

ABSTRACT

Coal mining PT. Anugerah Bara Kaltim is located in the village Bakungan, District Loa Janan, Kutai Regency, East Kalimantan Province. Systems using open pit mining methods Strip Mining. To facilitate mining activities requires good working conditions including penyaliran system in the work area. The current issues penyaliran the existing system has not worked well, resulting in rainfall often puddles on the floor of the mine openings that disrupt mining operations. Therefore it is very necessary technical studies to mine penyaliran system that includes the calculation of rainfall and rain intensity, and discharge mine water source, the calculation of open channels, the determination of the location and volume of wells, the calculation of pumps, pipes, and settling ponds.

Draining system which has been implemented at the mine site at the moment is mine dewatering system that mine water entering the mine openings were collected in the sump and removed by pumping out the mine openings. Mine water coming into the mine openings comes from water runoff and rainwater. Rainfall plan on 2-year return period rainfall of 87.12 mm / day and the intensity of rain at 30.20 mm / h. Discharge runoff water entering the mine kebuakaan amounted to 0.297 m³ / sec.

Open channel trapezoidal openings will be created outside the mining area and the bottom floor of the mine openings. Open channel 1 is made towards the north side location of the mine openings with dimensions: depth of 0.6 m, 0.6 m wide channel base, surface width of 1.2 m and 0.5 m length of the channel, while the open channel 2 is made on the top side Under floor mine openings with dimensions: depth of 0.5 m, 0.5 m wide channel base, surface width of 1.1 m, and the length of the outer side of the channel 0.6m. Sump mine is located on the second floor next to the South at an elevation of 45. Sump made has an area of 10,000 m³ with dimensions: length 40 m, width 50 m, and a depth of 5. The pump used today is MULTIFLO CF-48H with discharge pumping 342 m³ / h and 70% efficiency. The number of pumps required 2 units or could use one MULTIFLO pump unit MF-385 with discharge pumping 522 m³ / h and 67% efficiency. Settling ponds have a total volume of 1012.5 m³ with 3 compartments, each compartment has a length of 15 m, a width of 9 m and a depth of 3 m.