

ABSTRAK

STUDI PALEO GEOGRAFI MIOSEN AWAL CEKUNGAN SUMATRA TENGAH BERDASARKAN DATA SUMUR DAN DATA BIOSTRATIGRAFI

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Daerah penelitian ini berada di Cekungan Sumatra Tengah (CSB) yang merupakan cekungan belakang busur (*back arc basin*) yang berkembang sepanjang tepi paparan sunda di Baratdaya Asia Tenggara. Studi ini bertujuan untuk merekonstruksi kondisi paleogeografi Miosen Awal di Cekungan Sumatra Tengah dengan menganalisis data log sumur, *side wall core (SWC)*, dan biostratigrafi. Studi ini dilakukan pada delapan sumur (JAD 1 hingga JAD 8) yang dianalisis secara kualitatif melalui interpretasi elektrofases, analisis litologi, biostratigrafi, dan korelasi stratigrafi. Hasil analisis menunjukkan dominasi endapan batupasir dengan pola elektrofases *cylindrical*, dan *bell-shaped* yang mengindikasikan lingkungan *fluvial braided*, hingga *tidal channel*. Korelasi antar sumur berdasarkan *marker* SB 25 dan SB 22 menunjukkan keselarasan stratigrafi serta perubahan fasies lateral dari barat laut ke tenggara. Data biostratigrafi mendukung interpretasi lingkungan pengendapan dari *supratidal* hingga *subtidal*. Integrasi seluruh data memungkinkan penyusunan dua fase model paleogeografi, yaitu *transgressive systems tract (TST)* dan *highstand systems tract (HST)*, yang mencerminkan dinamika sedimentasi akibat perubahan muka air laut regional.

Kata kunci: Biostratigrafi, Elektrofases, Litologi, Paleogeografi, Stratigrafi

ABSTRACT

A PALEO GEOGRAPHIC STUDY OF THE EARLY MIOCENE IN THE CENTRAL SUMATRA BASIN BASED ON WELL AND BIOSTRATIGRAPHIC DATA

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The study area is located in the Central Sumatra Basin (CSB), a back-arc basin that developed along the edge of the Sunda Shelf in southwestern Southeast Asia. This study aims to reconstruct the Early Miocene paleogeographic conditions in the Central Sumatra Basin by analyzing well log data, side wall core (SWC) descriptions, and biostratigraphic data. The research was conducted on eight wells (JAD 1 to JAD 8) using a qualitative approach through electrofacies interpretation, lithological analysis, biostratigraphy, and stratigraphic correlation. The analysis results indicate a dominance of sandstone deposits with cylindrical and bell-shaped electrofacies patterns, suggesting depositional environments ranging from braided fluvial systems to tidal channels. Well-to-well correlation based on the SB 25 and SB 22 sequence boundaries shows stratigraphic consistency and lateral facies changes from northwest to southeast. Biostratigraphic data support the interpretation of depositional environments from supratidal to subtidal zones. The integration of all datasets enables the construction of two paleogeographic models, representing the transgressive systems tract (TST) and highstand systems tract (HST), which reflect sedimentation dynamics driven by regional sea-level fluctuations.

Keywords: Biostratigraphy, Electrofacies, Lithology, Paleogeography, Stratigraphy