ABSTRACT

PT. Trubainco Coal Mining (PT. TCM) is a company engaged in coal mining which are located administratively included in the Subdistrict of Melak, West Kutai Regency, East Kalimantan Province. PT. TCM using open pit mining system with strip mine method that directly or indirectly can change the natural landscape surrounding the mining. PT. TCM planned mining operation in South Block on two Pit, on Pit 2600 Block 5 (P2600Bk05) and Pit 3000 Block 5 (P3000Bk05) to move the overburden material (overburden or OB) as much as 8.064.200 BCM, and as much as 185.300 BCM or approximately 2,3% of total OB to be moved is classified as material Potential Acid Forming (PAF) and 7.878.000 BCM or 97,7% are Non Acid Forming (NAF).

Acid Mine Drainage is formed due to the oxidation processes include sulfide minerals, water, and air, so it must be done in order to avoid the preventation of contact between these elements. Prevention that can be done is to make the handling of the Potential Acid Forming materials.

In preventing the formation of Acid Mine Drainage, the placement of PAF and NAF materials must be planned and scheduled well. Disposal design influenced by several factors, that is :

1. Amount and percentage of overburden material will be disposed.
2. Topography of the disposal area

Hoarding location used is inpit dump (overburden material backfilled pit in the location that has been finished pit) that is on Ex-Pit 3000 Block 7 and outpit dump location (overburden material disposed outside the pit) that is on hauling road. The method used to handle PAF materials was encapsulation method by placing the PAF materials and covered by the NAF materials. PT. TCM SOP determines that the thickness of NAF that used to the encapsulation method was 3 m, but in this research it was found that in fact they can capsulating the PAF material with a thickness of more than 3 m, is a minimum thickness of 5 m, even up to 10 m because NAF material contained on overburden is sufficient to form the layer (NAF volume 7.878.900 BCM or 97,7% of the total overburden volume).