

ABSTRAC

PT. Atoz Mining Nusantara is a company engaged in coal mining. The mining system is an open pit mine. While the mining method used is the method of strip mine. Atoz PT Nusantara Mining Salido located in Nagari, District IV Jurai, South Coastal District, West Sumatra province. Location is taken as the study area is the location of existing mines Keith chanel system. The purpose of research is the design of the system chanel calculate water discharge into the mine site, calculate the pump needs, designing the dimensions and location of the open drain, sump (sump) and treatment settling ponds.

The data used for the design of the mine chanel rainfall data that is 10 years from 2001 to 2010, topographic maps, catchment, maps draft mining and water conditions or percent solid near the location of the mining plan. The method used for calculating Gumbel method, Mononobe formula, and the formula discharge runoff water.

The main source of water in mining coal mine PT. Atoz Mining Nusantara is rainwater and runoff. Daily rainfall plan 142.63 mm / day with a rainfall intensity of 49.34 mm / hour. The location of the mining plan has not yet chanel system design and should be considered carefully in perencanaanya, and local rainfall runoff into water providers on site mining plan is divided into two (2) Rain Catchment area is 0.1331 km² extent of DTH I, and rain catchments directly into mine. Chanel planned system is a combination of mine drainage and mine dewatering. Mine dewatering channel used to drain the water into wells to (sump) to be collected, and only possessed one channel dimensions $a = 1$ m, $b = 1$ m, $B = 2$ m, $d = 1$ m, $\alpha = 60^\circ$. Rain water that flowed through the channel 1 and then enter into sinks. Sinks are made with dimensions of length 20 m, width 20 m, and a depth of 7 m. After the water is pumped into settling ponds. The pumps are centrifugal pumps used MEUDY KBZ47.3 with 85% efficiency. Dimensions of the settling ponds is 21 m long, 23 m wide and 5 m depth, and treatment settling ponds for 98 days using a backhoe PC 600, with long hours of work during 16.31.