

- 1) Fluid inclusions from the Weitersfeld Gneiss at Weitersfeld: Dominant are 3 phase fluid inclusions which are parallel to shear- and extension cracks. Their composition is pure CO<sub>2</sub> gas and CO<sub>2</sub> liquid, and H<sub>2</sub>O with salinity of approximately 7 - 8 wt%. A second type of H<sub>2</sub>O fluids with approximately 7 wt% salinity is sub-parallel to the foliation and has a density of 0.95.
- 2) Fluids from the Bittesch Gneiss at Hattey quarry: CO<sub>2</sub> rich fluids have small portions of N<sub>2</sub> and/or CH<sub>4</sub>, have low density and are oriented parallel to the foliation.
- 3) Fluids from the Bittesch Gneiss at Teichwiesenbachtal: First generation of H<sub>2</sub>O rich fluids with 11 wt% salinity have densities in the range of 0.989 to 1.023. Second generation fluids with similar salinities have lower densities (0.891). Both types occur within recrystallized quartz grains.
- 4) Fluids from Moravian marbles at Waldschenke: CO<sub>2</sub> rich fluid trails are oriented parallel to shear- and extension veins.

Assuming coeval trapping of fluid types in the Weitersfeld Gneiss the isochores suggest P-T conditions of approximately 300 °C and 3,3 kb. Estimated temperatures fit very well the independent data from rheological behaviour of rock-forming minerals. Data from the southern portions of the Bittesch Gneiss (Teichwiesenbachtal) suggest two fluid-forming processes of high-density type followed by lower-density type. Microstructures and kinematic analyses from this area indicate polyphase evolution with HT-thrusting followed by LT-strike-slip displacement. The two fluid generations are interpreted to reflect this situation. The Bittesch Gneiss at Hattey quarry also suffered similar structural succession but only the LT features are preserved in the boudin necks where lower density fluids occur. Preliminary data suggest pressure decrease during progressive deformation.

FRITZ H., NEUBAUER, F. (1993): Kinematics of crustal stacking and dispersion in the south-eastern Bohemian Massif. - *Geol. Rundsch.*, **82**, 556 - 565.  
 HÖCK, V., MARSCHALLINGER, R., TOPA, D. (1990): Granat-Biotit-Geothermometrie in Metapeliten der Moravischen Zone in Österreich.- *Österr. Beitr. Met. Geoph.*, **3**: 149-167.

## **EUROPROBE - LITHOSPHERE RESEARCH ACROSS A UNITED EUROPE**

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Europrobe was launched by the European Science Foundation in January 1992 and now involves several hundred geoscientists from twenty-two European countries. The programme includes a wide range of multidisciplinary (geological and geophysical) investigations, all devoted to a better understanding of the tectonic evolution of the European crust and mantle, and the dynamic processes that controlled this evolution. The very different character of the lithosphere in eastern

and western Europe (with a stable ancient platform dominating the east and younger mobile belts in the west), together with greatly improved communication throughout Europe, have set the scene for many exciting new ventures in the Solid Earth Sciences.

During 1992-93, the Europrobe programme has focused on four main themes "Deep Europe" (DE), "Intraplate Tectonics and Basin Dynamics" (ITBD), the "Trans-European Suture Zone" (TESZ) and the "Uralides & Variscides" (U&V). Europrobe has held workshops in the Czech Republic, Denmark, Germany, Hungary, the Netherlands, Poland, Russia and Spain. Although the first two years of the programme have mainly concerned defining targets for multinational investigation of the main themes, Europrobe workshops have stimulated pilot projects (eg. in the Urals) and a wide range of other collaborative research.

Europrobe's first two years have resulted in the definition of several key projects that will provide foci for research in the mid 1990s. These include a multidisciplinary transect from Europe to Asia across the Urals, a basin dynamics focus on the Donetz-Dnieper-Pripyat and related aulacogenes of the East European Craton, new investigations of the Carpathian Arc-Pannonian Basin System, a combined study of Siberian (Yakutia) mantle xenoliths (kimberlitic) and deep seismic data to interpret mantle velocity discontinuities and the evolution of Archaean crust, a focus on the Trans-European Suture Zone (particularly the Palaeozoic accretionary history) and various other investigations of the contrasting signatures of the deeper lithosphere in eastern and western Europe. These and other projects will be running workshops in the years to come; people with related research interests are welcome to participate.

### **MAGNETISM OF THE PALEOZOIC ROCKS FROM THE SPIŠSKO-GEMERSKÉ RUDOHORIE MTS. (SLOVAKIA)**

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The Spišsko-Gemerské Rudohorie Mts. lie in the central part of Eastern Slovakia. This mountain system has a particular position in the geology of the West Carpathians. It is the only area in the West Carpathians with a complete Paleozoic sequence and is the most important ore district of the West Carpathians. Modern detailed investigation of this area is necessary for the comparison of lithostratigraphic, tectonic and metamorphic setting with other crystalline Mts. in the West Carpathians. The rocks of the investigated area have undergone a different degree of metamorphism up to the present. The age of studied rock types is Silurian - Permian (435 - 265 mil. years).