ABSTRACT

PT. Sinar Tambang Arthalestari is a limestone mine company that works for cement industry (Semen Bima) located in Tipar Kidul Village, Ajibarang Sub-district, Banyumas Region, Central Java. Total area of the limestone mining operation production license is 1,192 Ha. The limestone's production target is 8,000 ton/day, so to achieve it, a mine development plan needs to be made.

The research's goal is to make a limestone pushback design in Sawangan Block up to final quarry, with production target 2,500,000 ton/year. Determine hauling dimension road, and determine total equipments and match factor

Generally, the research's methods are literature studies and topography map, mine plan design and push back design. The supporting data are topography map, geologic map, rainfall data, slope geometry and drilling. These data will be used to design mine push back until the end of mine activity.

From the push back design it knows that the limestone can be mined until the 4^{th} year, with a production rate of 2,500,000 ton/year. Based on the Feasibility Study, the slope geometry is 5 m height, 3 m width, with a slope angle 70^{o}. The excavation limit is on the 80 m above sea level based on the PT. Sinar Tambang Arthalestari EIA. The excavation equipment are 6 rock breakers and spare of 2, the loading equipment are 2 DOOSAN DX 340 LCA backhoes and spare of 1, and the haulage equipment are 10 HINO FM 260 JD dumptrucks for 1^{st} year, 13 HINO FM 260 JD for 2^{nd} year, 15 HINO FM 260 JD for 3^{rd} year, and 16 HINO FM 260 JD for 4^{th} year and spare of 2. Based on the haulage equipment's width, the road minimum width for two ways are 9 m on the straightway and 12 m on the cornering. The maximum grade of road is 10%.