dates for each phase of the mining operation. The discrepancies in seams to be mined and acreage to be disturbed must be resolved.

(No Changes)

UMC 782.18 PERSONAL INJURY AND PROPERTY DAMAGE INFORMATION

The applicant shows insurance coverage which is sufficient, and with a notification rider but the policy expired 1 April 1983. Proof that a policy is in effect must be provided.

(No Changes)

UMC 782.19 IDENTIFICATION OF OTHER LICENSES AND PERMITS

Several permits are listed in this section. The applicant is unclear whether it will apply for some of them or not. Other references to permits give either a permit number, or a date of approval, or neither. Both a permit number and date of approval must be provided for all permits.

The MSHA identification numbers listed in this section do not correspond to those listed under 782.13. This discrepancy should be corrected.

(No Changes)

UMC 782.21 NEWSPAPER ADVERTISEMENT AND PROOF OF PUBLICATION

Valley Camp states that the newspaper advertisement of the permit application has not been placed because the application has not yet been determined to be complete. The advertisement proposed refers to a figure which is not provided in the application. This figure should be provided. The sentence, "Scofield is situated in Pleasant Valley and is accessible by an all-weather road, State Highway 96", appears to be misplaced and out of context with the previous and following sentences. The lands described in the announcement do not match the permit area. The description of T13S R7E Section 17 is incorrect. The discrepancies in the announcement should be corrected.

(No Changes)

UMC 783.15/784.14 GROUND WATER INFORMATION

Utah No. 2 Mine

* No information has been provided in the permit application concerning ground water resources in the vicinity of the Utah No. 2 Mine. A description of the ground water resources in this area and an assessment of probable hydrologic consequences must be provided. Please see 784.33 Operation Plan: Maps and Plans for other data required for Utah No. 2.

Areal Extent of Ground Water Systems

The description of ground water resources in the vicinity of the Belina Mine is too general, making it difficult to assess the extent of impacts which may occur to surrounding ground water resources. All ground water impacts are presented as localized with no discussion of radiating impacts around the Belina mining operation. A comprehensive analysis of water yielding zones which may provide a hydraulic connection between the mine and springs, streams, or wells must be provided.

For example, the Aberdeen Sandstone immediately below the lowest coal seam to be mined appears to be a continuous water yielding zone that could transmit ground water impacts out and away from the mine. Potential impacts of mining to this areally continuous water yielding zone has not been addressed. Similarly, faulted zones may provide a connection between the mine and springs, streams, or wells. The influence of the Connelville and O'Connor faults with respect to ground water discharge to Eccles Creek is discussed in Vaughn Hansen (1980:65-75). A seepage analysis concludes that significant stream flow changes occur where the Star Point Sandstone and the O'Connor and Pleasant Valley Faults intersect the Eccles drainage near Stations SS19-1 and SS17-1, respectively. The Connelville Fault crosses Eccles Creek in the Blackhawk Formation and apparently has a negligible influence on stream flow. The conclusion is drawn that faults in Blackhawk Formation seal up and do not transmit ground water. However, there is no clear demonstration that mining of the lower O'Connor seam will not be connected to the Star Point Sandstone via the fault zones

and thereby affect ground water discharge away from the mine. A case in point exists near well W35-1 where the Star Point Sandstone is in contact with the sandstones of the Blackhawk Formation via the Valentine Fault (Vaughn Hansen, 1980:77). At this location flow rates in excess of 110 gallons per minute were discharged during drilling. In addition, Volume III of the permit application (page 40) indicated that flows as great as 200 gallons per minute were experienced in the Belina No. 1 Mine at the Connelville Fault. The possibility exists that water experienced in the Belina No. 1 Mine at the Connelville Fault was released from the Star Point Sandstone which would ultimately result in a loss of ground water discharge in the area. It should be noted that Well W10-1, located three miles northwest of the lease area, had higher piezometric heads in the Star Point Sandstone than in the Blackhawk Formation. Therefore, at that location the potential exists for the Star Point Sandstone to flow upwards (i.e., possibly along a fault zone). The piezometric surface of the Star Point Sandstone is not evaluated in the lease area and therefore it is not known for sure whether the potential exists in the lease area for upward migration of ground water from the Star Point Sandstone.

Based on the previous discussion the following questions are justified in order to determine the potential for ground water impacts to occur considerable distances from the Belina Mine:

* 1. Evaluate the stratigraphy of the Blackhawk and Star Point Formations for continuous water yielding zones such as the coal seams, fault zones, the Aberdeen Sandstone or the Star Point Sandstone that may be in hydraulic contact with the proposed mining operations. Provide supporting data (i.e., cross sections, drill logs, etc.).

* 2. Analyze the relationship of water bearing zones (connected to the mines) identified above in relation to springs or wells in the area and provide supporting information.

* 3. Analyze the ground water drawdown that may occur in the laterally continuous water yielding zones identified above as a result of ground water interception in the Belina Mine and the resulting effect on ground water discharge zones (i.e.,

springs, seeps, wells, or base flow to streams). The decreases in ground water discharge from mining must be discussed in relation to water rights or other water uses.

* 4. Evaluate potential changes to ground water quality as a result of mining.

* 5. Please provide all drill logs that show the Aberdeen sandstone or the Starpoint sandstone.

UMC 783.15/784.14 Ground Water Information

* 6. Provide a discussion of known effects of mining on wells or springs in the area and include all supporting data (i.e., geologic strata involved, geologic structures involved, flow of the spring, distance from the mine, change in water levels, spring flow, recovery of spring flow, or water level etc.). The effect of the Utah #2 mine on two wells and a spring must also be included in this discussion.

7. Provide a discussion of how the Andesite dike observed in the mine influences the ground water flow system and what effect mining through the dike may have on ground water in the area.

