Acta Mineralogica–Petrographica, Szeged, XLI, Supplementum, 2000

THE MINERALOGICAL, PETROLOGICAL AND GEOCHEMICAL CHARACTERS OF THE BASIC INCLUSIONS IN THE GRANITOID ROCKS OCCURRING IN BOREHOLES NEAR ÜVEGHUTA, MÓRÁGY MTS., HUNGARY

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The Hungarian National Project on the low and intermediate level radioactive waste disposal has been performed in 3 phases since 1993. The site exploration is being carried out by the Geological Institute of Hungary with dozens of partners. Seven deep and a lot of shallow boreholes were drilled near Üveghuta, in the Mórágy Mts. (BALLA *et al.*, 1998, 1999).

The main rock types in the boreholes are (BUDA, 1998, 1999):

1. white or pinkish microcline bearing granitoid with microcline megacrysts (monzogranite);
2. basic inclusions;
3. microgranite and pegmatite.

The aim of the current study is to find out the origin of the basic inclusions and to determine the composition of the primary melt. The inclusions are syenite, monzonite and quartz monzonite according to the modal and normative compositions.

I have distinguished four groups of inclusions that contain biotite and hornblende:

1. with microcline, without quartz;
2. with quartz, without microcline;
3. with microcline and quartz;
4. without microcline and quartz.

The total REE, Ba and Th content is high because there are a lot of accessory minerals. The quantity of REE elements in the microcline bearing granitoid is high, too. The inclusions are strongly differentiated, similar to the granitoid. So it means that there was an equilibrium in REE content among the two melts (acidic and basic) during the generation, and these melts crystallized at about the same time.

According to the major elements analysis the character of the basic inclusions is metaluminous (A/CNK=1), meaning that its origin is mixed crust and mantle. The basic inclusions probably originated from a volcanic arc and mixed with the partially melted continental crust during the post-collision uplift.

References

BUDA, GY. (1998, 1999). Summary report of the examination of granitoid rocks occurring in boreholes near Üveghuta. Eötvös University, Budapest. [in Hungarian]

BALLA, Z. *et al.* (1998, 1999). Low and intermediate level radioactive waste disposal. Final repost on site exploration and aptitude test. 1, 2. Geological Institute of Hungary, Budapest. [in Hungarian]