

## SARI

Cekungan Sumatra Tengah dikenal cekungan matang dan memiliki potensi hidrokarbon yang sangat baik. Pada lapangan ini, batupasir Formasi Bangko dan Bekasap yang dipengaruhi oleh pasang surut air laut yang menjadi interval *reservoir* utama hidrokarbon yang produktif di Cekungan Sumatra Tengah bagian selatan Indonesia. Daerah penelitian berada pada Lapangan “HD”, Formasi Bekasap dan Formasi Bangko, Kelompok Sihapas, Cekungan Sumatra Tengah. Lapangan “HD” memiliki 16 sumur yaitu HD-01, HD-02, HD-03, HD-04, HD-05, HD-06, HD-07, HD-08, HD-09, HD-10, HD-11, HD-12, HD-13, HD-14, HD-15, dan HD-16 yang berpotensi menyimpan hidrokarbon yang baik. Penelitian ini menggunakan dua proses analisis yaitu analisis kuantitatif dan analisis kualitatif. Tahapan analisis kualitatif dimulai dari interpretasi litologi dengan data *core*, untuk analisis siklus stratigrafi, fasies, dan lingkungan pengendapan, dilakukan korelasi sumur di Lapangan “HD”. Selanjutnya, untuk analisis kuantitatif dilakukan perhitungan properti *reservoir* berdasarkan analisis petrofisika seperti *volume shale*, porositas permeabilitas dan saturasi air, serta penentuan harga untuk mengetahui zona prospek yang mengandung hidrokarbon. Litologi penyusun Lapangan “HD” adalah *wavy-flasher sandstone*, *stratified medium-very coarse sandstone with mud drapes*, *stratified fine-medium sandstone*, *pebbly sandstone stratified medium sandstone with carbonaceous drapes* dan *shale*. Fasies pada Lapangan “HD” diinterpretasikan sebagai *sand sheet core*, *sand sheet front*, *sand sheet margin*, dan *tidal sand ridges* yang terbentuk pada lingkungan pengendapan *tide dominated estuary*. Perhitungan petrofisika didapatkan *volume of shale* berkisar antara 0.01-0.74, porositas efektif berkisar antara 0.12-0.32, dan saturasi air berkisar antara 0.51-1. Zona yang prospektif mengandung hidrokarbon terdapat pada fasies *tidal sand ridges*, *sand sheet core*, dan *sand sheet front*.

Kata Kunci : Cekungan Sumatra Tengah, Formasi Bekasap, Formasi Bangko, Fasies, Analisis Petrofisika.

## **ABSTRACT**

*The Central Sumatra Basin is a mature basin with excellent hydrocarbon potential. In this field, the sandstones of the Bangko and Bekasap Formations, which are influenced by tides, are the main reservoir intervals of productive hydrocarbons in the southern Central Sumatra Basin of Indonesia. The study area is located in Field "HD", Bekasap Formation and Bangko Formation, Sihapas Group, Central Sumatra Basin. The "HD" field has 16 wells namely HD-01, HD-02, HD-03, HD-04, HD-05, HD-06, HD-07, HD-08, HD-09, HD-10, HD-11, HD-12, HD-13, HD-14, HD-15, and HD-16 which have the potential to store good hydrocarbons. This research uses two analysis processes, namely quantitative analysis and qualitative analysis. The qualitative analysis stage starts from lithological interpretation with core data, for the analysis of stratigraphic sequence, facies, and depositional environment, well correlation is carried out in the "HD" Field. For quantitative analysis, reservoir property calculations are carried out based on petrophysical analysis such as shale volume, porosity permeability and water saturation, as well as pricing to determine prospect zones that contain hydrocarbons. The lithologies of the "HD" Field are wavy-flasher sandstone, stratified medium-very coarse sandstone with mud drapes, stratified fine-medium sandstone, pebbly sandstone stratified medium sandstone with carbonaceous drapes and shale. Facies in the "HD" Field are interpreted as sand sheet core, sand sheet front, sand sheet margin, and tidal sand ridges formed in a tide dominated estuary depositional environment. Petrophysical calculations obtained volume of shale ranged from 0.01-0.74, effective porosity ranged from 0.12-0.32, and water saturation ranged from 0.51-1. Prospective hydrocarbon-bearing zones are found in the facies of tidal sand ridges, sand sheet core, and sand sheet front.*

*Keywords : Central Sumatra Basin, Bekasap Formation, Bangko Formation, Facies, Petrophysical Analysis.*