

SARI

Reservoir Lapangan Camar, Cekungan Jawa Timur Utara berasal dari batuan karbonat Formasi Kujung II. Batuan karbonat merupakan reservoir yang dikenal dengan ketidakseragaman karakter reservoirnya. Heterogeneitas batuan dikontrol oleh faktor pembentukan batuan berupa tekstur dan fasies pengendapan, komposisi mineralogi, serta diagenesis. Oleh karenanya, satu interval reservoir ekonomis tersebut akan memiliki kualitas yang berbeda-beda. Perbedaan kualitas dalam satu interval reservoir menarik dibagi lebih rinci kualitas reservoirnya berdasarkan faktor pembentukan batuan karbonat.

Hasil observasi batuan inti menunjukkan bahwa litofasies interval penelitian tersusun oleh *burrowed shale*, *calcareous shale*, *foraminiferal wackestone*, *carbonate grain packstone*, *foraminiferal floatstone*, *coraline floatstone*, *coraline rudstone*, *coraline framestone*, dan *coraline bindstone*. Skeletal penyusun batuan umumnya tersusun oleh mineral Mg kalsit dan aragonit sehingga rentan terlarutkan dan menghasilkan porositas sekunder. Proses diagenesis yang terjadi adalah pelarutan dan sementasi dengan produk diagenesis berupa tekstur *chalky* dan *tight*, serta porositas sekunder *vuggy*, *moldic*, dan *enhanced primary porosity*.

Zona berkualitas baik diprediksi berdasarkan litofasies *coraline framestone* dan produk sekunder *vuggy* dan *chalky* sehingga menghasilkan 3 zona yaitu: zona 1 (4514,5 – 4520 ft), zona 2 (4437 – 4457,5 ft), zona 3 (4349 – 4344 ft). Berdasarkan nilai porositas log sonik di ketiga zona prediksi, interval yang memiliki porositas baik adalah litofasies paling dekat dengan *sequence boundary* yang dicirikan dengan tipe porositas *vuggy* dan bersifat *chalky* dengan ketebalan zona berkualitas baik dari zona 1 adalah 6,5 ft, zona 2 setebal 2 ft, dan zona 3 setebal 2 ft. Analisis seismik menunjukkan geometri reservoir berbentuk *mound* yang tumbuh setempat-setempat dengan pola pertumbuhan terumbu *upstepping* dan *backstepping*. Pelamparan lateral zona 1 sekitar 0,5 km ke arah Baratlaut - Tenggara dan sekitar 1 km ke arah Timurlaut - Baratdaya. Zona 2 melampar sekitar 3 km ke arah Baratlaut - Tenggara dan melampar sekitar 1 km ke arah Timurlaut - Baratdaya. Zona 3 tidak dapat terbaca oleh seismik karena kurang tebal.

Kata kunci: karakterisasi, reservoir, karbonat, Camar, Kujung II

ABSTRACT

Reservoir of Camar Field, North East Java Basin, derived from carbonate rock from Kujung II Formation. Carbonate rock reservoir known by the complexity of rock characteristics. Carbonate rock controlled by texture and facies deposition, mineralogical composition, and diagenesis. An economic reservoir interval could have different qualities. Those differences in one interval are interesting to be understood accurately.

Litofacies in this interval composed by burrowed shale, calcareous shale, foraminiferal wackestone, carbonate grain packstone, foraminiferal floatstone, floatstone coralline, coralline rudstone, coralline framestone, and coralline bindstone. Skeletal constituent rocks are composed mainly of Mg calcite and aragonite that vulnerable dissolved and generates secondary porosity. Diagenesis processes that occur is dissolution and cementation with product diagenesis form chalky and tight texture, enhanced primary porosity, moldic and vuggy secondary porosity. The zonation was predicted based on coralline framestone litofacies and secondary products of vuggy and chalky that resulting three zones: zone 1 (4514.5 to 4520 ft), Zone 2 (4437 to 4457.5 ft), zone 3 (4349-4344 ft). Based on sonic log porosity on those three zones, the interval which has good porosity is the litofacies that closest to the boundary sequences. They're characterized by the vuggy porosity and chalky textures. The good porosity's thickness in zona 1 is 6.5 ft, zone2 is 2 ft, and zone 3 is 2 ft. Seismic analysis shows the mound geometry of the reservoir that grown up stepping and back stepping. Lateral extension of zone 1 is about 0.5 km to the NW - SE, and approximately 1 km to the NNE - SSW. Zone 2 extended approximately 3 km to the NW - SE and extended 1 km to the NNE - SSW. Zone 3 can't be analyzed by seismic because it's less in thickness.

Keywords: *characterization, reservoir, carbonate, Camar, Kujung II*