

# **GEOCHEMISTRY OF METABASITES FROM CRYSTALLINE COMPLEXES OF TRANSDANUBIA BELT, HUNGARY: GEODYNAMIC IMPLICATIONS.**

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Neogene or Permian and/or Mesozoic sediments covered South Hungarian poly-metamorphic crystalline basement/socalled "Tisza Unit"/is composed by medium and high grade Barrow - type gneiss-mica schist complexes which are interbedded by 0,5-18 m. thick amphibolite bodies and infrequent arble-dolomite marble lenses as well as scarce leptinolite/medium and high grade acidic metatuff/intercalations. Characteristic paragenese of amphibolites: hornblende+plagioclase/An<sub>24-55</sub> /+albite±quartz±chlorite with ilmenite±sphene±leucoxene accessories. Actinolitization and/or epidotization mainly in the sheared or fractured amphibolitic rocks are not rare.

Major, minor and trace elemets (Sr, Rb, Ba, Nb, Zr, Y, 3d and rare earth elements) of metabasites from Transdanubian area and from drillings in the Great Hungarian Plain region (Hungary) have been studied.

The metabasites show variable geochemical contents. The major element amounts are quite variable, e.g. SiO<sub>2</sub> varies from 39 to 59 wt%, TiO<sub>2</sub> from 0.13 to 4 wt%, Na<sub>2</sub>O from 1.6 to 4.19 wt%. The classificative diagrams based on major and minor elements give contrasting answers, i.e. alkaline and subalkaline affinities as well as only subalkaline character. The same variability is obtained using the discriminative diagrams as far the geodynamic environment. Conversely, the REE abundances and patterns are quite homogeneous. This fact suggests a possible post-magmatic geochemical mobilization of certain elements.

The geochemical behaviour of major, minor and trace elements is discussed in trying to define the nature of the pre-metamorphic protolith as well as the geodynamic environment.

## **STRUCTURAL GEOLOGY AND TECTONICS: MAPS OF CAUCASUS**

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General and simplified map 1:2.500.000 was prepared. It contents following

category major pre-alpine crustal domains: Alpine & Hercynian forland, Hercynian belt, Alpidic orogenic belt, Alpidic (Indosinian) ensialic chains. Then the thematic tectonic maps concerning different aspects of the alpidic evolution of the former domains were prepared. As concerning of alpine (Indosinian) reworking following categories are established: area with slight Alpine and Indosinian disturbances, area with strong Indosinian and intermediate grade Alpine disturbances. The older blocks in autochthonous and allochthonous position are recognized.

On the basis of the structural units map columns of tectonic ages with characteristics of tectonic events for each tectonic unit have been drawn.

On the map of pre-alpine structural features following structural subdivisions are recognized: structures formed by paleozoic deformation events (paleozoic rocks with variscan structures only, older rocks but with only variscan structures, undeformed in prealpine events pre-variscan paleozoic rocks), structures developed in baicalian folding events overprinted by variscan structures, main structural variscan features (domains with different type of folding and foliation), vergence.

## AN OUTLINE OF THE METAMORPHIC EVENTS RECORDED IN THE WESTERN CARPATHIANS (CZECHO-SLOVAKIA)

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The main features of the Alpine and pre-Alpine metamorphisms in the Western Carpathians (WC) are outlined in this paper, in order to give the basic information for interregional correlations within the ambit of the IGCP Project No. 276.

The WC consist of three main structural zones. The outer zone is made up of non metamorphic sediments of the flysch belt. The central zone includes two tectonic units: the Taticum and the Veporicum. The inner zone is the Gemicum.

Taticum, Veporicum and Gemicum include metamorphic sequences of different age and petrologic features. For each of these three structural domains, the available data concerning the lithology, the petrologic features and the chronological frame are critically summarized, and the main open problems are focused.

Due to the very complex history of the WC, the present knowledge on the timing, regional distribution and petrological features of the variously aged metamorphic stages is sometimes not sufficient for presenting sharp statements, notwithstanding the huge