

# **EUROPROBE**

## **TESZ WORKSHOP**

### **Report of the meeting in Potsdam 2<sup>nd</sup>-5<sup>th</sup> November 1997**

The 1997 TESZ workshop in Potsdam (Germany) was attended by 81 scientists from 15 countries, including 20 from non-ESF countries (Annex 1). A relatively large number of participants came from Germany with the aim of co-ordinating different national projects with the EUROPROBE TESZ project.

The programme started with a field excursion to the Rüdersdorf quarry east of Berlin where the participants had the possibility to study platform stratigraphy from Trias to Quaternary, including the effects of salt diapirism from the Cretaceous to neotectonic movements.

The first day's talks (Annex 2) focused on data and first results obtained from the onshore-offshore near vertical and wide-angle reflection seismic project "Basin '96" carried out by DEKORP with participation of N-European countries in 1996. Offshore, a net of seismic lines was recorded in the southern Baltic Sea with stations distributed onshore on German, Danish and Swedish territory. Onshore, the profile crossed the NE-German Basin in a NNE-SSW direction from the island of Rügen to the Harz mountains. Much discussion was generated concerning the significance of some south-dipping intracrustal reflectors, the depth and structure of the crust-mantle transition underneath the central NE-German Basin and the position of the Caledonian Deformation Front (CDF). Despite the generally high resolution data, only faint, discontinuous south-dipping reflections were observed in the expected crustal position of the CDF, in contrast to strong reflectors further south. The Moho position underneath the basin was preliminarily determined at depths of 28 to 32 km, depending on the significance attributed to different strong reflectors. A thicker crust was supported also by seismic wide angle reflections studies, involving, however, relatively high average crustal velocities and some problems related to isostasy and basin modelling. Two talks dealing with Permian magmatism and its possible relation to a mantle plume gave explanations for the uncertainty of Moho depth (lower crustal basic intrusions/underplating) and the missing signature of the CDF in the mantle (thermal overprinting).

The second day was dominated by presentations of new insights into the process of terrane amalgamation along the TESZ from palaeo-magnetics, palaeo-biogeography, dating and seismic imaging. The result of intense discussion, following some of the talks, seems to be a general inclination towards the recognition of large transcurrent movements and a positioning of the palaeo-margin of Baltica east of the Odra Fault Zone. Other presentations dealt with the evolution of the Polish Trough, giving evidence for repeated cycles of subsidence and uplift from Upper Silurian to Cretaceous and relating them to both plate boundary and thermal stresses.

During the last day, the EUROPROBE TESZ project was brought into a wider context through the presentation of some large-scale projects. Two other EUROPROBE projects were presented by their respective project leaders, EUROBRIDGE by S. Bogdanova and GEORIFT by R. Stephenson. Both made clear that, although these projects are not located in the immediate vicinity of the northwestern part of the TESZ, important overlap exists between them and the TESZ project with respect to the Palaeozoic evolution of the East-European Craton and its margins. The Polish ADGIP (Association of Deep Geology In Poland) association, represented by A. Guterch and M. Grad, presented data of one of the largest refraction seismic projects ever carried out in Europe (POLONAISE), involving a 3D investigation of the crust underneath the Polish Basin and connecting to the EUROBRIDGE transect. They also presented plans for a follow-up project to be carried out in 1999/2000, crossing the TESZ further south into the Carpathian Mountains and the Pannonian Basin, connecting in this way the TESZ project with EUROPROBE's PANCARDI project.

Other presentations dealt with new compilations of large scale potential field maps and incorporation of new stress data into the World Stress Map in a region which was, until recently, void of published stress measurements, but considered a key area for studying the sources of the large-scale European stress field.

The nearly 20 poster presentations could be visited with ample time during the lunch breaks and in the later afternoons, giving rise to further extensive discussions. All presentations of this workshop have been collected in an abstract volume published in the journal "Terra Nostra" (Annex 3). Evening meetings served for co-ordination of closely related German projects like the "Orogenic Processes" and a recently founded Special Research Group sponsored by the DFG, dealing with geoscientific studies along the Basin '96 DEKORP line. This latter group will be closely integrated in EUROPROBE TESZ research through participation in future EUROPROBE meetings and co-ordination with international research in the area.

We thank the local organisers, especially Prof. J. Negendank, Dr. T. McCann and Ms. C. Brüchmann for preparing and running the meeting. In addition to ESF sponsoring, the meeting was supported by the GeoForschungsZentrum Potsdam and the DFG (German Science Foundation).

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#### **List of Annexes**

- 1) List of participants
- 2) Workshop programme
- 3) Front page of abstract volume