

ABSTARCT

Muhammad Aditya Faisal : Analysis of Joint Plane Orientation on Result of Blasting Fragmentation at PT Semen Padang

PT Semen Padang is a State-Owned Enterprise (SOE) engaged in the production of limestone located in Padang, West Sumatra. The mining system implemented at PT Semen Padang is an open pit system using quarry method. Mining activities begin with the process of drilling, blasting, loading and hauling, crushing and conveying. The size of the blasting rocks required by the company is < 80 cm. After analysis of blasting data using RL theory. Ash and The modern technique of rock blasting then obtained the geometry of the RL. Ash with Burden 4.7 m and , Spacing 5.9 m, Hole depth 11.4 m, subdrilling 1.4 m, stemming 3.3 m, and fill column length 8.1 m. Geometry proposed by the method Of Modern Technique of Rock Blasting namely Burden 5 m, Spacing 6.25 m, Hole depth 11.12 m, subdrilling 1.6 m, stemming 5 m, and fill column length 12.2 With a diameter of 5 inches. This study seeks to reduce weighting from one of the parameters in the weighting Blastibility Index Parameters, namely Joint Plane Orientation. There are two parameters in the Joint Plane Orientation, namely the general direction of stocky and the direction of freeface. The general direction of the stocky is a parameter that can not be controlled by humans, but the direction of freeface is a parameter that can be controlled so that if the direction of freeface is changed then the condition of the Joint Plane Orientation changes. The results of the analysis obtained for the application of freeface direction $N202^{\circ}E$ or $N22^{\circ}E$ produces material size < 80 cm as much as 92.26% and for the direction of freeface $N292^{\circ}E$ produces material with size < 80 cm as much as 95.63%.

Keywords : Blasting Geometry, Fragmentation, Blastability Index, Rock Faktor, Freeface.