

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The three-dimensional models of natural gas flowing in the reservoir have been developed. Finite difference method has been chosen to solve the governing equation. Finite difference method uses ADI scheme to transform the governing equation of partial differential equation to a set of algebraic equations. The ADI scheme has been implemented in the FORTRAN program. The model can determine the volumetric flow rate and reservoir pressure with respect to time.

The model result shows that the total volumetric flow of rectangular, cylindrical, and irregular shaped reservoir between one well and two wells are nearly and the pressure profile decreases when the production occurs. These show that the simulation program works realistically on three-dimensional reservoir simulation.

5.2 Recommendations

Although the three-dimensional reservoir model can simulate the natural gas reservoir behaviors such as reservoir pressure, production rate, and reservoir life time. To become the realistic simulation, the reservoir containing gas and liquid phases, needs to be simulated further.