8. Provide a water balance for the Belina #1 and #2 mines. The water balance must include a prediction of ground water inflow to the mine and water consumption both inside and outside of the mine. It should be noted that 19 million gallons of water are evaporated annually within the Wilberg mine.

Ground Water Hydraulics

The pump testing conducted by Coastal States Energy at two different depths in a test well (Vaughn Hansen, 1980:79) does not give reliable results. The method of interpreting the pump test data (U.S. Bureau of Reclamation, 1977) calls for observations of the straight line portion of the drawdown curve. The drawdown data plotted on Figures 20 and 21 show that the drawdown had not stablized over the 60 minutes of bailing. Therefore, the straight line portion of the curve had not been reached which violates the assumptions of the method used in this analysis. All interpretations based on this analysis are

therefore not valid. *Valley Camp of Utah Inc. must provide other reliable values for transmissivity and storativity for water bearing zones that may be affected by the Belina Mine.

Mike Bishop of the Engineering-Science staff (303) 435-4427) is awaiting a call from Dr. Hansen to discuss the concerns conveyed with respect to UMC 783.15/784.14.

Engineering-Science needs to construct geologic cross-sections to better characterize the influence of geologic structures on the ground water flow system. Therefore, Mike Bishop will contact Trevor Whiteside regarding which specific drill holes would provide the best information to satisfy this need.

(Revised to provide guidance)

UMC 783.19 VEGETATION INFORMATION

Valley Camp, Inc. indicates in Figure 2-15 that sample adequacy was not achieved for cover. Information (i.e., mean values, standard deviations, etc.) has not been provided for the regulatory authority to make a complete assessment of the problem. The applicant should provide sufficient information to track the calculation procedures used by Valley Camp, Inc. to determine sample adequacy and a statistical summary of the data (means, standard deviations, etc.), constants, level of confidence or accuracy, and any assumptions made that influences the data for the reference areas and validation area as required by UMC 771.23(b) and (c). Because sample adequacy was not achieved and 40 samples were not collected for each sample site, the applicant must provide the following:

1. Statistical summary of the reference area and validation data combined (i. e. means, standard deviation, and sample size for each vegetation type samples for both the reference area and validation area) for cover, production, and woody plant density samples that did not achieve sample adequacy.

2. Sample adequacy tests for each vegetation type using the combined reference area and validation area data for cover,

production and woody plant density, samples that did not achieve sample adequacy.

(Revised to omit Similarity Index issue and attempt to demonstrate sample adequacy without requiring the aplicant to resample. Lynn Kunzler at UDOGM is available for questions.)

UMC 783.22 LAND USE INFORMATION

In the ACR comments dated February 7, 1983, UDOGM determined that the application was completed for UMC 783.22 because the applicant provided some comments on wildlife-related land uses. A review of the applicant's ACR response suggested that wildlife use of the disturbed area will be an incidental use and not an intended use (ACR, Vol. 5, p. 17 dated May 11, 1982). Reference is made to returning the site to pre-law conditions. The pre-law conditions need to be more clearly described and a commitment to developing or not developing the post-mining area for wildlife needs to be stated. There is an inadequate description of what the post-mining land use will be (see discussion under UMC 784.15) and what the restoration for wildlife uses will consist of.

In a letter to Valley Camp from DOGM dated May 17, 1983, DOGM and the USFWS concurred that the applicant must provide a more responsive wildlife mitigation plan that related to the proposed changes in land use (see attached letter, items 3 and 4). Without submission of information supporting the applicant's change in land use or without further clarification of how wildlife habitat will be restored in these areas, the TA/EA phases cannot effectively be initiated.

Because of the confusion regarding wildlife use of the permit area and to address the September 13, 1982 and April 8, 1983 concerns of the USFWS the applicant must provide the following:

* 1. A direct and concise statement that defines the post-mining land use and whether the reclamation plan will support

wildlife as a postmining land use upon the completion of mining. If the reclamation plan proposes to support wildlife use as a post-mining land use, the applicant must designate whether the wildlife use will be a primary or secondary use.

2. Quantify how much wildlife habitat was lost by mine development activities and quantify how much wildlife habitat will remain unrestored once reclamation has been completed.

(No Changes)

UMC 784.11 Operational Plan General Requirements

* The operation plan found in the application (Volume III, pages 9-21 and Volume V, page 19) is vague and does not adequately address the requirements called for in this section. Provide clear and concise narrative descriptions of the following as required by UMC 771.23(b) and (c):

1. The type and method of coal mining procedures and engineering techniques and involvement of major equipment to be used for all aspects of mining operations.

2. The construction, modification, use, maintenance, and removal of impoundments, coal extraction, hauling, storage, processing, spoil, coal processing waste, mine development waste, and non-coal waste removal, handling, storage, transportation, and disposal areas as required by UMC 784.11, 817.71, 817.72, 817.74, and 817.101. (See UMC 817.101 for more specific information for backfilling and grading.)

If this information is contained in Valley Camp's 211 permit, the information should be updated and incorporated into the permit application to comply with the Utah Mining Codes stated above.

(Revised to assist applicant in providing required information.)

UMC 784.12(a) Operation Plan: Existing Structures

Map C-6, Volume IV depicts several structures that have not been addressed under this section of the application (Volume III, pages 9-21 and Volume V, page 19) such as the waste "water treatment" plant and the culinary well. *Provide a clear and concise description of the water treatment plant, and the culinary well. This description should provide at a minimum plan, sketches, or photographs of these structures which indicate their current condition, dates that construction begin and ended (except water treatment plant), documentation such as monitoring data or other evidence that the existing structures comply with UMC 817.181, and plans for modification of existing structures such as conveyor, stacking tubes, coal storage areas, etc.

