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AN ICONIC LATE NEOLITHIC *TELL* ON THE HUNGARIAN PLAIN: HÓDMEZŐVÁSÁRHELY-GORZSA IN A NEW PERSPECTIVE

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It often happens that the fresh investigation of well-known sites using newly developed techniques and their reassessment brings the recognition that some of the assertions believed to be timelessly true turn out to have been strongly mistaken or were misinterpretations. This has been the case with many of the renowned Late Neolithic tell *settlements dated to the earlier fifth millennium BC on the Alföld (Great Hungarian Plain). The collation of the information yielded by the excavation of these sites during the twentieth century with the data provided by non-invasive prospection and new archaeological investigations has paved the way for constructing entirely novel interpretations. A new perspective was forged from the multidisciplinary integration of the data and their comprehensive interpretation. The assessment based on the collation of all available data and evidence provides a firm springboard for interpretations set in a broader perspective and for gaining fresh insights into the period's history and the one-time social dynamics and changes. This study aims to offer a joint assessment of long-known and more recent, fresh information on the Gorzsa* tell *settlement in the Tisza Valley in southeastern Hungary.*

Keywords: southern Alföld, Late Neolithic, Tisza culture, *tell* settlement, magnetometer survey, LiDAR survey, soil coring, Hódmezővásárhely-Gorzsa, Hódmezővásárhely-Kökénydomb, Tápé-Lebő

THE PLACE OF HÓDMEZŐVÁSÁRHELY-GORZSA-CZUKOR-MAJOR IN HUNGARIAN NEOLITHIC STUDIES

The *tell* settlement of Hódmezővásárhely-Gorzsa-Czukor-major is a renowned, long-known Neolithic site in the southern Alföld. It is part of the Tisza-Herpály-Csőszhalom cultural complex of the Tisza region (*Fig. 1*). Together with Hódmezővásárhely-Kökénydomb, Tápé-Lebő, and the small single-layer settlements in their broader area in the Körös-Maros interfluve, the site was part of the southernmost Late Neolithic settlement group (*Fig. 2, Table 1*). Following earlier small-scale fieldwork, the site – located in an area now administered by the town of Hódmezővásárhely – was systematically investigated over a larger area by Ferenc Horváth between 1978 and 1996 (*Fig. 3*; Horváth 1982; 1986; 1987; 1988; 2005). The results of the archaeological explorations earned Gorzsa a firm place as a key site on the archaeological map of Europe (Hodder 1990; Gimbutas 1991; Parzinger 1993; Lichardus & Lichardus-Itten 1995/96; Whittle 1996), not least because several archaeological features of the site indicated cultural connections with the Tisza region, as well as with the more distant Balkans during the earlier fifth millennium BC (Horváth 1998; 2000; 2003; 2020; Hertelendi & Horváth 1992; Hertelendi *et al.* 1998; Horváth & Drașovean 2013). The archaeometric analyses of the finds from the 2000s onward shed important new light on several aspects of the site (Starnini *et al.* 2007; 2015; Starnini & Voytek 2012; Szakmány *et al*. 2008, 2009; 2011; 2019; Medović & Horváth 2010; Gulyás *et al*. 2010; Gulyás & Sümegi 2011; Vanicsek *et al*. 2013; Bonsall *et al.* 2024).

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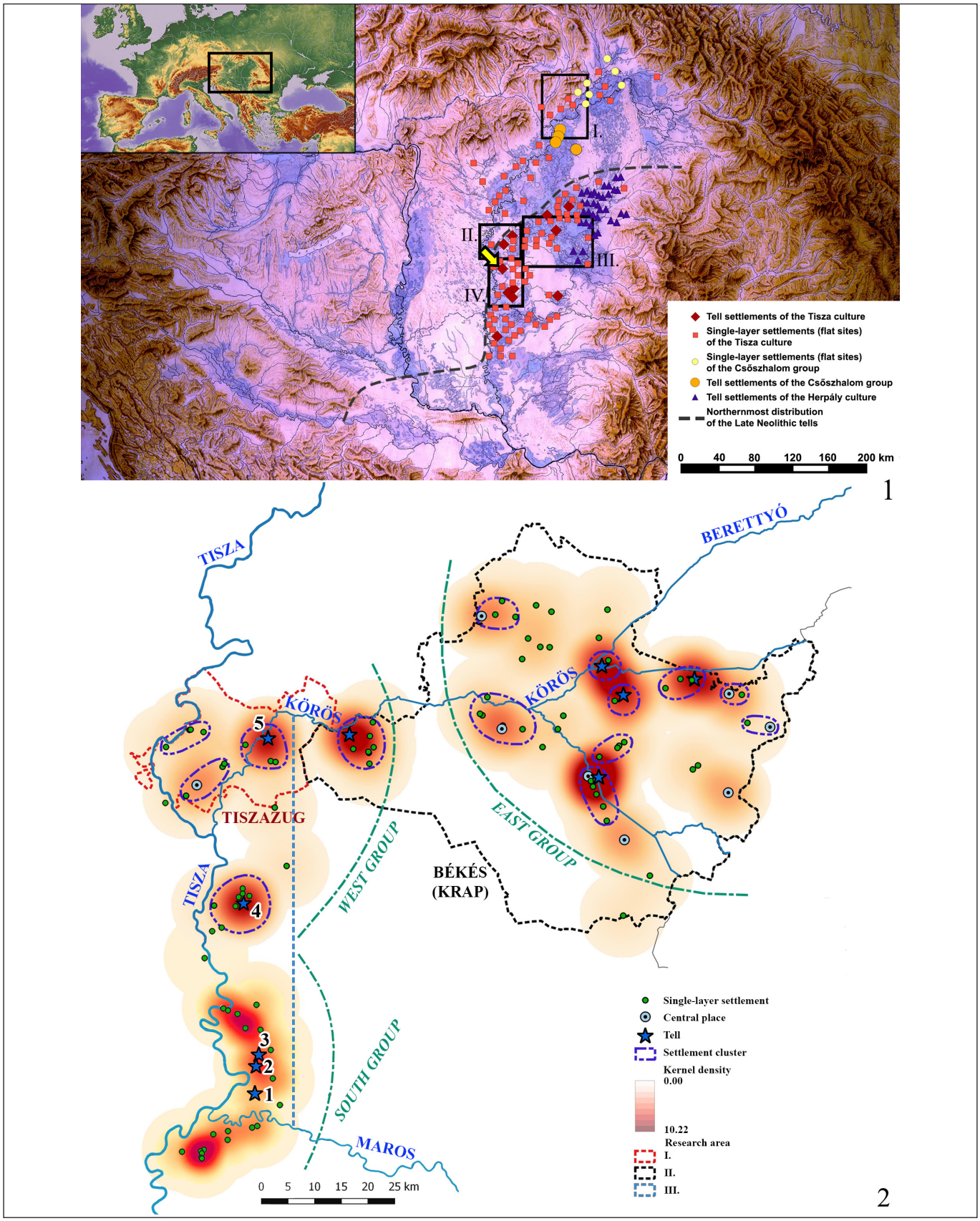

