

**GEOLOGI DAN SEBARAN FASIES SERTA ANALISIS LINGKUNGAN  
PENGENDAPAN  
FORMASI DURI LAPANGAN “OF” CEKUNGAN SUMATERA TENGAH  
BERDASARKAN DATA LOG SUMUR DAN BATUAN INTI**

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**SARI**

Lapangan OF merupakan salah satu daerah operasi PT. Chevron Pacific Indonesia yang terletak di Barat kota Dumai daerah Ujungtanjung bagian Barat sungai Rokan, Formasi Duri Kelompok Sihapas Cekungan Sumatera Tengah berumur Miosen Awal. Daerah penelitian memiliki luas sekitar 8 x 6 km.

Litologi penyusun stratigrafi daerah telitian ialah batupasir dan batulempung. Lingkungan pengendapan Lapangan OF ialah *tide dominated estuarine* hingga *shelf*. Lingkungan pengendapan *tide dominated estuarine* terdiri dari batupasir sangat halus hingga sangat kasar dengan fasies pengendapan *tidal channel* dan *tidal sand bar*. Lingkungan pengendapan *shelf* terdiri dari batulempung dan batupasir halus hingga sedang bersifat karbonatan, hadirnya mineral glaukonit dengan fasies pengendapan *marine shale* dan *tidal ridge*.

Struktur sedimen berupa perlapisan bergelombang, massif, perlapisan silang siur, perlapisan bersusun, flaser, *mud drapes* dan bioturbasi berupa *Ophiomorpha*, *Palaeophicus*, *Planolites* dan *Thalassinoides*.

Lapangan OF terdiri dari 3 sikuen pengendapan, sikuen 1 (LST-1, TST-1, dan HST-1), sikuen 2 (LST-2, TST-2, dan HST-2), (LST-3, TST-3, dan HST-3)

LST 1 fasies *tidal channel* lebar 1.8-3.6 km ketebalan mencapai 60 ft dan *tidal sand bar* lebar 720 m ketebalan mencapai 20 ft, TST 1 fasies *marine shale* dan *tidal ridge* lebar 800 m- 1.8 km ketebalan mencapai 20 ft, HST 1 fasies *marine shale* dan *tidal ridge* lebar 1,1 km ketebalan mencapai 20 ft. LST 2 fasies *tidal channel* lebar 1.8-3.1 km ketebalan mencapai 50 ft dan *tidal sand bar* lebar 720 m ketebalan mencapai 20 ft, TST 2 fasies *marine shale*, HST 2 fasies *marine shale* dan *tidal ridge* lebar 500 meter-1,5 km ketebalan mencapai 30 ft. LST 3 fasies *tidal channel* lebar 3.3 km ketebalan mencapai 50 ft dan *tidal sand bar* lebar 900 m-1.8 km ketebalan mencapai 30 ft, TST 3 fasies *marine shale*.

Model paleogeografi dibuat berdasarkan pembagian *system tract* dalam bentuk 2 dimensi dan 3 dimensi sehingga didapatkan LST 1 (Tidal channel dan tidal sand bar), TST 1 (marine shale dan tidal ridge). HST 1 (marine shale dan tidal ridge). LST 2 (Tidal channel dan tidal sand bar), TST 2 (marine shale). HST 2 (marine shale dan tidal ridge). LST 3 (Tidal channel dan tidal sand bar), TST 3 (marine shale).

**Kata kunci** : Lapangan OF, sikuen stratigrafi, *Tide dominated estuary- shelf*, *gross sand map*, paleogeografi

**GEOLOGY AND FACIES DISTRIBUTION ALSO WITH THE  
DEPOSITIONAL ENVIRONMENT ANALYSIS  
DURI FORMATION “OF” FIELD CENTRAL SUMATRA BASIN  
ACCORDING TO WELL LOG DATA AND CORE DATA**

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**ABSTRACT**

OF field is one of the operation areas of PT. Chevron Pacific Indonesia which located in the western city of Dumai, Ujungtanjung area, western part of the Rokan river, Duri Formation Sihapas Group, Central Sumatra Basin the aged Early Miocene. Research area has an area of approximately 8x6 km.

Litology of the research area stratigraphy are sandstone and claystone. The depositional environments of OF field are Tide Dominated Estuarine until Shelf. Tide Dominated Estuarin depositional environment consists of very fine sandstone to very coarse sandstone with the depositional facies are Tidal Channel and Tidal Sand Bar. Shelf depositional environment consists of claystone and fine to medium carbonaceous sandstone, the presence of mineral glauconite with the depositional environments are Marine Shale and Tidal Ridge.

The sedimentary structures are wavy bedding, massive, cross bedding, graded bedding, flaser, mud drapes and the bioturbation are Ophiomorpha, Paleophicus, Planolites and Thalassinoides,

OF field consists of 3 depositional sequences, sequence 1 (LST-1, TST-1, dan HST-1), sequence 2 (LST-2, TST-2, dan HST-2), sequence 3 (LST-3, TST-3, dan HST-3), determination of deposition sequence boundary is according to the core data and well log data.

LST 1 tidal channel facies with a width of 1.8-3.6 km, thickness up to 60 ft and tidal sand bar with a width of 720 m, thickness up to 20 ft. TST 1 marine shale and tidal ridge facies with a width of 800m – 1.8 km, thickness up to 20 ft. HST 1 marine shale and tidal ridge facies with a width of 1.1 km, thickness up to 20 ft. LST 2 tidal channel facies with a width of 1.8-3.1 km, thickness up to 50 ft and tidal sand bar with a width of 720 m, thickness up to 20 ft. TST 2 marine shale facies, HST 2 marine shale and tidal ridge facies with a width of 500 m – 1.5 km, thickness up to 30 ft. LST 3 tidal channel facies with a width of 3.3 km, thickness up to 50 ft and tidal san bar with a width 900 m – 1.8 km, thickness up to 30 ft. TST 3 marine shale facies.

Paleogeography models made based on classification of system tract in form 2 dimensional and 3 dimensional and produced LST 1 (Tidal channel and tidal sand bar), TST 1 (marine shale and tidal ridge). HST 1 (marine shale and tidal ridge). LST 2 (Tidal channel and tidal sand bar),TST 2 (marine shale). HST 2 (marine shale and tidal ridge). LST 3 (Tidal channel and tidal sand bar),TST 3 (marine shale).

**Keywords** : OF field, depositional sequence, Tide dominated estuary – shelf, gross sand map, paleogeography.