Studi Provenance Batupasir Formasi Cantayan di Sungai Cibeet, Kecamatan Tanjungsari, Kabupaten Bogor, Jawa Barat = Provenance Study on Sandstone of the Cantayan Formation in Cibeet River, Tanjungsari District, Bogor Regency, West Java

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Abstrak

Sungai Cibeet yang berada di Jawa Barat merupakan anak dari Sungai Citarum yang menjadi batas alami antara Kabupaten Bekasi dan Karawang dengan total panjang aliran mencapai 101 km. Daerah penelitian yang berada di Sungai Cibeet, Kecamatan Tanjungsari, Kabupaten Bogor, Jawa Barat termasuk ke dalam Peta Geologi Lembar Cianjur. Terdapat beberapa tipe formasi yang tersingkap dengan baik pada daerah penelitian, salah satunya adalah Formasi Cantayan. Satuan batupasir dari Formasi Cantayan tersingkap dengan struktur perlapisan yang sangat baik di daerah aliran Sungai Cibeet, Kecamatan Tanjungsari yang menjadi objek ideal untuk melakukan studi Provenance. Metode yang akan digunakan pada penelitian ini adalah pembuatan measuring section, analisis granulometri, dan analisis petrografi untuk mengetahui karakteristik batupasir dan mengetahui tatanan tektonik dari batuan asal. Log stratigrafi yang telah diukur pada 21 titik menghasilkan total ketebalan lapisan kumulatif sebesar 253,35 m yang terbagi ke dalam 10 jenis fasies, yaitu fasies batulempung, fasies batupasir berlapis tipis sisipan batulempung, fasies perselingan batupasir dan batulempung berlapis tipis, fasies batupasir masif, fasies batupasir berlapis tebal sisipan batulempung, fasies batupasir laminasi, fasies batupasir berlapis tebal sisipan batulempung dan breksi polimik, fasies batupasir mengasar keatas, fasies breksi polimik sisipan batupasir, dan fasies breksi polimik. Hasil analisis granulometri menunjukkan bahwa batupasir di daerah penelitian memiliki butir yang yang didominasi dengan ukuran pasir halus sampai pasir kasar dan memiliki sortasi baik hingga menengah. Hasil analisis petrografi menunjukkan bahwa batupasir di daerah penelitian memiliki jenis lithic arenite yang berasal dari tatanan tektonik magmatic arc dengan tipe undissected arc yang terendapkan di cekungan belakang busur. Integrasi antara stratigrafi, analisis granulometri, dan analisis petrografi menunjukkan bahwa daerah penelitian terendapkan di kipas bawah laut pada kala Miosen Akhir yang bersumber dari busur magmatik Jawa.

.....The Cibeet River in West Java is a child of the Citarum River which is the natural boundary between Bekasi and Karawang Regencies with a total flow length of 101 km. The research area is on the Cibeet River, Tanjungsari District, Bogor Regency, West Java, included in the Geological Map Sheet of Cianjur. Several types of formations are well revealed in the research area, one of which is the Cantayan Formation. Sandstone units from the Cantayan Formation are exposed with excellent bedding structures in the Cibeet River basin, Tanjungsari District, which is an ideal object for conducting Provenance studies. The methods that will be used in this research are making measurements, granulometric analysis, and petrographic analysis to determine the characteristics of sandstone and determine the tectonic setting of the original rock. Stratigraphic logs that have been measured at 21 points produce a total thickness of the accumulated layer of 253.35 m which is divided into 10 types of facies, namely mudstone facies, thin layered sandstone facies interbedded with mudstone, interbedded sandstone and thin layered mudstone facies, massive sandstone facies, facies thick-bedded sandstone with mudstone inserts, laminated sandstone facies, thick-bedded

sandstone facies with mudstone and polymic breccia, coarse-upward sandstone facies, polymic breccia facies with sandstone inserts, and polymic breccia facies. The results of the granulometric analysis show that the sandstone in the study area has grains that are dominated by fine sand to coarse sand and have good to medium sorting. The results of the petrographic analysis show that the sandstone in the study area has a lithic arenite type originating from a magmatic arc tectonic setting with an undissected arc type that was deposited in the back-arc basin. Integration between stratigraphy, granulometric analysis, and petrographic analysis shows that the research area was deposited in an underwater fan during the late Miocene that originated from the Javanese magmatic arc.