

## INTISARI

Area penelitian terletak di Blok “Oliver”, Cekungan Sumatera Selatan. Penelitian ini dilakukan guna mengetahui kondisi reservoir di bawah permukaan untuk menentukan persebaran dari unit reservoir batupasir Formasi Gumai. Data yang digunakan adalah 16 data log sumur, 3 data *mudlog*, 1 data biostratigrafi, dan 59 *line* seismik 2D. Analisis fasies, lingkungan pengendapan, stratigrafi sikuen, korelasi, dinamika sedimentasi, dan pembuatan peta paleogeografi dilakukan pada data daerah penelitian. Berdasarkan analisis data log sumur yang dikalibrasikan dengan data *mudlog*, fasies litologi penyusun Formasi Gumai terdiri dari *shale* dan batupasir dengan karakter lingkungan pengendapan berupa *marine shelf*, yaitu *inner shelf* dan *outer shelf*. Analisis sikuen stratigrafi memunculkan beberapa marker utama dan dapat ditentukan bahwa di daerah penelitian terdiri dari 3 sikuen pengendapan yaitu Sikuen 1, Sikuen 2, dan Sikuen 3. Sikuen 1 terdiri dari *Transgressive Systems Tract 1* (TST 1) dan *Highstand Systems Tract 1* (HST 1). Sikuen 2 terdiri dari *Transgressive Systems Tract 2* (TST 2) dan *Highstand Systems Tract 2* (HST 2). Sikuen 3 terdiri dari *Transgressive Systems Tract 3* (TST 3) dan *Highstand Systems Tract 3* (HST 3). Pada interval penelitian, terjadi pergeseran fasies yang pada awalnya mendalam (secara umum mengalami retrogradasi), namun semakin ke atas menuju ke arah darat (secara umum mengalami progradasi). Dinamika sedimentasi Formasi Gumai dikontrol oleh kenaikan muka air laut relatif dan suplai sedimen yang berbeda-beda pada setiap sikuen, sehingga dihasilkan pola penumpukan yang berbeda pula. Dari hasil analisis tersebut, ditentukan bahwa zona yang berpotensi sebagai reservoir pada Formasi Gumai merupakan batupasir yang dihasilkan pada *Early Transgressive Systems Tract* dengan persebaran berupa *blanket shape*. Arah persebaran batupasir ini yaitu timur laut – barat daya dengan ketebalan mencapai 100 – 325 ft yang semakin menipis ke arah barat daya.

**Kata Kunci:** Stratigrafi Sikuen, Formasi Gumai, Persebaran Reservoir

## ABSTRACT

*The research area is located in "Oliver" Block, South Sumatera Basin. In this area, a subsurface reservoir research was conducted to define the distribution of Gumai Formation sandstone reservoir unit. 16 well logs, 3 mud logs, 1 biostratigraphy data, and 59 2D seismic lines were used to support the research analysis. The analysis consists of facies analysis, depositional environment, sequence stratigraphy, correlation, sedimentation dynamics, and paleogeographic map. Based on analysis of well logs data calibrated with mud logs data, lithological facies of Gumai Formation consists of shale and sandstone controlled by marine shelf deposition environment, which is inner shelf and outer shelf. Sequence stratigraphy analysis established major markers and could be interpreted that in this area consisted of 3 sequence deposits; there are Sequence 1, Sequence 2, and Sequence 3. Sequence 1 consists of Transgressive Systems Tract 1 (TST 1) and Highstand Systems Tract 1 (HST 1). Sequence 2 consists of Transgressive Systems Tract 2 (TST 2) and Highstand Systems Tract 2 (HST 2). Sequence 3 consists of Transgressive Systems Tract 3 (TST 3) and Highstand Systems Tract 3 (HST 3). At the interval of the study, facies shifted in the initially profound condition (generally retrograde), but increasingly upward toward the land (generally prograde). The sedimentation dynamics of the Gumai Formation are controlled by relative sea level rise and sediment supply in each of the sequence, resulting in different stacking patterns. From this analysis, the potential reservoir zone in the Gumai Formation was the sandstone produced in the Early Transgressive Systems Tract with blanket shape geometry. The distribution of this sandstone is northeast - southwest direction with a thickness of 100 - 325 ft which is increasingly depleted to the southwest.*

**Keywords:** *Sequence Stratigraphy, Gumai Formation, Reservoir Distribution*