

Mines and Mineral Resources Division

Date: September 30, 2015

- To: Tim Fisch, General Manager Red Chris Development Company Ltd.
- 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) with associated plans/schedule to address the gaps identified:

Status of Foundation Condition

"Foundation soil conditions at the North Starter Dam (NSD) and North Reclaim Dam (NRD) footprints comprise very dense till (basal till) that contains gravel, sand, silt, and clay as well as cobbles and boulders. There is local evidence of heavily overconsolidated glaciolacustrine materials which BGC attributes to deposition in Glacial Lake Stikine. The dam design for the current stage of the Red Chris TSF is considered to be satisfactory."

However, the QPE has stated that:

• "The 2015 instrumentation program to install additional vibrating wire piezometers into the dam foundations is currently underway. In response to the Chief Inspector's order, BGC has undertaken an additional detailed review of site ground conditions, with the objective of identifying targets for further investigation for the TSF area. The 2015 instrumentation/investigation program is expected to be completed in mid-July 2015 with a factual report, including laboratory testing results and a review of the dam design, to be issued in the fall of 2015. The current state of site investigation at the Red Chris TSF, once complete in July, is expected to be sufficient to characterize, to a satisfactory level, the nature of the soil deposits that comprise the dam foundations for assessment of stability of the planned raises."

Status of Water Balance Adequacy

"There is currently no surplus mine site water stored in the tailings facility and there are provisions and contingencies in place to account for wet years."

Status of Filter Adequacy

"Satisfactory filter installation for TSF dams consistent with the design is supported by construction records reporting."

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).

The 2014 Dam Safety Inspection (BGC, November 24, 2014) highlighted the following conclusions/recommendation with respect to spillway and filter:

"Construct a filter blanket along the toe of the North Reclaim Dam - Design for this filter blanket in progress. Gradation analyses of foundation soils samples confirm that 3B material will suffice for both drainage and filter compatibility (Construction in progress, expected completion by end November 2014)".

"Confirm tailings and water/IDF capacity based on achieved 2014 North Starter Dam Crest elevation, and design overflow spillway, and/or pumping facilities and contingencies, as required- Confirm tailings storage capacity available before North Starter Dam can be raised in 2015. Flood routing analysis will be required to support spillway design and freeboard requirement (By end of Q4, 2014)".

• Please provide an update on the status of the above 2014 DSI recommendations by September 30, 2015.

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