CHAPTER VI

CONCLUSIONS

This chapter contains the conclusions of the research conducted and suggestions given for further research.

6.1. Conclusions

Based on field observations, a simulation model was developed based on the limestone mining process in PT. Semen Padang using Arena software. Arena simulation model of the limestone mining process in PT. Semen Padang starts with the arrival of the limestone, followed by the excavation process, and then the limestone is delivered to the crusher area for processing by the cement plant. The simulation results carried out in this study have verified and validated so that the simulation model can represents the real system observed.

Based on the simulation results, a suggested scenario is obtained to meet the limestone production target with two mining areas, i.e., scenario-1 which can meet the limestone production target of 10,213,316 tons. The scenario-1 also increases the utilization of two heavy equipment (Excavator and Dump Truck) from 2.86% to 4.55% (Excavator) and 41.35% to 73.03% (Dump Truck).

6.2 Suggestions

Some suggestions that can be done for future research:

1. Future research can develop a simulation model of limestone mining by considering other factors such as different types of excavators and dump trucks used in one process, for example, using a dump truck 100 tons as well as a dump truck 35 tons in limestone transporting activities, or

incorporate the blasting process (limestone blasting) into the simulation model.

2. Future research is suggested to add cost variables to the next simulation model.
3. The research also can conduct on other limestone mining for comparisons purpose.