CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

From the studies on the screening of demulsifiers, the effect of water-to-oil ratio, the experimental design, the effects of demulsification concentration, temperature and separation time, the following results was obtained.

1. Screening of demulsifiers revealed that Genapol ED 3060 (amine type) performed with the best efficiency for Phet crude because it gave the quickest water separation rate while Teric PE 61 was the next in the rank.

2. The experimental design showed that the effect of temperature, demulsifier type and interaction between temperature and demulsifier type are important. Water separation rate performed better at 60°C and amine type showed better performance than Teric PE 61.

3. The optimum conditions are 55°C, 50 ppm of demulsifier concentration, 2-3 h separation time, and water content at least 40% could gave higher demulsification efficiency.

4. Mixed demulsifiers of Teric PE 61 and Genapol ED 3060 in different ratios (20 : 80, 40 : 60, 60 : 40, and 80 : 20) showed no synergistic effect.

5. Large scale test gave the same efficiency in demulsificaton when compared with the lab scale test where water remaining in crude less than 0.5% at 2 h separation time.

5.2 Recommendation

Further studies should be made on other potential demulsifiers that have branched molecules and cheap price. Mixed demulsifiers with different type of demulsifiers should also be studied to find out about the synergistic effect. Furthermore, study on demulsification efficiency using mixed crude oil should also be investigated to better relate with the real situation in the oilfield.