

The Discovery of the Late Oligocene – Early Miocene of Kujung Cycle in Js-Ridge Ne Java Basin, Indonesia

Farid Dasa Marianto*, Danastri Kusuma, Luhut P and Anwar Sadat
Saka Indonesia Pangkah Ltd, Indonesia

The Ujung Pangkah field, in East Java, Indonesia is oil and gas fields which have been producing from Late Oligocene to Early Miocene of Kujung 1 limestone. One of the key factors which support Kujung 1 reservoir performance is reservoir quality. Secondary porosity is one of the key to determine reservoir quality which play significant role for Ujung Pangkah field performance.

Geologically, the Ujung Pangkah field is described as a Late Oligocene to Early Miocene shelf edge carbonate of Kujung 1 associated with NW-SE anticline, sealed by Middle Miocene of Tuban marine shale charged during Middle Miocene by Eocene fluvio-deltaic of Ngimbang source rock. Tectonically, the position of this field is located adjacent to the north of RMKS wrench fault zone which extends from east to west. Structural geology evolution of this field is related to the RMKS fault zone activities through time caused by regional compression at least begun during Early Miocene.

Tectonic product in the Early Neogene in Tuban trough, JS-1 ridge and central deep has formed a NW-SE structural high or ridge which perpendicular to the orientation of Paleogene ridge. Observation through all fields distribution give an impression that there could be a relation between structural configuration generated by regional compression in Early Neogene with reservoir potential distribution of Kujung 1 and CD carbonate which primarily controlled by secondary porosity generation as a product of karsting.

This paper is aimed to identify karsting zone over the Kujung 1 and CD carbonate level with seismic approach using seismic attribute to support geological modeling of Kujung 1 and CD carbonate reservoir in Ujung Pangkah field.

Keywords: Porosity, source rock, fault, seismic attribute, carbonate.