

## ABSTRACT

PT. Bukit Makmur Mandiri Utama is the one of contractor which producing coal as a source energy, whereabouts the located is PT. Kideco Jaya Agung in Batukajang subdistrict, East Kalimantan Province. PT. Bukit Makmur Mandiri Utama split the coal minning areas, they are Pit A and Pit M which use strip mine methode.

In mining operation of overburden PT. BUMA use non electric blasting methode. At this time it use blasting and drilling methode and the burden 7 m, spacing 8 m, heigh 8,5 m, powder factor  $0,25 \text{ kg/m}^3$ , stemming 4,3 m, subdrilling 0,5 m, powder charge 4,2 m, and hole diameter 200 mm. With that geometry it will get the actual fragmentaion with boulder  $\geq 75 \text{ cm}$  is 21,59 % from blasting volume production, and while the company production target is getting boulder less than 15 % and the maximum limit from powder factor is  $0,3 \text{ kg/m}^3$ , so that need improvement to get boulder less than 15%.

After it did calculation in theoretically so it get boulder  $\geq 75 \text{ cm}$  is 12,9 % with advice to change the blasting geometry. Those are burden 5,5 m, spacing 8,5 m, heigh 9,1 m, powder  $0,3 \text{ kg/m}^3$ , stemming 4,9 m, subdrilling 1,1 m, powder charge 4,2 m, and hole diameter is 200 mm. This geometry is according to company target that boulder less than 15 % and maximum limit of powder factor is  $0,3 \text{ kg/m}^3$ .

Keyword : Blast and drill, Geometry , fragmentation