

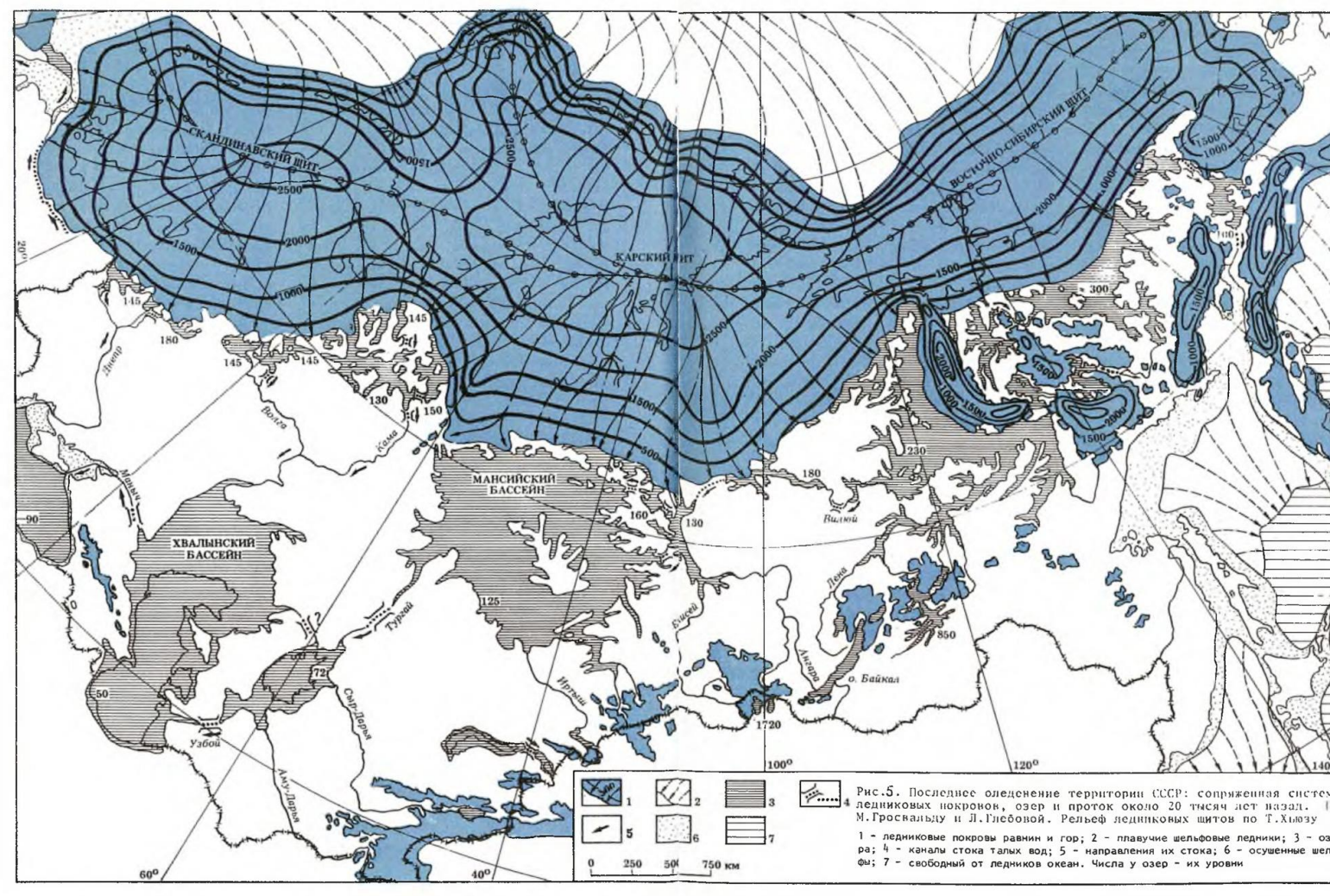
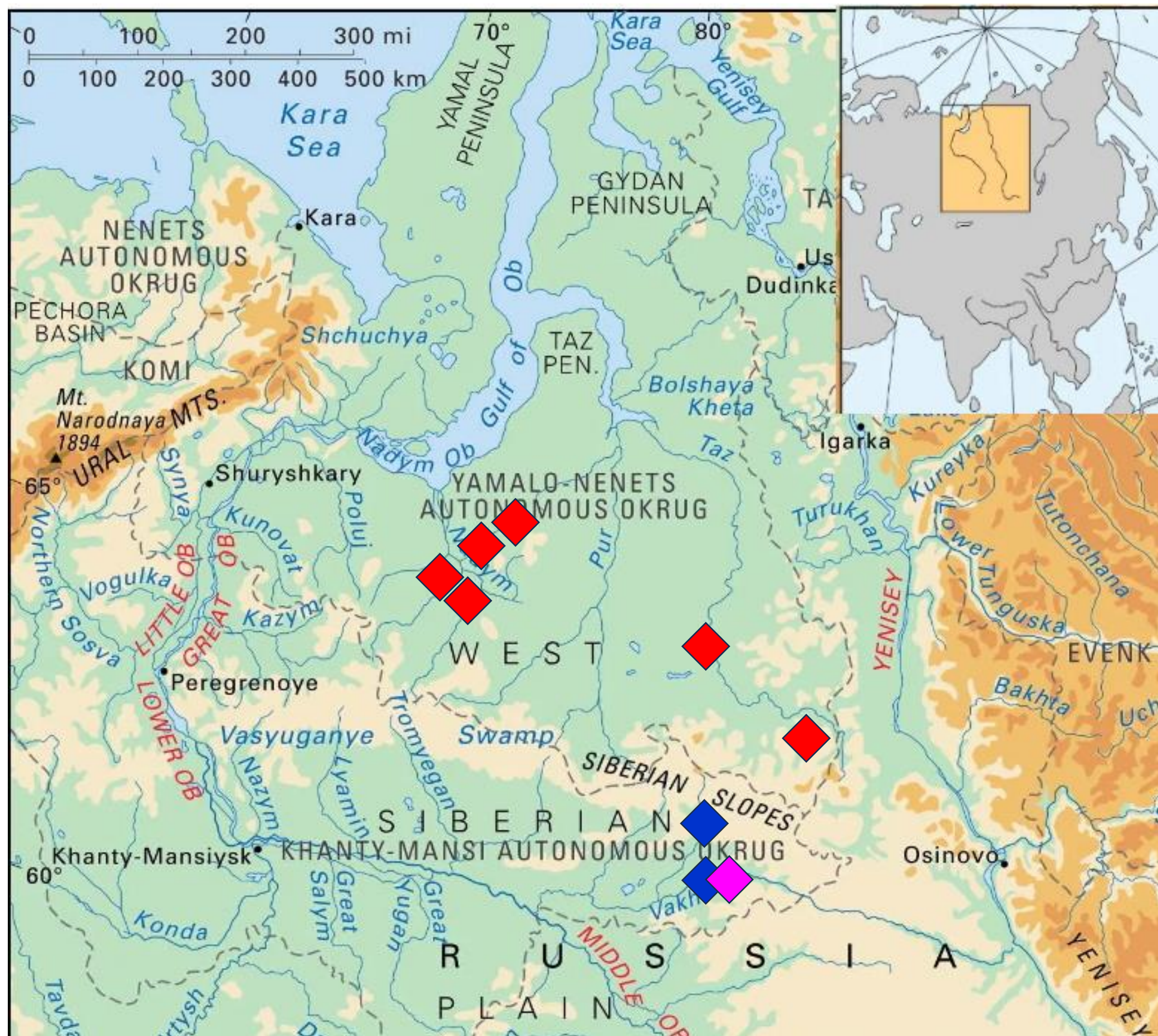
LATE PLEISTOCENE CRYOGENIC PHENOMENA AND THEIR LINKS WITH COLD HYDROMORPHIC PALEOSOLS IN NORTH-WESTERN SIBERIA AS A KEY TO CORRELATE ANCIENT ENVIRONMENTS