Fig. 1. 1: The distribution of tell, tell-like and single-layer settlements of the Late Neolithic Tisza-Herpály-Csőszhalom cultural complex in the Tisza region. The map shows the northern boundary of the distribution of settlement mounds and the area investigated during major regional research projects: Upper Tisza Project (I: UTP), Tiszazug Micro-Regional Project (II: TMRP), Körös Regional Archaeological Project (III: KRAP), Lower Tisza Project (IV: LTP). 2: Distribution of Late Neolithic settlement clusters in the Körös and Lower Tisza region and their eastern and western groups

Yet, despite these remarkable new research results, very little was known about the overall layout and spatial organisation of the Late Neolithic *tell* settlement of Hódmezővásárhely-Gorzsa, in part because the buildings and other structures of the former agricultural centre established on the site had caused immense and lasting damage (*Fig. 4*) and in part because no extensive geophysical investigations have ever been conducted in its area. Moreover, the roughly 1000 m^2 large excavated area represented no more than 2% of the site (*Fig. 5*). In Ferenc Horváth's estimate, the site covered some 5 hectares, within which the settlement mound accounted for some 3–3.5 hectares, while the *tell's* layers accumulated to a thickness of roughly 2.6–3 m, of which the superimposed Late Neolithic Tisza occupation amounted to 1.8–2 m. This vertical stratigraphy enabled the separation of four main periods, from the earliest occupation (D) to the latest one (A) (Horváth 2005).

The new research results indicate that there was no single-layer settlement around the Gorzsa settlement mound, meaning that the site can be interpreted as a stand-alone Late Neolithic *tell*. At the same time, Ferenc Horváth mentioned six smaller farmstead-like settlements around the Gorzsa *tell* within a radius of 5 km, although without specifying these sites (Horváth 2005, 54).

Undoubtedly, the most spectacular result of the excavation was the architectural complex of House 2 in the trenches of the large investigated area (*Fig. 6.1–3*). This unusually large building, measuring 20.2 × 12.8–13 m, comprised five main rooms and a smaller structure measuring roughly 3 × 3 m added to the main building. The meticulous excavation enabled a spectacular reconstruction of the building, which has understandably become one of the staple illustrations in the international archaeological literature (e.g., Gimbutas 1991, Fig. 3. 24–25; Whittle 1996, Fig. 4. 14, 3; Schier 2005, Abb. 10; Kienlin 2015, Fig. I-16). House 2 was assigned to Phase C of the Gorzsa sequence; preserved under the strongly burnt debris were

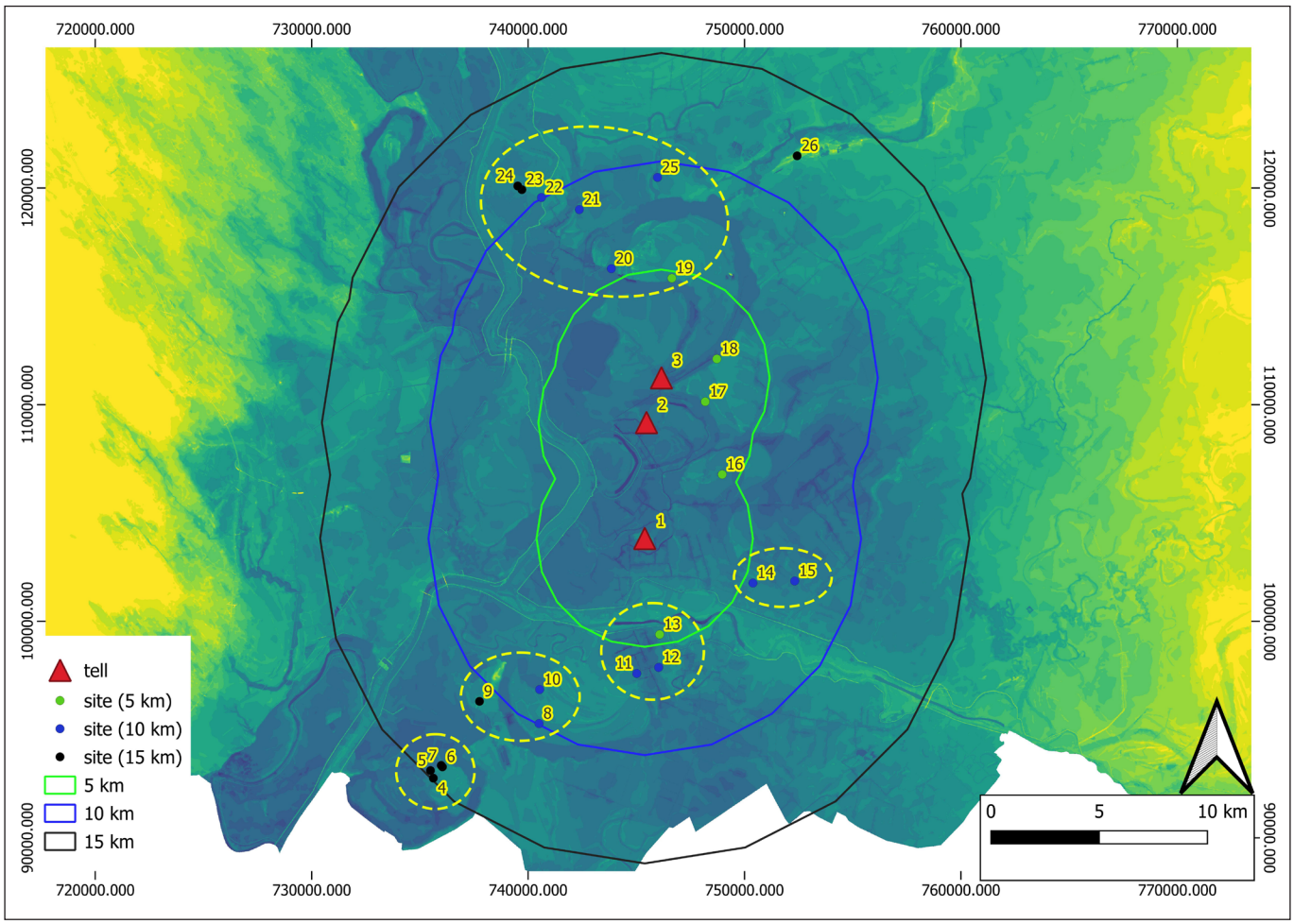

Fig. 2. The Late Neolithic tell settlements of Tápé-Lebő, Hódmezővásárhely-Gorzsa and Hódmezővásárhely-Kökénydomb, and the location of the single-layer settlements and their clusters within a 5, 10 and 15 km radius

Table 1. Single-layer settlements within a 5, 10 and 15 km radius of the Late Neolithic tell settlements of Tápé-Lebő, Hódmezővásárhely-Gorzsa and Hódmezővásárhely- Kökénydomb based on the information in the central archaeological archives