* The Golder Report only addresses the lower portion of the valley fill at the Belina Portal area. Valley Camp must demonstrate that the existing valley fill constructed prior to the act complies with performance standards of Subchapter K (i.e. UMC 817.72) or, if the structure does not meet these standards, demonstrate that the structure complies with Subchapter B of Chapter VII, 30CFR as required by UMC 784.12(a).

(Revised to include the Valley fill comment in section UMC 817.72, page 34).

UMC 784.13 Reclamation Plan (b)(3): General Requirements (Maps)

* The post mining land use is not clearly specified. Pursuant to UMC 817.133(c)(2) the applicant should provide backfilling and grading plans consistent with the postmining land use. In addition, a postmining topography map is necessary for areas of surface disturbance including, at a minimum, the portal areas for Belina #1 and #2, the loadout area, Utah #2, and the proposed conveyor route. (See also adequacy comments made pursuant to UMC 782.22 and 784.15.)

(No Change)

UMC 784.13(b)(4) RECLAMATION PLAN: GENERAL REQUIREMENTS (TOPSOIL)

* Valley Camp, Inc. proposes to topsoil only in basins on slopes greater than 1:5 horizontal to 1 vertical. The size of these basins has not been provided nor has the amount of topsoil that will be placed in these basins been indicated (Volume III, page 26). Also, the applicant has not addressed the issue of substituting overburden materials for topsoil as required under UMC 817.22(e). The applicant at a minimum must identify clearly and concisely topsoil substitutes, the amount of topsoil place in basin and the specific source of topsoil as required under UMC 817.22(e), 784.13(b)(5)(VII), and 771.23(b). If topsoil is to be obtained off-site the exact source must be identified to allow OSM to evaluate the mining related impacts.

(No Change)

UMC 784.13(b)(5) RECLAMATION PLAN: GENERAL REQUIREMENTS (REVEGETATION)

Valley Camp, Inc. states that slopes flatter than 10 horizontal:1 vertical and slopes between 10 horizontal:1 vertical and 1.5 horizontal:1 vertical will be mulched (Volume III, page 26). The applicant has not described the method that will be used for anchoring the mulch. The applicant should provide a clear and concise description of the proposed methods of anchoring mulch on slopes flatter or equal to 1.5 horizontal:1 vertical as required under UMC 817.114(b).

* Valley Camp, Inc. briefly describes the measurement of revegetation success and stablization of the haul road and conveyor belt slopes (Volume III, page 27). The Final Reclamation Maps (D5-0077 and D3-0076) and Temporary Reclamation Maps (D5-0075 and D3-0074) do not indicate any reclamation for the conveyor belt. Valley Camp, Inc. must submit temporary and final reclamation plans, including site

specific revegetation and stablization plans for the conveyor belt and a schedule for implementing these plans.

Valley Camp, Inc. describes one method for revegetating slopes greater than 1.5 horizontal:1 vertical then states that hydroseeding may be substituted where practical (Volume III, page 26). The applicant appears to be uncertain about the method and does not commit to performing a specific proposed revegetation plan. The applicant should commit to a specific revegetation plan as required by UMC 784.13(b)(5).

*Valley Camp Inc. has not indicated that the area of disturbance for footings and support structures and described how such vegetation would be disposed of. The applicant must provide a clear and concise description of the conveyor belt disturbance.

Valley Camp, Inc. has proposed a temporary seed mixture containing two introduced grass species, orchard grass and Russian wildrye. Maps D5-0075, D5-0077, D3-0074, and D3-0076 indicate that temporary revegetated areas will not be reseeded at final reclamation. Accordingly, the applicant must provide documentation, as required under UMC 817.112, to support the use of introduced plant species or use the proposed permanent seed mixture for both temporary and final reclamation.

(No Change)

UMC 784.13(b)(7) Reclamation Plan: General Requirements (Waste and Debris)

The application proposes disposal of toxic and acid producing debris within the mine workings after the reclaim tunnels are filled. This proposal is in direct violation of UMC 817.89(c). At no time shall any solid waste be placed within 8 feet of any coal outcrop. The applicant must submit a plan for the disposal of waste and debris that complies with the requirements of UMC 817.89 and 817.103. This plan must, at a minimum, address the following:

1. Non-coal wastes including, but not limited to, grease, lubricants, paints, flammable liquids, garbage, abandoned mining machinery, timber and other combustibles generated during underground coal mining activities shall be placed and stored in a controlled manner in a designated portion of the permit area. Placement and storage shall ensure that leachate and surface runoff do not degrade surface or ground water, fires are prevented, and that the area remains stable and suitable for reclamation and revegetation compatible with the natural surroundings.

2. Final disposal of non-coal wastes shall be in a designated disposal site in the permit area except where such wastes are disposed of in an approved sanitary land fill. Disposal sites within the permit area shall be designed and constructed with appropriate water barriers on the bottom and sides of the designated site. Wastes shall be routinely compacted and covered to prevent combustion and wind-born waste. When disposal is completed, a minimum of 2 feet of soil cover shall be placed over the site, slopes stabilized, and revegetation accomplished in accordance with UMC 817.111-817.117. Operation of the disposal site shall be conducted in accordance with all local, State, and Federal requirements.

3. At no time shall any solid waste material be deposited at refuse embankments or impoundment sites, nor shall any solid waste disposal excavation be placed within 8 feet of any coal outcrop or coal storage area.

(Revised to be more specific)

UMC 784.13(b)(8) Reclamation Plan: General Requirements

The application fails to provide a description and cross-sections and maps of the measures to be used to seal or manage mine openings other than the portals. A description and maps and cross-sections must be provided for the sealing or plugging, or management of exploration holes, (Map H, Vol. IV), wells (Culinary well, Map D-1, Vol. IV), and other openings within the permit areas as required by UMC 817.13-817.15.

