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## New risk assessment method for coal mine excavated slopes

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## ABSTRACT

Slope stability can be assessed using empirical, kinematic, limit equilibrium or numerical techniques. Empirical methods offer the advantage that they: (i) provide a rapid assessment of slope behaviour based on precedent slope performance; and (ii) can provide guidance on stable slope geometry.

This paper presents a new empirical methodology to predict the likelihood of excavated slope failure in an excavated coal mine slope. The methodology is based on 149 case studies sourced from Australian and Canadian open cut coal mine slopes. The methodology is unique in that it does not require absolute values of rock mass or defect strength to calculate a quantitative likelihood of failure.

The new methodology is intended to be used as a tool for identifying sections of an excavated slope preconditioned to failure, for which numerical modelling and/or targeted monitoring can be focused.