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GEOMAGNETIC SURVEYS AND ARCHAEOLOGICAL EXCAVATIONS OF TWO PREHISTORIC SITES IN NORTH--WESTERN SERBIA: PRELIMINARY RESULTS AND NEW METHODOLOGICAL QUESTIONS[1]

ABSTRACT

The study is based on the geomagnetic prospection and subsequent archaeological excavations of two prehistoric sites in north-western Serbia, the sites of Spasovine and Cikote. Comparing prospection and excavation results provides an insight into the advantages and limitations of geomagnetic prospection in the aforementioned territory. At the site of Spasovine, where geomagnetic prospection pinpointed two archaeological features, those features have proved to be the remains of burnt Late Neolithic/Early Eneolithic dwellings containing a large amount of portable archaeological material and architectural elements, all with traces of burning. At the Bronze/Iron Age site of Cikote, geomagnetic prospection yielded positive, yet significantly lower, values concerning the possible archaeological features, but was able to identify a burnt rampart dated to the transitional period between the Bronze Age and Iron Age. The excavations did not register any remains of possible Bronze Age dwellings. The study supports the conclusion that the character of the Late Neolithic/Early Eneolithic architecture likely differs from that of the Late Bronze Age, the latter being more superficial and of lighter construction. Thus, the complete absence of preserved Late Bronze Age settlements in north-western Serbia may be explained by the poor preservation potential of Bronze Age settlements.

KEYWORDS: GEOMAGNETIC PROSPECTION, EXCAVATIONS, DWELLINGS, LATE NEOLITHIC/ EARLY ENEOLITHIC, LATE BRONZE AGE, NORTH-WESTERN SERBIA.

[1] The authors would like to dedicate this paper to our dear friend and colleague Aleksandar Veljanović, who passed away far too early.

INTRODUCTION

For more than 70 years, one of the key archaeological problems of north-western Serbia has been the complete lack of settlements and settling locations that could be connected with a number of the rich Late Bronze Age (1450-1100 BC) mound necropolises in the wider region (Булатовић *et al*. 2017: 53-54).[1] In addition to the decade-long surveys, new isotopic research has confirmed that tin in the bronze objects from the aforementioned necropolises most likely originate from placer deposits on the south-eastern slopes of Mt. Cer (Bankoff *et al*. 2013; Huska *et al*. 2014; Mason *et al*. 2016; Powell *et al*. 2018; Mason *et al*. 2020; Powell *et al*. 2020). Given that numerous sites recorded and excavated in the course of the Jadar project[2] failed to confirm the existence of a period-related settlement, geomagnetic prospection was undertaken in 2018 on two sites that have so far displayed the highest potential of containing remains of residential structures. The potential is based on the results of surveys at the site of Spasovine and small-scale excavations at the site of Cikote.[3] Both of the sites are located in western Serbia, which represents the primary area of interest for the Jadar project. The sites in question are the prehistoric settlement of Spasovine and the Cikote hillfort (**Figure 1**), which were excavated in two successive field campaigns, in 2018 and 2019.[4]

The main goal of this paper is to compare the results of geomagnetic measurements with the results of subsequent archaeological excavations. The paper will, therefore, provide relevant data on different parameters (dimensions, depths, amount of archaeological material, the degree of burning, etc.), in order to present a solid comparison between the measurements and excavations. Such an approach will inform future geomagnetic surveys in the area, as well as highlight potential archaeological features and remains on the site during the subsequent archaeological excavations.