(Revised to reference the permit application)

UMC 784.14 RECLAMATION PLAN: PROTECTION OF HYDROLOGIC BALANCE

Springs. Within the lease area 74 seeps and springs were located, as well as 35 seeps and springs adjacent to the lease boundary (Vaughn Hansen, 1980:57). The monitoring plan with respect to springs (Volume III, pp. 43-46 and Map F) mentions that seven springs will be monitored (i.e., S7-11, S36-19, S31-13, S36-17, S36-23, S25-13, and S24-12). The criteria used to select the seven spring monitoring sites was variation in flow, quality, and geographic location (Vaughn Hansen, 1980:60). It is also mentioned that ground water monitoring (springs) will preceed underground or aboveground disturbances by one year (Volume III, p. 46).

Several questions are raised with respect to the monitoring of springs at the Belina Mine:

1. How does Valley Camp of Utah, Inc. know which springs may be affected within one year? The assumption that springs will be impacted only when mining occurs beneath them is too simplistic. For example, ground water drawdowns resulting from mining may occur with the potential for corresponding decreases in spring flow considerable distances from the mine. The decreases in spring flow out away from the mine are possible where laterally continuous ground water systems affected during mining are connected to springs. Potentially

affected water bearing zones that may be laterally continuous and that may transmit mining effects include the Aberdeen Sandstone, the Star Point Sandstone and the fractured zones (usually sandstones) associated with faults.

2. The seven springs selected for monitoring in the vicinity of the Belina Mine, of the 109 seeps and springs located in and near the lease area, do not address all areas of concern with respect to mining related impacts. For example page 59 of the Vaughn Hansen (1980) report mentions eight springs that were observed to have the greatest flow in the area (i.e., S25-13, S36-3, S6-3, S25-2, S25-5, S25-6, S25-2, and S25-15). Only one of these springs is proposed for monitoring (i.e., S25-13). In addition springs that have water rights associated with them as shown on Plate 8 of the Vaughn Hansen (1980) report have not been included in the ground water monitoring program.

The applicant must reassess the monitoring of springs to:

1. Include all springs in the area with water rights;
2. Include all major springs; and
3. Include significant springs out away from the mine that may experience decreases in flow. The selection of these springs should be based on a reanalysis of the lateral continuity of water yielding zones that may connect the mine with springs issuing from the same zone.

* Wells. Thirteen wells have been used to draw the piezometric surface shown on Plate 6 of the January 1980 Vaughn Hansen Associates report. In Volume V Appendix E well logs are provided for the Alpine School Well and the Whiskey Canyon Well. The narrative found in Volume V relative to UMC 783.15 mentions that the Upper and Lower Eccles Well logs (drilled by Coastal States Energy Company) are not available. Provide the well completion information for as many of the 13 wells used on Plate 6 as possible. This information is important to assess the reliability of the water levels used to define the potentiometric surface. In addition, please indicate which wells on Plate 6 (if any) are the Alpine School Well, or the Upper or Lower Eccles Wells.

(No Change)

UMC 784.15 RECLAMATION PLAN: POST MINING LAND USES

* I. Recreational Land Use or Cattle Holding Facility. Valley Camp, Inc. has proposed postmining land use changes for the office and warehouse site and the Pelina portal area that are in direct conflict with interest of the land owners. In both cases, the applicant has not provided sufficient information to reach a finding of compliance. The applicant eludes to turning the office and warehouse, and land over to the Alpine School District (Vol. 3, pp 50) without indicating concurrence from the land owner (Kavawha & Hocking). A well defined post mining land use proposal is required by UMC 784.15. The applicant has stated on page 48 (Vol. III) that the Belina portal area will upgrade the post mining land use to a "recreational land use" and the land owner will possibly want to use the area for a "cattle holding facility". It appears that the landowner wants holding facilities while Valley Camp, Inc. wants a recreational post mining land use. These two land uses are not necessarily compatible with each other. *The applicant should commit to a definite post mining land use agreeable with the landowner and provide a letter from the landowner stating his desired postmining land use. The applicant must provide to the regulatory authority documentation that the post mining land use will not cause actual or probable hazard to public health, nor will there be actual or probable threat of water flow pollution (UMC 817.133(c)(6)). The applicant must provide specific plans which show the feasibility of the post mining land use as required under UMC 817.133(c)(2), (3), (5), and (8).

Valley Camp, Inc. must also provide plans to comply with the June 1980 Carbon County Zoning Ordinance and other applicable local laws.

II. Wildlife Post-mining Land Use Concerns. UDOGM in their ACR comments dated February 7, 1983, determined that the Mine Plan was complete for this section because the applicant provided some comments on wildlife-related post-mining land uses. However, a critical review of the applicant's comments (ACR, Vol. 5, pp. 26, 26A dated May 12,

1983; p. 17 dated May 11, 1983; pp 16-16G dated September 14, 1983) indicates that the intent of the ACR comments have not been addressed. Specifically, the applicant has not provided data that: (1) supports a change in land use at the portal area; (2) addresses wildlife habitat locations after mining is completed; and (3) addresses the vegetation needs of wildlife.

The applicant attempts to answer these concerns by referring the reader to UMC 783.22 and 817.97 comments. However, neither section resolves the concerns listed above. The adequacy of compliance with 783.22 is evaluated under that section. UMC 817.97 comments contained no information regarding post-mining land use for wildlife, wildlife habitat development, or issues 1-3 listed above. After examining these sections, the questions still remain unanswered. The applicant makes no specific commitments for post-mining wildlife uses.

