

TECTONIC CONTROL OF FLYSCH SEDIMENTATION IN THE PALEOGENE OF THE EASTERN ALPS (AUSTRIA)

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In the area of Salzburg the Paleogene sediments of the Rhenodanubian flysch attain a thickness of approximately 450m. They comprise the complete Paleocene and the Ypresian (up to Nanno-zone NP11). Predominantly, the older part of the section is build up by terrigenous turbidites which often show complete Bouma-cycles. The material of the turbidites was supplied from the southern part of the European plate which was located north of the flysch basin. This feeding system was abandoned within nannozone NP3 or NP4 and its deposits were covered by 50m of hemipelagic claystone (Strubach-Tonstein) with only a few intercalated turbidite layers. The base of this prominent lithological shift seems to be coeval with the beginning of the Selandian stage. Sedimentation of the Strubach-Tonstein ended within nannozone NP8. Clay-mineral composition of the Strubach-Tonstein is characterized by high contents of chlorite and illite which are indicating increased mechanical erosion in the source area. This erosion is seen as an effect of strong tectonic movements (Laramide phase) within the European plate in the Middle-Paleocene which caused inversion and uplifting of major basement blocks. In the Alpine foreland these deformations generated a structural relief on the order of 1000m which must have changed the pre-existing paleodrainage pattern and cut off the sediment supply of the turbidity currents. A renewed increased input of turbiditic material started within nannozone NP8 and continued up to NP11. Finegrained mudturbidites with high contents of carbonate can be derived from internal elevations within the basin which could be formed during the previous tectonic activity.