IRANIAN SOCIETY of CRYSTALLOGRAPHY and MINERALOGY

Vol. 26, No. 2, Summer 1397/2018

IRANIAN JOURNAL of CRYSTALLOGRAPHY and MINERALOGY

Distribution of trace and rare earth elements among metamorphic phases and relict clinopyroxenes in epidote- amphibolites from the North of Urmia, NW Iran

M. Ahangari[1*]

Department of Geology, Faculty of Sciences, Urmia University, 57153-165, Urmia, Iran

(Received: 23/5/2017, in revised form: 29/8/2017)

Abstract: Rare earth and trace element concentrations of mineral assemblages including amphibole, plagioclase, epidote group minerals (zoisite and clinozoisite) and relict clinopyroxenes from parental rock of epidote amphibolite from north of Urumia were obtained in situ by LA-ICP-MS analysis. The obtained data were used to study distribution of trace elements among metamorphic phases and relict clinopyroxenes from parental rock. In the studied rocks, compatible elements (Sc, V, Ni and Cr), HSFE (Ti, Ta, Hf and Nb) and MREE were concentrated in amphibole, LREE and LILE were collected into plagioclase and epidote group minerals were gathered HREE accompanied with Eu. The observed REE trends in epidote group minerals in north of the Urmia epidote- amphibolites are unlike to common reported trends for this mineral group in the other parts of the world. Rare earth element geochemistry of the epidote group minerals from the north of Urmia indicates enrichment of HREE and MREE relative to LREE. Relative similarities for rare earth and trace element concentrations of amphibole and relict clinopyroxenes from parental rock indicates that the geochemical features of amphibole were inherited probably from primary clinopyroxenes.

Keywords: *Distribution coefficient of trace elements; amphibole; plagioclase; epidote group minerals; epidote- amphibolite; north of Urmia.*

متن فارسی اصل مقاله از صفحه ۲۸۷ تا ۳۰۰ در این شماره به چاپ رسیده است.

* Corresponding auther, Tel: 04431942139, Fax: 04432776707, Email: m.ahangari@urmia.ac.ir