

ABSTRACT

PT. Marunda Grahamineral located in District of Murung Raya, Central Kalimantan Province. One of Pit owned by PT. Marunda Grahamineral is Pit Bambang. Mining system to exposed coal which implemented the surface mining system with Strip Mine method. One of the mining additional activity is water management which has the function flow the water that already entered pit (mine dewatering system).

The Water is not well managed can be negatively affect to mining operations. Although mine sequence made system of water management changed. So, planning of water management system is needed.

Based on analysis of rainfall data for the year 2005-2014 the intensity of rainfall is 17,62 mm/hours 4 with a 2 year return period rainfall and hydrological risk of 87,5%. Catchment area in research location catchment area I = 0,16 km², catchment area II inpit = 0,10 km², and catchment area II outpit = 0,04 km². Surface water debit which flow directly into Pit Bambang in quarter 3 is 1,03m³/s. Additional activity is water management which has the function flow the water that already entered pit to sump. The dimension of open channels are:

Open Channel I : B = 1,75 m; b = 0,90 m; h = 0,90 m; a = 0,90 m

Open Channel II : B = 1,35 m; b = 0,70 m; h = 0,70 m; a = 0,70 m

The sump was located in pit bottom has volume 55.272 m³. PT. Marunda Grahamineral used 1 unit pump Godwin HL-200M. Debit of the pump is 350 m³/hour. Settling pond were able to deposit 99,72%, maintenance time for settling pond is 22 day for 1st compartement.