Studi diagenesis dan lingkungan pengendapan formasi klapanunggal, Kecamatan Klapanunggal, Jawa Barat = Study of diagenesis and depositional environment of the klapanunggal formation, Klapanunggal District, West Java.

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Abstrak

Penelitian terfokus pada Formasi Klapanunggal pada kala Miosen Tengah tersusun atas batugamping yang merupakan bagian dari Cekungan Jawa Barat dan Palung Bogor bagian Utara. Tujuan dari penelitian adalah menentukan karakteristik fasies, lingkungan pengendapan, dan sejarah diagenesis batugamping pada Formasi Klapanunggal, Jawa Barat. Metode penelitian yang dilakukan adalah pengumpulan data dan pengukuran penampang stratigrafi, analisis petrografi, X-ray Diffraction, dan Scanning Electron Microscope. Klasifikasi fasies yang didapatkan dari hasil deskripsi makroskopis dan analisis petrografi sebanyak enam (6) fasies, yaitu Skeletal Wackestone, Skeletal Packstone, Benthic Foram Grainstone, Skeletal Rudstone, Coral Rudstone, dan Bindstone. Kemudian, fasies-fasies tersebut diklasifikasikan menjadi asosiasi fasies berdasarkan makroskopis dan petrografi menghasilkan tiga (3) asosiasi fasies, yaitu Platform Interior (Open Marine), Platform Margin Reef, dan Slope. Selanjutnya, hasil analisis diagenesis dan paragenetik menghasilkan sejarah diagenesis batugamping pada Formasi Klapanunggal secara berurutan, yaitu tahapan eogenetik (marine phreatic dan meteoric phreatic), tahapan mesogenetik (burial), dan tahapan telogenetik (meteoric phreatic dan meteoric vadose). Kemudian, terdapat hubungan asosiasi fasies dengan diagenesis, yaitu fitur sementasi marine lebih intensif pada asosiasi fasies Platform Margin Reef dibandingkan dengan asosiasi fasies Slope dan Platform Interior (Open Marine). Selain itu, pengaruh kompaksi mekanik lebih kuat pada asosiasi fasies Platform Margin Reef dan Slope dibandingkan dengan asosiasi fasies Platform Interior (Open Marine).

.....The research focused on the Klapanunggal Formation during the Middle Miocene which was composed of limestone which was part of the West Java Basin and the Northern part of the Bogor Trench. The purpose of this research is to determine facies characteristics, facies association, depositional environment and the history of limestone diagenesis in Klapanunggal Formation, West Java. Research method is data collection and measurement of stratigraphic sections, petrographic analysis, X-ray Diffraction, and Scanning Electron Microscope. The classification of facies obtained from the result of macroscopic description and petrographic analysis as many as six (6) facies, namely Skeletal Wackestone, Skeletal Packstone, Benthic Foram Grainstone, Skeletal Rudstone, Coral Rudstone, and Bindstone. Then, those facies classified into facies association based on macroscopic and petrographic analysis produces in three (3) facies association, namely Platform Interior – Open Marine, Platform Margin Reef, and Slope Furthermore, the results of diagenesis and paragenetic analysis produce a history of limestone diagenesis in the Klapanunggal Formation sequentially, namely the eogenetic stages (marine phreatic and meteoric phreatic), mesogenetic (burial) stages, and telogenetic stages (meteoric phreatic and meteoric vadose). Then, there is a relationship between facies associations with diagenesis, namely marine cementation features are more intensive in the Platform Margin Reef facies association than the Slope and Platform Interior (Open Marine) facies associations. In addition, the effect of mechanical compaction is stronger on the Platform Margin Reef and

Slope facies association compared to the Platform Interior (Open Marine) facies association.