

SARI

Dalam perencanaan tambang terbuka, di samping faktor cadangan bahan galian, teknis penambangan, ekonomi, lingkungan dan faktor keamanan yang di dalamnya termasuk faktor kestabilan lereng yang juga menjadi faktor penting dalam operasi penambangan terbuka.

PT. Pasifik Global Utama Melakukan kajian geoteknik untuk mendukung rencana penambangan batubara dengan memaksimalkan kemiringan dan ketinggian lereng untuk optimalisasi penambangan yang diperkirakan masih aman. Penentuan desain lereng bukaan tambang didasarkan atas hasil kajian geoteknik, yang difokuskan pada pemodelan dan analisis kemantapan lereng menggunakan metode keseimbangan batas.

Analisis kemantapan lereng dilakukan pada lereng keseluruhan, lereng tunggal dan lereng timbunan. Hasil analisis pada kemantapan lereng akhir rencana section X-31 dengan sudut 40 derajat dengan elevasi +50m, tinggi lereng maksimum 50m, dan $FK=1,5$, lereng akhir section X-25 dengan sudut 50 derajat dengan elevasi +60m, tinggi lereng maksimum 45m, dan $FK=1,5$, tinggi lereng X-19 dengan sudut 50 derajat dengan elevasi +40m, tinggi lereng maksimum 47m, dan $FK=1,5$, lereng akhir section X-28 dengan sudut 40 derajat dengan elevasi +30m, tinggi lereng maksimum 59m, dan $FK=1,5$, lereng akhir section X-23 dengan sudut 50 derajat dengan elevasi +60m, tinggi lereng maksimum 50m, dan $FK=1,5$. Hasil analisis pada lereng tunggal Sudut (α)=70⁰, tinggi jenjang maksimum (H) =10m dengan $FK =$ Diatas kriteria stabilitas (1,3). hasil analisis pada lereng timbunan sudut (α)=15⁰, tinggi maksimum (H)=40m, dan $FK=1,94$, Sudut (α)=20⁰, tinggi maksimum (H)=30m, dan $FK=1,68$, Sudut (α)=25⁰, tinggi maksimum (H)=30m, dan $FK=1,53$, Sudut (α)=30⁰, tinggi maksimum (H)=20m, dan $FK=2,01$, Sudut (α)=35⁰, tinggi maksimum (H)=20m, dan $FK=1,96$, Sudut (α)=40⁰, tinggi maksimum (H)=20m, dan $FK=1,9$.

ABSTRACT

Having a good construct of planing regarding to open pit is important; considering reserves of mineral, mining technical, economic, and environmental. Moreover, relating safety factors is critically important to analyzed stability of the slope when the open pit mining will be conducted.

PT. Global Pacific Utama conducted geotechnical studies to support the coal mining plans to maximize the slope and height in order to optimized of mining were expected to remain secure. In determining of opening the mine slope design is based on the results of geotechnical studies was conducted by researcher, which focused on modeling and slope stability was analyzed by using the limit equilibrium method.

Slope stability was analyzed by conducting on the whole slope, single slope and stockpile slopes. The finding is viewed on the end of slope stability which on section X-31 at an angle of 40 degrees with elevation + 50 m, 50 m high maximum slope, and $FK = 1.5$, the slope end section X-25 at an angle of 50 degrees with elevation + 60 m, high maximum slope 45 m, and $FK = 1.5$, the high slopes of the X-19 at angle of 50 degrees with elevation + 40m, 47m high maximum slope, and $FK = 1.5$, at the slopes of final section of X-28 at angle of 40 degrees with elevation + 30m, the maximum slope 59m high, and $FK = 1.5$, the slope end section X-23 at angle of 50 degrees with elevation + 60 m, 50 m high maximum slope, and $FK = 1.5$. The resulted of analysis on a single slope angle (α) = 70° , height maximum level (H) = 10m with $FK =$ Stability criteria on above (1.3). The resulted of the analysis

on the stockpile slope angle (α) = 15° , the maximum height (H) = 40 m, and $FK = 1.94$, at angle (α) = 20° , the maximum height (H) = 30 m, and $FK = 1.68$, at angle (α) = 25° , the maximum height (H) = 30m, and $FK = 1.53$, on angle (α) = 30° , the maximum height (H) = 20 m, and $FK = 2.01$, on angle (α) = 35° , The maximum height (H) = 20m, and $FK = 1.96$, Angle (α) = 40° , the maximum height (H) = 20m, and $FK = 1.9$.