

THE ISAM-FAULT SYSTEM: A 300-KM LONG MAJOR DISPLACEMENT LINE OF THE NORTHERN EASTERN ALPS (AUSTRIA)

Egger, H.(1) & Peresson, H.(2)(1) Geological Survey, Vienna, Austria, (2) OMV-AG, Vienna, Austria

Predominantly, the post-collisional tectonic evolution of the Eastern Alps is characterized by lateral extrusion. Detailed mapping and microtectonic surveys allow to trace a 300-km-long shear zone in the northern part of the Eastern Alps (Austria). Minimum cumulative sinistral offset along this fault system is 48 km. This ISAM-fault is crossing the Northern Calcareous Alps, the Flysch zone, the Helvetic units and finally it merges into the thrusts of the Subalpine Molasse zone. Consequently, the lateral displacement was coeval with the thrusting. Within the Subalpine Molasse sedimentary rocks of early Miocene age were affected by this tectonic activity. Therefore the terminal age of these tectonic movements can be assigned to the Early to Middle Miocene. The ISAM-fault is one of the main parts of a strike-slip framework along which crust-wedges of the Eastern Alps moved eastward towards the Pannonian region. Eastward motion took place between the ENE-trending sinistral ISAM-fault system in the North and the ESE-trending dextral Periadriatic fault system in the South. Both faults are kinematically linked with the N-S trending Brenner normal fault. Along this latter fault the eastward lateral extrusion of the hangingwall Austroalpine tectonic unit led to the development of detachment faults which caused the tectonic denudation of the Penninic Tauern window.