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Late Pleistocene Glaciation of Eurasia: CHANGE OF SCENARIO

Late Pleistocene paleosol sites in the north of West Siberia



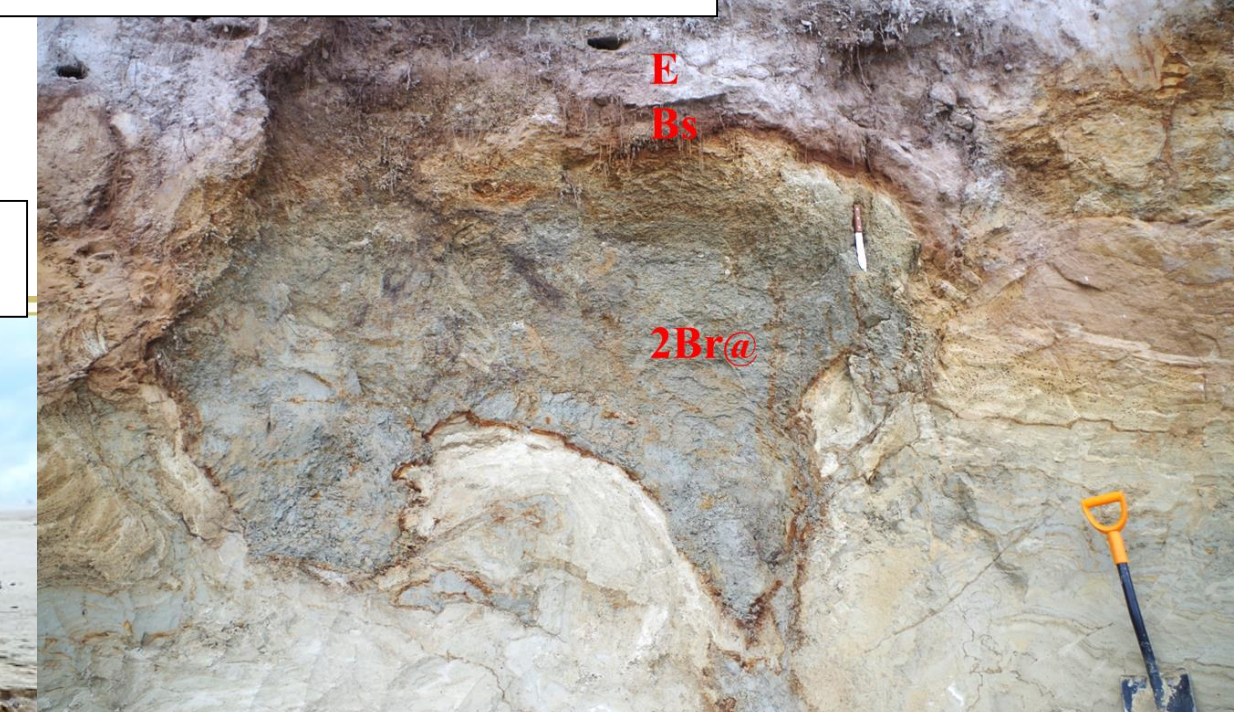
Old scenario (Saks 1953, Grosswald, Hughes 2002):
Large ice sheets over all northern Eurasia during LGM, extensive dammed lakes to the south – **little probability for preservation of Pleistocene paleosols**



