

## ABSTRAK

Cekungan Rembang dikenal luas sebagai salah satu cekungan dengan potensi hidrokarbon di dalamnya. Formasi Mundu merupakan salah satu formasi penyusun Cekungan Rembang dengan kandungan fosil foraminifera kecil yang melimpah, pola sedimentasi yang bervariasi, serta memiliki porositas mencapai 50% yang dapat berpotensi sebagai reservoir. Di samping itu, studi mengenai lingkungan pengendapan dan mekanisme sedimentasi menjadi topik yang menarik karena masih banyak interpretasi mengenai hal tersebut pada formasi ini. Maka dari itu penelitian ini dilakukan dengan tujuan menentukan litofasies, lingkungan pengendapan, dan mekanisme sedimentasi Formasi Mundu di daerah penelitian. Lokasi penelitian berada di daerah Girik, Kecamatan Ngimbang, Kabupaten Lamongan, Provinsi Jawa Timur.

Penelitian dilakukan dengan melakukan analisis data yang meliputi deskripsi batuan, pengamatan sayatan tipis (analisis petrografi) dan pengamatan ayakan mikrofosil (analisis paleontologi), serta pembuatan penampang stratigrafi terukur yang dipadukan dengan studi pustaka dan referensi yang berkaitan dengan topik penelitian. Berdasarkan hasil uraian data dan pembahasan, ditarik kesimpulan bahwa litofasies yang terdapat di lokasi penelitian yaitu fasies *wackestone*, fasies *packstone*, dan fasies *grainstone*. Ketiga fasies membentuk dua asosiasi fasies yang didasarkan atas perbedaan pola dan litologi penyusunnya, yaitu Asosiasi Fasies Perselingan *Packstone – Grainstone* dengan Sisipan *Wackestone* dan Asosiasi Fasies Perselingan *Packstone – Grainstone*. Lokasi penelitian diendapkan di lingkungan *base-of-slope-apron* pada *setting* kipas karbonat di zona batimetri batial atas dengan mekanisme sedimentasi yang terjadi yaitu mekanisme arus dasar laut semi-permanen atau arus kontur energi rendah pada Asosiasi Fasies Perselingan *Packstone – Grainstone* dengan Sisipan *Wackestone*, dan arus kontur energi tinggi pada Asosiasi Fasies Perselingan *Packstone – Grainstone*.

**Kata kunci:** Formasi Mundu, fasies, lingkungan pengendapan, mekanisme sedimentasi, *slope*, arus kontur.

## ABSTRACT

*The Rembang Basin is widely known as one of the basins with hydrocarbon potential in it. The Mundu Formation is one of the formations of the Rembang Basin with abundant small fossils of foraminifera, varied sedimentation patterns, and has a porosity of 50% which can potentially be a reservoir. In addition, the study of the depositional environment and the mechanism of sedimentation is an interesting topic because there are still many interpretations on this matter in this formation. Therefore, this study was conducted with the aim of determining lithofacies, depositional environment, and sedimentation mechanism of the Mundu Formation in the study area. The location of the study was in Girik, Ngimbang District, Lamongan Regency, East Java Province.*

*The study was conducted through data analysis which included the description of rocks, observation of thin section (petrographic analysis) and paleontological analysis, making a measured stratigraphic cross section combined with literature studies and references related to the topic of the research. Based on the results of the data and discussion, it was concluded that lithofacies found in the research sites were wackestone facies, packstone facies, and grainstone facies. Those three facieses form two continuous facies associations named wackestone – packstone interlayering with intercalated grainstone facies association and wackestone – packstone interlayering facies association. Lithologies in the research location was deposited in the base-of-slope-apron environment from carbonate fan setting on upper bathyal bathimetric zone with the sedimentation mechanism that occurs was a semi-permanent sea bottom flow mechanism or contour current with low energy on the interlayered of wackestone – packstone with intercalated grainstone facies association and contour current with high energy on the interlayered of wackestone – packstone facies association.*

**Keywords:** *Mundu Formation, lithofacies, depositional environment, sedimentation mechanism, slope, contour current.*