

GEOCHEMISTRY OF BIOTITE FROM VINȚA GRANITOID (APUSENI MTS.)

MITICĂ PINTILEI¹

¹ „Al. I. Cuza” University of Iași, Department of Geology, 20A Carol I Blv., 700505 Iași,
Romania

Abstract

Six biotite samples from Vința granitoid were investigated in order to get informations regarding their major and trace elements geochemistry and for revealing conditions of the magma from which their host rock consolidated.

The data processing revealed that all the samples represent Fe-biotite crystallized directly from the magma and these are unaffected by the subsequent subsolidus processes.

The biotite from pegmatite crystallized from a moderate oxidized magma at lower temperatures than biotites from granitoids. Geochemistry of biotites from granitoids indicates a low degree of magma oxidation and higher temperatures. Distribution of octahedral cations in the bivariate diagrams suggest presence of two batches of melts that led to formation of different textural types of granitoids, massive and gneissic, hypothesis supported also by the values of Mg# and by Fe/Fe+Mg ratio.

In the gneissic granitoids biotites are accompanied by muscovite while in the massive varieties biotites is unaccompanied by other ferromagnesian or aluminous minerals.

The study of trace elements abundance in biotites and in their host rocks indicate that over 50% of total quantity of Zn, Cs, Nb and Ta and a large quantity of Rb, Sc, V, Ga and U from Vința granitoids are concentrated by the dark mica.

Key words: Vința granitoid, biotite, trace elements, gneissic, primary magmatic mineral

¹ e-mail: mpintilei@gmail.com