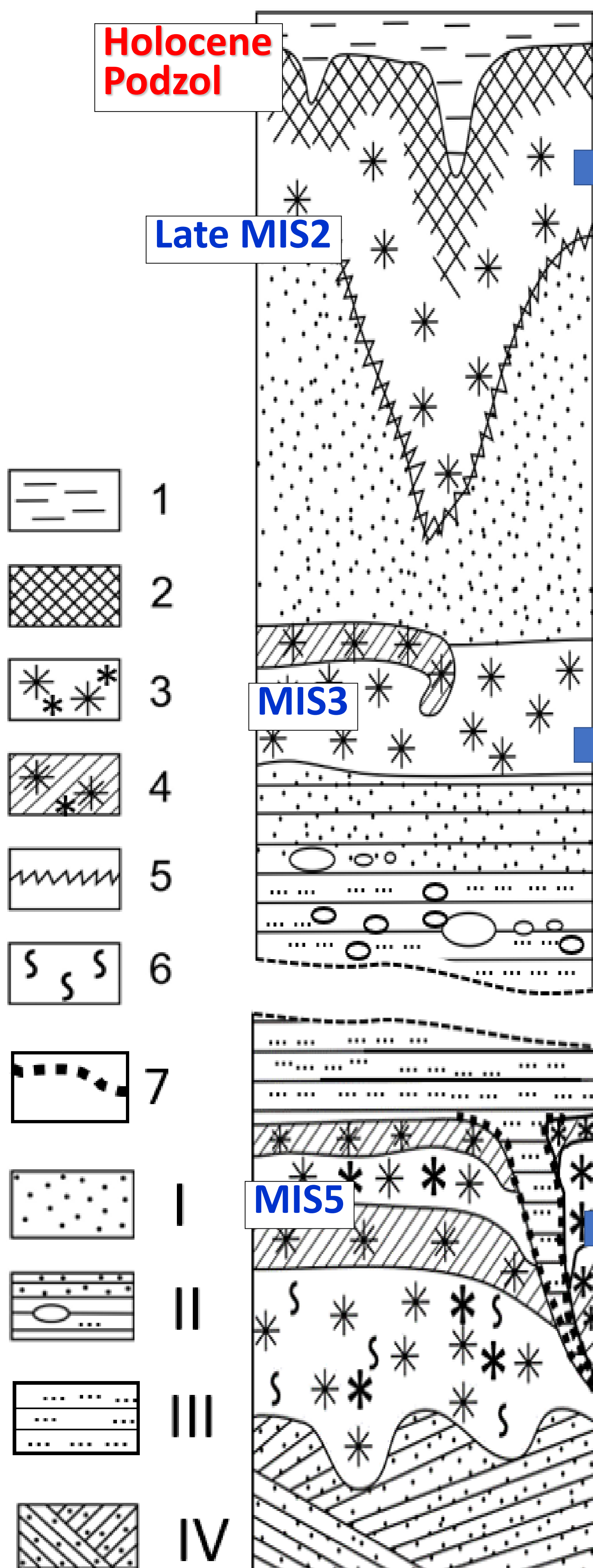
New scenario (Velichko 1997, Svendsen et al. 2004):
Glaciation during LGM was limited to northwestern Europe, northern Asia persisted mostly free of ice sheets – **Pleistocene paleosols could be developed and preserved!**

