

ABSTRACT

PT Perkasa Inakakerta (PT PIK) was a coal mining company located in Bengalon District, Kutai Timur Regency, Kalimantan Timur Province. PT PIK did the coal mining with surface mining. This research was conducted at Pit 71 Block Sepaso. This problem discussed in this research were inadequate the safe slope to be mined that was not available yet and any disposal dump placed on highwall slope later. This research was aimed to give recommendation on safe slope geometri for mining and recommendation on effort to keep the slope stability when the mining process was being done.

The analysis was done using Slide 6.0 program from Rockscience with equilibrium limit approach of Bishop method to analyze the highwall slope. This analysis was conducted on one section that cut the drill hole at GT 13, GT 13B and GT 14. Based on the data on average of rainfall intensity per day in the study area show condition rain of normal (35,41 mm/day) so, slope in study area in the condition of half saturated.

Based on the result of the laboratory data, the characteristic of study area was soil so that the avalanche that likely happened in the study area was bow avalanche. The value of FK for highwall slope in the condition of dry was 1,736, the value of FK in the condition of half saturated was 1,32 and the value of FK in the condition of saturated was 1,023.

Based on the research result, the recommended running geometri was 60 m, with the tilt angle 35° . To keep slope safe, the monitoring process should be done regularly and thoroughly, and the groundwater condition should be checked especially in the rainy season.