

Mines and Mineral Resources Division

Date: September 30, 2015

- To: Al Kangas, Mine Manager Walter Energy Inc., Wolverine 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:

## Status of Foundation Condition

"Drilling prior to and during initial construction of the tailings facility has revealed a significant deposit (up to a depth of approx. 130 m) of glacially derived soft clay beneath a number of other distinct stratigraphic units. Behaviour of this material (referred to as Lower Clay) is similar to the glacial lacustrine soils discovered during the Mount Polley investigation. Design slopes for the dam were obtained based on stability analysis using the undrained strength parameters for the Lower Clay (and Upper Clay) units. This was done to account for the ongoing loading of the clay units, which was created by the staged raising of the tailings embankment. This method of analysis is believed to account for the strength behavior of the Lower Clay. Monitoring data from piezometer, slope inclinometer and magnetic extensometer installations supports the view that the Lower Clay unit is performing according to design expectations."

## Status of Water Balance Adequacy

"During the current care and maintenance period, inflows to the tailings facility are limited to immediate runoff within the pond footprint and there is no free standing water pond at present. Outflows are limited to evaporation and to consolidation seepage losses through the impoundment basin. Due to the small catchment, moderate annual precipitation, and current freeboard (at least 8m), the risk of an excessive surplus water balance increasing water levels within the impoundment to unacceptable levels is extremely low. In extreme circumstances

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(i.e. a prolonged wet climate period), the decant structure can be used to draw down water levels in the impoundment. During operations, return water flow and tailings slurry solids content is measured. This information can be used, along with estimates of other related information, to provide an approximation of the water balance. The mine should make this information available once the plant restarts. "

## Status of Filter Adequacy

"The tailings and Coarse Coal Reject (CCR) materials placed in the embankment during the construction period also have remained consistent with the materials previously tested and reported in the permit amendment. No reports of persistent cloudy or sediment laden water at seepage exit points have been noted at the tailings dam which would indicate fills to have inadequate filtering capacity. Tetra Tech EBA completed a Dam Safety Review in 2015 and highlighted a number of areas that should be evaluated in a formal piping assessment. A schedule for completion of this assessment was not included in the recommendations provided by Tetra Tech EBA. Considering the absence of a water pond in the tailings impoundment and the lack of seepage through the dam, Norwest recommend that this evaluation be undertaken prior to mine startup."

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