Concerns regarding the applicant's intensions for accommodating post-mining wildlife land uses has been an unresolved issue since the first ACR comments were prepared (OSM ACR dated April 30, 1981). Similar concerns have been identified in correspondence from the U.S. Fish and Wildlife Service and UDOGM.

Because the application, as updated, does not adequately respond to the wildlife habitat concerns raised in the ACR, the applicant should provide the following information in accordance with Section 817.133, especially sections (c)(1) and (c)(8), and Section 784.14:

* 1. If a post-mining land use change from wildlife habitat is proposed, provide documentation that the change is acceptable and approved by the landowner as required by UMC 817.133(c)(1).

* 2. If a post-mining land use change from wildlife habitat is proposed, provide documentation from the DOGM, USFWS, and UDWR that measures to prevent and/or mitigate adverse fish and wildlife impacts have been received from the applicant and approved as required by UMC 817.133(c)(8).

* 3. If wildlife habitat is proposed as a post-mining land use provide in accordance with UMC 784.15:

- A detailed description of how the proposed use will be achieved, including descriptions of where wildlife plantings and/or structures will be placed; schedule of implementation; kinds of plant materials to be used; and their intended benefit for wildlife known to be present° on the mine permit area (in accordance with UMC 817.117(c).

- Provide documentation from the UDOGM, USFWS, and UDWR that the proposed plan for supporting fish and wildlife use is acceptable and approved as required by UMC 784.15(b).

(No Changes)

UMC 784.16(b)(1) and (2) SEDIMENTATION PONDS

* The following information is needed for sedimentation ponds #1, 2, and 4 for the Belina and Utah #2 mines.

1. Storage volumes provided in the ponds for sediment and runoff.

2. As built cross-sections showing constructed height, top width and side slopes.

(No Change)

UMC 784.18 Relocation or Use of Public Road

(Dropped)

UMC 784.20 Subsidence Control Plan

Maps E2-0006 and E1-0005 (Appendix C, Volume V) are included in the application to show how subsidence protection is provided for the gas pipeline. These mine plan maps do not show the pipeline and furthermore, the maps do not demonstrate how the pipeline will be supported. Provide a map clearly locating the pipeline in relation to the mine and provide a narrative describing how the pipeline will be protected according to the requirements of 784.20.

A reference to Vaughn Hansen (1980, page 7) was provided (Volume V. page 29) in order to justify statements regarding the self sealing characteristics of the strata. The reference provided states, "It is suspected that these faults have only local hydrologic importance within the Blackhawk Formation because of its high clay content, giving it an ability to rapidly seal." This is an inadequate demonstration that subsidence will not provide secondary permeability to the Blackhawk Formation resulting in losses of spring flow and streamflow. It should be noted that one of the major springs in the area emanates from Blackhawk Formation along a fault zone in Boardinghouse Creek (Kidd Waddell, USGS Salt Lake City, Utah, personal communication). This information substantiates that the Blackhawk formation can have zones of higher secondary permeability associated with fracture zones. It should also be noted that subsidence fractures have been observed at ground surface associated with room and pillar mining at the SUFFCO Convulsion Canyon Mine.

* Therefore, the applicant must provide additional discussion of subsidence effects in relation to streamflow and spring discharge and provide supporting data. The surface manifestation (i.e., cracks, major displacements, etc.) and areal extent of the subsidence effects should be predicted. Based on the subsidence projection, the hydraulic characteristics of the subsidence zones must be described. In addition the relationship of the subsided zones to springs and streams must be analyzed. If these effects are unknown then Valley Camp must provide limited extraction areas to protect springs and streams.

The subsidence monitoring plan provided in Volume V, Section 784.20 and Appendix H is intended to document the angle of draw in

order to assure that the areas of limited extraction adequately protect surface structures and renewable resources. The monitoring plan calls for locationg subsidence movements that will be checked annually for changes in elevation (i.e., subsidence) using aerial photogrammetric methods. The aerial photogrammetric measurements are stated in the plan to be accurate to within one foot in elevation. In areas that have subsided less than one foot, the photogrammetric methods would not be able to detect the subsidence effects. If subsidence was not detected for an area of 200 feet around the mine (i.e., where undetectable subsidence occurred) then the angle of draw could be miscalculated by one to two degrees. This error in estimating the angle of draw would also make the subsidence protection plan in error resulting in possible damage to structures or renewable resources.

* The applicant must provide a more detailed subsidence monitoring plan that would document the angle of draw early in the mining sequence. This early subsidence monitoring program must include a series of subsidence movements in the configuration of a cross over a mining panel. The subsidence movements should be surveyed annually in order to accurately determine the angle of draw. From that point on, the aerial surveys could be used to detect gross subsidence effects. Periodic surveys of the aerial subsidence monuments should also be made every other year over mined areas to document the accuracy of the photogrammetric measurements.

The request in paragraph 1 (with respect to UMC 784.20) regarding information on subsidence protection for the pipeline is retracted.

Regarding the third paragraph under UMC 784.20, the concern expressed in this comment is that ground water discharge to springs and streams may be altered as a result of mine subsidence and, therefore affect water users in the area. For example, if streamflow were diminished in Boardinghouse Creek, the loss of flow could possibly affect water users lower in the canyon, such as from Boardinghouse Springs. The request for information in paragraph 3 under 784.20 is changed as follows:

* Therefore, the applicant must provide additional discussion of subsidence effects in relation to streamflow and spring discharge and

provide supporting data. The surface manifestation (i.e., cracks, major displacements, etc.) and areal extent of the subsidence effects should be predicted. Based on the subsidence projection, the effect of the subsided zones to springs and streams must be analyzed. If these effects are unknown, Valley Camp of Utah, Inc. must provide a monitoring plan to document the potential losses of spring flow and streamflow and provide mitigating measures that will be taken to prevent material damage to the hydrologic resources (i.e. streams and springs) in the area.

