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Continuity Nbr.: V5-1088

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October 25, 2005

Mr. Ron Martel  
Mount Polley Mining Corp.  
P.O. Box 12  
Likely, B.C. V0L 1N0

Dear Ron,

**Re: Tailings Storage Facility - Stage 5 Upstream Stability Analyses**

Knight Piésold has reviewed the upstream stability of the Stage 5 TSF embankments. The Stage 5 design currently involves raising the TSF embankments from an elevation of 948 to 950 m using a modified centreline construction method. MPMC has requested that the Stage 5 construction method be reviewed to assess the potential for incorporating an upstream raise, instead of modified centreline, for the Stage 5 expansion of the TSF to allow for increased flexibility in hauling and placing the Zone C material in the TSF shell zone.

The proposed upstream raise would involve constructing the embankments further upstream onto the tailings than that associated with the modified centreline construction method. Consequently, the stability of an upstream raise is highly dependant on the strength of the tailings materials adjacent to the embankments. The tailings material was investigated in 1999 using Cone Penetration Testing (CPT), which indicated that the strength of the tailings material is highly variable throughout the TSF. The current strength of the tailings material is not known; therefore the tailings strength parameters were varied in the stability analyses to establish a relationship between the tailings strength and the minimum Factor of Safety (FoS) requirements. The minimum FoS for the TSF embankments is 1.3 under static conditions and 1.1 under post liquefaction conditions. A minimum FoS of 1.0 was used for the seismic stability analyses. Factors of safety under seismic conditions greater than 1.0 imply that there will be no deformations of the embankments initiated by earthquake loading.

The results of the stability assessment indicate that the upstream stability of the embankments is highly dependant on the strength of the tailings material, as expected. The results indicate that for the minimum FoS requirements to be achieved for static, seismic and post liquefaction cases, the strength provided by the tailings would have to be higher than the values resulting from the 1999 CPT investigation. Expanding the TSF upstream for the Stage 5 construction program would therefore require an extensive CPT investigation on the Main and Perimeter Embankments to assess the current strength and variability of the tailings followed by additional stability analyses to determine whether the minimum FoS requirements are met using actual strength values for the tailings. This could be a very costly exercise, which may likely only verify that the strength of the tailings is not adequate to support an upstream raise. It is therefore recommended by Knight Piésold that the Stage 5 expansion of the TSF be completed as designed using a modified centreline construction method. The Zone C shell zone should be expanded to an elevation 950 m prior to the Stage 5 construction program to allow for the placement of the Zone S,



Zone T, and Zone F materials in the designed modified centreline construction method. The shell zone can be expanded as a 15 m wide zone for the Stage 5 expansion to coordinate the fill requirements with the planned haulage of waste rock, using three trucks, from the Wight Pit. The shell zone should be extended to its ultimate toe once it has reached an elevation of 950 m to facilitate ongoing construction programs at the TSF.

The current Stage 5 design elevation is 950 m and it is that elevation that is referenced in this letter. The actual elevation may be higher based on the results of the TSF water balance recently received from the mine. This will be reviewed early next year as part of the Stage 5 design process.

Please do not hesitate to contact us if you require additional information regarding the stability of the TSF.

Yours truly,

**KNIGHT PIESOLD LTD.**

Les Galbraith, P.Eng.  
Senior Engineer

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Managing Director

/LJG