

## ABSTRACT

PT. Bukit Makmur Mandiri Utama (PT.BUMA) is one of the contractors working on the site owned by PT. Kideco Jaya Agung in East Kalimantan, which produces coal as an energy source. In PT. BUMA jobsite Kideco, there are three pit namely pit M, pit A and pit B. Astronomically PT. Bukit Makmur Mandiri Utama is located at  $1^{\circ} 45' - 2^{\circ}$  south latitude and  $115^{\circ} 45' - 116^{\circ}$  East longitude and the administration of the coal mining site of PT. Kideco Jaya Agung including Batu Village area of Kajang, District Batu Sopang, Pasir Regency, East Kalimantan Province.

The purpose of this study is to find the cause of not achieving the target for rock fragmentation by blasting results boulder maximum percentage of 15% and examines the application of current blasting geometry, make improvements in order to achieve the desired fragmentation while still referring to the company standards.

This is to facilitate further activities such as loading activities, transport and the achievement of production targets soil movement. Target production stripping overburden existing in pit M CB West, which is in May 2012 of 23.542 m<sup>3</sup>/blasting and in June 2012 amounted to 37.648 m<sup>3</sup>/blasting. Without boulder blasting volume in May was 18.258 m<sup>3</sup>/blastign resulting in a lack of production of 6,478 m<sup>3</sup>.

There are two proposed designs blasting geometry where the first proposal aims to optimize the powder factor and the second proposal maximizes powder factor where boulder average percentage produced remains below 15%. Experiment with blasting geometric design done in June, with a production target of 37.648 m<sup>3</sup>/blasting, without boulder blasting volume of 39.733 m<sup>3</sup>/blasting.

In the first proposal to burden = 8 m, spacing = 9 m, blast holes depth = 12 m, stemming = 5.6 m, column length = 6.4 m. The design of the blasting geometry, resulting in fragmentation sized rocks > 1.5 m which is 10.99% and the powder factor of 0.26 kg/m<sup>3</sup>.

In the second proposal to burden = 8 m, spacing = 9 m, blast holes depth = 12 m, stemming = 5 m, the columns length = 7 m. The design of the blasting geometry, resulting in fragmentation sized rocks > 1.5 m which is 6.04% and the powder factor of 0.30 kg/m<sup>3</sup>.