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DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY

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DIV. OF OIL, GAS & MINING

February 12, 1997

Dave Beatty
Barrick Mercur Gold Mine
P.O. Box 838
Tooele, Utah 84074-0838

Dear Mr. Beatty:

Subject: Cyanide Destruction Circuit Variance Request, Permit No. UGW450002

We have evaluated your January 8, 1997 request for a variance from the cyanide effluent technology performance limits of the above referenced permit. Barrick wants to process 1200 tons per day of No. 16 ore, for a period not to exceed 14 days. The purpose of the variance is to test the feasibility of processing an additional 300,000 tons of the same material. This ore which is high in iron presents certain difficulties in gold recovery with cyanide. The iron binds with the cyanide making the cyanide unavailable for precious metals recovery. Increasing the cyanide to the system results in higher concentrations of iron cyanide which is not destroyed in the INCO SO2 cyanide destruction process. Iron cyanide is a cyanide complex that is a component of total cyanide. Total cyanide also happens to be less harmful than free cyanide and WAD-cyanide to environmental receptors. There will be a smaller net increase in WAD-cyanide concentrations as compared to total-cyanide. During that period the resultant effluent characteristics are expected to exceed permit maximum daily and maximum monthly average limits for total-cyanide and WAD-cyanide. Barrick has agreed to operate the cyanide kill circuit to the best of their ability to minimize the extent by which they will exceed permit limits during the two week test period. Barrick has also agreed to closely monitor the resultant concentration changes in the tailings impoundment. The tailings impoundment has a clay liner in place and ground water monitoring wells to evaluate long term performance.

The 1200 tons/day of No.16 ore that will be run through circuit No. 2, represents about 20 percent of the daily operating volume of the mill. During the 14 day period of this variance, approximately 720,000 gallons of water from the No. 2 circuit will be discharged to the tailings impoundment. The tailings impoundment typically contains in excess of 100 million gallons of water at this time of year. Thus, the inflow from the No. 2 circuit represents less than 1 percent by volume of the total fluid volume in the pond. The impact on cyanide concentrations within the tailings pond will,

maintains concerns about Barrick's plans to process more than 300,000 tons of this ore that is currently stockpiled. Barrick will have to either demonstrate that they can meet the BAT standards of the permit, or provide information that justifies a permit modification. Therefore, in accordance with the provisions of paragraph I.D.2.b.3 of the permit and the conditions of this letter, the variance is approved. This permit provision requires Barrick to both request a variance and provide information sufficient to determine the potential environmental impact. Both these conditions have been satisfied.

If you have any questions concerning this matter please contact Dennis Frederick at 801-538-6146.

Sincerely,

Utah Water Quality Board

Don A. Ostler, P.E.
Executive Secretary

DAO:DAF:wlm

cc: Brian Slade, Tooele County Health Dept.
Paul Becket, Utah County Health Dept.
Tom Munsen, DOGM

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