MATERIALS AND METHODS

Magnetometry is a proven method for the detection of buried archaeological features from different periods. Although such methods have long been utilised in archaeology, services based on remote sensing have become more available in Serbia in the last decades.[5] The increased pace of rescue archaeological excavations in Serbia have provided the means for the acquirement of new equipment and training of experts in the field of remote sensing.[6]

The equipment used for the prospection of the sites of Spasovine and Cikote was the fluxgate gradiometer FM256 with sensitivity 0.1 nanoTesla (nT), made by the Geoscan Research Company. The corners of the surveyed areas were georeferenced using a Trimble Pathfinder ProXT GPS receiver with sub-meter precision. All survey areas were measured using a sampling interval of 1 x 0.25 m and subsequently interpolated to a grid of 0.25 x 0.25 m. GeoPlot software was used for data downloading and processing, and Surfer software for interpolation, using the Nearest Neighbour method. The results are displayed in a range from -10 to 10 nT for better visibility. Projection to the map was done using ArcGIS software.

The geomagnetic surveys on both sites were conducted using the same equipment and settings, the same operators, and under identical atmospheric conditions across a three-day period.

[1] The results of the archaeological research of the Late Bronze Age necropolis in north-western Serbia were collected and presented in Филиповић 2013, offering interpretation accepted today.

[2] Joint multidisciplinary international project *Archaeological Investigations of the Settlement Systems, Burial Customs, and Mining Resources in the Bronze Age of Northwestern Serbia*, which was realised by the Institute of Archaeology in Belgrade, Serbia, and Brooklyn College CUNY from New York, USA.

[3] *Cf.* Bankoff *et al.* 2013, 61-65; Булатовић *et al.* 2017.

[4] The authors would like to thank colleagues Rada Gligorić, Jasminka Bogić, Mirko Vranić, and Nikolina Manojlović who were members of the excavation team. Our thanks also go to Sofija Krstić, Lazar Marković and Andrej Zlatović.

[5] *Cf.* Bogdanović 2009; Milošević *et al.* 2011; Филиповић 2013, with complete cited literature; Medović *et al.* 2014; Horejs *et al.* 2018; Ninčić 2023.

[6] The longest continuous tradition of using geophysical methods in archaeology in Serbia can be connected with the company Center for New Technology Viminacium, and research conducted in Viminacium *Cf.* Korać i dr. 2006; Bogdanović 2009; Miletić i Miletić 2012; Korać 2019: 71–100.

