Knight Piésold

Our Reference: VA101-1/12-A.01 Continuity Nbr.: VA06-00241

February 10, 2006

Knight Piésold Ltd.

Suite 1400 750 West Pender Street Vancouver, British Columbia Canada V6C 2T8

Telephone: 604.685.0543 Facsimile: 604.685.0147 Email: <u>vancouver@knightpiesold.com</u>

Mr. Don Parsons Vice President - Operations Mount Polley Mining Corporation 200 - 580 Hornby Street Vancouver, BC, V6C 3B6

Dear Mr. Parsons,

Re: Wight Pit Dewatering

Knight Piésold has reviewed the pipeline and pumping requirements for dewatering the Wight Pit. The design basis for the pipelines and pumps included the following:

- Routing the groundwater and surface runoff from the Wight Pit to the SE Sediment Control Pond via the existing waste dump diversion ditch.
- The groundwater component in the Wight Pit was assumed to be 500 gpm, which is the estimated groundwater inflow to the ultimate Wight Pit (Golders Wight Pit Hydrogeology Report). The groundwater inflow will be significantly less than this during the early development of the Wight Pit and the pipeline and pumping system will have to be flexible enough to handle the variation in the flows as the pit develops.
- The surface runoff component was estimated by applying average annual precipitation values to the Wight Pit and the catchment area upstream of the Wight Pit. Site runoff is highest during the months of April, May, and June, and these flows were used in the analysis.
- The diversion ditch on the upstream side of the Wight Pit has an efficiency rating of 50%, so half of the upstream catchment runoff was assumed to collect in the Wight Pit.
- The HDPE pipe that exists on site has been incorporated into the pipeline requirements to the maximum extent possible to minimize additional costs.

The main pipeline consists of two sections separated by a booster pump. Design flows of 800 and 1000 gpm were evaluated. The runoff from the NEZ waste dumps can be routed to the booster pump via a separate pipeline. This pipeline was not included in this study as per conversions with MPMC. The water handling system for dewatering the Wight Pit consists of the following components:

Initial Pipeline Section - Pit Rim to Midpoint Booster Pump:

The initial section is 1200 m long and begins at a pit rim sump (to be developed by MPMC) at the SE corner of the Wight pit rim at elevation 910 m. The initial pipeline section terminates at a booster pump assumed to be located immediately upslope of the fork in the pit access road and at a nominal elevation of 1005 m. The pipe requirements from the pit rim to the booster pump, based on 1000 gpm, are:

- 200 m 10" DR 9 HDPE (New pipe to be purchased)
- 300 m 8" DR 11 HDPE (Existing pipe may be at site)
- 700 m 8" DR 17 HDPE (Existing pipe may be at site)

The estimated pumping requirement is 155 HP (138 m head @ 1000 gpm).

The pipe requirements for this section, based on 800 gpm, are:

- 200 m 10" DR 11 HDPE (New pipe to be purchased)
- 300 m 8" DR 11 HDPE (Existing pipe may be at site)
- 700 m 8" DR 17 HDPE (Existing pipe may be at site)



Estimated pump HP requirement is 110 HP (122.4 m head @ 800 gpm).

The line pressure at the pump will exceed the DR 11 pipe pressure rating by approximately 20% with a flow of 1000 gpm pumped through the 10" DR 11 pipe.

Second Pipe Section - Midpoint Booster Pump to Termination in SESP Ditch

The second pipe section is 1700 m long and terminates in the SESP ditch approximately 600m from the road at a nominal elevation of 1061m. The final 500m of pipe in the SESP ditch is assumed to be 8" DR 17 HDPE available on site. The pipe requirements from the booster pump to the SESP ditch, based on 1000 gpm, are:

- 200 m 10" DR 13.5 HDPE (New pipe to be purchased)
- 300 m 10" DR 15.5 HDPE (New pipe to be purchased)
- 700 m 10" DR 17 HDPE (New pipe to be purchased)
- 500 m 8" DR 17 HDPE (Existing pipe may be at site)

The estimated Booster Pump HP requirement is 100 HP (90 m head @ 1000 gpm).

The pipe requirements for this section, based on 800 gpm, are the same as for a flow of 1000 gpm. The estimated booster pump HP requirement is 75 HP (80 m head @ 800 gpm).

Knight Piésold recommends installing a pipe system with a capacity of 1000 gpm, as sections of the pipe required for a flow of 800 gpm would be undersized for the higher flows anticipated as the Wight Pit expands. The purchasing requirements for the new pipe for a flow capacity of for 1000 gpm are as follows:

- 200 m 10" DR 9 HDPE (New pipe to be purchased)
- 200 m 10" DR 13.5 HDPE (New pipe to be purchased)
- 300 m 10" DR 15.5 HDPE (New pipe to be purchased)
- 700 m 10" DR 17 HDPE (New pipe to be purchased)

Useable pipe at site is:

- 300 m 8" DR 11 HDPE (Existing pipe may be at site)
- 1200 m 8" DR 17 HDPE (Existing pipe may be at site)

The pumping requirements are as follows:

- Pit Rim Sump 155 HP (138 m head @ 1000 gpm).
- Booster Station 100 HP (90 m head @ 1000 gpm)

I trust that this meets your requirements for ordering the HDPE pipes and pumps for the Wight Pit dewatering system. Please do not hesitate to contact me if you have additional requirements or questions concerning this matter.

Yours sincerely,

KNIGHT PIESOLD LTD.

Les Galbraith, P.Eng. Senior Engineer

cc: Howard Bradley, MPMC

Ken J. Brouwer, P.Eng. Managing Director