

Investigation of tectonic setting and thermobarometry of the Kangareh area gabbro body (southwest of Kurdistan) using pyroxenes mineral composition

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Abstract: The Kangareh gabbro body is located in south of the Kurdistan Province and southwest of the Qorveh area. The area belongs to the Sanandaj-Sirjan zone. Tectonic evolutions during Mesozoic and magmatism, due to subduction of the Neo-Tethys oceanic lithosphere beneath the Iran microplate, led to formation of various igneous bodies in this area. Chemical analysis of pyroxene minerals and whole rock analysis show that the Kangareh body has metaluminous nature and belongs to tholeiite to calc-alkaline magma series. The studied samples have geochemical properties of subduction related igneous rocks such as negative Nb, P, Ti and Zr anomalies and positive Rb, Sr and Eu anomalies. The results of this study also indicate that the Kangareh gabbro body formed in an island-arc tectonic setting. On this basis, it can be concluded that there were island-arcs in adjacent to the Iran continental margin (Sanandaj-Sirjan zone) during Mesozoic that were attached to the Iran continental margin (the Qorveh area) after closure of Neo-Tethys ocean.

Keywords: *Gabbro; pyroxene; tectonic setting; thermobarometry; Qorveh; Sanandaj-Sirjan.*

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