Paleosol findings ◆ MIS5 ◆ MIS3 ◆ Late MIS2

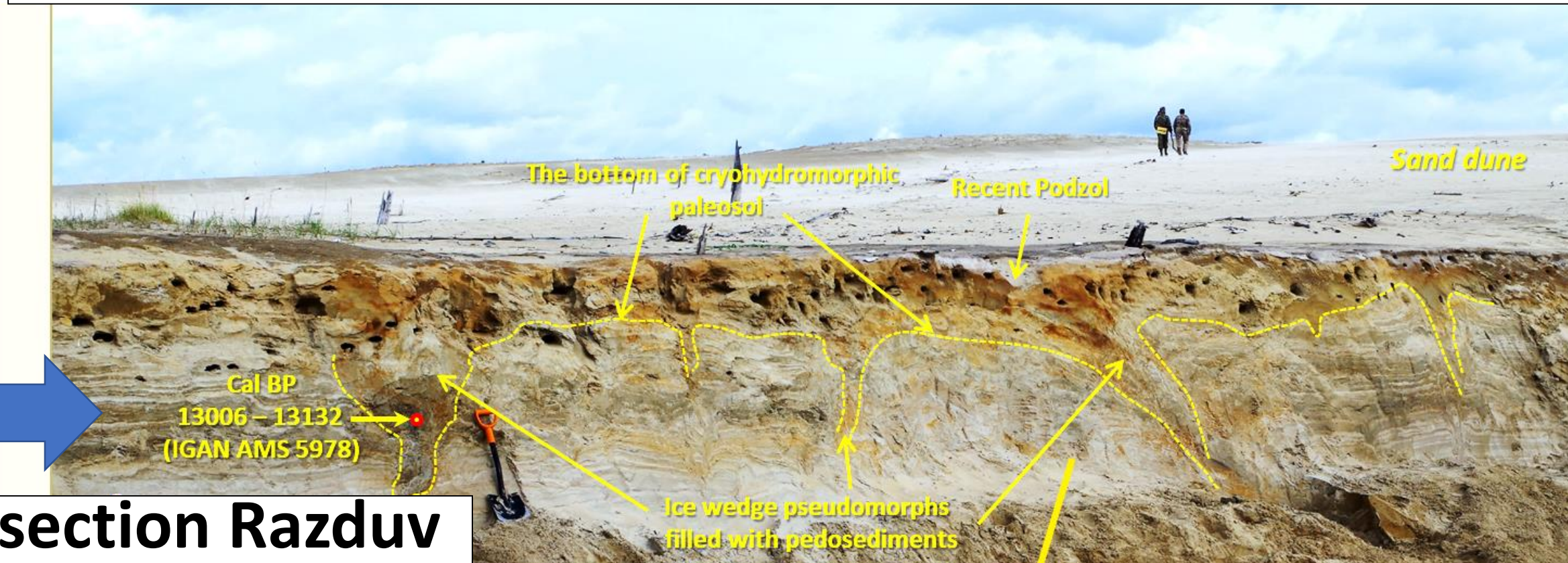
section Khetta



Compound pedomatigraphic scheme for the north of West Siberia



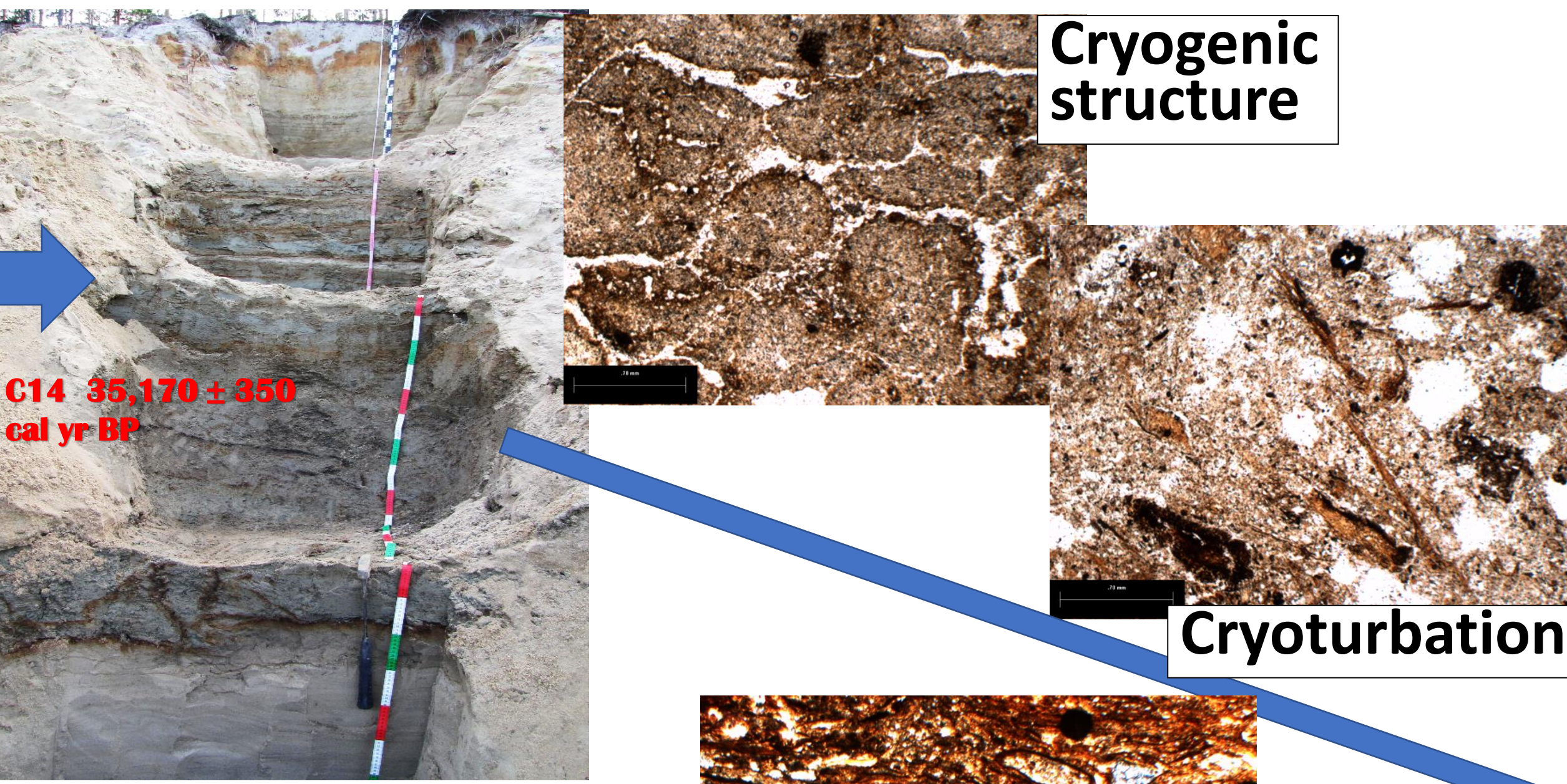
Late MIS2: Taz-Nadym cryo-paleopedogenic horizon