Number	Registered ID	EOV x	EOV y	Settlement	Site name
1	20389	103824	745389	Szeged	Tápé-Lebő
2	20331	109177	745470	Hódmezővásárhely	Gorzsa, Czukor-major (Földvár)
3	20332	111238	746160	Hódmezővásárhely	Kökénydomb
4	48399	92759	735621	Tiszasziget	Falu Ny-i széle
5	48419	93111	735489	Tiszasziget	Vasútvonal (Ószentiván VIII.)
6	48393	93281	736040	Tiszasziget	Szélmalom domb II. (Ószentiván III.)
7	49393	93348	735985	Tiszasziget	2. lelőhely
8	41878	95280	740504	Deszk	Szikes-dűlő III.
9	48340	96306	737754	Szeged	Szőreg-Homokbánya
10	41873	96852	740533	Deszk	Supák környéke
11	44026	97590	745020	Deszk	Bráda
12	44029	97872	746032	Deszk	Ordos
13	44049	99393	746079	Deszk	Fehértó II.
14	38681	101768	750387	Maroslele	Kislele IV.
15	38633	101861	752317	Maroslele	Gyűrűs-dűlő
16	80585	106780	748968	Hódmezővásárhely	Kingéc V. számú lelőhely
17	55467	110139	748185	Hódmezővásárhely	Gorzsa III.
18	55443	112112	748721	Hódmezővásárhely	Batida- Központ
19	56369	115839	746642	Hódmezővásárhely	Nagysziget X.
20	34520	116279	743845	Hódmezővásárhely	Kopáncs, Olasz Sándorné tanyája
21	55371	119004	742365	Hódmezővásárhely	Solt-Palé, Tatárdomb vagy Kundomb
22	55383	119563	740615	Hódmezővásárhely	Hunyadi-halom vagy Solti-halom
23	54795	119926	739711	Hódmezővásárhely	Körtvélyes
24	54799	120095	739520	Hódmezővásárhely	Tére-fok
25	55386	120489	745977	Hódmezővásárhely	Pap-ere, Tarjánvég
26	56550	121487	752430	Hódmezővásárhely	Aranyági-halom

the one-time furnishings of the building. However, the information available at the time was insufficient for determining the house's exact location within the settlement and its relation to the other contemporaneous buildings.

As a matter of fact, almost next to nothing was known about the general layout and spatial organisation of the Late Neolithic settlements in the Tisza region until the 1990s (Horváth 1989; Kalicz 2001), meaning that there were many uncertainties in how what Henry Lefebvre termed the 'lived space' (Lefebvre 1991, 362) should be conceptualised on these settlements. This focus of Hungarian Neolithic studies at that time is best illustrated by the international exhibition mounted in 1987 and the accompanying catalogue of thematic studies published in several languages that showcased the *tell* settlements of Hódmezővásárhely-Gorzsa, Szegvár-Tűzköves, Öcsöd-Kováshalom, Vésztő-Mágor, and Berettyóújfalu-Herpály and their most remarkable finds. These five sites were believed to be representative of the entire Late Neolithic of the Tisza region and its typical settlement patterns in the deductive approach dominating Hungarian prehistoric archaeology. A major change to this theoretical position was brought by international research projects, such as the Upper Tisza Project (UTP), the Körös Regional Archaeological Project (KRAP), and the Tiszazug Micro-Regional Project (TMRP) (*Fig. 1*), with their fresh perspectives and the introduction of complex multidisciplinary methods, alongside the commencement of magnetometer surveys conducted

Fig. 3. The current topographic conditions of the Late Neolithic tell settlement of Hódmezővásárhely-Gorzsa, showing the location of the excavation trenches and the site's extent based on the magnetometer survey

over extensive areas (for comprehensive overviews, see Chapman & Souvatzi 2020; Füzesi *et al.* 2020; Parkinson & Gyucha 2022; Mesterházy & Füzesi *in press*). The new multi-scalar approach in prehistoric studies explicitly uses inductive logic to move from individual archaeological sites and features through the micro-regional level to make inferences about persistent patterns in a regional and macro-regional context (Gyucha *et al.* 2009; Duffy *et al.* 2013).

These more recent advances called for a detailed geophysical investigation of the Hódmezővásárhely-Gorzsa site and the preparation of a new terrain model based on LiDAR images that would simultaneously rectify the data of previous geodesic surveys of varying quality. The survey was conducted as part of the collaborative project between the Institute of Archaeological Sciences of the Eötvös Loránd University (ELTE BTK), the Institute of Geography and Earth Sciences of the Eötvös Loránd University (ELTE TTK) and the Römisch-Germanische Kommission des Deutschen Archäologischen Instituts (Frankfurt am Main, DAI-RGK) focusing on the multidisciplinary investigation of the Late Neolithic tells of Öcsöd-Kovásha-lom, Szegvár-Tűzköves, Hódmezővásárhely-Kökénydomb, Hódmezővásárhely-Gorzsa and Tápé-Lebő and their one-time environment between the Körös and Maros rivers in the Lower Tisza region. The project was implemented between 2018 and 2024 ('*Neolithic tells and their landscape along the Lower Tisza River between 5000 and 4500 BC*', Grant NKFIH K135073; Füzesi *et al*. 2020; Raczky *et al*. 2022; Magyari *et al*. 2024; Raczky *et al. in press*). This research project, funded by a grant from the Hungarian Scientific Research Fund (OTKA) of the National Research, Development and Innovation Office (NKFI), thematically continued the earlier American-Hungarian KRAP project of the Körös region, whose goal had been the investigation of settlement patterns (*Fig. 1*; Parkinson 2006; Gyucha *et al*. 2015). Simultaneously, we

Fig. 4. Agricultural buildings on the Neolithic tell of Hódmezővásárhely-Gorzsa in 1975 and the topographic conditions at the time, showing also the reconstructed archaeological trenches and the site's extent based on the magnetometer survey

strove to create a GIS-based database of the Late Neolithic of eastern Hungary, integrating the information stored in local and central archaeological databases. Our goal was to build a comprehensive picture of the *tell*s, *tell*-like and single-layer settlements of the Tisza region and their diverse configurations and associations. Using this information, we reconstructed the network of smaller settlements within a 5, 10 and 15 km radius – the potential catchment area – of the Late Neolithic tells of the Alföld (*Fig. 2*), using the approach employed in the KRAP project (Parkinson 2006, 65–121; Gyucha *et al*. 2009; Parkinson *et al*. 2018a).

KEY FINDINGS RELATING TO THE GORZSA SETTLEMENT OF THE MULTIDISCIPLINARY RESEARCH PROJECT ON THE LATE NEOLITHIC TELLS OF THE SOUTHERN ALFÖLD CONDUCTED BETWEEN 2018 AND 2024

1. Based on the methodological approach briefly outlined above, our investigations indicated that the settlements of Hódmezővásárhely-Gorzsa, Hódmezővásárhely-Kökénydomb (lying 2 km away), and Tápé-Lebő (located 6 km away) formed a single 'settlement hub' within a 5, 10 and 15 km radius during the Late Neolithic (*Fig. 2*). Sifting through the information in the authentic site registry records (*Table 1*), we identified an additional 23 sites within a 15 km radius of the three *tell* settlements, which were almost exclusively located on the edges of the high buffs overlooking the one-time channels or floodplains of the Tisza and Maros rivers. Most of these sites were recorded during a topographic survey by the Department of Archaeology of Szeged University (former József Attila University), which focused mainly on the territory of modern Csongrád-Csanád County. Some of the relevant information came from smaller excavations conducted on certain sites. Three Late Neolithic sites are known east of the settlement mounds of Tápé-Lebő,

Hódmezővásárhely-Gorzsa, and Hódmezővásárhely-Kökénydomb within a 5 km radius. The sites within the 10 and 15 km radius form spatial clusters: one comprises Maroslele, Deszk and Újszentiván, another is the Tiszasziget group (which mainly yielded stray finds) south of Tápé-Lebő, and finally, there is a larger group of seven sites in the area of the Körtvélyes oxbow of the Tisza River east of Hódmezővásárhely.

