

Fig. 4 – Large palaeomeander at Świńska Krzywda, geological profile of abandoned channel fill
 Lithology: A – sandy silts, B – clayey silts, C – peaty silts, D – silty sands, E – peats, F – sands with single gravels, G – detritus;
 Fractions: 1 – gravel (below -1ϕ); 2 – coarse sand ($-1-1 \phi$), 3 – medium sand ($1-2 \phi$), 4 – fine sand ($2-4 \phi$), 5 – coarse and medium silt ($4-6 \phi$), 6 – fine silt ($6-8 \phi$), 7 – clay (above 8ϕ), 8 – organic matter content;
 Folk-Ward's distribution parameters: Mz – mean size, δ_1 – standard deviation, Sk_1 – skewness, K_8 – kurtosis

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GEOARCHAEOLOGICAL CONTEXT OF «VALLEY FORT» AT JATWIEŻ DUŻA (NE POLAND)

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In the territory of north-eastern Poland (Podlasie) more are discovered traces of pre-historic settlements. In 2017, using the LiDAR method, located about 26 settlement sites in the Podlasie Lowland (Fig. 1). All these sites have a similar construction form and together

they represent a compact settlement system called «valley forts». The main aim of this studies is to present the preliminary results of geoarchaeological studies of those objects. The Jatwież Duża 5 site is an good example of this kind of objects where is currently being studied by archaeologists and geomorphologists research team. Interdisciplinary works allowed to obtain many important information about this section [4–7].

The Jatwież Duża 5 site is located about 1,5 km westward of the Brzozówka River. Analyzed object is located on the Pleistocene tills, fluvioglacial sands and gravels. In the JW1 profile visible material representing fluvioglacial sands. Prevail here medium sands with the admixture of silty material and single gravels. In the first phase of accumulation there were coarsening upwards sediments. The upper part of the profile is visible second phase of accumulation of fining upward deposits (Fig. 2) [7].

The form has an oval shape and is built by two distinct moats separated by embankment. In its central part is located flat area with a diameter of about 60 m (Fig. 3).

The methodology of archaeological research consisted in marking out a trench on the NW-SE orientation, 25 m long and 2 m wide. The archaeological survey was conducted from the central elevation of the form and crossed two moats (Fig. 4).

During excavations, discovered 10 archeological resource objects with 79 parts of pottery and 83 flint artifacts. Technological and stylistic analysis of the pottery has shown that these artifacts belong to Urnfield culture communities (Surash Group) [1, 3]. The communities of this group developed in the Podlasie Lowland in the Bronze and Iron Age.

