

# Ministry of Energy and Mines

Mines and Mineral Resources Division

**MEMORANDUM** 

Date: September 30, 2015

To: Lee Heichart, Mine Manager Bralorne Gold Mines Ltd.

Cc: Diane Howe, Deputy Chief Inspector, Reclamation and Permitting, MEM

Heather Narynski, A/ Manager, Geotechnical Engineering, MEM

### Re: Review of Letter of Assurance Submission from June 30, 2015

The Ministry of Energy and Mines (MEM) has engaged a consulting firm to evaluate the consistency and compliance of your letter of assurance in response to the Chief Inspector's orders issued on February 3, 2015. This review has determined that your submission satisfies the requirements of the order.

Below is a summary of the assessment made by your Qualified Professional Engineer (QPE) with associated plans/schedule to address the gaps identified:

### **Status of Foundation Condition**

"There is no indication of weak silt and/or clay layers in the TSF foundation based on existing information. These records indicate that the foundation materials are comprised of silty till and sandy gravel deposits that were classified as dense to very dense. Given the inherent variability in native soil deposits, there is always some uncertainty regarding the adequacy of a site investigation program and it is difficult to give assurances that all soil units have been encountered and the groundwater regime is fully understood."

#### The mine has committed to:

 "Bralorne Gold Mine (BGM) plans to replace existing standpipe piezometers installed the TSF embankment in 2015. This will involve mobilization of a drill rig capable of geotechnical sampling and testing, and provide an opportunity to confirm the ground conditions at select locations below the embankment."

### Status of Water Balance Adequacy

"The current system is not adequate with respect to water balance. BGM is currently permitted and advancing plans to treat and release excess water from the underground mine to Cadwallader Creek. This approach will reduce the amount of mine water input to the TSF."

The mine has committed to:

 "BGM plans to raise the TSF embankment by approximately 3 m in the summer/fall of 2015 and incorporate an emergency spillway into the design. This earthwork is expected to generate over 100,000 cubic metres of additional storage capacity for tailings and water."

## **Status of Filter Adequacy**

"The dam shell material and the till core are compatible with the blanket drain material. This means there is a reduced likelihood of piping due to fines loss through the drain as well as a decreased chance that the drain material will undergo clogging from fines from the till core or dam shell."

MEM supports the proposed plan of action. Please ensure that all work as outlined above is completed within the specified timeframe. MEM will be following-up by January 15, 2016 to obtain a status update with respect to the work completed and commitments made.

The orders issued on February 3, 2015 have been requested to provide assurance the conditions at the Mount Polley dam do not exist in other facilities. Please ensure that you are meeting your other ongoing requirements to ensure Tailings Storage Facility safety with respect to the following:

- Satisfying any outstanding orders from previous Ministry inspection reports.
- Satisfying any outstanding recommendations from previous Dam Safety Inspections (DSI) or Dam Safety Reviews (DSR).

It is expected that you will ensure dam safety management is continuously reviewed, improved and refined throughout the life of mine.

Thank you for your submission to the orders of February 3, 2015.

Sincerely,

Al Hoffman, P. Eng. Chief Inspector of Mines

Ministry of Energy and Mines