

ABSTRACT

PT. Pesona Khatulistiwa Nusantara (PT. PKN) is a coal mine company which used surface mining system and open pit method. This research based on observations in qualitative and directly done in the field against 13 sections slope that is on the mining sites, with heights of 19.848 m, 19.401 m, 29.312 m, 32.259 m, 22.425 m, 22.465 m, 22.390 m, 14.901 m, 6.009 m, 7.375 m, 6.010 m, 5.000 m, and 5.762 m. This research intended to know safety factor value of each sections and to make optimal geometrical recommendation. This research begins with secondary data processing in 22 drill core. The value of the Unit weight, pressure strength, cohesi, and phi used to analyze the stability of the slope safety factor by design ($FK \geq 1,3$). Perform simulations of and lower slope slope designer slope. The result is at D-D' section get safety factor value 1,351 with high slope 32,259 m, and slope angle 15° . At F-F' section get safety factor value FK 1,361 with high slope 22,822 m, and slope angle 18° . At G-G' section get safety factor value FK 1,351 with high slope 21,781 m, and slope angle 18° . At L-L' section get safety factor value FK 1,358 with high slope 5,195 m and slope angle 35° .