

ES ENGINEERING-SCIENCE

10 LAKESIDE LANE • DENVER, COLORADO 80212 • 303/455-4427

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ACT/007/001
#2

November 29, 1983

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Ms. Sarah Bransom
Technical Project Officer
U.S. Office of Surface Mining
1020 15th Street
Denver, Colorado 80202

DIVISION OF
OIL, GAS & MINING

Subject: Review of Valley Camp of Utah, Inc.'s 16 November 1983 response to OSM's 14 October 1983 letter.

Dear Sarah:

Engineering-Science, Inc. (ES) has completed their review of Valley Camp of Utah, Inc.'s (Valley Camp) response to OSM's 14 October 1983 letter. The following review is organized according to the UMC regulations in sequential order, thereby allowing easy comparison with previous correspondence. Please note that where issues originally raised in the OSM letter of 14 October 1983 were adequately responded to by Valley Camp the issues were dropped from this response. The following evaluation prepared by the ES staff first presents the information provided by Valley Camp, discusses the problems with the information and presents the remaining issues that must be resolved.

With regard to the stipulations in the draft technical analyses (TA), many of the issues that have been adequately addressed correspond to stipulations that may now be eliminated. However, some of the stipulations in the draft TA were an outgrowth of the more in-depth review process (i.e., not presented to Valley Camp in the 14 October 1983 letter) and remain unresolved at this point. Most of these issues were discussed with Valley Camp and OSM at the recent meeting in Denver (i.e., 18 November 1983). Therefore, the remaining issues with respect to the Belina Mines Complex include the following list of concerns and the issues previously mentioned that were only recently discussed with Valley Camp at the 18 November 1983 meeting in Denver. Please note that ES did not conduct a review of which specific stipulations in the draft TA remain valid because of direction given by Mark Humphrey. At this point ES awaits additional direction from OSM concerning continued work on the Belina Mines Complex permitting effort.

were referring this now - see forward when available

ES considers this review of the Valley Camp response to be outside of the original scope of work originally agreed to between OSM and ES.

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Therefore, ES has kept the time required for the review separate and will discuss the effect that this additional work has on the overall budget of the project, with OSM at the upcoming budget negotiations.

Sincerely,

Mike

Mike Bishop
Assistant Project Manager

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The applicant's response is deficient; the applicant has not provided the requested data that demonstrates that sample adequacy has been achieved or that the maximum number of required samples have been taken. Consequently, the applicant has not shown that the baseline vegetation data is equivalent to actual field conditions and cannot contend that the data are representative of vegetative conditions in the mine permit area. The data provided as page 783.19-3 dated 16 November 1983 by the applicant demonstrates that more sample plots are required. The applicant has not combined the results of the reference and validation areas for 3 of 4 locations as was agreed upon in previous meetings.

Therefore, the applicant must respond to the following inadequacy originally identified in a letter dated October 14, 1983 from OSM to Valley Camp. The following inadequacy is repeated in its entirety:

The applicant's September 16, 1983 response to this section addressed the August 9, 1983 draft version of the Determination of Adequacy (DOA) letter and not the August 24, 1983 final version that was transmitted to the applicant on August 26, 1983. The August 24, 1983 DOA includes the following clarifications to the earlier draft. For OSM to complete the technical analysis of compliance with this rule, Valley Camp must provide the information listed in 1 and 2 below.

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.

Note: The applicant should understand that the combined reference area and validation data is generated by adding means and sample sizes of the same community and calculating new standard deviations. The

applicant must not add the standard deviations and calculate an average standard deviation.

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UMC 784.13(b)(3) Backfilling and Regrading Plan

Maps D3-C047 Rev. 1 (D-4 and D-5 combined) and D3-0076 show proposed cross sections and topographic contours for the Utah No. 2 Loadout Area; however, no plan is put forth to achieve the final contour configurations. The applicant must provide;

- a) an approved time schedule for backfilling and grading activities;
- b) a description of site specific goals (purpose) for backfilling and grading and the means (methods) by which the goals will be achieved.

UMC 784.13(b)(4) Topsoil

The applicant has identified a potential source of substitute topsoil material in both the Belina Mines area and the Utah No. 2 loadout and yard area. Drawing A5-0075 in Appendix P of Volume VI presents the location of the substitute topsoil material on a topographic base (scale 1 in. = 100 ft.) and a representative cross section of the substitute topsoil pile. The map shows the areal extent of the material and the cross section provides general information on thickness of the proposed substitute topsoil material. To aid in the evaluation of the proposed source of substitute topsoil in terms of suitability in compliance with UMC 817.22(e), the applicant must provide the following information:

1. The locations of the three sampling sites within the substitute topsoil pile using a symbol/notation on the map which will permit the identification of the corresponding table of laboratory results (Appendix P) for samples collected at the sampling site.

Drawing A5-0076 in Appendix P of Volume VI presents the location of the substitute topsoil material on a topographic base (scale 1 in. = 100 ft.) and describes the average depth of material to be 10 ft. Three sampling sites are located on the map and within the substitute

topsoil material area. It should be noted that the sampling sites are undifferentiated, preventing correlation of sampling sites and laboratory data. To determine compliance with UMC 817.22(c) and UMC 817.22(g) in terms of suitability of the proposed substitute topsoil material, the applicant must provide the following information:

2. Cross sections (3) of the three major topographic features comprising the substitute topsoil resource must be developed. The three features are 1) the north bridge abutment pile; 2) the south bridge abutment pile; and 3) the coal storage pile.
3. A north directional arrow must be placed on both drawing A5-0075 and drawing A5-0076 to aid in orientation.
4. The three sampling sites must be identified by different symbols/notations to facilitate the correlation of laboratory results with the three sampling sites.

