CHAPTER 10

RECOMMENDATION FOR FUTURE WORK

This thesis reports the results of an investigation on methane hydrate formation and dissociation in the presence of various extraneous materials. On the basis of results obtained and observations made, the scope for further work in this area may be listed as below:

- Hydrate formation and dissociation may be studied using other hydrocarbon gases such as ethane, propane, butane or mixture of these gases in presence of electrolytes and other additives.
- Effects of bentonite clay on methane hydrate formation and dissociation has been studied here but most of the marine sediments consist of other clays like montmorillonite, kaolinite, illite etc. In addition, some naturally occurring bio-surfactants are found in ocean sediments. Bentonite preferentially adsorbs these bio-surfactants and promotes hydrate formation. So further research is required by using different clays along with other materials like bio-surfactants and other adsorbates to study formation and dissociation kinetics of methane and other hydrocarbon hydrates.
- In the present study thermodynamic inhibitors were only investigated. Kinetic inhibitors may also be studied for inhibiting hydrate formation.
- The stability of hydrate, which is very important for industrial application of hydrate as a means of storage and transportation of natural gas, may be further studied in presence of surfactants.