

SARI

Gunung Lasem merupakan salah satu gunung api dengan magmatisme kaya potasik di Jawa. Gunung Lasem memiliki fase erupsi eksplosif yang terekam pada sekuen endapan piroklastiknya. Pemahaman mengenai karakteristik endapan aliran piroklastik Gunung Lasem diperlukan untuk mitigasi bencana gunung api dengan tatanan yang identik.

Kombinasi analisis *Digital Elevation Map (DEM)* dan pengamatan lapangan menunjukkan adanya 12 unit aliran piroklastik di Gunung Lasem yang terdistribusi di lereng utara dan timur dan sedikit di lereng selatan dan barat, melampar hingga 0,7 – 6,7 km dari puncak. Secara umum endapan aliran piroklastik di Gunung Lasem didominasi oleh endapan aliran blok dan abu (BAF 1-9), sedikit ignimbrit (PF 1-2) dan aliran abu (AF). Kontak tiap unit aliran berupa material rombakan di antara. Pengukuran stratigrafi pada 27 stasiun pengamatan. Analisis petrografi dilakukan pada 20 sampel representatif. Endapan *BAF* berwarna abu-abu, struktur masif, ketebalan 1–25 m tersusun oleh fragmen andesit berukuran hingga 90 cm dengan matriks material vulkanik berukuran abu hingga lapilli. Ignimbrit berwarna putih kemerah-merahan, struktur masif, ketebalan 4,2-15 m, tersusun oleh litik andesit berukuran ~25 cm, pumis berukuran ~5 cm, matriks yaitu material abu vulkanik. Fragmen andesit pada *BAF* dan ignimbrit tersusun oleh fenokris plagioklas, hornblenda, klinopiroksen, dan nefelin, massa dasar mikrolit dan gelas vulkanik. Fenokris pada fragmen pumis berupa plagioklas, hornblenda, dan klinopiroksen, massa dasar gelas vulkanik. Aliran abu berwarna abu – abu, berstruktur masif, ketebalan ~8 m, tersusun oleh kristal plagioklas, hornblenda, klinopiroksen, dan gelas vulkanik. Data hasil analisis geokimia *Inductively Coupled Plasma Mass Spectrometry (ICP MS/AES)* menunjukkan kandungan SiO_2 pada endapan aliran piroklastik memiliki kisaran nilai 53-64%, seri batuan kalk-alkalin *high-K* dengan kisaran nilai K_2O (2,11-3,22%)

Endapan piroklastik aliran di Gunung Lasem dominan terbentuk akibat runtuhnya kubah lava dan aliran lava. Endapan aliran abu dan ignimbrit menunjukkan produk eksplosif di fase awal dan tengah pembentukan Gunung Lasem.

Kata kunci: *Endapan aliran piroklastik, Gunung Lasem, Stratigrafi, Petrografi, Geokimia ICP MS/AES*

ABSTRACT

Gunung Lasem is a volcano of high-potassic magmatism in Java. Gunung Lasem has explosive eruption phase that recorded at pyroclastic deposits sequence. Characterize the pyroclastic flows deposits have mutualism in volcanoes hazard mitigation in similar settings.

Combine both of digital elevation map analyses and field observations show there were 12 units of pyroclastic deposits in Gunung Lasem that distributed most in North and East, a lot in South and West, comprises from 0,7-6,7 km from the vent. There were three types of pyroclastic deposits, block and ash flow (BAF) dominated (BAF 1-9), a lot of lithic rich ignimbrites (PF 1-2), and ash flow (AF). Type of contact of pyroclastic flow units is reworked deposits. Stratigraphic logs measured in 27 locations. Petrography analyzed in 21 representative samples. Block and ash flow deposits are a purple color, massive, 1-25 thick, composed andesite fragment up to 90 cm in size, volcanic materials of ash-lapilli at the matrix. Ignimbrites are reddish pale in color, massive and welded, 4,2-15 m thickened, composed andesite lithic ~25 cm and pumice ~5 cm in size, volcanic ash materials of the matrix. Andesite fragments on the BAF and overlap are composed of phenocryst plagioclase, hornblende, clinopyroxene, and nepheline, microlite base mass and volcanic glass. Phenocryst in pumice fragments composes of plagioclase, hornblende, and clinopyroxene, volcanic glass base mass. The ash-flow is gray, with a massive structure, ~ 8 m thick, composed of crystals of plagioclase, hornblende, clinopyroxene, and volcanic glass. Data from the geochemical analysis of Inductively Coupled Plasma Mass Spectrometry (ICP MS / AES) shows that SiO₂ content in pyroclastic-flow deposits has a value range of 53-64%, high-K calc-alkaline rock series which K₂O value range of 2.11-3.22%.

In general, pyroclastic deposits flow on Mount Lasem is formed due to the collapse of the lava dome or lava flow. The ash-flow deposits and ignimbrites show more explosive volcanism in the early and middle phases of the formation of Mount Lasem.

Keywords: *Pyroclastic flow, Gunung Lasem, Stratigraphy, Petrography, Geochemical ICP MS/ AES*