

ABSTRACT

The East Java Basin has been a backarc basin since the Paleogene period. The research location is in the Ngimbang Formation, "TBN" Field, Rembang Zone, North East Java Basin by analyzing five wells, including TBN-01, TBN-02, TBN-03, TBN-04, TBN-05. This formation was deposited in syn-rift phase with the age of late Eocene - early Oligocene. The purpose of this study is to determine the facies and depositional environment in the study area which can later help geologists know the distribution of rocks that have the potential to become reservoir rock.

The purpose of this study is to determine the facies and depositional environment in the study area which will help geologists know the distribution of rocks that have the potential to become reservoir rock. The method used is well data analysis such as lithology analysis, system tract analysis, stratigraphic sequence analysis, electrofacies analysis, well correlation, and depositional environment facies analysis. All of these analyses are interrelated with each other where all analyses have their respective roles. The data used include wireline log, mudlog, core, and biostratigraphy. From the results of the analysis, the lithology is obtained in the form of sandstone, shale, limestone, and coal with system tracts found in the form of lowstand system tract, transgressive system tract, and highstand system tract. Then based on electrofacies analysis, cylindrical, bell, funnel, and serrated patterns were obtained with facies that developed in the form of inner tidal fluvial channel, mud flat, mixed flat, salt marsh, sand bar, and shoreface. The depositional environment is estuary and shallow marine.

Keywords : *depositional environment, facies, Ngimbang Formation, northeast java basin, Rembang zone*