

PETROLOGY OF VOLCANIC OF SAFIABAD AREA, NORTH OF IRAN

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The study area is located in the Alborz zone (north of Iran). The magmatic rocks of the area include volcanic and subvolcanic rocks. The volcanic rocks have intermediate to basic composition. Differentiated terms of alkaline rocks include trachyandesite, trachybasalt, trachyt (Eocene-oligocene). Foidic basic rocks, lamproite and dacite (upper Miocene-pliocene). Pyroclastics and acidic tuffs also occur occasionally except foidic basic rocks and lamproites, all of the volcanic rocks show sodic affinity ($\text{Na}_2/\text{K}_2\text{O} > \%1$). The geochemical nature of these rocks is calc-alkaline to calc alkaline-alkaline. Petrographic and geochemical evidence suggest contamination and magmatic differentiation have been involved. These rocks show more enrichment in LILE and LREE compared to HREE. Mantle derived magmas have been affected by contamination. With crustal rocks. The alkaline basaltic magma has been modified by magmatic differentiation during the Eocene. It is suggested that the distribution of elements in the magmatic trends and the depletion of Nb, Ta in the spider diagrams are due to partial contamination of the magma with upper crustal material.