ABSTRAK

ANALISIS DISTRIBUSI FASIES DAN EVOLUSI *SHELF BREAK* PADA MARKER MF 8 – MF 8.5 FORMASI KAMPUNG BARU, LAPANGAN "ARJUNA" CEKUNGAN KUTAI

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Interval Marker *Flooding* MF 8–MF 8.5 Formasi Kampung Baru pada Lapangan Arjuna, Cekungan Kutai, merupakan bagian dari fase regresif Neogen Sistem Delta Mahakam yang memiliki potensi reservoir pada lingkungan pengendapan *deep* hingga *ultra deep*. Penelitian ini bertujuan menganalisis distribusi fasies, karakteristik sikuen stratigrafi, dan evolusi *shelf break* pada interval tersebut. Metode penelitian dilakukan secara kualitatif melalui integrasi data *wireline log* (*gamma ray*, resistivitas, densitas, neutron) dari 18 sumur, data *conventional core* dari satu sumur, data serbuk bor dari 2 sumur, serta data seismik 3D. Hasil penelitian menunjukkan bahwa interval MF 8–MF 8.5 tersusun atas perselingan batupasir, batulempung, dan sisipan batugamping yang membentuk enam fasies, yaitu *distributary channel*, *distributary mouth bar*, *distal bar*, *prodelta shale*, *sand mound,* dan *shale shelf-break deposit*. Fasies-fasies tersebut dikelompokkan ke dalam empat asosiasi fasies yang merepresentasikan lingkungan pengendapan transisi dari delta hingga laut dalam. Interpretasi stratigrafi menunjukkan pola progradasi–agradasi yang berkembang seiring migrasi *shelf break* ke arah tenggara melalui geometri *clinoform sigmoid* hingga *oblique sigmoid*. Distribusi fasies dikontrol oleh suplai sedimen, ruang akomodasi, dan perubahan muka laut relatif. Lingkungan pengendapan berkembang dari sistem delta yang dipengaruhi oleh proses sungai menuju lingkungan *deep–ultra deep* pada bagian cekungan yang lebih dalam.

Kata kunci: delta, fasies, marker, korelasi, stratigrafi

ABSTRACT

FACIES DISTRIBUTION ANALYSIS AND SHELF-BREAK EVOLUTION OF THE MF 8–MF 8.5 MARKER INTERVAL IN THE KAMPUNG BARU FORMATION, ARJUNA FIELD, KUTAI BASIN

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The MF 8–MF 8.5 Flooding Marker interval of the Kampung Baru Formation in the Arjuna Field, Kutai Basin, represents part of the regressive phase of the Neogene Mahakam Delta System and has reservoir potential within deep to ultra-deep depositional environments. This study aims to analyze facies distribution, sequence stratigraphic characteristics, and shelf-break evolution within the interval. The research was conducted using a qualitative approach through the integration of wireline log data (gamma ray, resistivity, density, and neutron) from 18 wells, conventional core data from one well, drill cuttings data from two wells, and 3D seismic data. The results indicate that the MF 8–MF 8.5 interval consists of interbedded sandstone, shale, and limestone, forming six facies: distributary channel, distributary mouth bar, distal bar, prodelta shale, sand mound, and shale shelf-break deposit. These facies are grouped into four facies associations representing depositional environments ranging from deltaic transition zones to deep-marine settings. Sequence stratigraphic interpretation reveals a progradational–aggradational pattern associated with southeastward shelf-break migration, characterized by sigmoid to oblique-sigmoid clinoform geometries. Facies distribution was controlled by sediment supply, accommodation space, and relative sea-level changes. The depositional environment evolved from a river-dominated deltaic system to deep–ultra-deep marine settings in the deeper.

Keywords: correlation, delta, facies, marker, stratigraphy