ABSTRACT

PT. Aneka Tambang, Tbk is a state-owned mining company that is licensed Mining Bauxite ore is located in Sanggau District, West Kalimantan. PT. Aneka Tambang, Tbk plan to build a haul road from mining front in the Bukit 19 to the washing plant of Bauxite ore in the Bukit 20 to fill up the production target of 400.000 tons/year of Crude Bauxite.

Haul road design adjusted to the specifications of the largest conveyance used the dump truck Nissan Diesel CWA 260 M with 20 tons capacity. Largest weight of conveyance is 15.919,6 lb/ft^2, while the location of soil layers used as sub grade is sandy clay material that has a carrying capacity of 10.000 lb/ft^2. So it need to compaction and pavement layers of haul road. The thickness of sub base are 16 in, the thickness of base are 6 in, and the thickness of wearing surface are 6 in.

Haul road geometry design can be obtained width of the straight haul road is 9 m, width of the road haul on the bend is 14 m, superelevation on the street corner is 56 cm, bend's radius is 33 m with degree of arc is 42°, slope of haul road is 10% and transverse slope of haul road is 40 mm/m with a height difference that's made is 18 cm. safe stopping distance is 30 m and visibility of drivers should be eqlial with minimum stopping distance of conveyance.

Supporting suggestion of security and safety in haul road is installation of sign on the haul road, make a safety berm with dimension of slope safety berm is 1,5 : 1, 0,47 m height and 1,41 m wide at bottom, and make a draining channels with dimension 60° of the wall slope channels, depth channels is 59 cm, wide surface is 136 cm, wide at the bottom is 68 cm. Lightning is also required for the transport's operation are conducted at night and placed at the corner intersection of haul road.

4 units dump truck Nisssan Diesel CWA 260 M can achieved 522.576 tons/year of production with that constructions of haul road and the necessity of Bauxite ore can fill up the target of 400.000 tons/year from the mining front to washing plant