The last paragraph under UMC 784.20 is changed to include the following:

Subsidence monitoring information shall be interpreted and submitited in an annual report to the Utah Division of Oil, Gas and Mining. Following the documentation of the angle of draw using subsidence observations, the scope of continued subsidence monitoring will be reevaluated by the staff of the Utah Division of Oil, Gas, and Mining.

(The above section has been added for clarification of this comment)

UMC 784.11 Operational Plan General Requirements

(Dropped, UMC 784.11 covered on page 15)

UMC 784.12(a) Operation Plan: Existing Structures

(Dropped, UMC 784.12(a) covered on page 15)

UMC 784.24 Transportation Facilities (Belina haulroad and proposed conveyor)

* The application does not adequately provide clear and concise descriptions of the ancillary roads (i. e. access roads to office and warehouse, and haul road at Utah No. 2) or the conveyor system. The cross-sections and map (Map M1-7, Volume IV) are inadequate. The scale UMC 771.23(e) is incorrect and the reduced size is unacceptable. A detailed description should be submitted providing clear and concise specifications for each road width, road gradient, road surface, road cut and fill embankment, culvert drainage ditch and drainage structures as provided by Valley Camp for the modified haul road. This description should include geotechnical analysis reports for steep (1 vertical to 2 horizontal) cut slopes, maps, cross-sections, and a clear and concise description of each road, conveyor, and rail system to be constructed, used and/or maintained within the mine plan area.

(Revised to identify ancillary roads)

UMC 784.21 FISH AND WILDLIFE PLAN

I. Wildlife Concerns. UDOGM in their ACR comments dated February 7, 1983, determined that the Mine Plan was complete for this section because the applicant provided some comments regarding the Fish and Wildlife Plan. The applicant deferred comments on questions raised about the Fish and Wildlife Plan to responses for Section 817.97 (ACR, Vol. 5, p. 30 dated May 15, 1983). However, a critical review of the applicant's Section 817.97 comments (ACR, Vol. 5 pp 16-16G dated September 14, 1982) indicated that the intent of some of the ACR comments have not been addressed by the applicant. The applicant has not provided information that: (1) demonstrates development of the Fish and Wildlife Plan based on recommendations of the Utah Division of Wildlife Resources (ACR Vol. 5, Appendix I); (2) quantifies the amount of riparian habitat loss; (3) provides methods for restoring riparian

habitat (a grading plan for the streambottom is provided, but a planting plan is not included (Vol. 5, Appendix F, Maps D-1, D-2); or (4) commits to mitigating adverse wildlife impacts.

A major wildlife issue requiring mitigation is the potential interruption of the big game migration routes by the proposed conveyor belt. Even though the applicant commits to meeting minimum clearance specifications of the UDWR, general design drawings are not provided that show height or might show other structures that could interrupt animal movements. The applicant provides no mapping or descriptive data on big game movements in the conveyor corridor because it is stated that the conveyor system will have no effect on migration (page 16A, Volume 5, ACR), therefore, concluding the data are unnecessary. The UDWR Recommended Fish and Wildlife Plan (Volume 3, Appendix D) recommends that conveyor system underpasses be located at points known to be big game crossing points and that these crossing areas be determined from intensive site studies (page 12 dated January 27, 1981). The applicant has not provided any data indicating that such studies have been conducted. Nor does Valley Camp Inc. data show that conveyor height will exceed the minimum height throughout its entire length, (Volume 4, maps M1-M7), as required in the absence of conducting the intensive big game crossing study (UDWR requirement, page 12, Appendix D, Volume 3). For the purposes of reaching a finding of compliance, the applicant must provide both data on the conveyor design (which is deferred to some future date) and site-specific data on big game movements (UMC 784.21). Also, the accompanying UDWR report referenced in the ACR responses to comments for Section 784.11 on conveyors and mule deer, (Volume 5, page 19A) is not included in the updated application and should be provided.

The applicant attempts to answer these concerns by referring the reader to comments for Section 817.97; Section 784.21, Vol. 3; and Appendix I, Vol. 5. Sections 784.21 and Appendix I appear to be unorganized and incomplete and do not support the applicant's contention of having developed a Fish and Wildlife Plan. For example, Appendix I (Vol. 5) contains several recommendations for protecting wildlife resources in the mine area (pp. 3, 8, 9) and for identifying

critical wildlife resources (pp. 3, 14-16) from the UDWR. It also contains a letter from UDWR dated May 12, 1982 which specifically states that a "map, data, and comments" are attached which should be used when the Fish and Wildlife Plan is eventually developed by Valley Camp of Utah. The attached data is not provided.

Section 784.21 (Vol. 3) contains a page (p. 88A dated September 14, 1982), entitled "Wildlife Protection Plan" which contains 11 provisions which the applicant (by reference in Section 817.97 Vol. 5) has committed to. However, several of the provisions (Nos. 2, 4, 6, and 7) are in conflict with other statements (Nos. 4 and 7) or cannot be implemented based on knowledge currently supplied by the applicant (Nos. 2 and 6). For example, Item No. 2 cannot be implemented because the applicant has not provided documentation of animal crossings. Item No. 7 cannot be implemented because the applicant has not documented the location and number of high priority winter ranges.

Because the application, as updated, does not directly respond to some key wildlife concerns raised in the ACR, the applicant must provide the following information:

* 1. A mine-specific Fish and Wildlife Plan that incorporates the multiple recommendations and information provided by the UDWR and USFWS in the following documents as required by UMC 783.20(c) and UMC 817.97(d):

- UDWR-Volume 3, Appendix D, page 4 (riparian habitat); page 6-7 (habitat restoration); page 11 (protection of key big game habitat).
- UDWR-Volume 5, ACR, Appendix I, page 1 (attached maps, data, and comments), page 3 (critical and high-priority wildlife areas), page 8 (location map for raptor nests), page 14-16 (big game critical habitats).

