

Petrology of Eocene volcanic rocks in NE of Ordib (NE of Isfahan Province)

Gh. Torabi^{*}, N. Shirdashtzadeh

Department of Geology, Faculty of Sciences University of Isfahan

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Abstract: Eocene volcanic rocks in NE of Ordib, have a very good exposures near and along the Turkmeni-Ordib fault. These rocks, that are situated in the inner part of the Central Iran and margin of the Yazd block, comprise trachyte, trachy-andesite and basaltic trachy-andesite. Trachy-andesite is the pervasive rock unit. Rock forming minerals of these rocks are chloritized olivine, plagioclase, pyroxene, mica, amphibole, K-feldspar, quartz, ilmenite, magnetite and calcite. The most important mineralogical characteristics of the studied trachy-andesites are wide range of minerals in one rock sample, including two types of clinopyroxene, mica, plagioclase, sanidine, formation of reactionic clinopyroxene and calcite around the quartz, and oscillatory zoning of feldspars and amphiboles. Chemistry of clinopyroxenes and biotites with whole rock geochemical analyses, reveal that these rocks are similar to the continental volcanic arc rocks. Petrography and mineral chemistry demonstrate the magma mixing occurrence in formation of these rocks.

Keywords: *Petrology, Eocene volcanic rocks, magma mixing, Ordib.*

*Corresponding author, Tel.: +98 (0311) 7932165, Fax:+98 (0311) 7932152, E-mail: Torabighodrat@yahoo.com