

ABSTRACT

Nickel mine PT. Antam UBP Nikel (UBPN) North Maluku is a surface mining who uses the open cast method to do mining activities in order to achieve the production target that has been set. The use of a mechanical device is not effective will affect on the attainment of this target. The target that has been set by company is to the amount of 200.000 tons per month, While the production achieved amounted to 171.118 tons per month and consequently there is a shortage of 28.882 tons per month . This needs to be done research working conditions based on the conditions on the field, improve the efficiency of work a load device and haul device , caunt the match factor of load device and haul device, and attempted the increase by way of improving cause not achieve the target of production.

Based on the research done the condition of a workplace needs to be improved in nickel ore mining activities namely , minimum the width of the road carried in the way of straight in accordance calculation as much as 12,02 meters, minimum the width of the road carried in the way of a bend in accordance calculation as much as 17,72 meters , the grade of the way of maximum is set by the company have about 8 % . Work efficiency for the load device after increases significantly for fleet 1 is 59,12 % and work efficiency for haul device now is 56,27 % , while in fleet 2 is 58,94 % for the load device and 56,91 % for haul device. After repair the cycle time of load device fit into 0,695 minutes while haul device is 24,975 minutes for fleet 1 and the cycle time of load device fit on fleet 2 is 0,669 minutes while the cycle time of haul device on fleet 2 is 23,643 minutes. Match factor for mechanical device on fleet 1 is 0,97 and match factor for fleet 2 is 0,97. Increasing for work efficiency doing with repairing obstacles happened, as a theoretical production is 188.270 tons per month. With improved road maintenance and repairs loading point the production of a mechanical device is 194.760 tons per month. In achieving the mining production nickel ore needs repairing the hauling road, maintenance the hauling road and repairs loading point, and increasing work efficiency, production theoretical instrument mechanical into 206.681 tons per month. Theoretical production has been entirely met their target production monthly is as much as 200.000 tons per month.