

ABSTRAK

DIAGENESIS BATUGAMPING FORMASI CABLAC, DAERAH SUKU OSSU DE CIMA, POSTU ADMINISTRATIVO OSSU, MUNICÍPIO VIQUEQUE, TIMOR LESTE

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Daerah penelitian berada di Suku Ossu de Cima Posto Ossu Município Viqueque, diagenesis merupakan proses geologi yang belum dibahas di Formasi Batugamping Cablac. Beberapa ahli telah berulang kali membahas formasi ini tetapi belum ada yang membahas khusus mengenai diagenesis pada batugamping ini. Tesis ini bertujuan untuk mengetahui proses diagenesa yang terjadi pada Batugamping Formasi Cablac. Metode penelitian dilakukan yaitu pemetaan lokasi penelitian, pengambilan data permukaan, stratigrafi terukur (MSS), pengamatan petrografi, analisa geokimia *x-ray diffraction* dan *x-ray fluorescence*. Pengambilan 5 sampel pada lokasi penelitian secara spot pada batas antara Formasi Cablac dengan formasi lain dan 14 sampel untuk semua formasi. Proses diagenesis ditentukan oleh pengamatan petrografi, analisis *X-ray diffraction* dan *X-ray fluorescence* total 5 sampel untuk buat korelasi analisis petrografi dengan analisa geokimia batuan dan 14 sampel analisis petrografi untuk pembuatan peta geologi. Geologi daerah penelitian difokuskan pada Batugamping Formasi Cablac. Berdasarkan hasil pengamatan Formasi Cablac memiliki litologi batugamping massif dan berlapis. pengamatan petrografi menunjukkan batuan, *Kristalyn*, *Carbonate*, *Lithic*, *Oomicrite*, *Boundstone*, *Packstone*, *Micrite Sandstone*, dan *Grainstone*. Batuan karbonat Formasi Cablac secara petrografi merupakan batuan yang mengandung nilai persentase kalsit berupa mikrokristalin dan sparit kalsit yang sangat berlimpah. Diagenesis batugamping Formasi Cablac, sementasi, rekristalisasi dan silisifikasi, analisa XRD dari 5 sampel sama-sama memiliki nilai 100% kalsit dan XRF menunjukkan batugamping mengandung CaCO_3 rata-rata 99,10 %. Pengamatan petrografi, mineralogi, dan geokimia menunjukkan bahwa mineral dominan sedimen karbonat yang asli dari perairan dalam terdiri dari kalsit bermagnesia rendah mendominasi dibandingkan kalsium bermagnesium tinggi dan aragonit. Kandungan Mg pada kalsit berkadar magnesium nilai rata-rata sebesar 0.26 persen, dan ini mewakili sumber magnesium yang rendah untuk dilepaskan selama diagenesis. Nilai kandungan SiO_2 yang rendah menunjukkan bahwa sedimen karbonat ini mengalami proses pencampuran dari material darat yang rendah pada saat pengendapan.

Kata kunci : Formasi Cablac, petrografi, mineralogi, sedimen karbonat, diagenesis

ABSTRACT

DIAGENESIS OF THE CABLAC LIMESTONE FORMATION, OSSU DE CIMA AREA, OSSU ADMINISTRATIVE POST, MUNICIPALITY OF VIQUEQUE, EAST TIMOR

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The research area is located in the Ossu de Cima Posto Ossu Município Viqueque. Diagenesis is a geological process that has not been discussed in the Cablac Limestone Formation. Several experts have repeatedly discussed this formation, but no one has specifically discussed diagenesis in this limestone. This thesis aims to determine the diagenetic processes that occur in the Cablac Formation Limestone. The research methods used were mapping of the research location, surface data collection, measured stratigraphy (MSS), petrographic observation, geochemical analysis, x-ray diffraction, and x-ray fluorescence. Five samples were taken at the research location at the boundary between the Cablac Formation and other formations, and 14 samples were taken from all formations. The diagenesis process is determined by petrographic observation, X-ray diffraction and X-ray fluorescence analysis, a total of 5 samples to correlate petrographic analysis with rock geochemical analysis, and 14 samples of petrographic analysis for geological mapping. The geology of the study area focuses on the Cablac Formation limestone. Based on the observations, the Cablac Formation has massive and layered limestone lithology. Petrographic observations show Crystalline, Carbonate, Lithic, Oomicrite, Boundstone, Packstone, Micrite Sandstone, and Grainstone rocks. Petrographically, the carbonate rocks of the Cablac Formation are rocks that contain a percentage of calcite in the form of microcrystalline and sparite calcite, which are very abundant. Diagenesis of the Cablac Formation limestone, cementation, recrystallization, and silicification, XRD analysis of 5 samples all have a value of 100% calcite and XRF shows that the limestone contains an average of 99.10% CaCO_3 . Petrographic, mineralogical, and geochemical observations indicate that the dominant minerals in the original carbonate sediments from deep waters consist of low-magnesium calcite, which dominates over high-magnesium calcium and aragonite. The average Mg content in magnesium-rich calcite is 0.26 percent, representing a low source of magnesium to be released during diagenesis. The low SiO_2 content indicates that these carbonate sediments underwent mixing with low terrestrial material during deposition.

Keywords: Cablac Formation, petrography, mineralogy, carbonate sediments, diagenesis

