

# Ministry of Energy and Mines

Mines and Mineral Resources Division

**MEMORANDUM** 

Date: September 30, 2015

To: John Thompson, President and Chief Operating Officer

Sona Resources Corporation, Blackdome Mine

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

## Status of Foundation Condition

"The historical data indicates a foundation of well graded gravel-sand-silt mixture, which is not considered silt and clay foundation" at the Blackdome Mine. "No gaps have been identified and there are no plans to further investigate the foundation conditions at the TSF."

#### Status of Water Balance Adequacy

"The volume of water in the TSF pond is controlled by the spillway invert elevation and has remained relatively constant during the Care and Maintenance phase. There are no gaps in the water balance adequacy."

#### Status of Filter Adequacy

"The assessment concluded the filter zone met the necessary filter criteria. However, the filter did not meet the permeability criteria and it is potentially gap graded. The blanket drain was also found to not meet the necessary filter criteria and has the potential to be gap graded and could have segregated during construction. Sinkholes have been observed along the north flank of the facility during the annual inspections (1998 to 2014). The sinkholes are above the water level of the tailings pond and no water is flowing into them. The sinkholes resulted when tailings material migrated through permeable talus and rockfill in the embankment foundation. Previous evaluations recognized the sinkholes and associated seepage through the

embankment foundations were unlikely to pose a risk to dam stability, as the foundation materials were considered to be non-erosive. The TSF will continue to be monitored during the Care and Maintenance period in accordance with the schedule outlined in the CDA guidelines. Annual inspections to date indicated the facility is functioning as designed."

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