of the Most Basin, (probably due to gently inclined relay ramps), and confirms that the KHFZ is generally a post-depositional feature which probably developed by hard linkage of earlier, en-echélon, E-W normal faults.

All three seismic reflection profiles show a number of strike-slip faults expressed as flower structures of minor vertical displacements, commonly younger than the Oligo-Miocene deposits, but suggesting also significant strike-slip deformation prior to the basin filling.

The most pronounced tectonic feature in the reflection-seismic profiles is the deformation of the whole basin fill at the margin of the KHFZ. The flexure of the preserved basin fill, accompanied with an array of secondary normal faults in the coal seam and the clastics, is interpreted as due to forced folding caused by a propagation of a major normal fault in the rigid crystalline basement. The sedimentary package above the fault zone is fractured by an array of secondary, synthetic normal faults in the folded zone, which splay off the master fault and mostly die out upward (cf. analogue models by Schlische et al., 2002, for closely similar examples). Immediately above the hinge zone of the flexure, a fan-like array of both synthetic and antithetic faults occurs. The kinematic interpretation of this fan, which could be related to the bending of the clastic package during forced folding, is complicated by the occurrence of a minor vertical fault coinciding with the bend and possibly evolving upward into a flower structure. The exact succession of deformation events in this zone should be addressed by analogue modelling. The age of the basin-fill deformation at the KHFZ is Late Miocene to post-Miocene; exact timing cannot be assessed from the seismic data.

The present interpretation of reflection-seismic data allowed to separate distinct styles of pre- and post-depositional tectonic deformation in the Most Basin. Future efforts should focus on the nature of the transition between the styles of syn- and post-depositonal faulting, and, above all, on the dynamic causes of the uplift of the Krušné Hory Mountains which led to significant modification of the original, syn-rift architecture of the Ohře Rift.

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Large-Scale Stratigraphic Geometries in a Rift-Margin, Lacustrine Delta System Influenced by Peat Compaction: Comparison of Field and Reflection Seismic Data (the Miocene Bilina Delta, Ohře Rift, Czech Republic)

Michal RAJCHL[1], David ULIČNÝ[2], Karel MACH[3] and František HUBATKA[4]

[1] *Department of Geology, Charles University, Albertov 6, 128 43 Praha 2, Czech Republic*
[2] *Geophysical Institute, Czech Academy of Sciences, Bocni II/1401, 141 31 Praha 4, Czech Republic*
[3] *Severočeské doly, a.s., Doly Bílina, 5. května 213, 418 29 Bílina, Czech Republic*
[4] *Spodní 16, 625 00 Brno, Czech Repubic*

The stratigraphic geometry of depositional systems is generally thought of as a product of the interplay of basin-floor subsidence, base-level changes, and sediment supply. The subsidence of basin floor is generally implicitly regarded as mainly tectonic and isostatic in origin, but it can be significantly modified by migration of ductile substrate such as salt, and by compaction. In depositional systems with strongly compactible and migrating substrates, the feedback between sediment supply, loading and compaction/migration of the substratum leads to creation of local to regional accommodation and, at the same time, may have a strong influence on the resulting stratal geometries. In coal-bearing basins, syndepositional compaction of peat plays a significant, but as yet not fully explored, role in the behaviour of depositional systems and the resulting stratigraphic geometries.

The early Miocene Bílina Delta is package of a fluvio-deltaic clastics deposited at the southeastern margin of the Most

Basin, one of the extensional sub-basins of the Ohře Rift (Eger Graben) basin system in North Bohemia (Czech Republic). The Bílina Delta is interpreted as a fluvial-dominated, mouth-bar – type delta, with distributaries terminated by friction-dominated mouth bars, mostly of Gilbert-type profile (Uličný et al., 2000). The receiving basin was a shallow lake, not more than several metres deep, which formed on a subsiding part of a mire and was surrounded by actively growing peat during most of the time of deltaic sedimentation. The deltaic system overlies the main lignite seam and is in turn overlain by lacustrine clay succession.

This deltaic depositional system is relatively small (c. 5 km across), and is excellently exposed in complete thickness of c. 250 m, and new cross-sections are being continuously provided by ongoing excavation in the Bilina open-cast mine. Reflection-seismic data (2-D) were used to: i) confirm results of field studies, ii) provide more precise information about 3-D geometry of the depositional system and spatial / temporal relations to surrounding environments. Archive reflection seismic profiles 21/81, 22/81 and 68/83 acquired in early 1980 (Jihlavec and Novák, 1986) were reprocessed and reinterpreted.

Several phases of progradation of deltaic bodies occurred over the lifetime of the Bílina Delta system (probably significantly shorter than 1 My), interrupted by major flooding episodes (Dvořák and Mach, 1999; Uličný et al., 2000). Significant part of accommodation, however, was created by compaction of the underlying peat, and, during later phases of the delta evolution, also by compaction and migration of lacustrine and prodelta clays deposited above the main seam. This depositional pattern led to migration of the depositional system towards places with high compactional potential, and so resulted in shingle-like architecture of the Bílina Delta sedimentary record, well perceptible on exposures and reflection-seismic profile.

The reflection-seismic data show onlap of lacustrine strata on the topmost surface of deltaic deposits, suggesting a gradual submergence of the delta. Accommodation space for deposition of the lacustrine sediments was initially created by compaction of the peat accumulations around the deltaic system. The final drowning of the Bílina delta system coincides with an increase in tectonic subsidence rate that resulted in basinwide expansion of lacustrine environment recorded also elsewhere in the Ohře Rift.

The deltaic deposits recorded a large number of changes in accommodation, at a variety of time scales and of varying orders of magnitude. The large-scale stratigraphic geometries reflect an interplay of tectonic subsidence and compaction of peat. We assume that fault activity in the extensional tectonic setting triggered: i) the onset of clastic deposition on top of the peat, by providing initial accommodation, ii) creating the clastic input pathway, and iii) final drowning of the Bílina Delta system. However, the dynamics of accommodation during the subsequent evolution of the lacustrine delta system was governed largely by the interplay of sediment input and compaction. Although problems with chronostratigraphic dating of the non-marine Most Basin infill prevent accurate quantitative estimates of rates of individual processes involved, a qualitative comparison shows that compaction of peat in this setting was a significantly faster component of accommodation than tectonic subsidence. Also, the rheological behaviour of peat changed the surface expression of brittle basement structures and thus exerted a major control on stratigraphic geometries.

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Succession of Lava Flows of Úhošť Hill in Relation to the History of Magma Reservoir

Vladislav RAPPRICH

Czech Geological Survey, Klárov 3, 118 21 Praha 1, Czech Republic
Institute of Petrology and Structural Geology, Charles University, Albertov 6, Praha 2, Czech Republic

A detailed study of petrology, geochemistry and volcanology was made at the locality of Úhošť near Kadaň on the NE margin of the Doupovské hory volcanic complex (Rapprich, 2003). Doupovské hory volcanic complex belongs to the Central European alkaline volcanic suite and its genesis is associated with the Eger Graben (Kopecký, 1987). The Doupovské hory