ABSTRACT

PT. Borneo Indobara is PKP2B company engaged in coal mining. Coal mining PT. Indobara Borneo began in November 2009. Mining in PT. Borneo Indobara using open-pit mining system. A major characteristic that distinguishes the open pit with underground mining is the influence of climate on mining activities. Climatic elements are very influential in mining activities is raining. The main source of water in an open pit mine is rain water, so when it rains with frequent high intensity puddle at the pit bottom.

The main source of mine water at the mine site is rainwater. After analysis of the data obtained 2001-2012 rainfall year rainfall of 106.88 mm with a plan with a rainfall intensity of 37.65 mm/hour in the rain for a return period of 3 years. Where as actual rainfall field highest ever at 220 mm/day. Hydrological risks that occur at 86.83 %. From field observations and analysis of watershed maps are one catchment area of 338.82 km² of watershed batulaki and 1.39 km² for the catchment area of the mine plan entered into with total runoff coefficient of 0.28 is consists of the topography coefficient (Ct) 0.08, coefficient of soil (Cs) 0.16, and vegetation coefficient (Cv) of 0.04.

At 220 mm rainfall/streamflow day at 362.35 m³/second batulaki with the long dimension of the channel (a) 10.08 m, water depth (h) of 4.38 m, the width of the base line (b) 13.2 m, width of upper tract (t) 30.66 m, channel depth (d) 5.04 m, and height surveillance (f) 0.66 m, and catchment discharge entering into the mining area of 1.49 m³/second with the long dimension of the channel (a) 1.28 m, water depth (h) 0.56 m, width of the base line (b) 1.68 m, over the channel width (t) 3.9 m, channel depth (d) 0.64 m, and height surveillance (f) 0.08 m.

Transform and prevent water runoff into area rivers batulaki enter the mine plan area with made a dike that has a value of FoS = 1.2.