2. Following several previous geodesic surveys of Hódmezővásárhely-Gorzsa, the Department of Survey and Excavation Methodology of DAI-RGK conducted a LiDAR survey of the site's current microtopographical conditions under the direction of Knut Rassmann (*Fig. 5*), providing a sufficient resolution for the spatial imaging of subsequent fieldwork. All earlier excavation trenches were documented at this information horizon, as was the estimated extent of the site based on the new investigations. The location of House 2, excavated by Ferenc Horváth, was determined on the LiDAR-based terrain model; the microtopographical context of this building had not been published earlier (*Fig. 6*).

3. The perhaps most spectacular result of the geophysical investigations conducted on the Gorzsa site in 2019 came from the magnetometer survey. However, it must in all fairness be noted that the site's magnetogram is rather confused, owing in part to the intense agricultural activity conducted in the area and in part to the many disturbances to the site, and therefore the information on its layout and spatial organisation remains incomplete (*Fig. 7.1–2*). Regrettably, the greatest disturbance to the layer sequence affected the *tell*'s central part. The survey, conducted over an area of roughly 18.5 hectares, included both the *tell* and its broader area. A roughly oval, closed settlement area was noted on the mound, bounded by several ditches, which can in all likelihood be associated with different occupation phases. The data indicated a roughly 3.5 ha occupation area that conforms to previous estimates (Horváth 2005). Another important result is that there were no traces of a single-layer settlement: similarly to the spatial structuring of Vésztő-Mágor,

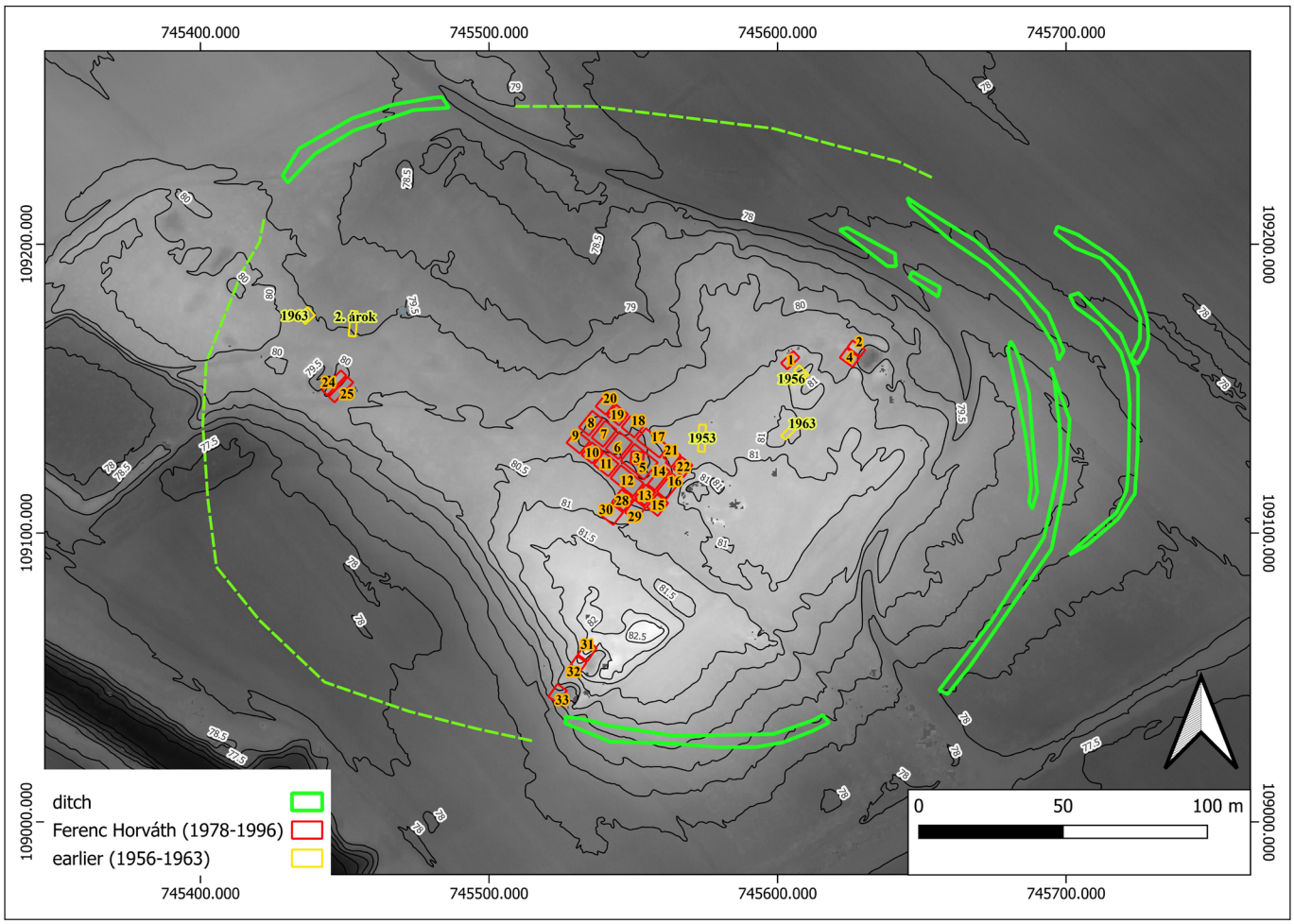

Fig. 5. LiDAR survey of the Late Neolithic tell settlement of Hódmezővásárhely-Gorzsa, showing also the archaeological trenches and the site's extent based on the magnetometer survey

