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November 19, 2014

Bul River Mineral Corp. Via email @ rmgoodwin22@gmail.com

Attention: Richard Goodwin, P.Eng.

RE: REVIEW OF DAM SAFETY INSPECTION DRAFT REPORT BUL RIVER MINE TAILINGS STORAGE FACILITY BULL RIVER, B.C. SNC-LAVALIN INC., NOVEMBER 9, 2014 (PROJECT 623505)

Dear Richard Goodwin,

#### Introduction

This letter provides a third party review of a Dam Safety Inspection (Draft) Report on the Gallowai Bul River Mine Tailings Storage Facility, Bull River, B.C., prepared by SNC-Lavalin Inc. (SNC-L) and dated November 9, 2014. The third party review was completed at the request of Mr. Richard Goodwin of the Bul River Mineral Corp., the mine owner. Dr. Neil Wade, P.Eng., special consultant to Groundtech Engineering Ltd., and Douglas A. Clapp, P.Eng., of Groundtech completed the review. The third party review is to include a review of the dam classification. Groundtech made a short field inspection September 28, 2014.

The scope of work for the dam safety review was detailed in:

- 1. Notification of Chief Inspector's Order Tailings Dams Independent Review of Dam Safety and Consequence Classification.
- 2. Ministry of Energy and Mines Guidelines for Annual Dam Safety Inspection Reports (August 2013).

## General Comments of the Report

In general, the SNC-L dam safety review has addressed most of the requirements of the scope of work. Groundtech concurs with the recommended mitigative works.

Groundtech Engineering Ltd.

File: 14m113r

# Perceived deficiencies include:

- 1. Comments and/or analysis of current static and seismic stability of the remnant embankment (post reclamation). Establish current Factor of Safety for static and seismic loading.
- Comments and/or assessment of the ability of the gully to safely convey inflow design flows; this
  would include scenarios of present catchment area and if the settling pond pumping facilities fail.
  Comments and/or assessment of the gully flow and effects on downslope water courses and/or
  structures from inundation.
- 3. Provide a plan and representative cross-sections (typical) of reclaimed TSF.

# Dam Classification Assessment

In terms of population at risk, this would be limited to people passing below the facility in vehicles on the Bull River Road; and would be considered temporary exposure. Risk of loss of life would be considered very low given the low hazard that the structure presents and the temporary nature of the exposure to the hazard. Should a failure occur, there would be minimal short-term loss and no long-term loss. Should a failure occur, low economic losses would be expected as the downslope area contains limited infrastructure or services. All things considered a "Low" dam classification is considered appropriate.

## Other Considerations:

- As there is limited groundwater information, consideration should be given to recommending the
  installation of one or more piezometers to confirm groundwater levels and seasonal fluctuations.
  Knowledge of groundwater levels is essential in assessing slope stability and seepage flows.
- 2. Confirm if settling pond water and TSF deposit contain toxic contaminates.
- 3. Consider including the "Dam Safety Review Assurance Statement Mining Dams" in the report.

  The issuance of such a statement would be consistent with "Professional Practise Guidelines –

  Legislated Dam Safety Reviews in BC" APEGBC, March 2014.

Should you have any questions on this matter, please call Douglas Clapp at (250) 423-4829 or Dr. Neil Wade at (403) 286 4159.

Sincerely,



Douglas A. Clapp, P.Eng.



Dr. Neil Wade, P.Eng.