

# Petrogenesis lava kompleks Gunungapi Rawa Danau berdasarkan analisis petrografi dan geokimia di Provinsi Banten = Petrogenesis lava in complex volcanoes of Rawa Danau based on petrography and geochemical analysis in Banten Province

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## Abstrak

Kompleks Gunungapi Rawa Danau berada di Provinsi Banten terbentuk akibat letusan dari gunungapi purba. Tersusun atas lava yang berumur kuartar berasal dari Gunung Karang, Gunung Parakasak, Gunung Tukung Gede, Gunung Marikangen dan Gunung Dano Purba yang berkaitan dengan subduksi lempeng Indo-Australia dan Eurasia di selatan Pulau Jawa. Tujuan dilakukannya penelitian ini untuk mengetahui jenis dari lava penyusun gunungapi, mengetahui evolusi magma serta tatanan tektonik pada daerah penelitian. Penelitian ini menggunakan metode petrografi dan geokimia dengan analisis *X-ray Fluorescence* (XRF). Daerah penelitian terdiri dari mineral plagioklas, piroksen, olivin, dan amfibol serta terdapat mikro-tekstur plagioklas berupa *coarse sieve*, *glomerocryst*, *oscillatory*, *fine sieve*, dan *clear*. Jenis batuan yang berada di daerah penelitian adalah andesit-basaltik, basaltik *trachyandesite*, andesit, *trachyandesite*, dasit, dan *trachyte trachydacite*. Daerah penelitian memiliki jenis magma yaitu kalk-alkalin. Berdasarkan diagram Harker, terlihat tren yang jelas sehingga magmanya bersifat ko-genetik. Berdasarkan keberadaan amfibolnya terbagi menjadi 3 tren yaitu tren Gunung Karang yang merupakan amfibol *bearing*, tren Gunung Parakasak merupakan amfibol *free*, dan tren Gunung Tukung Gede yang merupakan amfibol *free* dan amfibol *bearing*. Proses magmatisme yang dominan terjadi pada daerah penelitian berupa fraksinasi kristal dan Proses tektonik yang terjadi adalah subduksi busur benua yang memiliki kedalaman zona Benioff-Wadati sekitar  $\pm 118$  Km -  $\pm 138$  Km.

.....The Rawa Danau Volcanoes complex is located in Banten Province. This volcano complex was formed by ancient volcanoes eruptions. It is Composed by quarterly lava originating from Mount Karang, Mount Parakasak, Mount Tukung Gede, Mount Marikangen and Mount Dano Purba which are associated with the subduction zone of the Indo-Australian plate and Eurasian plate in the southern Java. The purpose of this study is to find out the type of lava constituents of this volcano complex, to know the evolution of magma, and the tectonic history of Rawa Danau Volcanoes Complex as the study area. This study uses petrographic method and geochemical methods with X-ray Fluorescence (XRF) analysis. The study area consists of plagioclase, pyroxene, olivine, and amphibole minerals. There are also micro-textures of plagioclase in the form of coarse sieve, glomerocryst, oscillatory, fine sieve, and clear. Divided into two groups of rocks, namely the group of amphibole bearing rocks and amphibole free rocks. The  $\text{SiO}_2$  content of this area is 55% to 71%, that is why the rock are andesite-basaltic, basaltic trachyandesite, andesite, trachyandesite, dacite, and trachyte trachydacite. The type of magma is calc-alkaline. Based on the Harker diagram, the study area has a clear trend so that the magma is co-genetic, then that trend is divided into two, namely positive trend and negative trend. However, based on the presence of amphibole mineral, it is divided into three trends, namely Karang trend, which is an amphibole bearing zone, Parakasak trend is an amphibole free zone, and Tukung Gede trend, which is an amphibole free zone and amphibole bearing zone.

The dominant process of magmatism in the study area was fractional crystallization and the tectonic processes that occurred was continental arc subduction which had a Benioff-Wadati zone depth of approximately  $\pm 118 \text{ Km} - \pm 138 \text{ Km}$ .