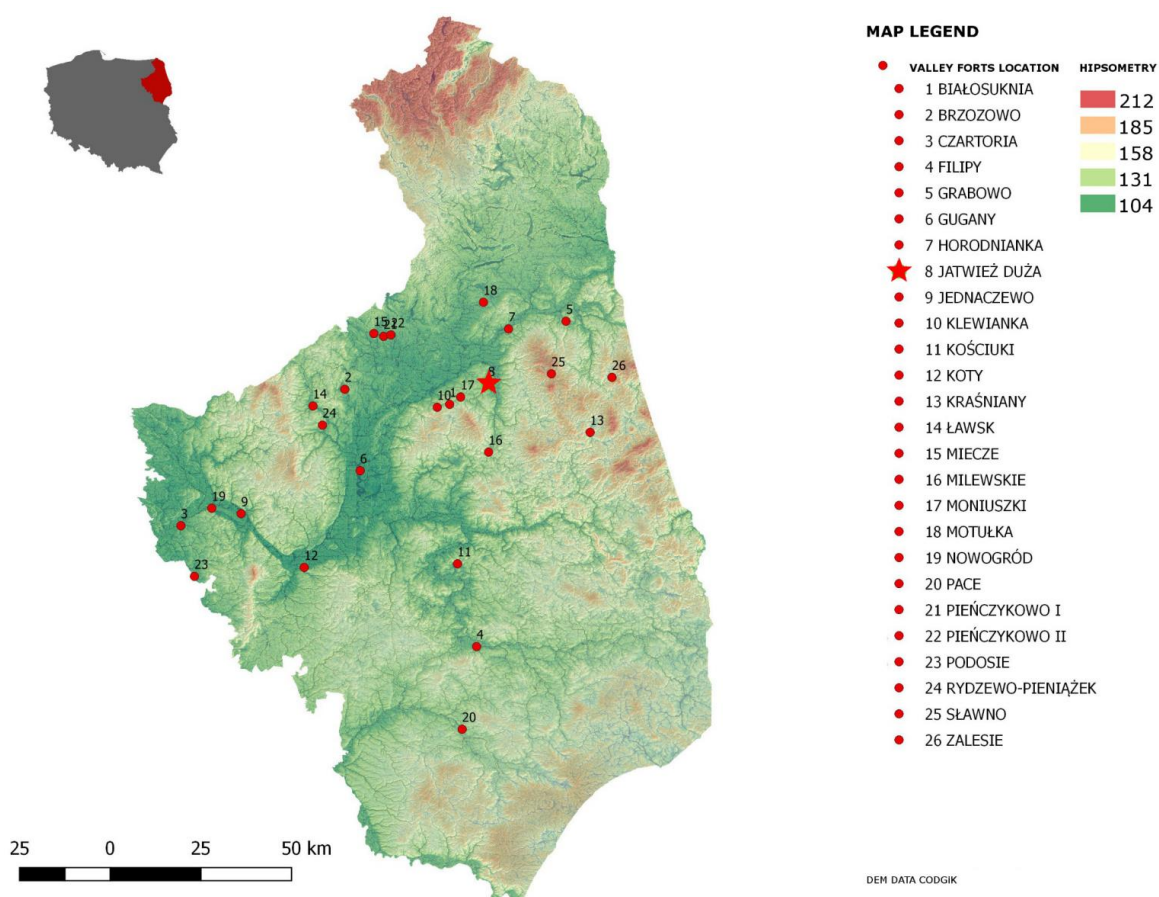


Figure 1 – Location of the Jatwież Duża 5 site against the others «valley forts» in the Podlasie

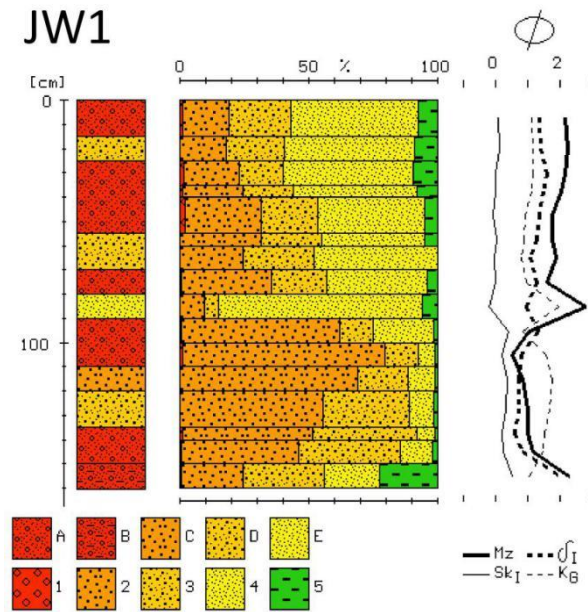


Figure 2 – JW1 profile (drilling) located about 20 m NW from the archaeological site
 Lithology: A – sands with single gravels, B – silty sands with gravels, C – coarse sands, D – medium sands, E – fine sands; Fractions: 1 – gravels, 2 – coarse sands, 3 – medium sands, 4 – fine sands, 5 – silts and clays; Folk-Ward's distribution parameters; Mz – mean diameter, δ_I – standard deviation (sorting), Sk_I – skewness, K_G – kurtosis

