

ROCK BURST CONTROL AND PREVENTION IN MUFULIRA MINE

CHIKOYE SIKAZWE TAIZYA¹ & NING LI²

¹School of Civil Engineering and Architecture, Anhui University of Science and Technology, China, Huainan, Anhui, China

²School of Civil Engineering and Architecture, Anhui University of Science and Technology, China, Huainan, Anhui, China

ABSTRACT

Mufulira mine began mining activity in 1933. It is located in the Copperbelt region of Zambia, with plenty of copper and cobalt restoration. The rock burst accidents have been inspected in the beginning of 1970s. And many control methods have been applied to relieve rock burst danger. Rock burst is a complicated mining-induced hazard that remains difficult to be measured and controlled. Large structural stresses derived from many geological factors create a more dangerous stress conditions to trigger rock burst happening. This paper demonstrates field examples of rock burst to stress important rock burst inspection and control. For rock burst conditions, multi-tiered risk control methods are applied. Some examples on stress relief and hazard control are shown with the mitigation of rock burst at the Mufulira mine. Finally, some discussions are proposed on the improvements of rock burst control that should be done in the future.

KEYWORDS: Rock Burst; Geological Factors; Inspection and Control & Mufulira Mine

Received: Apr 27, 2021; **Accepted:** May 17, 2021; **Published:** Jun 07, 2021; **Paper Id.:** IJCSEIERDJUN202113