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Mineralogy, geochemistry and origin of Baft northeast volcanic rocks (south Kerman): Evidence for volcanic arc magmatism in Uromieh-Dokhtar magmatic belt

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Abstract: In north to northeast of Baft city, south Kerman, various outcrops of volcanic rocks, belong to Uromieh-Dokhtar magmatic belt, are observed. This region in Kerman Province situated in east of Dehaj – Sarduiye magmatic belt. Most of volcanic sequences in this area are andesite, andesite-basalt, dacite, and a few basalt and rhyolite with Eocene age that interlayered with pyroclastic and volcano sedimentary rocks with ignimbrites lavas. Study of rocks in this area and vocinity rocks showed that calco-alkaline series is dominant for these rocks. Major minerals include plagioclase, hornblende, biotite and pyroxene. Plagioclase phenocrysts in these rocks are shown inequilibrium texture such as zoning and sieves texture. From important textures in these volcanic rocks are porphyry, hyaloporphyry, microlitic and flowing. According to obtained results from analysis, these rocks showed enrichment from LREEs than to HREE. Also higher values of LILE than HFSE and negative anomaly in Ti, Nb and P in lavas revealed a subduction zone tectonic setting for this region and showed that primary magma are formed from mantle wedge melting in contact with derived oceanic crust flowing and enriched from LREEs originated.

Keywords: *porphyry texture; andesite sequence; LREE enrichment; volcanic arc; Uromieh Dokhtar belt; south Kerman.*

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