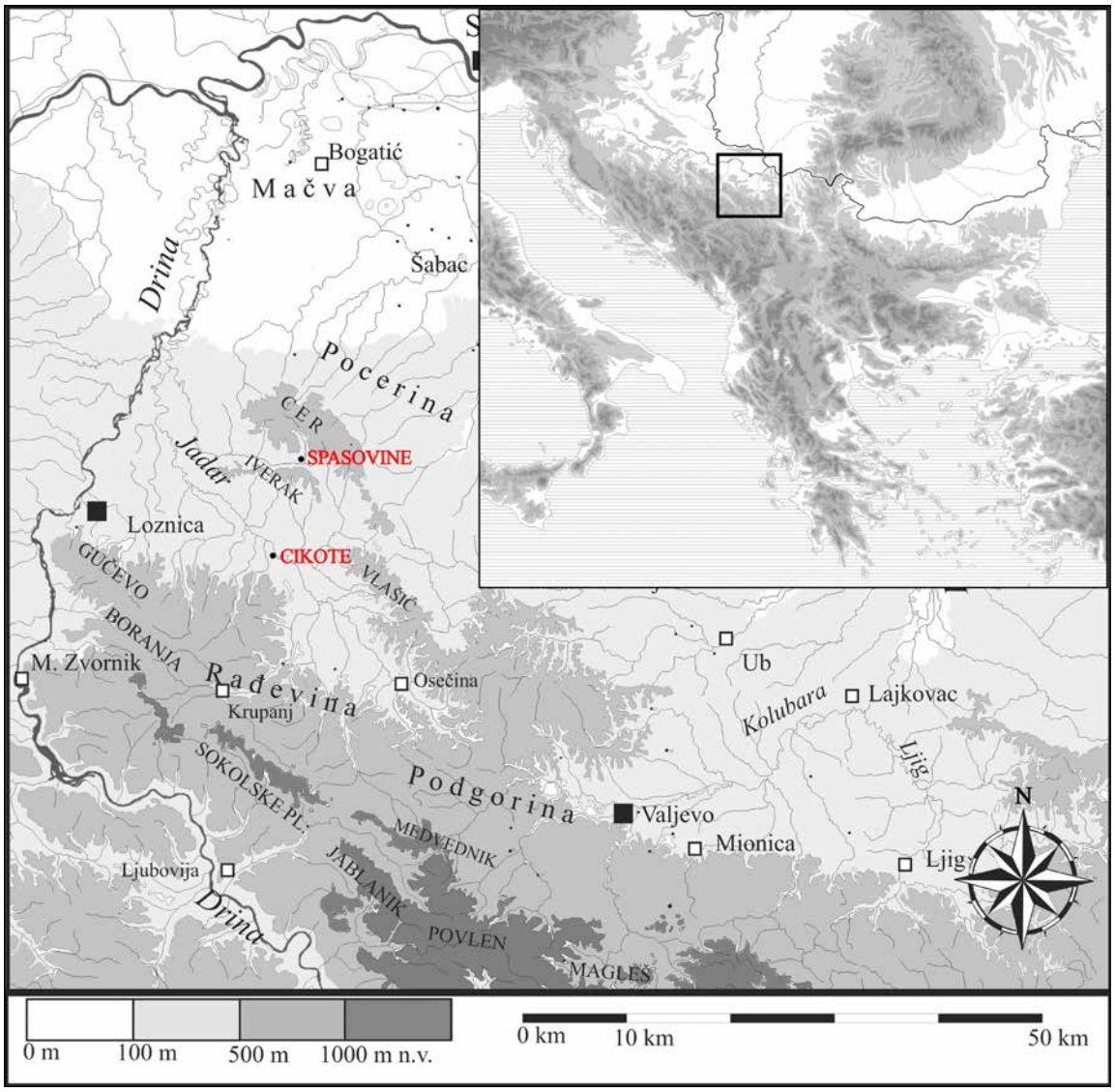

Figure 1. Location of Spasovine and Cikote sites in north-western Serbia (map modified from Филиповић 2015).

SPASOVINE SITE - RESEARCH RESULTS

The site of Spasovine is located in the village of Milina in the Mačva region of north-western Serbia (**Figure 1**). The site itself is positioned on a gentle slope of the right bank of the Milinska river, which flows from Mt. Cer (44.34'36"N, 19.27'60"E) (**Figure 2**). The first archaeological survey and test excavations of the site were conducted during the 2010 and 2011 campaigns. A total of five test trenches were excavated on those occasions, providing the basic chronological, cultural, and stylistic and typological determination of the site (Bankoff *et al*. 2013: 63).

Scarce finds of potsherds, chunks of daub, lithics and several finds indicative prehistoric metallurgy (a fragment of a stone mould, crucible fragments with vitreous coatings or metallic crusts) (Huska *et al*. 2014: 485-487; Pacifico *et al*. 2022), were all recorded either on the surface or exclusively in the upper layers, and their surface distribution was recorded within an area of approximately 5 hectares. Based on the stylistic and typological characteristics of the potsherds, the site was preliminarily dated to the Early Eneolithic and the Bronze Age (Булатовић *et al*. 2017: 213-214), as well as to the Roman period. In 2018, a geomagnetic scanning of several sites