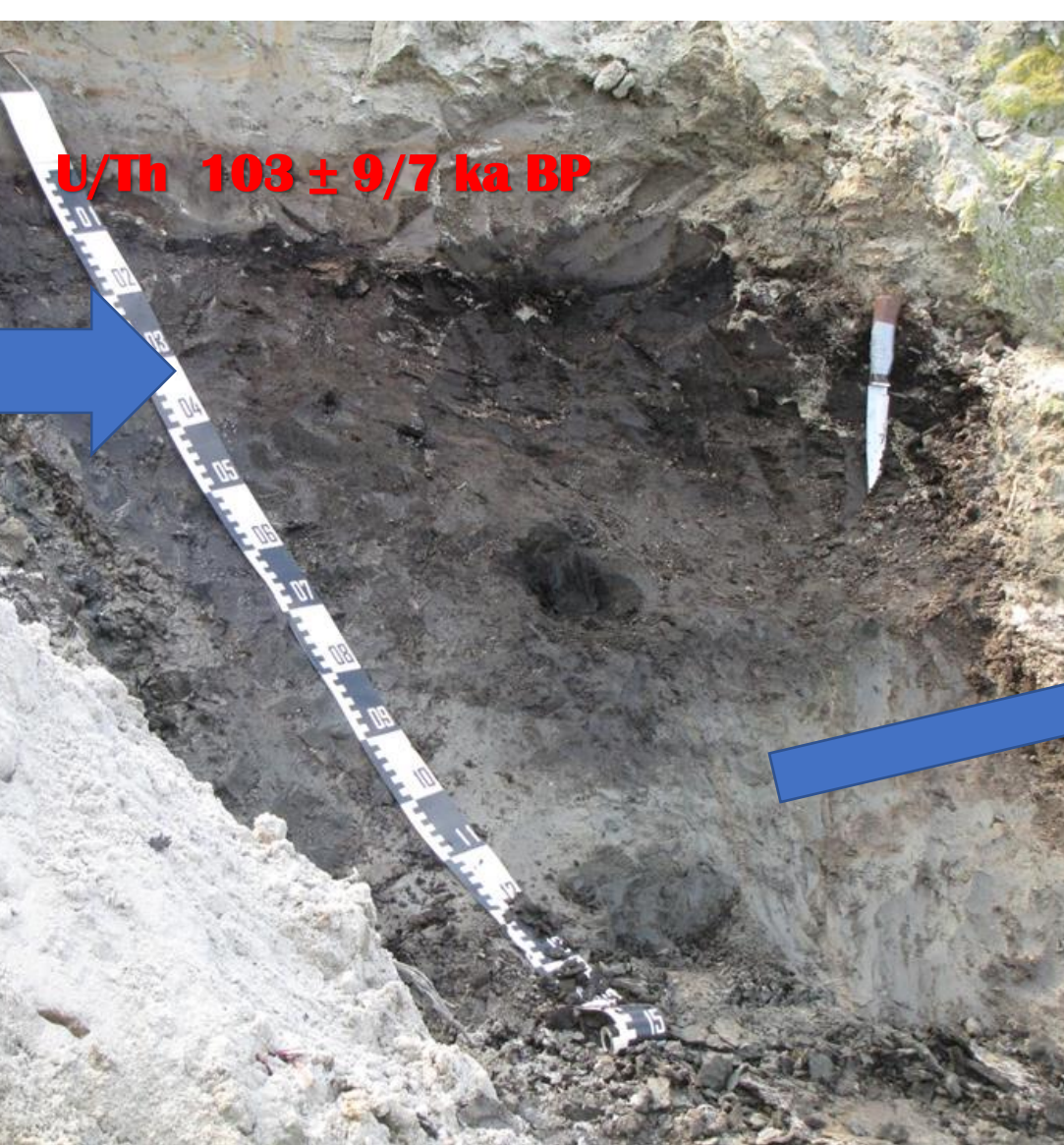
section Razduv



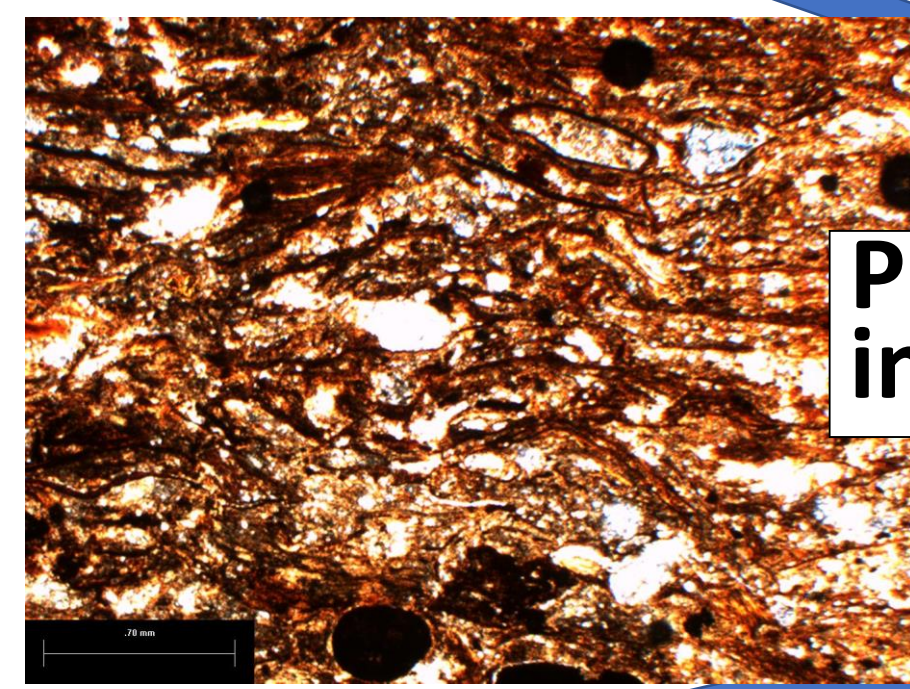
Pedosediments filling large polygonal ice wedge pseudomorphs present this strongly gleyed paleosol. In some profiles at least two stages of the ice polygonal wedge development were identified. We associate this paleosol development with the warming events at the end of MIS-2.



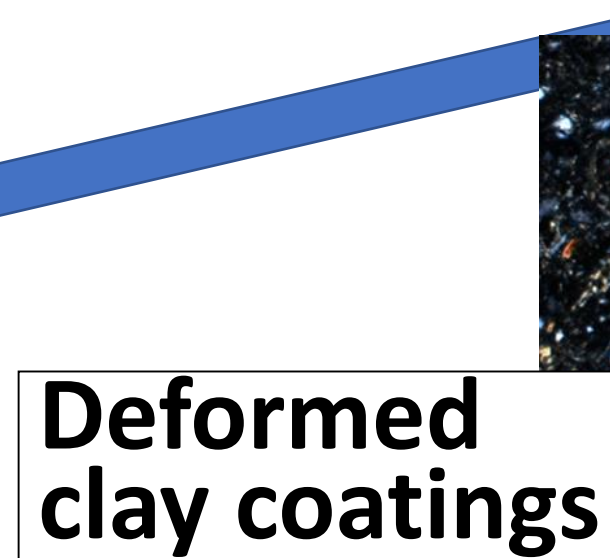
Cryogenic structure



Cryoturbation



Plant debris in histic hor.



Deformed clay coatings

Section Belaya Gora



1-6 Soil genetic horizons and features: 1- Eluvial, 2- Spodic Bs, 3- Gleyic, 4- Humic with redox features, 5,7 – Ferruginous rims, 6 – clay coatings
I-IV Sedimentary strata: I- MIS3-2 alluvium, locally reworked by wind, II-III – MIS4 alluvium with dropstones, IV – MIS6 laminated alluvium

21st INQUA Congress in Rome, July 13-20, 2023

Session 101: Integration of palaeoecological proxy data for the reconstruction of climate and environment dynamics
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