

ABSTRACT

PT. Pesona Khatulistiwa Nusantara is a company engaged in coal mining. The company has three sites, namely site Kelubir Mine Operation, Sekayan Mine Operations and Rangau Mine Operation.

This plan has been made to address the source of the mine water straight into mining front, so it needs to know mine water discharge, calculation of sump, open channels and settling ponds to prevent water entering into free waters harmless.

In general, the mine water source could come from groundwater and runoff water, in this study the groundwater is not taken into account because the provisions of the company because if groundwater discharge is less than 10%, it will be ignored. Runoff water comes from rain water that falls in the catchment where the catchment area is the largest DTH 4 in 2018 at the rate of $13.64 \text{ m}^3/\text{sec}$

The sump are temporary shelters mine water before it is pumped out of the mine. The location of sump will vary each year to adjust to the mining front. There are three fronts mining design which each contained one sump. The largest sump is sump 2 in 2018 with a length of 150 m and width of 75 m and 56.192 m^3 volume

Open channel in Sekayan Mine Site Operation is generally used to drain the water from the sump to the settling ponds. The The design for dimensional open channel has a surface width of 5,5 m width of the base 1 m with a height of 1,5 m

Settling ponds serve as shelters mine water before discharge into free waters (eg river). In this design form is made rectangular settling ponds, meandering with several compartments. Settling ponds with the largest dimension 2 there was the settling ponds with a surface area of 24.000 m^2 with a dredging plan 4 months