Studi pengamatan mekanisme erupsi dan endapan piroklastik Tuf Banten (Qpvb) daerah Tebing Koja Kabupaten Tangerang dan sekitarnya dengan metode analisis distribusi ukuran butir dan komponen = Observation study of eruption mechanisms and pyroclastic Tuff Deposits in Banten (Qpvb) in the cliff Area of Koja, Tangerang Regency and surrounding areas using the analysis method of grain size distribution and components

Abdurrahman Ihsan, author

Abstrak

Pada bagian barat Pulau Jawa terdapat suatu formasi yaitu Tuff Banten yang didominasi oleh Endapan Piroklastik Tuff Banten. Dominasi Endapan Tuff Banten pada formasi ini diindikasikan berasal dari erupsi yang membentuk suatu Kaldera Rawa Danau yang berukuran 13,7 km x 6,5 km. Penelitian ini dilakukan untuk melanjutkan penelitian sebelumnya dengan tujuan untuk memberikan data yang lebih representatif dalam mencari karakteristik endapan piroklastik, mekanisme erupsi dan pengendapan, dan melakukan rekonstruksi sejarah erupsi daerah penelitian. Setelah melewati kegiatan lapangan, didapatkan 10 singkapan yang telah dideskripsikan di lapangan. Selain itu digunakan metode analisis kuantitatif yaitu distribusi ukuran butir dan komponen. Berdasarkan hasil deskripsi singkapan, dilakukan interpretasi untuk membentuk tephra statigraphy dalam menentukan fasies. Terdapat 4 fasies yaitu wavy crystal-rich ash, massive lithic-rich cobble conglomerate, massive pumiceous-rich lapilli, dan thinly bedded pumiceous-rich ash. Fasies yang ditemukan memiliki distribusi ukuran butir dan komponen yang berbeda satu sama lain. Erupsi magmatik merupakan tipe erupsi dari tiga fasies yang menghasilkan endapan piroklastik dan dibuktikan dengan data analisis komponen. Sedangkan data analisis distribusi ukuran butir menghasilkan mekanisme pengendapan fasies yang terdiri atas pyroclastic surge (ash-cloud surge) dan pyroclastic flow. Kemudian, terdapat interpretasi yang menjelaskan fase erupsi. Kemudian, dijelaskan juga mengenai sejarah erupsi daerah penelitian yang terbagi menjadi dua episode.

.....In the western part of Java Island there is a formation, namely the Banten Tuff which is dominated by the Banten Tuff Pyroclastic Deposits. The dominance of the Banten Tuff Deposits in this formation is indicated to have originated from the eruption which formed a Lake Swamp Caldera measuring 13.7 km x 6.5 km. This research was conducted to continue previous research with the aim of providing more representative data in searching for the characteristics of pyroclastic deposits, eruption and deposition mechanisms, and to reconstruct the eruption history of the study area. After going through the field activities, 10 outcrops were obtained which had been described in the field. In addition, quantitative analysis methods are used, namely grain size distribution and components. Based on the results of the outcrop description, interpretation is carried out to form tephra statigraphy in determining facies. There are 4 facies, namely wavy crystal-rich ash, massive lithic-rich cobble conglomerate, massive pumiceous-rich lapilli, and thinly bedded pumiceous-rich ash. The facies found have grain size distributions and components that are different from each other. Magmatic eruption is a type of eruption of three facies that produces pyroclastic deposits and is proven by component analysis data. While the data analysis of grain size distribution produces a facies deposition mechanism consisting of pyroclastic surge (ash- cloud surge) and flows. Then,

there is an interpretation that explains the eruption phase. Then, it is also explained about the eruption history of the study area which is divided into two episodes.