

ABSTRACT

PT. Perkasa Inakakerta is a national private company engaged in the mining of coal which had a mining license in the District Bengalon, East Kutai regency, East Kalimantan province. Geotechnical assessment is intended to support the plan of PT. Perkasa Inakakerta especially in its concession Block Sepaso would develop coal production. For such development, land clearing will be substantial especially in Pit 71 is called Big Pit.

Geotechnical studies were conducted to determine the value of the safety factor in determining the design slope geometry and provide recommendations slope geometry design a safe level, and to determine the factors that affect slope stability and landslide models that will occur in the study area. Value of the minimum safety factor recommended by CANMET (1979) where FK 1.20 for single and FK 1.30 slopes for the overall slope, with each using the soil shear strength parameters on the condition of the rest. Another approach is that a single catastrophic landslide on the slopes does not cause severe damage, while the overall slope will cause severe damage. The method used in the calculation of the limit equilibrium method using Slide Software version 5.0 by Rockscience.

From the results of the study recommended for highwall, single slope (individual slope) for all lithologies with a height of 10 m and an angle of 60 °. In the overall slope (overall slope): height 50 m, angle of 55 °, 1.43 m wide berms, FK: 1.35, height 90 m, angle 45 °, 4.76 m wide berms, FK: 1.30, height of 100 m, 45 ° angle, wide berms 4.72, FK: 1.30, Height 110 m, angle 40 °, 6.77 m wide berms, FK: 1.32. To lowwall the entire section can be said to be safe because they have FK 1.30. At the angle of 250, a height of 20 m, obtained FK: 1.352. But made with high levels of each level is 10 m wide and 13 m levels, assuming a half-saturated water conditions.

It can be concluded from the results of the analysis conducted that the potential landslide that may occur are avalanches arc. There are three things that can affect the stability of slopes in the study area, namely the slope geometry, rock characteristics and groundwater levels are characterized by the reduced value of the safety factor.