

## ABSTRACT

Bauxite ore mine located in the village Kelampai, District Kendawangan, Ketapang District, West Kalimantan Province. Water entering the workplace comes from the accumulation of rain water directly into the Pit and water runoff (runoff) from the hilltops outside the Pit. No prevention and treatment of water that slowly will cause standing water in the Pit and difficult to dry.

There are 4 Regional Catchment area, among others: the extent of 0,24 km<sup>2</sup> DTH I, Debit 1,7413 m<sup>3</sup> water runoff; DTH II extent of 0,64 km<sup>2</sup>, Debit 3,9085 m<sup>3</sup>; DTH III extent of 0,06 km<sup>2</sup>, Debit 0,2902 m<sup>3</sup> / sec while the vast DTH IV is 0,09 km<sup>2</sup>, Debit 0,4353 m<sup>3</sup>. Then the area is 1,47 km<sup>2</sup> DTH entirely.

The design dimensions of the proposed open channel three channels are: Chanel 1 (a) 0,6m, (b) 0,6m, (B) 1,2m, (h) 0,6m, (A) 0,5m<sup>2</sup>, (S) 0,5%, (m) 60<sup>0</sup>; Chanel 2 (a) 1,2m, (b) 1,2m, (B) 2,5m, (h) 1,2m, (A) 2m<sup>2</sup>; (S) 0,5%, (m) 60<sup>0</sup>; Chanel 3 (a) 1,6m, (b) 1,5m, (B) 3,0m, (h) 1,3m, (A) 3,2m<sup>2</sup>, (S) 0,5%, (m) 60<sup>0</sup>.

Sump at the site PT. PUTRA Alam Lestari is a permanent sump are at the lowest elevation of the pit bottom. Given the volume of research 12.192m<sup>3</sup> sump at the water surface elevation 17mdpl. The results of the calculations in the existing wells with actual pump discharge 576m<sup>3</sup>/jam been able to accommodate water runoff is the volume 6300m<sup>3</sup>/hr 8.017m<sup>3</sup>. When pumping the calculation to 7 hours per day.

The resulting total head the pump MFC 385 with a maximum capacity 800m<sup>3</sup>/jam 576m<sup>3</sup>/hr actual discharge is 8,222m consisting of: 7m static looming, looming loss of friction 0,8 m, loss looming on the curves 0,408 m, and 0,014 m high towering.

Rain water that flowed through the channel will be directly channeled into settling ponds. While rain water has entered the mine site will be pumped out and then passed through the channel leading to the settling ponds. Required pump is pumping as much as 1 unit. Dimension settling ponds length 70 m, width of 47m and a depth of 4m.