

## ***ABSTRACT***

Arvalis Mandiri Putra is a company engaged in various fields, one of mineral mining (sand and stone). The legal sand mining in Kaliurang Cangkringan Sleman Yogyakarta. In general, mining activities include demolition, loading and transportation activities. To find out the level of efficiency and effectiveness, a reference number is needed called tool productivity. The purpose of this study is to find the planned productivity and real field on Kobelco excavator SK 200-8, to know the factors that affect productivity on Kobelco excavator SK 200-8. Knowing the value of owning and operation cost on Kobelco excavator SK 200-8. This study uses a descriptive evaluation method explaining where we will know the type of equipment, the number of heavy equipment and how much the operational costs of the tools used in the mining process. Based on the results of data analysis and discussion of field recordings, we can see that the results of the average field productivity is 107.73 m<sup>3</sup> / hour and work of efficiency is 24.14 minutes/hour from the planned productivity is 180.61 m<sup>3</sup> / hour and work of efficiency is 45 minutes/hour. With the comparison of these results, it can be concluded that the work of the SK 200-8 Kobelco excavator owned by PT Arvalis Mandiri Putra has not worked optimally, influenced by various factors in the field, one of which is the condition of heavy equipment operators starting to experience a decrease in performance or fatigue. Based on these conditions, each session in the afternoon, the cycle time of the machine becomes high, affecting the results of productivity. Factors influencing the productivity of the Kobelco SK 200-8 excavator in sand mining work are not only Bucket Capacity, Cycle Time, Digging Depth Factor, Bucket Fill Factor, Skill Operator, Material Type. However, in the field, there are several other factors, namely Weather Factors, Work Efficiency Factors, and Location / Medan. The results of the productivity of the Kobelco SK 200-8 excavator field were not maximized, followed by own and operation costs of Rp 238,168 / hour. However, from these conditions, the company conclusions can still be a profit Rp. 211,832 / hour from the rental price of Rp. 450,000 / hour.

**Keywords:** *productivity, heavy equipment, excavator, mining*