Petrogenesis Batuan Beku di Gunung Putri, Kabupaten Bogor, Jawa Barat Dengan Metode Analisis Distribusi Ukuran Kristal = Petrogenesis of Igneous Rock in Gunung Putri, Bogor Regency, West Java using Crystal Size Distribution Method

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Abstrak

Bukit Intrusi Gunung Putri yang terletak di Kabupaten Bogor, Jawa Barat terdiri dari batuan beku yang berumur Miosen memiliki daya tarik sebagai objek geowisata yang perlu dilestarikan, dengan melakukan konservasi untuk membuat objek geowisata perlu adanya informasi menarik seperti bagaimana proses keterbentukan batuan di daerah tersebut sehingga perlu diteliti lebih lanjut tentang petrogenesisnya. Penelitian petrogenesis dilakukan dengan cara mengetahui karakternya, komposisinya, proses pembekuannya hingga lama waktu pembekuannya. Sepuluh sampel diambil secara acak berdasarkan persebarannya dan dianalisis dengan metode petrografi dan distribusi ukuran kristal. Hasil dari analisis petrografi menunjukkan bahwa berdasarkan klasifikasi IUGS (1973) karakteristik batuan termasuk ke dalam Olivine-Pyroxene Basalt/Andesite yang berasal dari magma basaltic yang bersifat mafic. Berdasarkan karakteristik batuan dan hasil dari analisis distribusi ukuran kristal menunjukkan bahwa daerah penelitian merupakan tubuh intrusi dengan jenis shallow intrusion laccolith yang mengalami proses petrogenesis terutama pada pembentukan mineral plagioklas pada batuan perubahan cooling rate, proses accumulation, dan proses increasing undercooling dengan waktu singgah pada fenokris rata – rata 83.93 tahun dan segmen mikrofenokris rata-rata 18.08 tahun.

.....Intrusion Hill Gunung Putri, located in Bogor Regency, West Java, consists of Miocene-age igneous rocks and has attractions as a geotourism site that needs to be preserved. To establish it as a geotourism destination, it is important to provide interesting information about the rock formation processes in the area. Therefore, further research on its petrogenesis is needed. Petrogenesis research involves understanding its characteristics, composition, cooling processes, and the duration of the cooling period. Ten random samples were collected based on their distribution and analyzed using petrographic methods and crystal size distribution. The petrographic analysis results indicate that based on the IUGS (1973) classification, the rock characteristics fall into the category of Olivine-Pyroxene Basalt/Andesite, which originated from mafic basaltic magma. Based on the rock characteristics and the results of crystal size distribution analysis, the research area is identified as a shallow intrusion laccolith body that underwent petrogenesis processes, particularly in the formation of plagioclase minerals due to cooling rate changes, accumulation processes, and increasing undercooling. The average residence time of phenocrysts is approximately 83.93 years, while the average residence time of microphenocrysts is approximately 18.08 years.