Minerals chemistry and geothermobarometry of Dourbeh and Nari intrusive bodies of W Urumieyeh, NW Iran

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Abstract: The studied bodies are located in the west of Urumieyeh Lake and northeast of Oshnavieyeh, in the Sanandaj-Sirjan structural zone. Compositionaly, these bodies are formed from gabbro-diorite (Dourbeh) and granite (Nari). Gabbrodiorite rocks are composed of plagioclase (andesine to bytownite), amphibole (calcic group and magnesio-hornblende-tschermakite-hornblende type) and pyroxene (augite) as the essential minerals. The essential minerals in granitic rocks are quartz, plagioclase (albite-oligoclase), alkali-feldspar (orthoclase) and mafic minerals are amphibole (actinolite) and biotite (annite). These rocks are metaluminous and have calc-alkaline nature and belong to I-type granitoids. Geothermobarometry of amphibole and biotite suggest that crystallization equilibrium temperatures at 700-860 °C, at 2.21-7.10 Kbar for gabbrodiorite and 740-760 °C for granitic rocks respectively. These conditions are in agreement with their formation and indicating crystallization crustal depths of about 8-26 Km.

Keywords: Geothermobarometry; Urumieyeh; Nari; Dourbeh; NW Iran.

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