

Quartzites of Polish Part of the Žulová Pluton Mantle and Vysoká Hole Nappe (Fore - Sudetic Block)

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In the vicinity of Jeseník, to the north of Sudetic marginal Fault, there occur rock series being the northern prolongation of the Jeseník Mts. series. In the west they are intruded by the Žulová granite pluton. The northernmost parts of these rock series stretch out to Poland. Here, the rocks forming the Žulová pluton mantle (Cháb and Žáček 1994) and those belonging to the Vysoká hole nappe (Cháb et al. 1994) occur.

The rocks of the Žulová pluton mantle crop out in the vicinity of Sławniowice and Burgrabice (located immediately north of Velké Kunčice in the Czech Republic). These are basement gneisses and quartzites of the Devonian cover. They are accompanied by minor amphibolites.

The rocks of the Vysoká hole nappe form the Góra Parkowa, located between Gluchołazy in the north and Polish-Czech border in the south. The Góra Parkowa consists of mica schists, gneisses and quartzites with amphibolite inliers and minor calcisilicate rocks.

The quartzites of the Polish part of the Žulová pluton mantle (Kalińska 1997) are fine-grained and contain significant amount of feldspar. They are commonly layered, with a millimetre-scale quartz and quartz-feldspar layers. Subordinate strongly decomposed biotite is almost always present, muscovite and/or chlorite occur locally. Titanite, zircon and epidote/clinozoisite are accessories. Both plagioclase and potassium feldspar (often microclitic) are present in the quartzites. Plagioclase occurs as unaltered, relatively large, unzoned andesine (35 - 38 % An) and smaller, sericitized oligoclase (17 % An). Potassium feldspar is usually strongly altered. Chemical analyses of the quartzites reflect their arkosic nature, exhibiting up to 20 % normative orthoclase, and up to 7 % normative albite. The amount of normative anorthite is usually low (< 0,5 %) despite the presence of calcium minerals in the mode.

Mineral lineation is very weak or absent. Quartz *c* axes patterns are unequivocal.

Reconnaissance studies of the quartzites from the Czech part of the Žulová pluton mantle (samples from Kamenný vrch and Krajník) show their essential similarity with those from Poland. Brief descriptions of Rozkošny and Souček (1989) also suggest petrographic and chemical similarity of quartzites from Polish and Czech parts of the Žulová pluton mantle.

The quartzites of the Polish part of the Vysoká hole nappe (Góra Parkowa S of Gluchołazy) are fine-grained and contain subordinate muscovite, biotite, chlorite plus zircon, tourmaline, andalusite and opaques as accessories. Their mineral composition is reflected in CIPW norm (< 4 % of feldspar components). One reconnaissance sample from the vicinity of Studeny Zejf is essentially similar to the rocks occurring in Poland.

The quartzites of Polish part of the Žulová pluton mantle show no clear evidence of metamorphic conditions. Sericitized oligoclase and altered biotite are supposedly the remnants of a sedimentary protolith subjected to low-grade metamorphism. This was supposedly followed by relatively short heating (crystallization of andesine), which was too short to induce recrystallization of whole rock. The quartzites of the Polish part of the Vysoká hole nappe crystallized under low-grade conditions within the andalusite stability field. Quartzites of the Polish part of the Žulová pluton mantle and of the Vysoká hole nappe originated from different sedimentary protoliths. The former are metamorphosed arkosic sediments, whereas the latter originated from quartz-dominated sediments containing small amounts of pelitic material.

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