

Geochemistry and tectonomagmatic sitting of the intrusive rocks in northeast of the Sonqor area, Iran

F. Aliani, S. Dadfar*, M. Maanijou, K. Borzoei

Department of Geology, Faculty of sciences, Bu-Ali Sina University of Hamadan, Hamadan, Iran

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Abstract: The plutonic bodies in northeast of the Sonqor area is a small part of the Sanandaj-Sirjan zone. According to the field and microscopic observations, the study area is composed of two major units; massive rocks (hornblende gabbro, intermediate and felsic rocks) and dikes (pyroxene gabbro). Mineralogical and geochemical studies show that this granitoid complex is I-type, calc-alkaline and metaluminous. The regular variation trends in the main and trace elements diagrams demonstrate that these massive rocks are generated by fractional crystallization process. The changes in ratios of Zr/Nb and La/Yb in these rocks indicate two different origin which are spinel lherzolite to garnet lherzolite (massive rocks) and spinel lherzolite (dikes). Also Th/Ta ratio in the range of (6-20) and enrichment in LILEs and LREE relative to HFSEs and HREE, all of these evidences indicate the intrusion of this body into the subduction zone which is related to an active continental margin setting.

Keywords: *I-type granitoides; Active continental margins; Calc-alkaline; Sanandaj-Sirjan Zone; Sonqor.*

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* Corresponding author, Tel: 09188423994, Fax: (0811) 8381460, Email: Soraya.Dadfar@yahoo.com