## LATERAL EXTRUSION IN THE EASTERN ALPS REVISITED: LEFT-LATERAL TRANSPRESSION STRUCTURES ALONG THE FORELAND BASIN OF THE EASTERN ALPS

LINZER, Hans-Gert\*

RAG, Austria

hans-gert.linzer@rag-austria.at

Alps, strike-slip faults, Molasse Basin, 3D seismic interpretation, regional geology

Lateral extrusion was defined 25 years ago as a result of collision and crustal thickening, northward indentation of the Southern Alps and lateral escape of detached wedges of the central Alpine lid towards the East. The thinskinned thrusted northern parts of the Eastern Alps were affected by the lateral extrusion of the Central Alps and were described as lateral orogenic float, a tectonic decoupling of thrust wedges and nappes between slightly deformed foreland structures and the hinterland orogenic core. E&P industrial 3D seismic surveys cover large areas of the Austrian part of the Molasse foreland basin and illuminate its complex structures. The basal foreland unconformity is defined as a result of orogenic collision and flexural crustal bending and the transgression of shallow marine Late Eocene sediments on late Cretaceous inversion structures. Advancing continental collision during Early Oligocene times caused deepening of the foreland basin and deposition of source rocks. These source rocks were redeposited by extensive submarine mass movements in the central part of the Early Oligocene basin towards the hydrocarbon kitchen below the thrust belt. The deeper marine foreland basin was filled by the Lower Puchkirchen Fm. (LPF) with its straight axial channel system. The LPF channel system continues below the Alpine thrust belt. The Upper Puchkirchen Fm. (UPF) is dominated by meandering axial channel systems. The Puchkirchen Fm. was involved in the foreland imbricates where imbricated channels form structural gas traps. A reorientation of the regional stress in Miocene times caused significant left-lateral movements, indicated by displaced Oligocene channel systems and slightly deformed foreland structures.