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The evolution and geochemical aspects of megaporphyritic basic- intermediate lava in Azerbaijan Iran

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The studied area is in the northwest of khalkhal (Azerbaijan, NW of Iran) and related to Alborz – Azerbaijan structural zone. The oldest stratigraphic units belong to pre-Cretaceous deposits and the youngest units are quaternary alluvials deposits. The Eocene volcanic rocks are composed of olivine basalt, trachy basalt, trachy andesite and megaporphyritc basic- intermediate lavas. The latter have few centimeters phenocrysts of plagioclase and are extended in a large area from NW to SE of Iran volcanic belt (Urumieh-Dokhtar magmatic belt). They are a good indication for Upper Eocene volcanic activity in Iran. Geochemical and isotopic data for megaphyritic lavas show that the basaltic rocks have transitional trend with sodic character and the intermediate terms belong to calcalkaline series with sodic or potassic affinities due to different rates of crustal contamination and fractional crystallization (AFC process). The basaltic lavas are not relatively rich in plagioclase phenocrysts and have been ascended rapidly to the surface but the rich megaporphyritic intermediate lavas are the result of basic magma storing in upper crust chambers, suffering fractional crystallization and crustal contamination. These megaporphyritic lavas are also interested for Cu,Pb,Zn mineralization .