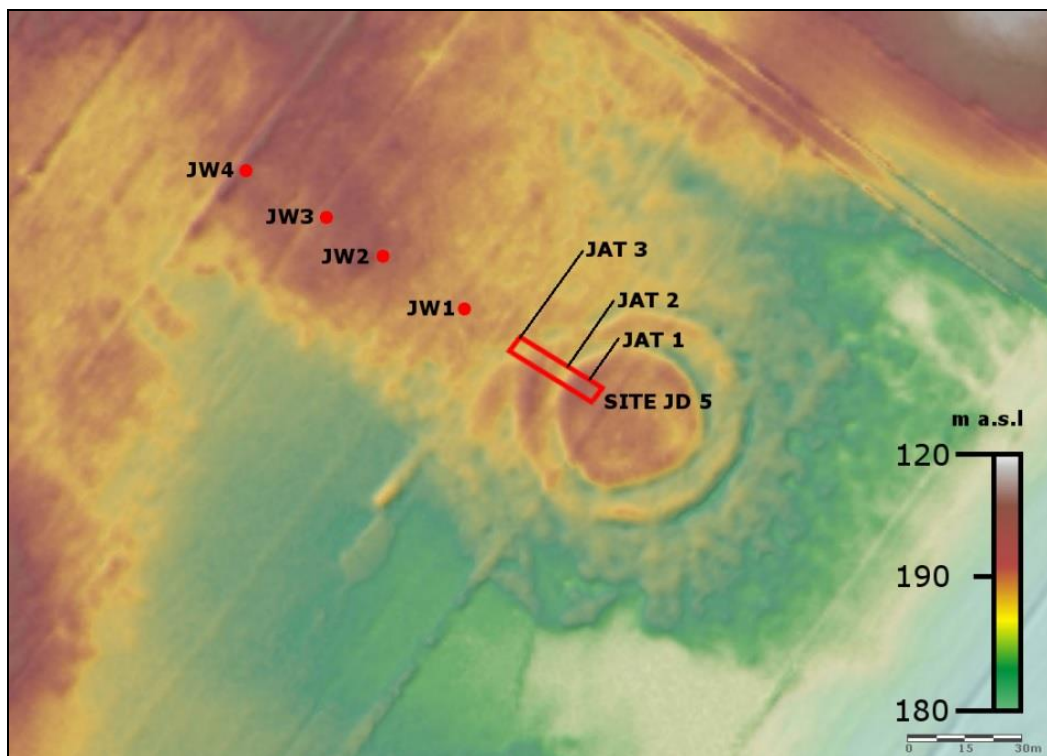


Figure 3 – The archaeological site and geological profiles location on the Digital Elevation Model

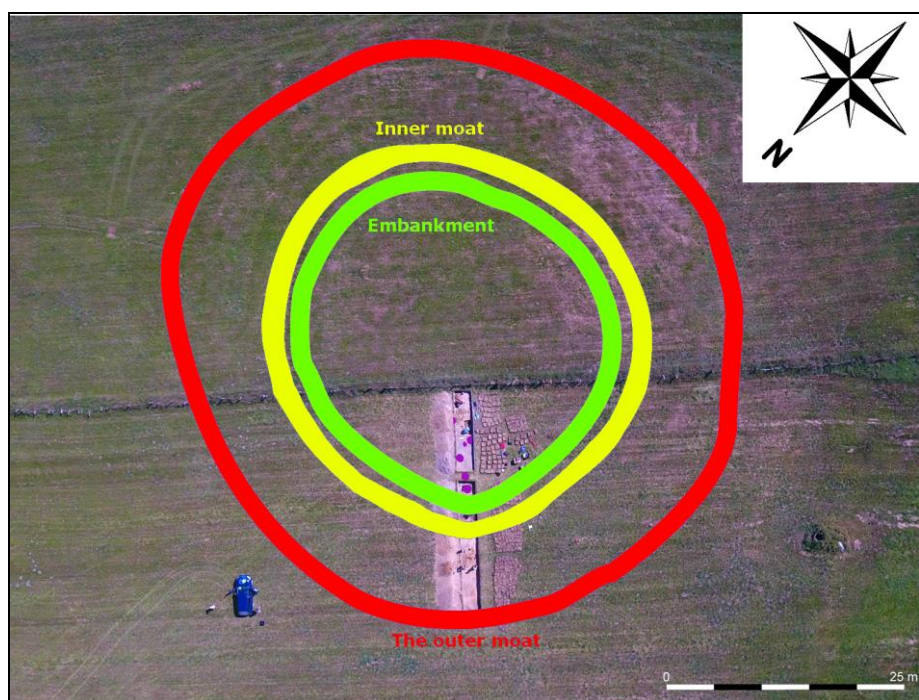


Figure 4 – Schematic explanation of the analyzed object at the Jatwież Duża 5 site

