ABSTRACT

PT. Kaltim Prima Coal (Persero), Tbk is a company engaged in mining which is located in Sangatta City, East Kutai Regency, East Kalimantan Province. Mining activities at the Bendili Pit are carried out with the Strip Mine system. Overburden mining activities are carried out by the mining operations division (MOD).

A new problem arises from the compilation of the mining operations section in the Bintang department conducting excavation of overburden, the emerging of mud in Pit Bendili Panel 6. The mud appears above the coal layer. Several methods are used to move the mud, one of them is blasting to make sump to contain the mud. Then the mud is channeled through the open channel and moved to the sump because there is an elevation difference between mud and the sump. However, this method still left sludge, so the company made a policy to move the sludge by digging, using the Liebherr R996 and Hitachi EX3600B as a heavy equipment.

Analysis of the performance of the Liebherr R996 and Hitachi EX3600B backhoes has never been done. From this research, an analysis of productivity of the Liebherr R996 and Hitachi EX3600B backhoes is based on productivity parameters based on cycle time, swell factor, bucket fill factor and backhoe efficiency.

From field observations obtained Liebherr R996 and Hitachi EX3600B backhoe cycle times are 104,1 seconds and 82,8 seconds, the number of feeds are 4 times and 3 times and the backhoe efficiency are 57,5% and 61,25% respectively .

From these parameters it can be determined that the productivity of the Liebherr R996 and Hitachi EX3600B backhoe is 1.832,77 BCM / Hour and 1.909,47 BCM / Hour. The backhoe productivity is still less than the company's target of 2.000 BCM / Hour. Several ways can be done to increase backhoe productivity, one of them is by increasing backhoe efficiency to 62,12% and 62,52%, so the backhoe productivity can be increased to 2.001,4 BCM / Hour and 2.042,59 BCM / Hour.