

ABSTRACT

PT. Bukit Makmur Mandiri Utama (PT.BUMA) is one of coal mining contractors in Indonesia which has a job site at PT. Gunung Bayan Pratama Coal located in Muara Tae village, Jempang District, West Kutai regency, East Kalimantan province. In conducting mining activities, PT. Bukit Makmur Mandiri Utama uses a surface mining system.

The research area is one of pits operated by PT.BUMA, PIT 4D7, with the research area limited to 52.96 hectares in November 2012 and 8,281,877 bcm overburden and 750,505.17 tons coal reserves. Based on the data from PT. Gunung Bayan Pratama Coal, PIT 4D7 has 1 coal seam (S4B) and in general the pattern of coal distribution at PIT 4D7 has a circular coal seam from west to east with a coal seam inclination of 6° and coal thickness from 1.5 to 1.8 m.

This research is conducted because there is a change in stripping ratio (SR) which is originally 23 : 1 to 18 : 1 therefore PT. BUMA needs technical plan of overburden stripping with SR of 18: 1 and the overburden stripping production target of 750,000 bcm / month within 3 months which are December 2012, January 2013 and February 2013.

Mining slope geometries are 10 m height, 4 m width, 60° single slope inclination, and 45° overall slope inclination. Haul road width is 20 m for straight road and 30 m for curve road with 9.9 m radius and 8% (4.57°) for the haul road inclination.

Overburden production plan and coal/month exposure at the research area are scheduled for 3 months:

- a. The first month of production of overburden stripping is 754,044.63 bcm and the coal which will be opened is 43,261.31 tones with stripping ratio (SR) 17.43
- b. The second month of production of overburden stripping is 847,090.30 bcm and the coal which will be opened is 48,239.77 tones with stripping ratio (SR) 17.56
- c. The Third month of production of overburden stripping is 775,900.99 bcm and the coal which will be opened is 43,419.19 tones with stripping ratio (SR) 17.87

Waste dump is created only at 1 location which is in pit dump 4D7 located at northern sidewall inside the PIT 4D7 area which has been mined out its coal. Number of excavators and hauling vehicles for stripping the overburden in the first, second and third month is equal. The numbers of excavator are 3 units consisting of 2 units of KOMATSU PC - 1250 and 1 unit of KOMATSU PC - 2000 with the need of the hauling vehicles of 2 units of HD komatsu 785-5 for each excavator.