

ABSTRACT

PETROLEUM SYSTEM OF MURZUG BASIN IN SOUTHWESTERN LIBYA AND ITS POTENTIAL RISK ASPECTS OF OIL AND GAS INVESTMENT

The aim of this study was to investigate the duration of oil lifted and resources production in the Southwestern Libya especially in Murzuq Basin, oil and gas potential reservoir and resources. Four research questions were formulated to guide the study. This research used the Monte Carlo method. The primary data were related to the potential of oil and gas investment including economic risk, enterprise risk, stakeholder risk, political risk, policy and regulatory risk, cultural and social risk and financial risk. Thus, this study can give suggestions to the government, the oil and gas companies, and the stakeholders of that industry on how to make healthy investment and to get the highest possibility of oil potential. Based on the results of the analysis, it can be concluded that the geology occurrence of oil and gas in Murzuq Basin in the Southwestern Libya is in deep rifting. Reservoir rock and source rock of oil and gas potential are located in the deep. Based on Monte Carlo Simulation, the risk potential of oil and gas in Southwestern Libya is rather high and the duration of oil lifted which is reached should be 36.000 barrel/ day. Potential risk affecting oil and gas investment in Southwestern Libya is found and the oil reservoir and resources in Southwestern Libya are technically easier to be lifted. The economic and political risks also affect the oil and gas investment. Investment of oil and gas in Southwestern Libya will be safe, advantageous and profitable if the political and economic factors are really supporting. The investment of oil and gas industry in Southwestern Libya was quite interesting, but nowadays the political condition does not support it and causes it uninteresting. Nowadays the petroleum system in Southwestern Libya is not implemented optimally since some political changes and wars still occur in many areas in Libya. As a result, the petroleum system is not fully supported, especially by the government. xv

Keywords: Southwestern Libya, Murzuq Basin, geology, Monte Carlo Simulation, potential of oil and gas investment