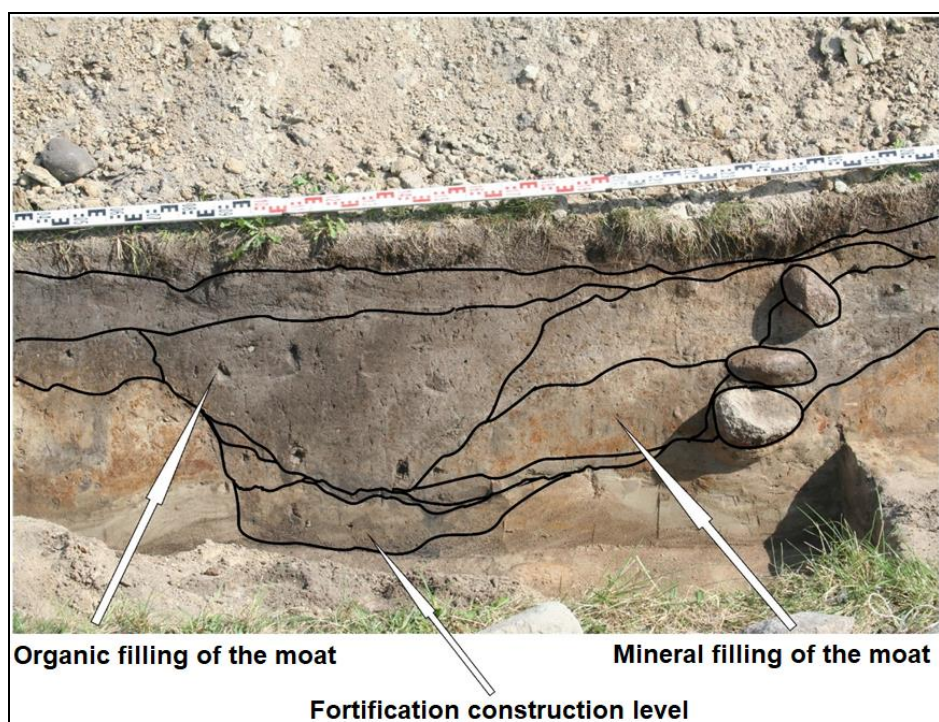


Figure 5 – Schematic explanation of the inner moat in Jatwież Duża 5 site

The sample taken from the southern profile from inner moat bottom (Fig. 5) was OSL dated at $2,93 \pm 0,44$ ka (UJK-OSL-98). This date should be associated with the beginning of the functioning of this «valley fort» period about 900 BC (HaB/V EB). It corre-

lates with the community Urnfield culture activity in NW Poland and with climate cooling – second Bond Event [2].

Preliminary results of the studies indicate that this structure was used as a storage facility in the Bronze Age. The entire object is too small to function as a permanent settlement and it was probably used seasonally. Sudden cold period forced Urnfield culture communities to storage food in the pit hole (Fig. 6) in this kind of «valley fort» which many of them occur all over the Podlasie area [4–6].

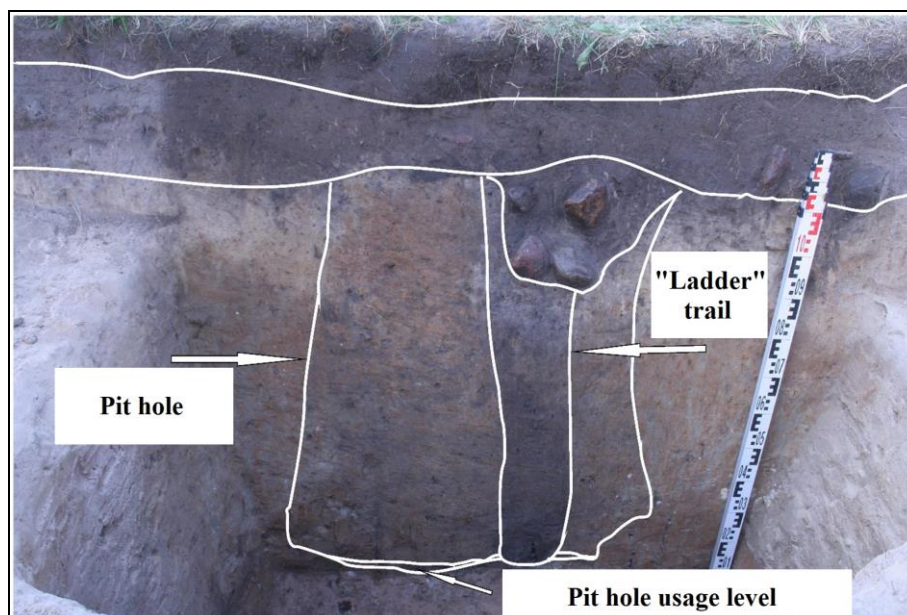


Figure 6 – Schematic explanation of the pit hole in Jatwież Duża 5 site

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