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DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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DOGM
MINERALS PROGRAM
FILE COPY

December 21, 1990

Mr. Glen Eurick
Environmental Affairs Coordinator
Barrick Mercur Gold Mine
P. O. Box 838
Tooele, Utah 84074

Dear Mr. Eurick,

Re: Division Review of Barrick's Conceptual Closure Plan for Dump Leach No. 3, Barrick Mercur Mine, M/045/017 - 88(1), Tooele County, Utah

The Division has reviewed Barrick's September 24, 1990 submittal, which addresses the decommissioning and reclamation of dump leach No. 3, and has found it to be deficient. The following review comments must be addressed before we will be able to proceed with the approval of the closure plan:

1. Page 2 of the submittal describes the final slopes of the heap as having 1.5h:1v, 180 foot slopes. This final slope configuration **will not** be acceptable. It will be too steep to insure adequate emplacement and compaction of the clay cap, and achieve an acceptable revegetation cover. It is of critical importance that the integrity of the cap be maintained, to prevent leachate buildup in the heap. Without a well established plant cover, the purpose and function of the final cap would likely be jeopardized. A final 4 foot clay and soil cap over the leached ore is necessary to inhibit infiltration and leachate formation, and the potential mobilization of metals and possible residual cyanides.

   According to our discussions with your staff, two very important limitations exist, regarding the grading of these slopes to something more desirable than 1.5:1, specifically: 1) A gentler slope would mean pushing leached waste material beyond the edge of the liner, hence no liner protection from potential leachate formation; and 2) material pushed beyond the edge of the liner would block the proposed drainage pathways from Meadow and Dead Horse Canyons, located on the east and west sides of the dump leach No. 3.

Because of the necessity of constructing a viable cap over the material on the spent dump, the Division will not allow slopes steeper than 3:1 on this facility. Greater angles would compromise the ability of the operator to compact the clay liner adequately, and to place the topsoil material evenly. There would be a great deal of difficulty in providing an even depth for the overall cap.

Regarding a more acceptable closure plan, several possibilities exist:

(a) Barrick could stack less material on the dump, such that a final grade of at least 3:1 could be obtained;

(b) Barrick could push leached material off the pad, after neutralization has been proven satisfactory, according to the standards and procedures set by the Bureau of Water Pollution Control;

Under this scenario we would require regrading the outslopes to 3:1, and the development of an appropriate solution to the problem of blocking the stream channels. New designs would be required to account for any necessary alterations required to divert runoff around the reclaimed dump leach facility.

(c) Remove enough material from the top of the dump at final reclamation to allow for 3:1 slopes. The excess material, after neutralization, could be placed somewhere else, i.e. a pit or other previously disturbed area on site.

2. As part of your response to the above, please provide the Division with figures for the amount of clay, topsoil and substitute materials to be used for the overall cap. Where will these materials originate from, in what quantities, and how will borrow areas be reclaimed?

3. In the current MRP, Barrick needs to address the status of topsoil materials pushed off the road connecting dump leach No. 3 and the tailings pond. According to conversations with mine staff on September 5, 1990, this material is to be pulled back onto the road at final reclamation. This material and its intended purpose, should be identified and Barrick's MRP updated accordingly.

Please address these concerns and provide the appropriate MRP changes to the Division at your earliest convenience. We request that Barrick provide the amended materials insuring that they are numbered and dated as replacement pages to the revised MRP. Thank you for your continued cooperation in resolving these remaining permitting issues.

Sincerely,

D. Wayne Hedberg

for Lowell P. Braxton
Associate Director, Mining

jb
cc: Don Ostler, BWPC
Minerals staff
MNM045017.2