

# Block Caving Mining Method: Transformation and Its Potency in Indonesia

## Abstract

The block caving mining method has become increasingly popular in the last two decades. Meanwhile, Indonesia has several potential ore bodies which have not yet determined suitable mining methods. The references to block caving mining projects worldwide and the potency of metal deposits in Indonesia were reviewed to determine the requirements of ore bodies suitable for mining using the transformed block caving method. This method can be applied on a blocky ore body with a thickness of 200–800 m, various rock mass strengths until 300 MPa, from low to high (from 0.3% Cu until more than 1.0% Cu), but of uniform grade and at a depth from 500 to 2200 m. The technical specifications for running block caving mines have been synthesized, including preparation methods, undercutting strategy, mine design, mining equipment and monitoring. Considering the requirements and the successful practice of the block caving project in the Grasberg Caving Complex as a role model, the Indonesian government should concentrate on the detailed exploration of porphyry deposits and feasibility studies on applying the method to the prospective ore bodies, i.e., Onto, Tambulilato, Tumpangpitu and Randu Kuning. In addition, the exploration method, cost, operation, environment, mining policy and social geology are important aspects worth noting.

*Keywords:* caving; Indonesia; mining; porphyry; underground