ABSTRACT

The Middle Miocene to Early Pliocene Reservoir of Rembang Zone located in Blora Regency, Central Jawa. The purpose of this study is to identify sedimentation pattern and stratigraphic succession of Middle Miocene to Early Pliocene Reservoir. This study also attempts to characterize the Braholo fold type and its deformation zone fold and to indentify the structural effect on porosity and permeability of the Middle Miocene to Early Pliocene reservoir.

Paleontology, petrophysical and petrography analysis are conducted for petrophysical values of reservoir rock, rock textures and depositional environments. Moreover, the methodology of fault kinematic analysis and the right dihedral method are adapting the win-tensor program to analyze the paleo-stress of the available brittle structures data.

Five lithofacies are characterized from whole measure section such as: sandstone intercalate with limestone facies (facies B), packstone intercalated with calcareous sandstone and calcareous shandy shale facies (facies A), packstone-wackstone facies (facies C), massive grey calcareous shale facies (facies D) and massive calcareous sandstone intercalated with marl facies (facies E). These facies are classified: restricted-shelf, tidal-dominated and delta.

One NE-SW sinistral strike-slip fault and two deformation events have been characterized. The first event is strike-slip stress regime with NW-SE compression and NE-SW extension in Middle Miocene-Pliocene. The second event sinistral strike-slip which is characterized by a extensional stress regime with NW-SE extension and NE-SW compression in Pleistocene. Moreover, Braholo fold was resulted from first tectonic event (Middle Miocene-Pliocene).

Middle Miocene to Early Pliocene reservoir consisted of fair porosity generally ranges from 5.7% to 10.03%, and considered as good porosity of petrography value ranges from 15% to 26%; vice versus the permeability is generally good, ranges from 0.1151 D to 1.025 D.

Key words: *Middle Miocene to Early Pliocene reservoir, folding,faulting, lithofacies, paleostress.*