

SARI

Godean dan Seyegan merupakan kapanewon di Daerah Istimewa Yogyakarta yang memiliki morfologi bukit dan perbukitan dengan litologi batuan beku. Litologi tersebut tersebar di G. Berjo, G. Butak, G. Gedang, G. Ngampon, Dusun Kurahan Lor, G. So, G. Patuk, G. Wungkal, G. Gede, dan G. Siwareng. Penelitian ini bertujuan untuk mengetahui bukti lapangan mengenai hubungan kontak antara batuan beku dengan batuan sekitarnya dan karakteristik batuan beku.

Metode yang digunakan dalam penelitian ini terdiri dari observasi lapangan, petrografi, dan geokimia. Observasi lapangan bertujuan untuk mengetahui hubungan kontak antara batuan beku dengan batuan sekitarnya. Analisis petrografi dan geokimia digunakan untuk mengetahui karakteristik batuan beku. Karakteristik yang diteliti meliputi komposisi, penamaan, tekstur dan struktur batuan beku secara petrografi. Penamaan batuan, afinitas dan seri magma, serta proses diferensiasi magma dilakukan secara geokimia (ICP-AES).

Analisis data *Digital Elevation Model* (DEM) dan observasi lapangan didapatkan 10 relief tinggian berlitologi batuan beku yang tersebar dari selatan hingga utara. Batuan beku meliputi andesit basaltik, andesit porfiri, andesit porfiri teralterasi, dan andesit. Komposisi batuan beku di daerah ini tersusun atas mineral mayor berupa plagioklas, kuarsa, klinopiroksen, dan olivin. Mineral sekunder berupa kuarsa sekunder, mineral lempung, kalsit, hematit, dan klorit. Mineral minor berupa mineral opak. Tekstur berupa faneroporfiritik, porfiroafanitik, trakitik, *oscillatory zoning*, *reaction rim*, *embayment*, glomerofirik, dan miarolitik. Seri magma termasuk kalk-alkali K-rendah hingga K-menengah berdasarkan plotting diagram SiO_2 vs FeO^*/MgO oleh Miyashiro (1974) dan K_2O vs SiO_2 oleh Gill (1981). Data sebaran oksida utama pada diagram harker dan kehadiran *xenolith* didapatkan diferensiasi magma berupa kristalisasi fraksinasi dan asimilasi. Hubungan kontak batuan beku berupa kontak lava dan intrusi. Intrusi hadir menerobos satuan tuf, satuan breksi pumis, serta satuan batupasir tufan. Lava hadir menumpang di atas satuan tuf.

Kata kunci: Godean-Seyegan, intrusi, lava, kontak batuan beku, magmatisme Godean-Seyegan

Abstract

Godean and Seyegan are kapanewon in the Special Region of Yogyakarta, which has hill and hills morphology with igneous rock lithology. The lithology is spread in G. Berjo, G. Butak, G. Gedang, G. Ngampon, Dusun Kurahan Lor, G. So, G. Patuk, G. Wungkal, G. Gede, and G. Siwareng. This study aims to find outfield evidence regarding the contact relationship between igneous rocks and surrounding rocks and the characteristics of igneous rocks.

The method used in this study consisted of field observations, petrography, and geochemistry. Field observations aim to determine the contact relationship between igneous rocks and surrounding rocks. Petrographic and geochemical analyzes are used to determine the characteristics of igneous rocks. The characteristics studied include petrographic composition, nomenclature, texture, and structure of igneous rocks. In addition, nomenclature, magma affinity and series, and magma differentiation processes are carried out geochemically (ICP-AES).

Digital Elevation Model (DEM) data analysis and field observations obtained ten reliefs of igneous rock lithologies spread from south to north. Igneous rocks include basaltic andesite, porphyry andesite, altered porphyry andesite, and andesite. The composition of igneous rocks comprises major minerals such as plagioclase, quartz, clinopyroxene, and olivine. Secondary minerals in the form of secondary quartz, clay minerals, calcite, hematite, and chlorite. Minor minerals are opaque minerals. Textures are phaneroporphyritic, porphyroafanitic, trachytic, oscillatory zoning, reaction rim, embayment, glomerophyric, and myarolytic. The magma series includes low-K and medium-K calc-alkali based on plotting of SiO_2 vs FeO^/MgO diagram by Miyashiro (1974) and SiO_2 vs K_2O diagram by Gill (1981). Data on the distribution of the main oxide on the Harker diagram and the presence of xenoliths obtained magma differentiation in the form of crystallization fractionation and assimilation. The contact relationship of igneous rock is in the form of lava and intrusion. The intrusion broke through the tuff unit, pumice breccia unit, and tuffaceous sandstone unit. The lava is on top of the tuff unit.*

Keywords: Godean-Seyegan, intrusion, lava, igneous rocks contact, Godean-Seyegan magmatism