

## **TETHYAN AND PERI-TETHYAN MESOZOIC NEPTUNIAN DYKES-EXAMPLES FROM POLAND**

WIECZOREK, J. Geoconsulting, Cracow, Poland

Neptunian dykes are frequently related to the extensional processes leading to the opening of ancient oceans. Its formation accompanied also the origin of the Tethyan ocean, especially syn-rift and very early post-rift stages. In the Tatra Mts. which is Carpathian segment born from the Tethyan margin, some neptunian dykes of Lower Jurassic age mark the beginning of syn-rift stage of its evolution. They cut the pre-rift Upper Triassic carbonate sediments. Spectacular neptunian dykes developed during the beginning of post-rift stage of Tatra segment of Tethyan margin. Bajocian-to-Bathonian crinoid limestones fill the fissures in pre-rift Triassic carbonate rocks or in syn-rift Lower Jurassic mixed clastic-carbonate complexes. Its origin preceded the post-rift collapse of Tatra domain documented by condensed red beds and ammonitico rosso facies. The next stage of the neptunian-dyke formation is related to the drowning of Urgonian platform during Albian time. The post-rift stage, which began in Hronicum zone in Toarcian time is also marked by neptunian dykes. In the Pieniny Klippen Zone the neptunian dykes are related to the beginning of post-rift stage and to the Cimmerian movements. In the Cracow Upland belonging to the northern peri-Tethyan zone we recognize Triassic, Jurassic and Cretaceous neptunian dykes. Middle Triassic dykes could be related to extensional processes leading to final drowning of built by Devonian rocks islands. The neptunian dykes trending N30 to N40 cut the Oxfordian stromatolite-sponges limestones. They formed a trap for numerous brachiopod shells which show excellent geopetal structures. The Turonian and Santonian dykes could be related to tectonic processes coeval with the compressional movements known in the Carpathians.