

EVOLUTION OF THE POLISH TRIASSIC BASIN - INTEGRATED APPROACH

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NW-SE trending Polish Triassic Basin (PTB) formed eastern part of the Peritethyan domain and belonged to system of Mesozoic epicontinental basins that stretched from the North Sea to Poland. Evolution of PTB can be generally characterised as a thermal sag stage that followed Permian to early Triassic major event of tectonic subsidence. PTB sedimentary infill consists of Lower (Buntsandstein) and Upper (Keuper) Triassic continental clastics separated by Middle Triassic (Muschelkalk) carbonates. These subdivisions reflect regional second-order T-R eustatic cycle. Analysis of PTB evolution included sedimentological, sequence stratigraphic and magnetostratigraphic studies of cores, regional correlation of well logs, as well as tectonic and seismostratigraphic interpretation of seismic data. The magnetostratigraphic results suggest that Zechstein-Buntsandstein boundary is close to the bottom of Griesbachian stage, Lower and lower part of Middle Buntsandstein are of Griesbachian-Dienerian age, and a part of Roet Formation is of Anisian age. Numerous stratigraphic gaps were also described. Core studies indicate that within the generally continental Buntsandstein and Keuper deposits numerous marine incursions related to the third-order T-R cycles can be observed. Various directions of sediment supply were also documented. Evolution of Triassic deposits and formation of intra-Triassic unconformities of various extent was to large degree controlled by various tectonic events like salt movements, formation of grabens and pull-apart basins related to strike-slip movements, and normal faults development.