ABSTRACT

PT.Mitra Bara Jaya is one of the company's coal concession,it's located at the village ofBebatu, sub-district SesayapHilir, regency TanaTidung,EastKalimantan Province. Mining activities that will be done, use open mine with bench system, so that it needs kinds of analysis ofslope stability to support the next stages of the mining activities.

The condition of the research currently is in the preparationphase to mine. The study was conducted to find out the model of failure, the value of the calculationFoSwith Hoek& Brown (1980) failure criterion,the application of geometry slope to be used, and slope stability factor effect. Minimum value of the safety is recommendedFoS>1,3 for single slope, FoS> 1,5 for overall slope.The method which is used is the limit equilibrium method with Hoek& Brown (1980) failure criterion.

The Analysis slope stability is based onHoek&Brown (1980)failure criterionwithsaturatedcondition. Minimum limits material can be called stable if it has value of FoS> 1,3 is clay stone materialwith geometry slope high 6 m andslope angle45° at an altitude of 8 m withslope angle of35°. The stability analysis of the of the overall slope by designing bench wide level are ft.4 m, 5 m, and 6 m on saturatedcondition with value FoS> 1,50 for every a drill hole.

The results of the analysis can be concluded that potential failure that might beoccuris circular failure.The recommendation for single slopeis 6 m height with 45°slope angle and8 m height with 35° and 40°slope angle. For theoverall geometry with 6 m height and 45°slope angle that isin the intersection A-A' overall heightlevel is 53 m with a 30° overall slope angle and bench wide 5 m, intersection B-B' has overall heightlevel is 57 m with a 29° overallslope angle and bench wide 5 m, and the last intersection C-C' has overall heightlevel is 26 m with a 30°overall slope angle and bench wide 5 m. Overall geometry with 8 m height by 35° and 40°slope angle that is in the A-A' intersectionoverall heightlevel is 53 m with a 30° overall slope angle and benchwide 4 m, intersection B-B' has overall height level is 57 m with a 30° overall slope angle and widebench 5 m, and the last intersection C-C' has overall heightlevel is 27 m with a 33°overall slope angle andbench wide 4 m.