

Geochemistry and petrogenesis of the Cheheltan Mountain volcanic rocks; south-west of Bardsir (Kerman Province)

P. Ahmadi Moghadam*, H. Ahmadipour

Department of Geology, Faculty of Sciences, Shahid Bahonar University of Kerman, Iran

(Received: 27/5/2012, in revised form: 20/10/2012)

Abstract: The Cheheltan Mountain is located at south west of Bardsir, Kerman Province. It represents a part of the Eocene Hezar volcanic complex (Urumiyeh-Dokhtar volcanic belt) and consists of lava flows, pyroclastics, epiclastics and numerous intrusions. The lava flows comprise of basaltic-andesites and basalts and contain plagioclase and pyroxene phenocrysts that set in a vitreous or fine-grained matrix. Geochemical studies show that the lava flows belong to the calcalkaline and high-K calcalkaline magmatic series, and in the variation diagrams, they show continuous chemical trends, which can be formed due to fractional crystallization of minerals such as olivine. These rocks show negative anomalies of Nb, Ti, Ta, HFSE and HREE, and positive anomalies of Ba, Rb, Th, LREE and Sr in the spider diagrams, resembling the subduction related magmas. These evidences show that the parental magmas may have been affected by crustal contamination processes. According to the petrogenetic studies, these magmas belong to the active continental margin setting, and all of them have the same source. The present work shows that the parental magmas of the studied rocks, probably originated by partial melting of metasomatized mantle sources in a subduction zone environment.

Keywords: *Urumiyeh-Dokhtar volcanic belt; calcalkaline series; active continental margin; crustal contamination.*

متن فارسی اصل مقاله از صفحه ۳۷ تا ۴۸ در این شماره به چاپ رسیده است.

*Corresponding author, Tel-fax: (0341) 3220041, Email: pahmadimoghadam@yahoo.com