

ABSTRACT

PT. Bara Anugrah Sejahtera is a coal mine located in Lawang Kidul and Tanjung Agung Subdistrict, Muara Enim District, South Sumatera Province. Mining system is done using open pit system with Stripe Mine method. Open mining system is needed by the weather, warm water that can stagnate in the mining area. Therefore it is necessary to study the mine drainage system so that mining operations can run well.

Rainfall data processing plan by using Gumbell Distribution. Rainfall plans to determine the magnitude of rainfall intensity in accordance with specified rainfall period. After the rainfall intensity is known, it can be done for the calculation of runoff water discharge into the mining area, so it can be calculated to the dimension of wells, open channel dimension, pump requirement and dredging time of settling pond.

Based on data analysis of rainfall year 2007-2016, obtained rainfall plan of 113,11 mm / day. The rain catchment area (DTH) at the study site is divided into 3 DTH, ie DTH I 0.55 km², DTH II 0.10 km², and DTH III 0.09 km². Water discharge at each DTH is DTH I 2.65 m³ / sec, DTH II 0.42 m³ / sec, and DTH III 0.38 m³ / sec. To prevent air from entering the mining area an open channel is created to the east of the pebbles which flows into the settling pond 1, Open channel dimension 1, ie 0.70 m wide channel width, 1.30 m surface width, flow current 0, 58 m, 0.12 m height, 0.70 m depth, 0.70 m of outer side, and 0.42 m³ / sec.

The air that enters the Pit mine openings naturally flowed into the pit. There is one well with a volume of 63,538 m sum. The air in the wells is pumped by pipes and pumps to an open channel before being flowed to the settling pond. Open channel dimension 2, ie 0.70 m wide channel width, 1.40 m surface width, 0.60 m flow depth, 0.12 m guard velocity, 0.70 m depth, outer channel length of 0.70, and discharge 0.49 m³ / sec The number of pumps that have 1 pump, namely Selwood H150. The settling ponds of Pit batujelapang have 2 Locations of settling pond with each of 3 compartments for the time of mud dredging done in the settling pond 1 every 132 days once and in the settling pond 2 every 15 days.