

ABSTRAK

Rahadiyan Malvin Sunyoto : Analysis of Geometry Blasting's Effect on Result of Blasting Fragmentation, Digging Time and Productivity of Digging Tools on Surface Mine PT. Allied Indo Coal Jaya Sawahlunto

The overburden disassembly process implemented by PT. Allied Indo Coal Jaya is by drilling and blasting. Observations in the field of actual blast geometry applied by the company obtained fragmentation of boulder-sized blasting results with a percentage of + 31%. The large percentage of boulders resulted in the diggability of the loading and unloading tools and the company's planned load digging productivity target of 100 bcm/hour was not achieved. The study aims to design optimum blasting geometry to reduce the percentage of boulders so that loading activities become effective and the productivity of loading tools increases. The research method was carried out by providing recommendations for blasting geometry based on R.L. Ash theory and the method "The Modern Technique of Rock Blasting" and carried out the application of one of the geometric designs to be applied in the future for the company. The geometry of the proposal applied in the field is: burden: 2.7 m, spacing 3 m, stemming: 2.5 m, subdrilling: 0.8 m, level height: 5.2 m, explosive hole depth: 6 m, powder column: 3.5 m, and powder factor: 0.28 kg/m³ where boulder size fragmentation resulted from analysis results with desktop split software of 14%.

Kata kunci: Blasting Geometry, Blasting Fragmentation, R.L. Ash, *Modern Technique of Rock Blasting, Split dekstop*