Mineralogy and determination of tectonomagmatic setting of subplutonic rocks in North of Shahrekord by using Clinopyroxene mineral chemistry

Z. Eliasi¹, N. Emami², A. Nasre esfahani¹, B. Vahabi moghaddam¹

¹. Khorasgan Islamic Azad University
². Agriculture and natural resources research center of chahar mahal and bakhtiari province

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Abstract: Subplutonic rocks of North Shahrekord at south-west of Iran as a part of Sanandaj-Sirjan tectonical zone have exposed as basic dykes. These rocks are dolerites with specific textures such as intergranular, intersertal, ophtic and poikilitic. The main constituted minerals of the dolerites are plagioclase and clinopyroxene. The secondary minerals include sercite, calcite, chlorite, epidote, clinozoisite, sphen and incidental minerals are apatite, magnetite, titanomagnetite and ilmenite. Clinopyroxenes are frequently augite and diopside as individual phases or as compositional zoning in one mineral. Geochemical and mineralogical evidence implicated toleitic and alkaline nature. Based on geotectonic discrimination diagrams founded clinopyroxenes mineral chemistry, studied subplutonic rocks probably have been formed in a tensional post subduction tectonical environment. Neverthless, these magmatism contributed to middle- upper kimmerian orogenic phase in late Jurassic to early cretaceous.

Keywords: Tectonomagmatic; Sanandaj-Sirjan zone; Shahrekord; Subplutonic; Clinopyroxene.

*Corresponding author, Tel: 09133840615, Fax: (0381) 2262345, Email: Eliasi57@yahoo.com