

Studi Diagenesis Formasi Jatiluhur di Sungai Cipamingkis, Kabupaten Bogor, Jawa Barat = Diagenesis Study of Jatiluhur Formation at Cipamingkis River, Bogor Regency, West Java

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Abstrak

Studi diagenesis di Formasi Jatiluhur masih termasuk baru, terutama di Sungai Cipamingkis. Diagenesis diartikan sebagai perubahan karakteristik fisik dan kimiawi pada sedimen setelah mengalami pengendapan atau burial (Milliken, 2003). Batuan yang ditemukan pada daerah penelitian terdiri atas batuan sedimen klastik, berupa batulempung, batulanau, batupasir serta terdapat sisipan batugamping. Dalam studi ini, pengumpulan data dilakukan melalui pemetaan permukaan, yang kemudian didapatkan 55 sampel batuan dari pengukuran penampang stratigrafi dengan panjang lintasan ± 2 Km di Sungai Cipamingkis. Data tersebut berupa informasi tekstur, litologi dan struktur sedimen. Sampel batupasir yang ditemukan sebanyak 23 sampel dan 2 sampel batugamping yang kemudian dianalisis melalui petrografi. Kemudian 4 sampel batupasir dianalisis menggunakan X-Ray Diffraction (XRD) dan 2 sampel batupasir dianalisis menggunakan Scanning Electron Microscopy (SEM). Kemudian beberapa fitur diagenesis ditemukan diantaranya kompaksi yang bekerja berupa point contact, long contact, concavo-convex contact dan suture contact, sedangkan pada batugamping adalah brittle fracture yang terjadi pada bioklas. Semen yang ditemukan berupa semen kalsit, kuarsa dan semen mineral lempung berupa kaolinit, smektit dan illit, sedangkan pada batugamping berupa blocky dan fibrous to bladed yang diisi oleh mineral kalsit. Pelarutan terjadi pada mineral kuarsa, feldspar, dan mika. Pergantian mineral terjadi pada mineral kuarsa dan feldspar. Sedangkan pada batugamping terjadi mikritisasi yang bersifat intergranular. Tipe porositas yang dominan ditemukan adalah bertipe interpartikl dengan rata-rata porositas sebesar 10.4% yang ditemukan antara 3 – 23%. Sejarah diagenesis yang terjadi pada batuan di Formasi Jatiluhur diawali oleh pengendapan awal eogenesis, burial mesogenesis dan diakhiri dengan telogenesis yang tersingkap dipermukaan.

.....Diagenesis studies in the Jatiluhur Formation are still relatively new, especially in the Cipamingkis River. Diagenesis is defined as a change in the physical and chemical characteristics of sediments after undergoing or burial (Miliken, 2003). The rocks found in the study area consist of clastic sedimentary rocks, in the form of claystone, siltstone, sandstone and limestone inserts. In this study, data was collected through surface mapping, which then obtained 55 rock samples from stratigraphic cross-section measurements with a path length of ± 2 Km in the Cipamingkis River. The data contains information on texture, lithology and sedimentary structure. There were 23 sandstone samples and 2 limestone samples which were then analyzed through petrography. Then 4 sandstone samples were analyzed using X-Ray Diffraction (XRD) and 2 sandstone samples were analyzed using Scanning Electron Microscopy (SEM). Then some features of diagenesis were found, including compaction that works in the form of point contact, long contact, concavo-convex contact and suture contact and is dominated by mechanical compaction, while in limestone is brittle fracture that occurs in bioclasts. The cement found in the form of calcite cement, quartz and clay mineral cement in the form of kaolinite, smectite and illite, while the limestone is in the form of blocky dan fibrous to bladed which is filled with calcite minerals. Dissolution occurs in the minerals quartz, feldspar, and mica. Alternating minerals are commonly found in quartz and feldspar minerals. Meanwhile, in limestone, there is

an intergranular micritization. The dominant type of porosity found is the interparticle type with an average porosity of 10.4% which is found to be between 3 – 23%. The history of diagenesis that occurs in rocks in the Jatiluhur Formation begins with the beginning of eogenesis, mesogenesis burial and ends with telogenesis which is exposed on the surface.