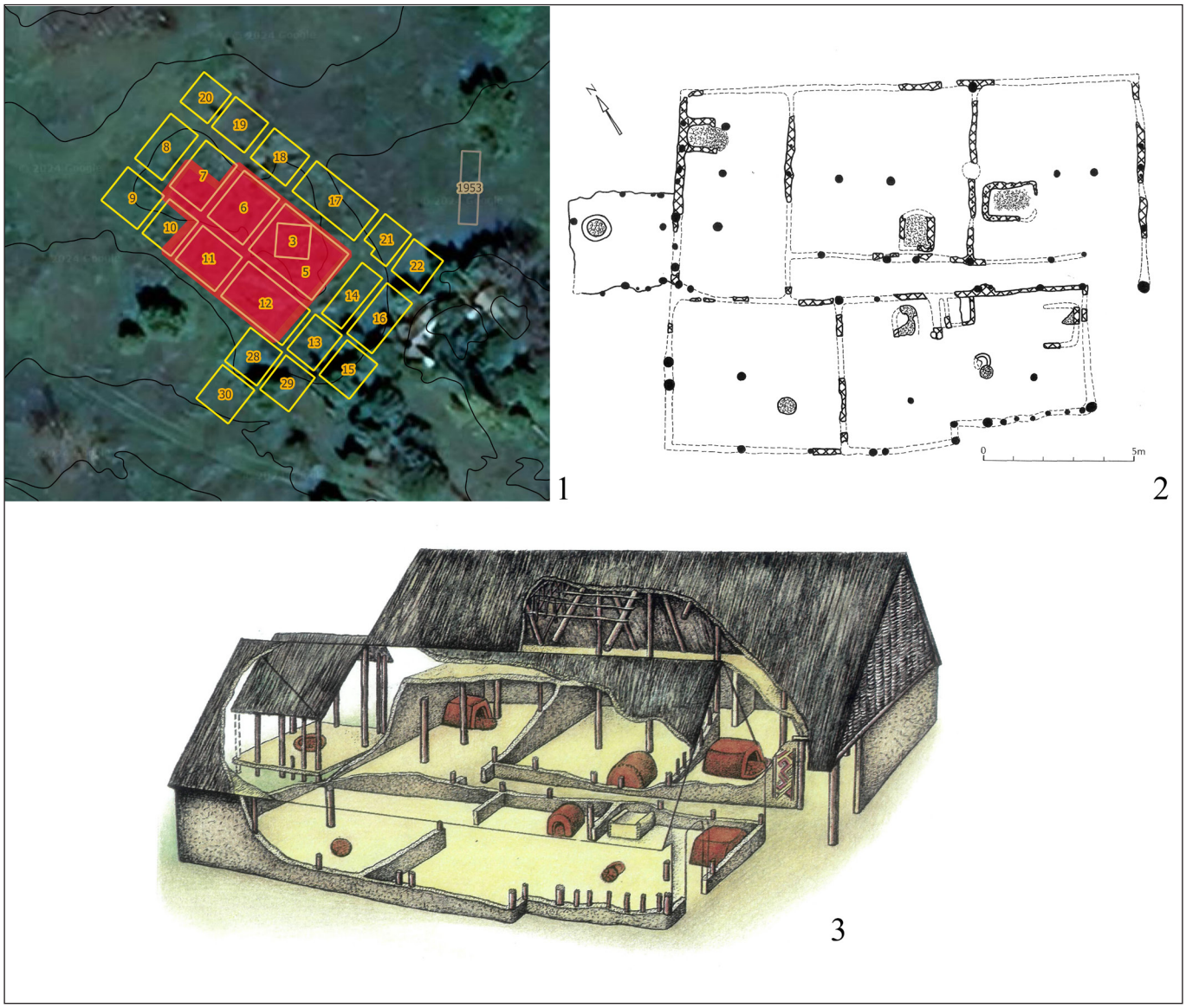

Fig. 6. Hódmezővásárhely-Gorzsa. 1: Location of House 2 excavated on the Late Neolithic settlement, 2: ground plan of House 2, 3: reconstruction of House 2 (Á. Dékány and M. Lacza)

Gorzsa represented a stand-alone macro-architecture among the Late Neolithic tells of the Alföld (Gyucha *et al*. 2015; Parkinson *et al.* 2018b). A series of closely spaced burnt houses could be clearly made out on the magnetogram's southeastern side, suggesting a spatial arrangement of linear house rows in the area enclosed by the ditches, similar to the spatial structuring of the Neolithic *tell* of Okolište in Bosnia (Müller *et al*. 2013). When transcribed onto the magnetometer survey map, it is apparent that the orientation and location of House 2 of the Gorzsa *tell* excavated by Ferenc Horváth conform to most buildings on the outer perimeter of the *tell*. Unfortunately, it proved impossible to separately localise the houses in the *tell*'s central area owing to modern disturbance and the combined anomalies of the superimposed burnt houses, which formed one large anomaly on the plan. For the same reason, as well as in consequence of the thick occupation deposits, deeper-lying features such as the ditches could not be clearly detected.

The magnetometer survey of Hódmezővásárhely-Kökénydomb, a settlement some 2 km away and within sight of Gorzsa, revealed a spatial organisation of radially aligned burnt houses (*Fig. 8.1–2*; Raczky *et al*. 2022). The houses formed three semicircular settlement zones separated from each other by curved ditches, a spatial configuration differing markedly from the one at Gorzsa. The *tell*-like mound lay in the roughly 120 m wide zone on the waterfront and was adjoined by a roughly 80 m wide single-layer settlement to the west.

