



Date: September 30, 2015

To: Geoff Brick, General Manager  
Teck Coal Limited, Greenhills Operations

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:

### **Main Dam**

#### **Status of Foundation Condition**

*"Glacio-lacustrine silts and clays have not been encountered in site investigations to date, and are not expected to be present based on geological mapping. Analyses indicated that the factor of safety without considering the effect of the downstream coarse refuse spoils (Site C) is less than the 1.3 required by Canadian Dam Association (CDA) Dam Safety Guidelines (CDA 2013). However, the buttressing effect of the existing Site C spoils against the downstream face of the dam would result in a factor of safety that exceeds the minimum requirements for the short-term case."*

The mine has committed to:

- *Main Dam: "Confirmation of the extent the Site C buttressing of the main dam required to exceed the minimum factor of safety for short term conditions (to be included in 2015 DSI)."*

## **West Dam**

### **Status of Foundation Condition**

*“Construction field reports indicate that all soft fills and colluvial clay have been removed from the 1,735 m elevation construction footprint of the West Dam, exceeding design requirements, and the resulting in situ foundation conditions beneath downstream footprint of the West Dam are glacial till or bedrock.”*

## **Main and West Dams**

### **Status of Water Balance Adequacy**

*“No surplus mine water is stored in the Greenhills Operations (GHO) facility” and if the freeboard in the facility becomes a concern “discharge tailings pond water by pump and/or siphon to the GHO settling pond” and when required an “Emergency overflow spillway will be constructed on the West Dam.”*

### **Status of Filter Adequacy**

*“The coarse refuse material that makes up the shell of the Main and West Dams met the design criteria that were in place at the time of the design and construction, generally meets current filter design criteria with some exceptions and is considered internally stable per the Li-Fannin criteria. Based on the performance of the dam, internal erosion or piping due to filter incompatible material is expected to be a low risk”.*

*However the mine has stated that:*

- *Main and West Dams: “Specifications for coarse refuse will be formalized and implemented with quality control for future construction works (to be implemented during 2015 construction).”*

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,

A handwritten signature in black ink, appearing to read "Al Hoffman", written over a horizontal line.

*Al Hoffman, P. Eng.  
Chief Inspector of Mines  
Ministry of Energy and Mines*