

ABSTRACT

PT. Saptaindra Sejati is one of the mining contractors at PT. Adaro Indonesia that conducts mining activities in the Wara pit, Tutupan North pit and Tutupan Central pit. Mining activities such as stripping and stockpiling are carried out. One of the landfills used is in pit dump in the West Pit Tutupan. This area is an abandoned mining area that was once used as a pool of water, forming a layer of mud. Dump material is directly dumped on top of a layer of mud in hope that the mud will be pushed and can be picked up using heavy equipment.

Based on the SPT-18005 drill data, SPT-18006 drill, and SPT-18007 drill mud layers were found on the bottom of the embankment. Therefore, it is necessary to analyze the stability of the slope disposal with the condition of the presence of mud at the base of the embankment. The analysis was performed using the finite element method to show the shape of non-circular slip fields and the GLE / Morgenstern-Price boundary equilibrium method. Single slope geometry which is 12 m high and single slope 20° and overall slope height up to RL 132. The parameters entered are cohesion, internal friction angle. and unit weight. The material is assumed to be saturated. The number of sections made are 3, namely section A, section B, and section C.

Based on the results of the analysis, it was found that for the Design Week 10 slope conditions for sections A, B, and C were in stable condition. For Design 2018, three sections show unstable conditions. In addition, the mud have no influence when the dump height is 60 m or at Design Week 10, but the mud has influence when the dump height is more than 60 m.

Keywords : disposal, mud, limit equilibrium method, factor of safety