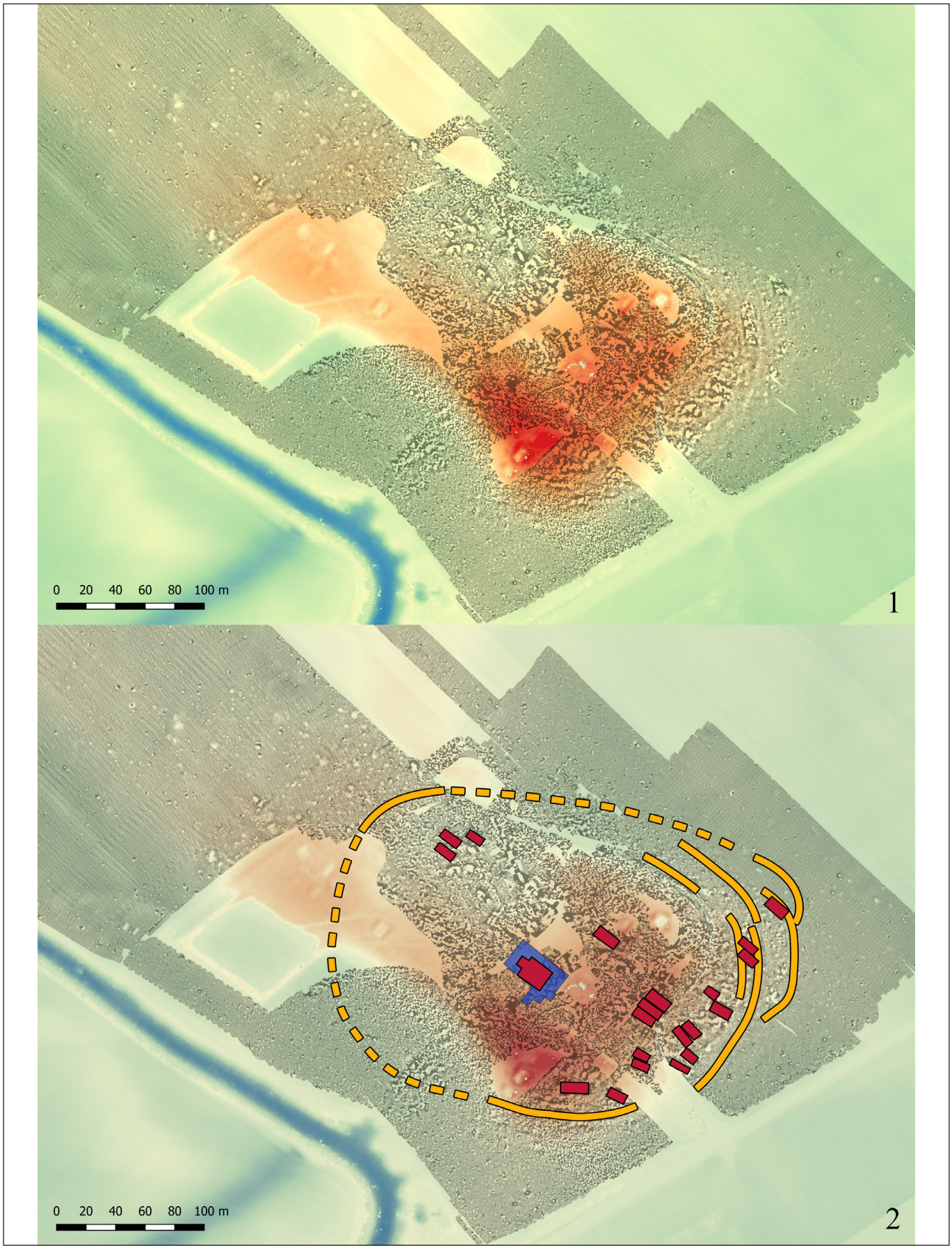

Fig. 7. Hódmezővásárhely-Gorzsa. 1: Magnetogram of the Late Neolithic tell, 2: Visual interpretation of the magnetometer survey

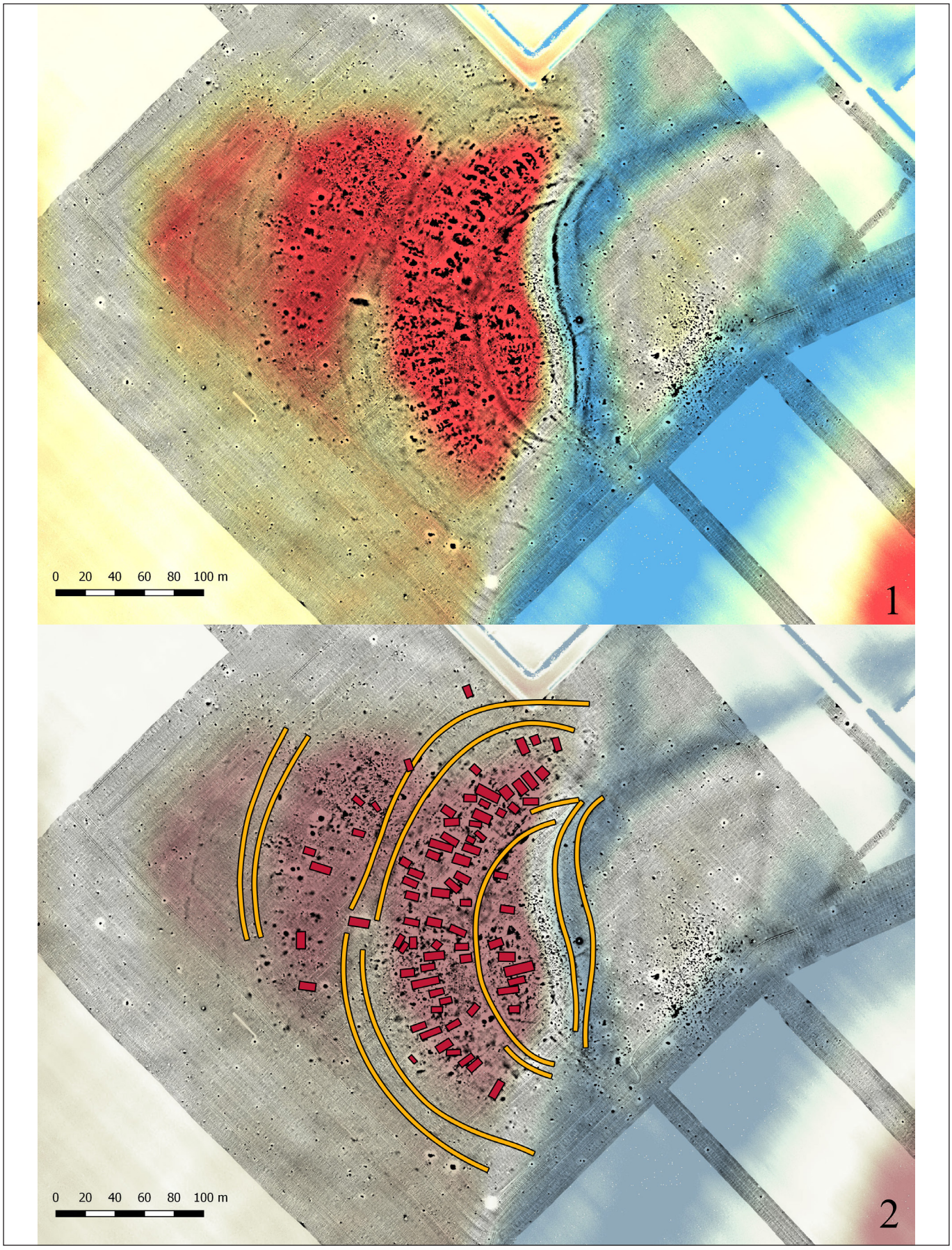

Fig. 8. Hódmezővásárhely-Kökénydomb. 1: Magnetogram of the Late Neolithic tell, 2: visual interpretation of the magnetometer survey

The magnetometer survey of Tápé-Lebő, another neighbouring *tell* at a distance of some 6 km from Gorzsa, revealed yet another layout (*Fig. 9.3–4*). A small mound measuring roughly 150 × 100 m ringed by oval ditches (Tápé-Lebő A) was horizontally enlarged towards the east to create a larger, 300 × 150 m uniform *tell* that was also bounded by ditches (Tápé-Lebő B). This *tell* was then dissected by the sand quarry opened in the area; thus, it appears to be two separate settlement mounds today (A and B; Korek 1958). The recently identified structural elements of the Tápé settlement highlight the continuity of its spatial organisation and how its cultural forms drew from each other in different occupation phases. One of the essential characteristics reflecting continuity is that the burnt houses were aligned east to north and arranged into rows in both spatial segments.

4. As part of the Hungarian-German research project on the Gorzsa settlement, we undertook coring in four locations in 2019 to determine the depth and stratigraphy of the buried features appearing on the magnetograms. We selected one of the burnt houses, two sections of the outer enclosure ditch and the channel on the settlement's southern periphery (*Fig. 10.1*). The latter (Core B3) was unsuccessful. The cores, each with a diameter of 5 cm, were taken to the laboratory of DAI-RGK in Frankfurt for evaluation (*Fig. 10.2–4*). The cores were sampled at 5 cm intervals, and the measurements were made using a Spektro Xepos energy dispersive polarisation X-ray fluorescence spectrometer.

The XRF analysis of the anthropogenic layers indicated the total concentration range of individual elements in the sample. For example, the concentration of phosphorus is principally the result of human activities, although its causes can vary: refuse, stockbreeding, burial, faecal material, the use of manure, etc. The presence of other elements, such as carbon, nitrogen, calcium, potassium, magnesium, sulphur, copper, zinc, and other metals, similarly reflects intense human activities.

