CLINORYROXENE AND SPINEL COMPOSITION FOR PALEODYNAMIC ORIGIN OF OPHIOLITIC VOLCANIC ROCKS (SOUTHERN ARGOLIS PENINSULA, GREECE)

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The ophiolitic "mélange" of Upper Jurassic age in the Southern Argolis Peninsula, consists mainly of brecciated and schistose serpentinised harzburgite as matrix, includes two distinct volcanic suite blocks of boninitic and basaltic composition respectively. Both lavas contain numerous well-preserved primary clinopyroxene phenocrysts. The former is associated with a typical greenschist facies mineral paragenesis (albite, chlorite, tremolite, actinolite, epidote, quartz, calcite, sphene, magnetite) with spinel microphenocrysts and the latter block is associated with zeolitic facies mineral paragenesis (albite, zeolite Na-Ca, chlorite, calcite) and sulfur minerals.

Clinopyroxene phenocrysts microanalyses have been plotted in discriminant diagrams and have shown for the endiopside-augite of boninitic blocks the orogenic affinity. This has also been marked by the chemistry composition of spinels (Cr#0.7-0.8), which is comparable to jurassic and tertiary supra-subduction zone rocks characterised by low-Ti and very low-Ti. In the other part the augite-salite of basaltic blocks are considered as an oceanic crust relic and are clearly related to tholeitic basalts and more precisely to non-orogenic tholeiites characterised by high-Ti (MORB).

Furthermore these mineralogical results are consistent with previous results for the Northern Argolis peninsula ophiolitic units where the boninitic rocks are probably formed in a back-arc or interarc setting where the compositional variations of MORB-like basalts are attributed to dynamic partial melting of the rising mantle diapir.

SOME VIEWS ON THE STRUCTURE OF THE BASEMENT IN THE STRYMON BASIN

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The contact between the Servomacedonian and Rhodope massives in Eastern Macedonia-Greece is consealed under the sediments of the Strymon Basin for its major extent in the greek territory. Where mapped, at the northern and southern edges (Agistron and Messolakia areas respectively) of the basin this contact is of overthrust type, the Servomacedonian massif overriding the Rhodope. For the study of the basin's basement a regional geological map at a 1:500.000 scale was compiled from the relevent maps of Greece, Bulgaria and Yugoslavia. Ten combined grevity and magnetic

profiles were constructed across the basin and from them the deepest part of the basin was mapped. This axis of the basin follows closely its trend. The aeromagnetic data of the region were digitized and then processed (first and second derivatives, reduction to the pole, Hanning filter, susceptibility inversion). The interpretation of the results shows major transcurrent faults to cut across the basin at a ENE-SWS direction. The most prominent of these faults passes through the central part of the basin and is extended well into the Rhodope and Servomacedonian massivas. This fault and another one at the north-western part of the basin define a block, which, according to the wavelength of the anomalies over it, seems to be uplifted compared to the neighbouring regions. Whithin this block the Vrondou granite is intruded, probably influenced by a fault of similar trend. In the southern part of the basin the pattern of the faults is more complicated different directions (N-S, SW-NE, NNW-SE) can be postulated.

GARNET CLINOPYROXENITE FROM BRISTRICA SOUTHERN ZLATIBOR, SERBIA

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In a small lherzolite block (olistolite) in the Diabase-Chert Formation (olistostrome melange) occur thin (up to 30 cm thick) garnet clinopyroxenite veins concordant to the layering of the host rock.

The garnet clinopyroxenite consists of clinopyroxene (slightly deformed comp. ca 66% Di, 9% Hd, 9% Jd, 15%Tsch), garnet (ca55% Prp, 27% Alm, 17% Grs, 1% Sps) and locally very rare orthopyroxene. The lherzolite is composed of olivine (90% Fo), enstatite (90% En), clinopyroxene (ca 80% Di, 4.5% Hd, 7.5% Jd, 8% Tsch), all slightly deformed, and accessory spinel. The texture of the garnet clinopyroxenite is mosaical with subordinate cataclastic phenomena.

The fabric of the garnet clinopyroxenite and the host lherzolite is similar (the difference is only in the presence of layering in the lherzolite) indicating that both rocks originated before the final solidification, since high temperature solid state deformations are expressed in both of them.

The crystallization temperature of the garnet clinopyroxenite from a picritobasaltic melt low in alkalies and high in calcium was over 1050-1100°C, but the equilibration between the coexisting minerals ended at about 1000°C. The solid state equilibration temperature of the lherzolite was at 900-950°C and at ca 12.5 kb pressure. The