

Date: September 30, 2015

- To: Dallas Rodier, Mine Manager Glencore Corporation Canada, Brenda Mine
- Cc: Diane Howe, Deputy Chief Inspector, Reclamation and Permitting, MEM Heather Narynski, A/ Manager, Geotechnical Engineering, MEM

Re: <u>Review of Letter of Assurance Submission from June 30, 2015</u>

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), it is understood that no immediate gaps have been identified:

<u>Main Dam</u>

Status of Foundation Condition

"There are no clay strata in the Main Dam foundation, which comprise competent till overlying bedrock."

Status of Water Balance Adequacy

"No surplus mine water is stored in the tailings impoundment. Subject to seasonal variations, as much of the water stored is removed as is collected on an annual basis. The capacity of the treatment system is sufficient to prevent a raise in the tailings pond level that would put dam safety at risk."

Status of Filter Adequacy

"The downstream shell of the dam (up to the centerline) comprises cycloned sand, which is unsaturated and thus not susceptible to piping. The piping, which is possible in theory at the Main Dam, would involve passing cycloned tailings through a filter zone that covers each of the four finger drains extending beneath the downstream shell of the dam. The occurrence of cycloned tailings piping, however, is highly unlikely since the hydraulic gradients at the base of the dam are extremely low as compared with the gradients that existed during the dam construction in 1969- 1986. Since no as-built report for the construction of the Main Dam was prepared, it cannot be confirmed that the filter zones covering the four drains were constructed in accordance with the designs. This, however, does not present a significant dam safety concern as piping into a drain, even if somehow developed under a very low hydraulic gradient, would not cause a dam failure owing to the large distance from the tailings pond."

Saddle Dam

Status of Foundation Condition

"There are no clay deposits in the Saddle Dam foundation, which comprise competent till overlying bedrock."

Status of Water Balance Adequacy

"No surplus mine water is stored in the tailings impoundment. Subject to seasonal variations, as much of the water stored is removed as is collected on an annual basis. As in the case of the Main Dam, the capacity of the treatment system is sufficient to prevent a raise in the tailings pond level that would put the safety of Saddle Dam at risk."

Status of Filter Adequacy

"The downstream shell of the dam up to el. +/-1382.0 m comprises compacted tailings sand that is filter-graded with the till core material. Above that elevation, the till core is protected by a filter zone, which separates the till core from the downstream rockfill shell. The size of the filter is considered adequate given the maximum possible (while short-lasting) hydraulic head of about 5 m (hydraulic head above the base of the filter zone). No as-built records are available for the Saddle Dam". However, "there are no identifiable reasons to suspect that the quality of construction was not adequate."

Other Dams at Brenda

"There are five other, relatively minor dykes/dams at Brenda associated with the tailing pond operation. None of these dams/dykes is founded over a clay stratum (there are no clay deposits in the Brenda site area). There are no potential dam stability concerns that were identified in the MEM's memorandum with respect to any of the above five dykes/dams and no data gaps of essence have been identified in this assessment."

"As-built records for the Lower Reclaim Pond Dam are not available so that it cannot be confirmed that the construction of the filter zone was carried out in accordance with the designs. There are no reasons, however, to suspect that the construction was not properly carried out. The Lower Reclaim Pond Dyke has been in operation since the early 1970s with no signs of piping or any other distress."

Please ensure that any recommendations made by your Qualified Professional Engineer have been addressed.

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