Coring location B1 lay in the eastern part of the enclosure. The borehole was drilled down to a depth of 3 m (*Fig. 10.2*). We distinguished a total of 13 layers; however, most of these did not have a sharp boundary, but reflected a continuous infilling typical for the lower section of ditches. The layers rich in burnt daub and charcoal began at a depth of 235 cm; the grain size of anthropogenic macro-elements increased upwards between 150 and 235 cm, reaching their maximum in Layer 4 between 150 and 180 cm. The distinctive traits of Layers 4 and 5 suggest the intentional infilling of the ditches, a practice observed on other Neolithic sites, too. The strikingly high values of silicates, which in part coincided with the trend-like increase of strontium and calcium values in these layers, were an indication of anthropogenic impact.

Coring location B4 lay in the north-eastern curve of the enclosure, where we extracted a 400 cm long core (*Fig. 10.4*). Similar tendencies could be noted as in Core B1: the lower layers (10–16) reflected a process of natural infilling. Three thin bands of yellow clay (Layers 10, 12, 15) were noted between 265 and 330 cm, and a minimal anthropogenic impact in the thin greyish-brown humus layers separating them. Burnt daub fragments from the debris of the burnt houses appeared between 265 and 150 cm, their size increasing upwards, coupled with growing values of silicates. These tendencies – the natural infilling of the ditch's lower section and the more rapid, deliberate infilling of the upper section – are generally typical of the infilling process of Late Neolithic enclosures on the Alföld, which was also noted at the Öcsöd-Kováshalom site (Füzesi *et al*. 2023).

Coring location B2 lay in the area of burnt house debris in the central part of the *tell* settlement (*Fig. 10.3*). Drilling down to a depth of 3 m, we reached the subsoil at a depth of 270 cm. Traces of intense human activity were noted from a depth of 195 cm. Layer 12 was rich in burnt daub and charcoal, suggesting a cut feature or a fill layer. Above this layer were the renewed yellow clay floor levels of a burnt house (10–11) and a layer of charcoal (9). The debris of the burnt house was a 40 cm thick, massive layer of burnt daub (8) that was separated from a similar layer above it (5) by a yellowish-brown humus layer and a thick fill of earth mixed with charcoal (6–7). The issue of whether these represent the remains of a two-storey house or the debris of two separate houses, one built above the other, cannot be conclusively resolved based on the information from a single core with a relatively small diameter. Nevertheless, the XRF measurements provided some pointers in this respect because the two differing maximum values of silicate for the upper and lower burnt daub debris suggest the differing character of the two. Significant amounts of phosphate,

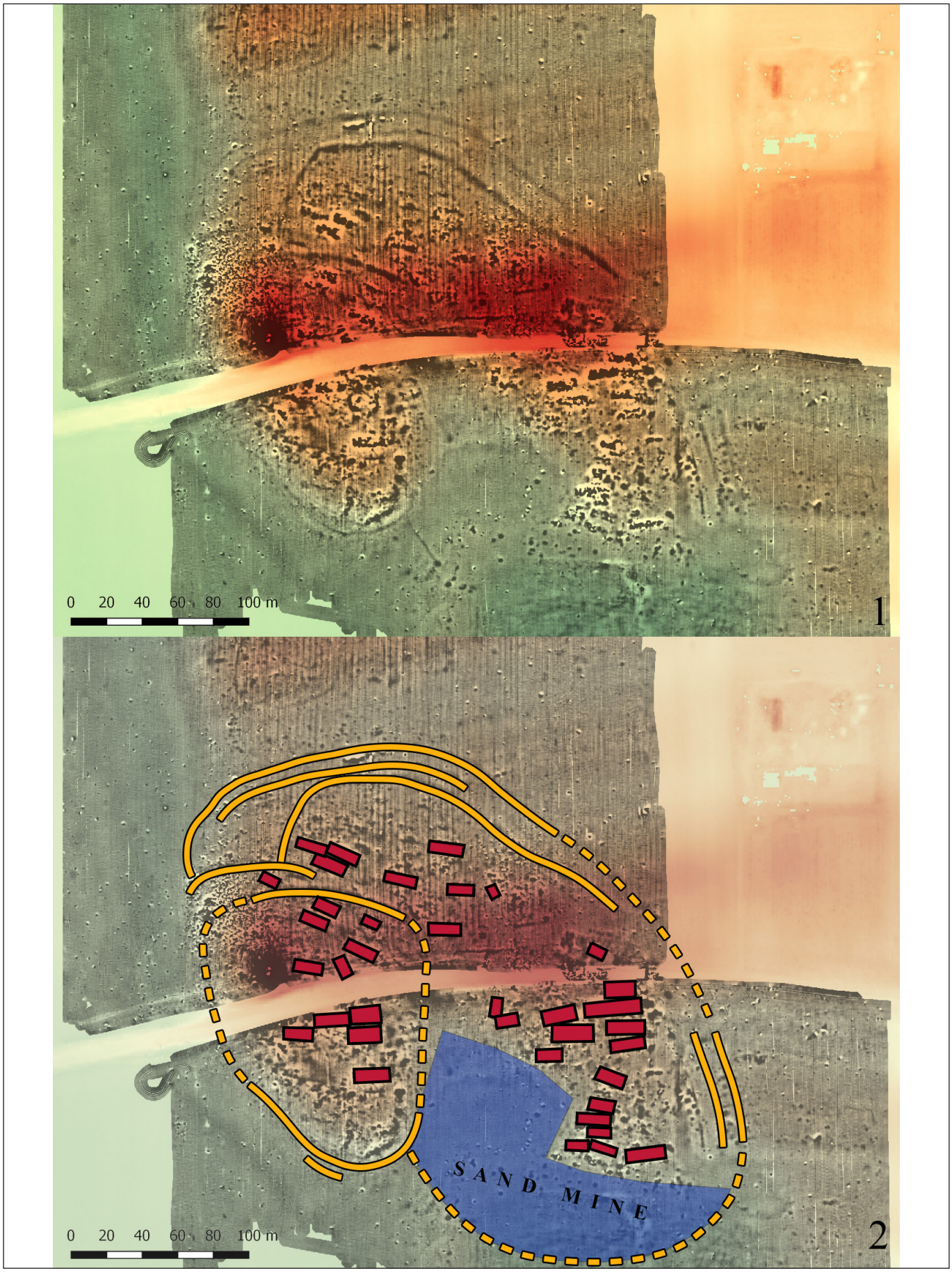

Fig. 9. Tápé-Lebő. 1: Magnetogram of the Late Neolithic tell, 2: Visual interpretation of the magnetometer survey