* 2. Site-specific detailed and relevant information on how the following will be achieved:

- Protection of key wildlife areas or habitats (UMC 784.21(b)(3)). This includes riparian habitats; mule

deer, elk, and moose critical and high-priority habitats exclusive of riparian areas; and migration corridors.

- Mitigation of adverse impacts and enhancement of degraded wildlife habitats for riparian areas, other key big game habitats, and migration areas (UMC 784.21(b)(3).

II. Fishery concerns. The applicant's fish and wildlife plan (Volume III, 784.12, page 88A) contains two points specificially relating to potential mining effects on fisheries:

> All riparian habitat disturbed by the applicant during mining activities (none anticipated) will be reclaimed to premining status (#7).
>
> Adequate precautions will be taken to keep coal from being inadvertently deposited along or within stream channels (#9).

The procedures to be implemented to accomplish these two aspects of the fish and wildlife plan must be provided.

(No Change)

UMC 784.22 DIVERSIONS

No postmining removal or maintenance of the 42-inch culvert presently in place has been proposed by the applicant. An alternate channel is proposed to convey flow over the pad (Revision #2, Map D-1). The channel will be meandering and riprapped, but the applicant has not provided full design details. Based on available information, OSM has determined that Whiskey Gulch contains a perennial stream.

* To establish a channel over the pad in lieu of removal of the culvert, the following would be required for a determination of technical adequacy:

1. Written, notarized acceptance of the final plan by the landowner establishing specific postmining land use.
2. Designs for permanently closing the culvert, i.e., cementation.

3. Regrading, i.e., volumetric backfill calculations, designs for burying the culvert and raising the level of the current channel to the point where it would join the pad.

4. Riprap sizing designs for the channel base and discharge areas.

5. Potential velocity calculations.

6. Plans for establishment of the riparian habitat.

7. Freeboard design on the channels.

8. Establish both the sinuosity of the channel and the longitudinal profile.

9. Revision of drawing D4-0044 (D-1 Map).

(No Change)

UMC 784.33 OPERATION PLAN: MAPS AND PLANS

* Valley Camp, Inc. provided inadequate maps and plans for the conveyor belt system. The scale of the maps and plans provided in Map M-1 through 7, Conveyor Details (Volume III) are too small. The plan does not indicate the height above the ground level along the entire conveyor belt route nor the topsoil stockpile locations, areas of disturbance (width and length), and sediment control facilities.

* The application states that Utah No. 2 is presently idle. If Utah No. 2 is to become a producing mine, Valley Camp must provide the maps and plans for development of Utah No. 2 as required by UMC 784.23. All maps, plans, and cross sections are required under UMC 784.23(c) must have been prepared by or under the direct supervision of and certified by a qualified professional engineer or professional geologist. The applicant must provide these certifications for all maps, plans, and cross sections as required under UMC 784.23(c). Otherwise the applicant must state that at present there are no plans to mine in Utah No. 2.

(Revised to clarify the issue of mining in Utah No. 2)

UMC 817.11 SIGNS AND MARKERS

Signs and markers (other than traffic signs) have not been addressed in the permit application. The applicant must provide a description of Valley Camp's sign and markers as they apply to UMC 817.11 and incorporate this description, maps, and designs into the permit application.

(Revised to acknowledge the description, maps and designs of traffic signs.)

UMC 817.62 through 817.68 USE OF EXPLOSIVES

Page 4 (Volume III) of the application indicates that explosives are used in the mining process. Valley Camp has not indicated whether explosives are to be used on the surface or in their underground operations. If surface blasting is to occur, regardless of the frequency of use, the applicant must provide information required under 817.61 through 817.68 as a part of the permit application. The applicant must also indicate on a map the storage and handling facilities for explosives (784.23(b)(9)).

(No Change)

UMC 817.97 PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

I. Wildlife Issues. (NOTE: A summary of the following inadequacies is provided at the end of this discussion.)

UDOGM determined that the other wildlife related ACR comments were complete based on the applicant's responses. A critical review of the applicant's responses and comparison with the intent of the ACR comments (ACR Vol. 5, p 16) indicate that several inadequacies still exist that need to be clarified for the technical analysis. The applicant has not provided relevant responses or information on: (1) firm commitments on mitigating adverse wildlife impacts; (2) mapping or specific description of riparian habitat and describing how it will be restored.

The issue of riparian habitat inadequacies (disturbance, mapping, and restoration) were only partially addressed under 784.21. The response to the ACR comment (p. 16A) is of little value. The applicant acknowledges that riparian habitat losses occurred during mining and implies future restoration (p. 16A); facts that earlier were denied (Section 784.21, Vol. 3, p. 88A, No. 7). The applicant states that mapping and acreage estimates are unnecessary because of the "small" sizes involved, a conclusion that cannot be independently confirmed.

Concern about the riparian habitat issue has been documented since the early stages of the ACR process (USFWS letter dated May 19, 1980; USFWS letter dated April 8, 1983; UDOGM letter dated May 17, 1983) with requests for data. The applicant however has provided insufficient data to support the conclusion that adequate restoration measures will be implemented on disturbed riparian habitat. Riparian habitat description and acreage estimates are still required to accommodate UMC 817.97(d)(4, 5, 6) and as per UDOGM's May 17, 1983 correspondence to the applicant.

Also, the applicant indicates (ACR, Vol. 5, p. 16A) that a program to monitor and protect riparian habitats is described in Section 784.21. A check of Section 784.21 (Fish and Wildlife Plan) shows that responses to questions raised in this section are provided in Section 817.97, which is where the issue originally started. This confusion should be cleared up.

