

ANALISIS BALIK STABILITAS LERENG *OPEN PIT* GOSNORTH LOKASI EKSPLORASI TAMBANG GOSOWONG

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ABSTRAK

PT. Nusa Halmahera Minerals (NHM) merupakan perusahaan patungan antara PT.Indotan Halmahera Bangkit (75%) dan PT. Aneka Tambang Tbk (25%). Kontrak Karya antara pemerintah Indonesia dan daerah pertambangan PT. Nusa Halmahera Minerals yaitu Tambang Gosowong dan Tambang Toguraci merupakan tambang terbuka (*Open Pit Mine*) sedangkan Tambang Kencana adalah tambang bawah tanah (*Underground Mine*). PT.NHM adalah perusahaan yang bergerak di bidang *gold & silver*. Dalam pelaksanaan kegiatan penambangan dengan sistem tambang terbuka pada PT. NHM pada tambang gosowong area *open pit gosnorth*, terdapat indikasi ketidakstabilan lereng. Untuk mengatasi ketidakstabilan lereng diperlukan rekayasa keteknikan lereng yang sesuai untuk meningkatkan kestabilan lereng. Metode analisis balik dipilih untuk mengetahui nilai faktor keamanan lereng yang mendekati keadaan tidak stabil. Selain itu, perhitungan faktor keamanan lereng untuk penentuan desain rekomendasi rekayasa keteknikan menggunakan metode *Bishop Simplified*, dengan kriteria keruntuhan Mohr Coulomb. Berdasarkan analisis balik diketahui bahwa material penyusun lereng lokasi penelitian berupa material andesit, pelapukan, basalt dan dasit. Rekayasa yang direkomendasikan untuk menaikkan nilai faktor keamanan lereng berupa perubahan geometri lereng.

Kata Kunci: Analisis balik, kestabilan lereng, *open pit*

BACKGROUND ANALYSIS OF GOSNORTH OPEN PIT SLOPE STABILITY GOSOWONG MINE EXPLORATION LOCATION

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ABSTRACT

PT. Nusa Halmahera Minerals (NHM) is a joint venture between PT. Indotan Halmahera Bangkit (75%) and PT. Aneka Tambang Tbk (25%). The Contract of Work between the Indonesian government and the mining area of PT. Nusa Halmahera Minerals, namely the Gosowong Mine and Toguraci Mine are Open Pit Mines while the Kencana Mine is an Underground Mine. PT. NHM is a company engaged in the gold & silver sector. In the implementation of mining activities with an open pit mining system at PT. NHM at the Gosowong mine in the Gosnorth open pit area there are indication of slope instability. To overcome slope instability, appropriate slope engineering is needed to increase slope stability. The back analysis method was chosen to determine the value of the slope safety factor approaching an unstable. In addition, the calculation of slope safety factor for determining the design of engineering recommendations uses the bishop simplified method, with the Mohr Coulomb failure criteria. Based on the back analysis, it is known that the slope composition of the research location is in the form of andesite, weathered, basalt, and dacite materials. The recommended engineering to increase the slope safety factor value is in the form of changing the slope geometri.

Keywords: *Back analysis, slope stability, open pit*