

ABSTRACT

Sinamarinda PT Lintas Nusantara (PT. SLN) is a private coal mining company which have Mining Permit (IUP) covering an area of 555.58 hectares, which located in the Asam Jujuhan District, Dharmasraya Regency, West Sumatra Province. Mining site located on hilly areas that have a varied material, namely claystone, sandstone, siltstone and coal.

PT. SLN implement open pit mining system. In mining operations, overall slope angle which shaped is large and formed steep slopes and unsafe. Therefore, it is necessary to study the stability of slopes by taking into account safety and optimization of pit slope incline so that the coal reserves could be mined safely.

Samples were taken at 16 points representing each lithology in pit 2 PT. SLN. Slope analysis using the software Slide Ver. 6 with the aim of seeking safety factor above 1,5 and a thickness of coal taken more than 3 meters, on request PT.SLN. Former slope generated steep slope geometry and the angle of overall slope is 66° with a single slope height for soil material is 6 meters, and 15 meters for hard materials. The width of a single slope for soil material is 10 meters and for hard material does not have bench wide. Safety factor obtained for the slopes that have been formed are 1,004.

For the overall slope geometry on the new slope is on the soil material with a thickness of 0 to 10 meters are 4 meters of single slope height, 45° single slope angle, and 5 meters single slope width, without safety bench, with the overall slope of the soil material is 27° . For overall material geometry that is used with a height of slope is 10 meters, single slope angle is 60° , width of single slope is 5 meters and 10 meters of safety bench that sits between the soil and claystone lithology meetings, overall slope angle (OSA) overall material that is 38° , and the obtained values SF 1,612.