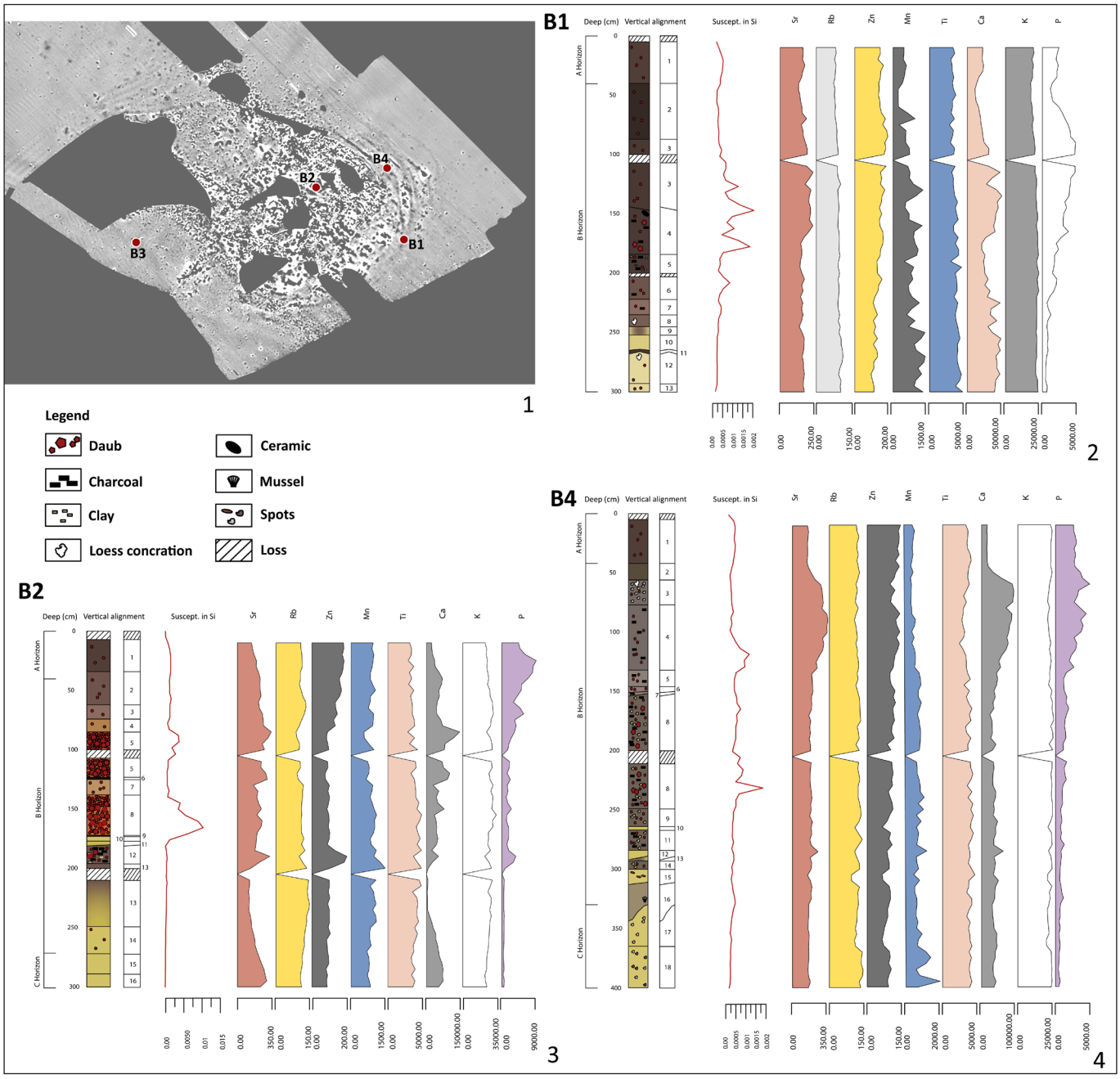

Fig. 10. Layer sequence of the three cores (B1, B2 and B4) from the Late Neolithic settlement of Hódmezővásárhely-Gorzsa and the results of the physical and chemical analyses

coupled with an increase in strontium and calcium values, were only attested under the layers associated with the house(s). Comparable values were also noted between the two layers of burnt daub and above the second one. Taken together, these would suggest the remains of two separate houses built above each other.

The evaluation of the three cores indicates at least two building horizons on the Gorzsa *tell* settlement that was ringed by a 300–330 cm deep enclosure system.

5. Even though our focus in this preliminary report is the spatial organisation of the Hódmezővásárhely-Gorzsa settlement, we shall here also briefly discuss the new data relating to the absolute chronology of the site's Late Neolithic occupation. The radiocarbon-based chronology of the settlement was first determined by Sándor Gulyás, Pál Sümegi, and Mihály Molnár in their studies which also covered previous work in this field (Gulyás *et al*. 2010; Gulyás & Sümegi 2011). The reassessment of this chronological framework and its methodological critique was undertaken by a group of specialists in the monograph of the Uivar *tell* settlement in Romania, who modelled the Neolithic chronology of the entire Banat region. The start of the

Gorzsa *tell* was determined at 4995–4730 cal BC (95% probability) or 4920–4795 cal BC (68% probability), while its end at 4515–4255 cal BC (95% probability) or 4455–4335 cal BC (68% probability) (Bayliss *et al*. 2022). The new modelling of old radiocarbon dates suggested that the *tell* settlement's occupation spanned some 430–460 years. It must also be borne in mind that the main reason for the inaccuracies in the radiocarbon dates or, more precisely, for the broad time intervals is that the radiocarbon dates available for modelling were legacy dates in terms of their heterogeneous origin and because they were obtained through dissimilar sampling strategies.

THE SIGNIFICANCE OF THE RESEARCH RESULTS

In sum, we found that the three neighbouring Late Neolithic *tell*-type settlements of Hódmezővásárhely-Kökénydomb, Hódmezővásárhely-Gorzsa and Tápé-Lebő, all lying along the Tisza River, each had its own distinctive layout and that there were major differences in their spatial organisation, as reflected by the unique local combinations of the spatial modules of burnt houses, enclosures and settlement mounds. The single-layer settlements around the settlement mounds at Hódmezővásárhely-Kökénydomb, Szegvár-Tűzköves, and Öcsöd-Kováshalom represent yet another spatial module. It seems likely that these spatial components were the settings of differing community practices and that the many varieties of relational attitudes stimulated a diversity of internal dynamics and ultimately generated uniquely local social relations within the communities occupying these spaces. Taking an approach informed by practice theory, we posit the existence of unique space-time configurations in the context of different types of interactions (Kienlin 2020; Furholt 2020).

Another example of local community identities materialising in individually generated, singular physical forms is the marked divergence of the ornamental vocabulary of the decorated pottery from Kökénydomb and Gorzsa, which has since long puzzled archaeological scholarship. The differences between the ceramic assemblages from the two sites were variously attributed to the cultural divergences between the Tisza culture and the Gorzsa group or to their differing chronological position (e.g., Kutzián 1966; Horváth 2005), which in itself illustrates the fallibility of the definition of cultures based exclusively on pottery forms and ornamentation (Roberts & Vander Linden 2011). The bottom-up approach employed in our investigations quite naturally dictated that the boundaries of the large Tisza-Herpály-Csőszhalom cultural region determined according to the distribution of ceramic attributes as well as their spatial structures be reassessed within the framework of a polythetic cultural model (Furholt 2020, 4–5, fig. 2).

The integration of previous information on the fifth-millennium BC *tell* settlements of the Tisza region with the new research results and their joint assessment has shed light on hitherto unknown aspects of the local traditions and cultural preferences of the communities occupying these sites. The diverse attitudes to space and the differing practices of how it was organised are strikingly apparent in the differences between the spatial patterning of the settlements as well as in the settlement networks around these tells. This preliminary assessment of the Gorzsa settlement is intended as a useful contribution to research focusing also on the particular.

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