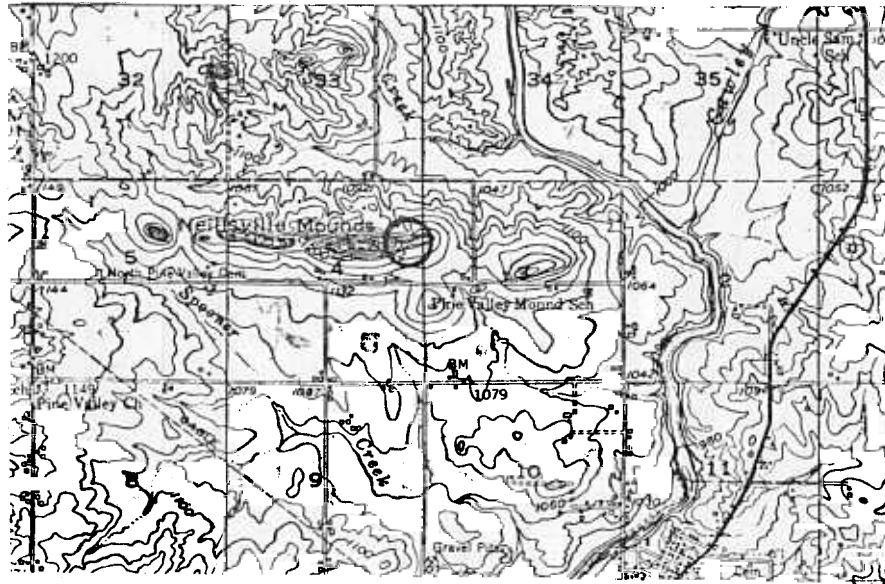


TITLE: Neillsville Mounds - Geologic History

LOCATION: SE 1/4, NE 1/4 Sec. 4, T 24 N, R 2 W, Neillsville 15' quadrangle



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SUMMARY OF FEATURES:

Quartzitic, Late Cambrian sandstone ridges and knobs in the outer part of Central Wisconsin's Precambrian "dome" owe their topographic prominence to very subtle differences in resistance to erosion, due at least in part to silicification. While displaying excellent preservation of such primary features as cross-bedding, ripple marks, fossils, and worm burrows, the sandstone was converted without metamorphism or deformation to quartzite, which breaks with conchoidal fracture across component grains. Microscopic study has shown that clastic grains have grown to incorporate silica cement in optical continuity. Boundaries between friable and indurated sandstone are sharp, but irregularly trending within the sandstone.

The quartzite ridges commonly show conspicuous north-south and east-west elongation, roughly parallel with pervasive joint sets in the region. A buried, south-facing fault scarp just north of Granton is in remarkably close alignment with Neillsville Mounds. This suggests that groundwater rising along a fault silicified the sandstone on the upthrown side. The silicified sandstone then became the prominence we see today because of its relative resistance to erosion.

Pinnacle rocks, some of them more than over 5 meters high line the summit of the ridge here. It is suggested that these indicate that the summit of the Neillsville Mounds was not overtopped by Wisconsin glaciers. Till and erratics can be seen on the north slope of the ridge only 200 meters from its summit. The suggestion is that the ice was deflected westward around the ridge and stopped along the line of the moraine along U.S. 10 about 4.5 km southwest of here.

Several important questions remain unanswered here:

1. When and how was the Mt. Simon Sandstone silicified here?
2. Was the ridge a nunatak at glacial maximum? If so, where are the glacial deposits on the east side - in the valley of Black River?

