

the lower levels probably during an initial rifting, becoming later proximal part of a continental slope. The CBMT was also a margin of a continental unit, but became later a continental shelf, which after a long quiescence (Devonian) grades into a continental slope. The SEBDT represents a formation originated at a waxing to uniform continental slope. The JBT and the SUT are almost identical, both were deposited first at a proximal (waxing) continental slope, but later they became parts of a shallow continental margin. All those units came from different parts of the southern-southwestern margin of the Tethys, what made possible that the shelf unit (CBMT) was docked to the Dinaride block in Permian but before the DIE situated deeper in the continent. Both units docked before the units composed of continental slope sediments: the SEBDT during Jurassic, the JBT in the Middle Cretaceous, while for the SUT additional studies are necessary. In addition, it has to be considered that the JBT belongs to the western branch of the Vardar zone, the EBDT to the Dinaride ophiolite basin/belt, the SUT position is unclear.

All this indicates that each Paleozoic unit had its own individual development. Therefore, for regional consideration is necessary to study and consider the development and history of each unit or group of identical units.

It is wrong to consider the Paleozoic units as parts of a "superunit", even the identical JBT and SUT can not be treated as parts of a large nappe with roots in the Panonian basin, since analogous sediment-sequences are

absent in the basement of the basin. Furthermore an analogous Paleozoic unit exists at Bukk (N.Hungary), making a palinspastic reconstruction of such a nappe almost impossible.

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The facial architecture and sedimentological interpretation of submarine canyon fill sediments near Ždiar village (the Subtstras group, the Spišská Magura Mts.).

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The coarse - grained deposits, often named as marginal (Marschalko & Radomski, 1970, Janočko & Jacko, 1998) are integral part of the Central Carpathians Paleogene. These deposits are represented by sandstones - conglomerates complex, making submarine canyon fill near Ždiar village. We interpreted these deposits as the Pucov conglomerates sense Gross et al. (1984) classification. Study area is situated on the northern slope of the Tatra Mts. and the southern slope of the Spišská Magura Mts., near Ždiar village. Area is build by sediments of Central Carpathians Paleogene (Subtstras Group in sense Gross et al. (1984)), which are represented by the Borové, Huty and Zuberec Formations. The age of sedimentary fill is the Barthonian to the Early Rupelian (Janočko & Jacko, l.c.). The Šambron beds (the Szaflary beds) and the Pucov conglomerates are situated in the Huty Formation

(Sliva, 1999). The canyon fill complex form lenticular, around 7 km long body, gradually pinching - out toward west to east (Marschalko & Radomski, 1970). Maximum thickness sediments is around 170 m in the central part of canyon. Submarine canyon is cut about 60 m deep into underlying the Mesozoic and the Paleogene deposits. Canyon is filled by coarse - grained, unsorted or slightly sorted breccias and conglomerates, relatively better sorted conglomerates normally or inversely graded and coarse - grained, massive, normally graded, horizontal and cross - bedded sandstones. Fine - grained sediments are very rare. Unsorted breccias create sheet - like beds concentrates in the lower part of canyon, their contact are usually nonerosive. Graded - bedded conglomerates and sandstones increase toward the upper part of canyon fill. These conglomerates and sandstones with erosive bases

often form relatively shallow channels. A several finning and thinning upwards cycles may be observed in canyon fill. Source of clastic material was the Mesozoic rocks of the Subtatic nappes, the Paleozoic rocks of the Gemeric or the Veporic? Units and the Paleogene rocks of intra-basinal origin. Paleotransport direction was toward NNE and NE, locally toward NW.

Unsorted and bad sorted conglomerates and breccias we interpreted as sediments of cohesive and cohesionless debris flows (Nemec & Steel, 1984). Sandstone layers on top of debris flow beds represent more dilute, upper part of this flows with turbulent and laminar flow regime (Nemec & Steel, l.c.; Mutti, 1992). Nongraded sandstones with floating clast we interpreted as sandy debris flow (Shanmugam, 2000). Lowe (1982) assigned these deposits to high density turbidity currents. Because this flow have plastic reology and laminar flow regime (Shanmugam, l.c.), we did not use Lowe's (l.c.) definition. Only well - graded bedded, fine - grained conglomerates and sandstones without floating clast we interpreted as high - density turbidity currents. Very rare mud lenses are products of sedimentation from suspension clouds.

A sedimentary architecture of deposits is similar to alluvial fan deltas, however, finning - upward cycles, presence of marine fauna and relative deep cutting into basement suggest to submarine canyon origin. The mass of gravel and sand was transported by river from source areas to delta on shelf of basin and pass into the canyon head. In canyon were these sediments mixed with local material from shelf and canyon walls. Development of submarine canyon has three stages: stages of erosion, filling of canyon and overlapping of canyon by sediments (Clark - Pickering, 1996) of the Huty Formation. Erosion of slope and deposition of coarse - grained sediments on

lower part of canyon was produced by tectonic activity of slope and see level fall (Janočko & Jacko, 1998). Back-filling of canyon was influenced probably by backwash of see level rise and stop of synsedimentary tectonic activity.

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