PETROLOGY OF THE POLUMIR GRANITE (CENTRAL SERBIA - YUGOSLAVIA)

1 VUKOV, M., 1 MILOVANOVIC, D., 2 MARCHIG, V. 1 Faculty of Mining and Geology,Djusina 7, 11000 Belgrade, Yugoslavia; 2 Federal Institution for Geosciences and Natural Resources, Alfred-Bentz-Haus, Postfach 510153, Hannover 30631, Germany

The Polumir granite is concordant body intruded mainly as alredy crystallized mass in the Studenica serie in the Vardar zone. It occurs, due to erosion, as seven smaller masses which cover the area of about 7 km2. Endocontact metamorphism within granite body is absent, while contact metamorphism from moderate up to high, in hornblende hornfels facies were observed locally.Granite is a medium-grained rock with granular texture, partly altered, composed of quartz, orthoclase, microcline, orthoclase-microperthite, microcline-microperthite, plagioclase (oligoclase-andesine), myrmekite, biotite and muscovite. Its schistosity resulted from mainly orientated and deformed (folded) micas. From accessory minerals, following are present: apatite, magnetite, monazite, xenotime, allanite (primary one) and zircon, while of secondary are: sericite, chlorite and clay minerals. According to its chemistry, the Polumir granite has been referred as peraluminous, leucocratic and S-type.Whole rock chemistry, as well as mineral chemistry, suggests on its formation at depths from 2 to 7 km and pressures from 0.5 to 2 kbar, where temperatures range between 770oC and 670oC. This is in accordance with the other geological data (intensity of contact metamorphism, emplacement and relations with the associated rocks).The determined age, ranging from 14 Ma to 19.5 Ma (using K/Ar method) could be the age of remobilization, i.e. the age of metamorphism.The abundances of trace elements and REE, as well as fabric of the broader area and rocks associated with the Polumir granite; imply that it could be considered as syn-collision one.