Mineralogical and Geochemistry of intrusive rocks south of Moein Abad (East Iran, Zirkouh Qaen)

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Abstract: The study area is located in Tertiary plutonic belt of Lut Block. Tertiary intrusive injection in Cretaceous limestone caused the formation of skarn in this region. Injection intrusive changes the texture and mineralogy of limestone and skarn or marble formed. A lens-shaped iron mineralization mainly occurred in the border of intrusions and calcareous unit. Petrological studies show that the whole combination intrusive quartz-monzonite, quartz monzonite to granodiorite variables. These granitoids are sub-alkaline series and they are meta-aluminous. Geochemical features show that they belong to I-type granitoids. Enrichment in Light rare earth elements (LREE) rather than HREE and a slight negative anomaly of Eu are important evidence that show the intrusions were formed in a magmatic belt on subductions zone and belong to calc-alkaline volcanic arc setting in active continental margins. Different geochemical graphs show consistency granitoid intrusions in south of Moein Abad with iron skarn-related intrusions.

Keywords: Intrusive rocks; Lut, Iron mineralization; skarn.

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