

Rock Magnetic and Paleomagnetic Research of the Miocene Sediments in the Teplice–Ústí nad Labem Part of the Most Basin (Czech Republic)

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Abstract

The Most Basin (Fig. 1) is a part of the European Cenozoic Rift System, and formed during late Eocene – early Miocene within the Ohře (Eger) Graben structure (Mach *et al.* 2013, Ziegler and Dèzes 2007). The erosion remnants of the Most Basin sediments are thickest in several “depo-centres” in the former graben axis between cities of Most, Teplice, and Ústí nad Labem. Three drill cores from Teplice and Ústí nad Labem part were sampled at 1 m sampling step. Cored samples were subjected to rock and paleomagnetic analyses, e.g., natural remanent magnetization (NRM) and alternating field demagnetization, magnetic susceptibility (k), its’ anisotropy (AMS) and dependence on field, frequency and temperature, and acquisition and demagnetization of isothermal remanence (IRM).

The characteristic remanent magnetization component was identified from paleomagnetic data. Combined magnetostratigraphy showed 2 reversed and 1 normal polarity zones (incl. one excursion) which were interpreted as magneto(sub)zones C5Cr to C5Dr.2r (Matys Grygar *et al.* 2017). Rock magnetic results of this study show that (i) magnetic susceptibilities and NRM exhibit decreasing downward trend, (ii) magnetic fabric seems to be mostly depositional, (iii) magnetite carries the remanent magnetization, and (iv) occasional higher coercivity fraction is seen.

Keywords: Most Basin, drill cores, rock magnetism, magnetostratigraphy, Miocene.

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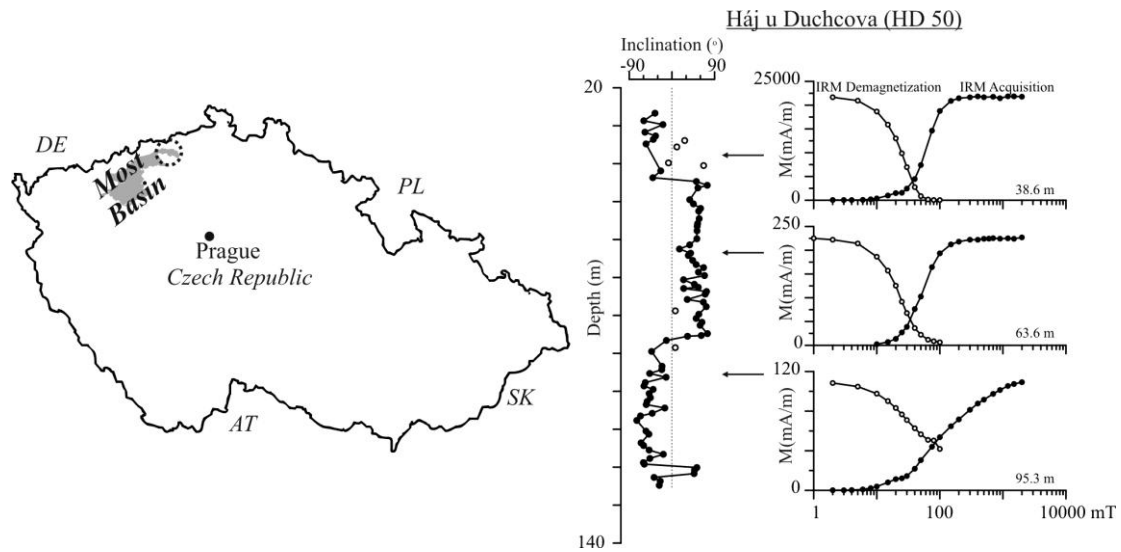


Fig. 1. Location of the Most Basin. Teplice–Ústí part is circled by dashed line. Inclination (after Matys Grygar *et al.* 2017) and acquisition-demagnetization of isothermal remanence of the HD50 drill core.

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