Quartz veins with molybdenite and gold from the locality Padrť crosscut metamorphosed Cambrian and Ordovician sediments (quartzite, arcose, cherts) of the Barrandien unit in southwest part of Central Brdy Mts..

Based on fluid inclusion microthermometry we distinguish three main generations of the quartz gangue: Q1 – the oldest quartz, that forms the main portion of gangue; Q2 – xenomorphic crystals growing on Q1, subdivided into Q2a (dark nuclei of crystals with a quantity of primary fluid inclusions) and Q2b (pellucid crystals crystallized to vugs) overgrowing Q2a; Q3 – the youngest quartz (with calcedony-like texture) that overgrowths Q2b crystals.

The first generation of quartz (Q1) precipitated from low salinity (~5 wt. % eq. NaCl) aqueous-carbonic fluid with minor methane/nitrogen admixture (~ 5 mol. %). Estimated PT conditions of Q1 formation are >350 °C and ~ 400-500 MPa (depth about 15 km under lithostatic pressure).

Formation of quartz Q2 and Q3 is associated with aqueous fluids. Q2 precipitated from low salinity (< 5,9 wt. % eq. NaCl) fluid at 250 to 320 °C and 60 to 120 MPa (depth about 3 - 5 km under hydrostatic pressure). Younger subgeneration Q2b contains quantity of fluid iinclusions with signs of boiling and with wide range of salinity 1,2 to 7 wt. % eq. NaCl. The Q3 was formed from even lower salinity fluids (0,9 to 1,2 wt. % eq. NaCl) at very low pressures (~30 MPa) and temperatures (120 to170 °C).