

## ABSTRACT

*PT. Riau Alam Anugerah Indonesia District is a company operate in mining. This company is located in Pangke Village, Meral District, Karimun Regency, Kepulauan riau. The loading process is done using excavator Volvo EC700CL as loading equipment, Articulated Dumptruck Caterpillar 740 and Articulated Dumptruck Volvo A35E as houling equipment.*

*The current problem is the company cannot reach the production target which is 480 ton/hours. The actual production is 594,14 ton /hour for loading equipment, and 408,36 ton/hour for hauling equipments. Required data are the equipment's cycle time, swell factor, bucket fill factor, road geometry, specification of mechanic equipment and effective working time caused by constraints.*

*The solutions that can be done to solve this problem is by increasing the working time which can increase the equipment working efficiency houling equipments from 63,67 % to 72,75% , and optimizing the equipment's cycle time houling equipments Articulated Dumptruck Caterpillar 740 from 16,24 minutes to 15,18 minutes and Articulated Dumptruck Volvo A35E from 16,16 minutes to 15,8 minutes and Excavator Volvo EC700CL loading equipment from 19,92 seconds to 17,6 second. If the company already implement these solutions the production capability can reach 744,53 ton/hour for loading equipment and 484,71 ton /hour for hauling equipments.*