Investigation of geochemistry and determination of tectonomagmatic setting of igneous rocks in North Oshnavieh, Western Azerbaijan

Mahsa Ershadi Gargari

Department of Geology, Urmia Campus, Islamic Azad University, Urmia, Iran

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Abstract: In the north of Oshnavieh, Western Azerbaijan Province, Cenozoic (Eocene) trachy-dacite and rhyolite rocks formed a part of the Oshnavieh Mountains. In Iran's structural-sedimentary division, these igneous rocks are located in the Sanandaj-Sirjan zone. The common texture in these rocks is porphyritic with microlithic matrix, and in some samples, porphyritic textures with hyaline matrix. In terms of mineral accumulation, they have plagioclase, alkali feldspar, quartz, and biotite minerals. These rocks are high-k Calc-Alkaline series and are among the Peraluminous rocks. In terms of tectonomagmatic position, the studied samples have evolved in the range of associated volcanic arc and in a syn-collisional environment. Due to the depletion of Nb, magma is formed in the subduction zone (active continental margin). Also enriched values of Rb and K reveals contamination of magmas with upper continental crust or magma transformation.

Keywords: Geochemistry; active continental margins; subduction; Oshnavieh.