

SVC047-P02

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## Quaternary Gede Salak volcanic complex, Banten area, at the junction between Sumatra arc and Java arc, Indonesia

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Pleistocene Gede Salak volcanic complex is located at Banten, northwestern edge of Java island. The volcanism is associated with the subduction of the India-Australia plate beneath Eurasian plate at the rate of 7 cm/y. These volcanoes are located near Sunda Strait, a transitional zone between Java arc and Sumatera arc where oblique subduction is observed. The distance from Java trench is 300 km, with a diameter of 30 km. This volcanic complex consists of Gede, Salak, Batur and Wadas volcanoes. To southeast is located Pinang volcano, and to south is Volcanic complex of Rawa Dano. This study is the first geochemical study of volcanic rocks characterizing across-arc variation of Java-Sumatra junction.

Gede Salak volcanic complex consists of pyroclastic flow deposits in the western part and lava flows in the eastern part. The later development of dome Wadas formation is probably associated with fault structures trending northwest to southeast.

Volcanic samples from this volcanic complex include basaltic to trachytic rocks, in the range of medium-K to high-K MgO content is less than 3 %. Elements of Rb, Zr, Ce, and La increase with increasing SiO<sub>2</sub>. Chondrite-normalized REE patterns are similar to those of island arc basalts. When compared to volcanic samples from central western Java volcanoes, REE pattern is similar to those from backarc volcanoes (Sendjaja et al. 2009). Gede Salak volcano is slightly enriched in the subduction component, as illustrated by the low Nb/Zr and elevated Ba/Zr ratios. B/Nb and B/Zr ratios are in the range of (1.5 - 5.4) and (0.03 - 0.10), which are higher than the back arc volcano in central Java transect, but lower than the frontal volcanoes there.

Keywords: basalt, subduction, Gede Salak volcanic complex, Northwestern Java