CHAPTER V
CONCLUSIONS AND RECOMMENDATION

5.1 Conclusions

This study demonstrating the model that could be used to predict the amount of gasoline emission from an underground storage tank. The model in this work based on Nevers's expansion fundamental.

From the experimental results, gasoline emission rate is dependent on two parameters; temperature and vent height. Gasoline emission rate increases with the increase of temperature caused by expansion effect and with the decrease of vent height caused by diffusion effect. As a result, diffusion term was added in the model for more accuracy.

From the comparison of the modeling results with the experimental results, it was found that the proposed model could successfully predict the gasoline emission rate, while the other models fail to explain the results in this study. Interestingly, this proposed model could be used with a wider range of cross-sectional area per vent height ratios, while the others model could not focus on this ratio.

5.2 Recommendation

The proposed model was developed based on parameters such as expansion and diffusion, that affect gasoline emission rates. However, other parameters (i.e. convection, saturation, etc.) should be included in the model, especially, if the model will be extended for the gasoline emission from filling losses.