Because the application, as currently updated, does adequately respond to several key wildlife concerns raised in the UDOGM ACR, the applicant must provide the following:

* 1. A typical cross-section of the conveyor system showing general dimensions in relation to existing land contours;

2. A general drawing of the conveyor system that shows the location of any ancillary facilities (such as power lines, guard rails, or conduits) that would reduce the actual space available for wildlife passage or complicate wildlife passage;

3. Documentation that the applicant has consulted DOGM and DWR on design of the conveyor to avoid disruption of wildife passage.

* 4. A planting plan for restoring riparian vegetation;

* 5. A relevant description of the riparian habitat protection and protection plan committed to by applicant (ACR, Volume 5, page 16A) and supposedly described in responses to section 784.21 comments;

* 6. A general planting design for wildlife habitat restoration. If none is proposed, clearly state this intention;

* 7. The "map comments and data" referenced in Volume 5, Appendix I, page 1 in UDWR correspondence dated May 12, 1982;

* 8. "Table 2" referenced in Volume 5, Appendix I, page 3;

9. A firm commitment to mitigate adverse wildlife impacts (see discussion under 784.21).

II. Fishery Issues. The applicant states that no impacts will occur to riparian habitats "during mining activities" (Volume III, 784.21) and that the biological community of Whiskey Gulch was not evaluated because it would not be impacted by mining (Volume II, 783.20 page 54). These statements overlook the following existing impacts:

1. Whiskey Gulch has been culverted and the associated riparian vegetation has been lost.

2. Silt loads are received by streams from both roadbeds, denuded hillsides and from streams carrying loads acquired from those sources.

3. Whiskey Creek receives water from what appears to be an overly full sedimentation pond resulting in a flow through too rapid to effectively settle particles.

The applicant should then commit to a stream restoration program that includes methods to restore streambed and stream configuration, riffle/pool ratios, average depths, and riparian vegetation to approximate premining conditions. The applicant should provide documentation that this restoration plan are acceptable to UDWR and UDOGM (see also adequacy comments for 784.22 - Diversions).

The application should also define what precautions it is using to prevent coal from being inadvertently deposited along or within stream channels.

(No Change)

UMC 817.106 REGRADING OR STABILIZING RILLS AND GULLIES

Valley Camp, Inc. has not specifically addressed this requirement. Valley Camp must address regrading or stabilizing rills and gullies in the reclamation plan as required by UMC 817.106.

(Correction of typing error)

UMC 817.126 SUBSIDENCE CONTROL: BUFFER ZONES

No provision is made by the applicant to mitigate potential subsidence effects to perennial streams that will be undermined including: Whiskey Gulch, Boardinghouse Creek, Finn Creek, or Long Creek. The impact assessment (Vaughn Hansen, 1980) regarding undermining streams states, "Should subsidence occur, the subsidence cracks will likely seal rapidly, preventing the deep percolation of water and subsequent loss of springs and other water sources.... The seeling of potential cracks will be accelerated where subsidence occurs underlying streams. In this case, the silt load carried by the stream would aid the subsurface shales in preventing loss by providing a surface seal over the subsidence crack."

Information provided in the application does not document how subsided areas have sealed nor what time frames are necessary for the subsidence fractures to seal. In addition, the stability of the stream channels may be severely altered by changes in stream gradient following mining subsidence.

* It should be noted that mines that have undermined streams have experienced increases in ground water inflow to the mine. The ground water inflow to mines experienced beneath streams results in loss of water from streams and shallow ground water systems. It is expected that similar losses to the quantity of stream flow will occur when the Belina Mine extends beneath the streams previously mentioned. Accordingly, Valley Camp of Utah, Inc. must provide a better substantiated assessment of subsidence and develop appropriate buffer zones for their mining and reclamation plan as required by 817.57(a).

(No Change)

UMC 817.133 POST MINING LAND USE

The applicant must provide specific plans which demonstrate the feasibility of the proposed post mining land use as required by

817.133(c)(2), (3), (5), and (8). (Note: See also inadequacies identified under 784.15.)

(No Change)

UMC 817.13, 817.14, 817.15 Sealing of Underground Openings

It is our understanding from the permit application that the Utah #2 portal is temporarily inactive. The applicant also states (Vol. III page 3) that there are unsealed entries used for ventilation. The applicant must submit a plan for temporary sealing of these entries with barriers or other devices, and post to prevent access to the mine by people (i.e. students from the Alpine School District.) in accordance with the requirements of UMC 817.13 and 817.14.

(Revised to identify the part of the application that indicates that the mine is "unsealed" and clarify compliance issue.)

UMC 817.72 Disposal of Underground Development Waste and Excess Spoil Valley Fills

(Revised and incorporated into UMC 784.12(a), page 15.)

UMC 817.101(b)(4)(iii) Backfilling and Grading: General Requirements

* Several cut and fill terraces adjacent to the Belina portals exceed slopes greater than 1 Vertical:2 Horizontal (50 percent). If the terrace are to remain as a function of the postmining land use, geotechnical analyses reports should be submitted demonstrating that the cut and fill terraces have a minimum static safety factor of more than 1.3, that adequate control of erosion will be provided, and

surface configuration of closely resembles the landscape prior to mining.

(No Change)

UMC 817.154, 817.164 and 817.174 Surfacing

The application does not address road surfacing of ancillary roads within the permit area (i.e. access road to office and warehouse and haul road at Utah No. 2). Road surfacing specifications and maintenance should be provided in a description of the roads. Provide the required information for surfacing of primary roads in accordance with UMC 817.154, 817.164, and 817.174.

(Revised to clarify specific roads not adequately addressed in the application.)