

## ABSTRACT

Bukit Karang Putih (White coral hill) is one of the limestone mining area of PT. Semen Padang, which has operations area in Indarung Village, District Lubuk Kilangan, Padang City, Province of West Sumatra. Current production targets are 8.5 millions tons / year in 2016 has been planned that there will be an enhancement in production target become 12.4 million tons / year.

The problem of this research is PT. Semen Padang will open a new mining area it called the 242 hectares area (Tajarang) and need to plan a haul road design to the hopper 450. The method that used to solve this problem is the primary data processing so, resulting a haul road design in accordance the equipment to be used namely dump trucks Komatsu HD785.

The design of the mine haul roads in this research area has a geometry that is the width of the road transport on the straight road is 24 m and the width of road transport on the street corner is 27 m, the radius of the bend is 33 m with superelevation value 0,040 m / m. So, the height difference is 108 cm, degree arc at 42° bend road, the slope of the transverse (cross slope) is 20 mm/m (0.2 %) with a path length are 24 m and height difference that must be made between middle to edge of the road are 480 mm, the slope of the road (grade) average is 7% with the biggest slope of the road (grade) are 9.5%, the stopping distance transport means with speed plans 30 km/h is 30 m, and the driver's visibility must be at least equal to the conveyance stopping distance 30 m. The conveyance Supporting security and safety include safety berms with height 2.06 m and a width 6.18 m, a width are 1.5 m distribution channel with a depth of 0.7 m, lighting for night fitted every range of  $\pm 30$  m, traffic signs mounted every range of  $\pm 30$  m, and rear view mirrors mounted on every street corner.

Road transport in the 242 hectares area (Tajarang) PT. Semen Padang which is basically ground limestone has material carrying capacity about 120,000 lb / ft<sup>2</sup>. While most weight will be accepted by road surface about 16,000 lb / ft<sup>2</sup>. Based on these results it can be concluded that the material for designed road transport be able to support the weight of the dump truck Komatsu HD 785-7 charged across the haul road. The total number of mine haul road distance of the 242 hectares area (Tajarang) to the hopper 450 are 1432,9 m. Cut levelling volume of haul roads obtained are 382.909,3 BCM.

Researcher hopes for this reserach is that can be used as a comparison or reference to PT. Semen Padang in making the haul roads of the 242 hectares area (Tajarang) to the hopper 450.