

## ABSTRACT

Atoz Nusantara Mining, Ltd. is a company running its business in the field of coal mining. The system of mining applied is open mining. Mining method used is *strip mine* method. Mining Operational area of Atoz Nusantara Mining Ltd. is located in Nagari Salido, IV sub-district Jurai, Southern Coast county, West Sumatera Province. The coal mining area of 186,08 Ha, which is divided into several mining areas, namely the pit of 1, 2, 3, and 4. Stripping the layer of covering soil is initialized with peeling the layer of *top soil* and then *overburden* (*sandstone*). Those mining activities have negative impact on the environment around the mining area including the pit of 1 forming the basin shaped land, uneven ground, soil compaction, the occurrence of erosion and sedimentation. To cope with those negative impacts, planned reclamation should be applied through the improvement of land.

The reclamation activities applied were those of using vegetation with *Hevea brasiliensis*. Top soil utilized for reclamation in this pit of 1 which was as wide as  $\pm 16$  Ha was hoarded in the A area as much as 97.792,5 LCM. The results of requirement calculation of top soil in the pit 1 showed that the amount of top soil requirements was 16.000 LCM if it was utilized using pot system/planted hole. The available *overburden* in the waste dump area of 1 was 3.549.666 LCM. The system of overburden reversion applied for the pit of 1 was land levelling system with the overburden requirement amounting to 3.009.317 LCM. Erosion condition in the site of research was in the category of low.

The plan of land arrangement carried out in the area of former limestone mining of the pit of 1 forming basin with 20 meters in depth is the determination of system and calculation of soil material, the implementation of hoarding system and overburden solidification, the accumulation of top soil for filling holes, the making and filling of top soil holes. The time estimation of land arrangement was 183 days. Mechanical devices used were *backhoe* of komatsu PC 400 LC-7, *rear dumptruck* caterpillar 769 C and *bulldozer* caterpillar D8R.