

INTISARI

Gunung Api Sindoro merupakan salah satu gunung api Kuartar aktif di Pulau Jawa. Gunung api ini memiliki kerucut parasit Kekep yang menghasilkan aliran lava basalt dengan material xenolit. Xenolit merupakan material asing yang tertanam pada tubuh batuan atau aliran lava. Studi mineralogi dan tekstural xenolit dilakukan untuk mengetahui litologi *substratum* Gunung Api Sindoro. 12 sampel dianalisis, dengan hasil analisa meliputi: (a) kehadiran 11 sampel ultramafik dan 1 sampel sedimen; (b) dari 11 sampel ultramafik terdapat 6 sampel xenolit yang memenuhi deskripsi tekstural xenolit mantel, yang terdiri dari xenolit olivin-websterite, lherzolite, wehrlite dan dunite dengan distribusi ukuran kristal <1-3 mm; (b) 5 sampel xenolit yang memenuhi deskripsi tekstural xenolit kerak, yang terdiri dari xenolit olivin-websterite dengan distribusi ukuran kristal >1-7 mm; (c) 1 sampel xenolit sedimen dengan penamaan batulanau (*siltstone*) yang merupakan xenolit kerak. Perbandingan studi xenolit pada gunung api Kuartar lainnya di Pulau Jawa menunjukkan diskrepansi litologi pada xenolit Gunung Api Sindoro yang didominasi oleh xenolit ultramafik. Kehadiran xenolit pada Gunung Api Sindoro kemungkinan berasal dari: (1) injeksi magma primer, yang mentransportasikan xenolit dengan tekstur mantel; (2) atau sesuai dengan stratigrafi regional, berasal dari batuan sedimen berumur Plistosen-Eosen dan batuan ofiolit yang ter-transportasi.

Kata kunci: xenolit, litologi *substratum*, petrografi, mineralogi

ABSTRACT

Sindoro volcano is an active Quaternary volcano located on the island of Java. This volcano is home to the Kekep parasitic cone, which expels basaltic lava flows containing xenoliths. The term xenolith is used to describe a foreign body that has been incorporated into a rock formation or lava flow. Mineralogical and textural study was conducted with the objective of determining the substratum lithology of Sindoro volcano. 12 samples were analysed, with the following result of: (a) reported 11 samples of ultramafic and 1 sample of sedimentary xenolith; (b) out of the 11 ultramafic xenoliths, textural description of mantle xenolith is reported in 6 of the igneous sample that comprises of olivine-websterite, lherzolite, wehrlite and dunite, with average crystal size distribution of <1-3 mm crystals; (c) textural description of crustal xenolith is reported in 5 of the igneous sample that comprises of olivine-websterite, with average crystal size distribution of >1-7 mm crystals; (d) one sample of crustal sedimentary (siltstone) xenolith. In comparison with other reported study of xenolith in Quaternary volcanoes of Java, there is a lithological discrepancy in which xenoliths of Sindoro are mostly ultramafic in nature. The occurrence of this ultramafic xenoliths may come from: (1) primary magma injection, emplacing mantle-textured xenolith; (2) and based on regional stratigraphy, may come from emplaced ophiolite rocks and emplaced Pleistocene-Eocene sedimentary rocks.

Keywords: *xenolith, substratum lithology, petrography, mineralogy*