The applicant has collected soil samples at three sites in the Belina Mines area and three sites in the Utah No. 2 loadout and yard area; however, the applicant must address the following points to be in compliance with UMC 817.22(e):

5. Laboratory results from each set of samples must clearly correspond to a specific sampling site location noted on the two maps (drawings A5-0075 and A5-0076).
6. The applicant must clarify the reason for conducting one set of analyses for samples collected at the Belina Mines and (Appendix P) and a second set of analyses for samples collected at the Utah No. 2 loadout and yard area. For example, the samples for the Belina Mine area were analyzed for total concentration, whereas the materials at the Utah No. 2 loadout area were analyzed using DTPA extractable methods.
7. The applicant must describe the process by which each sample was evaluated for suitability including evaluations of results for each test conducted to characterize the sample. Suitability criteria including references must be provided for review. The applicant must further clarify the determination of suitability as affected by the use of two dis-

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tinct sets of analyses used to determine the quality of the two potential sources of substitute topsoil material.

8. The applicant must clarify how levels of potentially toxic constituents including boron, selenium, and molybdenum were determined to not be present in excess of critical levels (pg 784.13(b)(4)-2) when no results for the three elements are presented in the tables of Appendix P for the Belina Mines area material and no values for selenium are presented in the tables of Appendix P for the Utah No. 2 Loadout and Yard area material. The applicant states that all acid-base potentials are positive (p. 784.13(b)(4)-2); however, the applicant must clarify the absence of acid-base potential values for the Belina Mines area material.
9. The applicant must identify the criteria used to assess the status of plant nutrients as being present at moderate levels and also describe the application methods and rates for any proposed soil amendments (i.e., N, P, K, Organic Matter) the applicant will add to the substitute topsoil material to enhance the feasibility of revegetation.
10. The applicant must develop and conduct approved field-site trials (revegetation plot studies testing the response of plants to the substitute topsoil materials) to document the suitability of the substitute topsoil material for use as reclamation topsoil.

The applicant has provided an estimate of the quantity of topsoil substitute for both the Belina Mines area and the Utah No. 2 loadout and yard area (pg. UMC 784.13(b)(4)-1) apparently based on the assumption that all of the identified material for each disturbed area is suitable for use as topsoil. To be in compliance with UMC 817.22(e) and UMC 786.19(b). The applicant must address the following requirement:

11. After the review of results of analyses and trials, the applicant will provide a volumetric estimation (cubic feet) of suitable substitute topsoil material. Quantity as

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expressed in weight does not provide the spacial description of volume which is necessary to assess the amount of material available to be spread over the disturbed area at the approved thickness.

UMC 784.15 Post Mining Land Use

An issue remains concerning whether the acreage required for the permanent access road constitutes a change in land use from range/wildlife habitat to something else. This issue is currently being reviewed by OSM's solicitor.

UMC 784.20 Subsidence Control Plan

The applicant has adequately responded to the request for a detailed subsidence monitoring plan by committing to an annual survey of subsidence by a registered land surveyor. However, the applicant did not acknowledge the concern with regard to subsidence control and the erosional stability of streams. Valley Camp's response to this concern was, "In the narrow canyons with steep side slopes where barrier pillars will be left along perennial streams there is no likelihood that subsidence will create a pedestal effect causing serious instability in the streams. The barrier pillars are being left to eliminate differential settlement along and adjacent to the stream."

The response provided above does not adequately address the original concern expressed in the 14 October 1983 letter. The remaining concern expressed in the 14 October 1983 letter is:

Will the erosional stability of the streams be seriously altered because the perennial streams may actually be higher than adjacent subsided areas (i.e., as on a pedestal)? Valley Camp must respond in detail to this concern. It is recommended that Valley Camp contact Mike Bishop with Engineering-Science ((303) 455-4427) in order to better understand the previously described concern.

UMC 784.21 Fish and Wildlife Plan

The applicant has not provided the requested data for the inadequacies numbered 1, 2, and 3 in the 14 October 1983 letter from OSM to Valley Camp. Item No. 1 requested the specific species composition of

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2. The proposed density of tree and shrub plantings by species that will be used in riparian areas. Density should be expressed in units that represent a typical planting site (i.e., number of trees per 100 ft²).
3. The tree and shrub density of a typical planting site for both north-facing and south-facing slopes.

UMC 817.97 Protection of Fish, Wildlife...Values

Except for one item, the applicant has satisfied the previously identified inadequacies. Item No. 2 requested the supporting assumptions and calculations used by the applicant to determine that approximately 15,000 ft² of riparian habitat will be produced as a consequence of wildlife mitigation activities. The data were requested because the quantities provided in Volum VI, Appendix M, Attachment 1 do not support the estimated increase of 15,000 ft² of riparian habitat. The applicant has not provided the supporting calculations or assumptions, nor have the apparent errors in Attachment 1 been corrected.

Therefore, the applicant must respond to the inadequacy originally identified in the letter dated October 14, 1983 from OSM to Valley Camp. The following inadequacy is repeated in its entirety:

Items No. 4 and 5 of the final DOA letter have not been addressed in a manner facilitating analysis. The rationale, assumptions, and basis for concluding that a net gain of about 15,000 feet² of riparian habitat will be produced is not clear. The narrative description (Appendix M, Attachment 1) implies a continuous belt of riparian habitat development, while Reclamation Map D-1 implies small islands of riparian habitat. The applicant must provide the calculations and assumptions that clearly show in a logical progression how the specified net gain in riparian habitat acreage was determined.