

## SEISMIC EFFECTS OF BLASTING AND THEIR INFLUENCE ON THE STABILITY OF SLOPES IN SURFACE MINES

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### ABSTRACT

Blasting represents a fundamental technological operation in the surface exploitation of mineral resources, however, it also generates dynamic loads that can effect on the stability of bench slopes. During mass blasting operations in open pit mines, seismic vibrations are generated, leading to damage in the rock mass and the formation of secondary fractures that propagate into the depth of the rock massif. This process disturbs the equilibrium state of the rock mass and consequently affects the bench slopes. This paper analyzes the seismic effects of explosive blasting and their influence on the geomechanical stability of slopes in an open pit mines.

**Keywords:** blasting, seismic effects, seismic waves, slope stability, open pit mines.