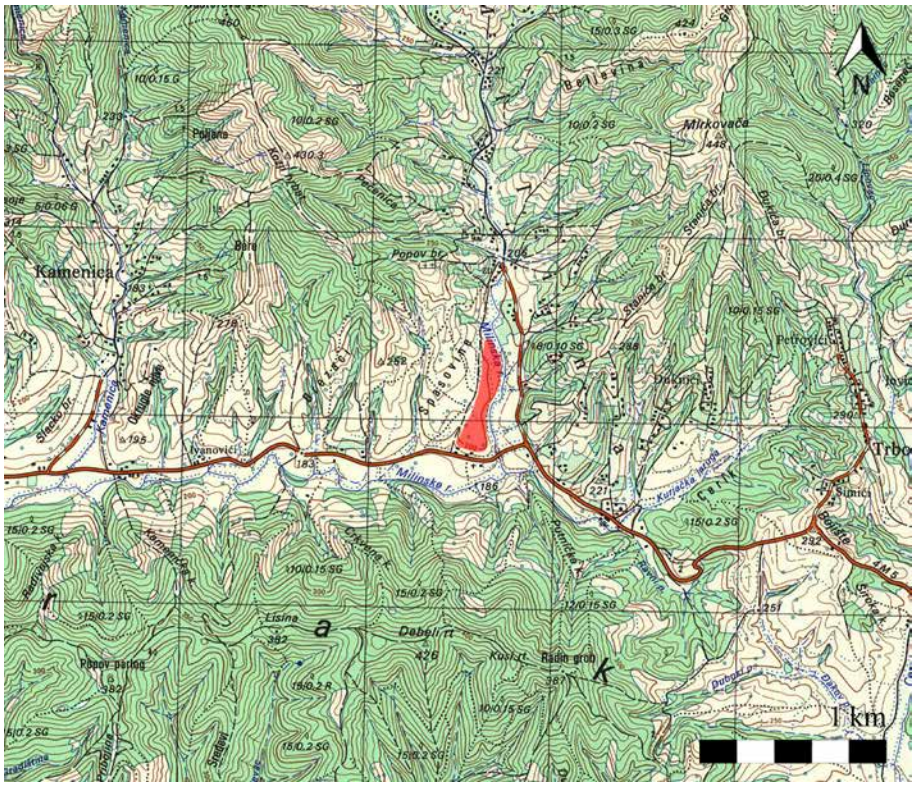

Figure 2. Position of the site of Spasovine (marking by the authors on the topographic map of Serbia 1:25,000).

in north-western Serbia,[7] including the site of Spasovine, was conducted.[8] Due to the promising results of the scanning at the site of Spasovine, two archaeological trenches were subsequently excavated (trenches 1/18 and 2/18). Both trenches yielded archaeological features and archaeological material (potsherds, daub, and lithics), which, once again, confirmed the existence of the Late Neolithic/Early Eneolithic horizon at the site.

Geomagnetic prospection

An area of about 1 ha was measured using magnetometry at the site of Spasovine in June 2018. Two clusters of significant magnetic anomalies, designated as sites A and B, were identified (**Figure 3**). At site A, two anomalies were recorded. The larger one reached positive values of up to 62 nT in its centre, suggesting the presence of metal or heavily burned material since most prehistoric sunken features do not exceed 5 – 10 nT. The feature was later excavated in trench 1/18 (**Figure 4**).

Site B consists of two rectangular features oriented in a southwest/northeast direction. These features reached magnetic values of 10 – 15 nT. The smaller part of the northernmost feature was later excavated in trench 2/18 (**Figure 5**). Both features can be preliminarily interpreted as remains of semi-sunken houses. Other less magnetic rectangular structures have been recorded in the space between the semi-sunken houses, matching their size proportions (the northern one is smaller than the southern one). In this case, they could be the remains of above-ground dwellings.

[7] The geomagnetic scanning was carried out by J. John and O. Chvojka from the Faculty of Arts, University of South Bohemia in České Budějovice, Czech Republic.

[8] All of the scanned sites were previously researched within the aforementioned project, either by archaeological prospection or archaeological excavations. For a detailed overview of researched sites refer to: Bankoff *et al.*, 2013, Filipović, 2013, Huska *et al.*, 2014, Булатовић *et al.*, 2017, Bulatović *et al.*, 2018.

Figure 3: Prospected areas at the site of Spasovine (overlaying the results with the Google Earth photo).

Excavations

Trench 1/18 (Spasovine). The trench was laid out in order to encompass the entire anomaly previously recorded by the geomagnetic survey (**Figure 6**). The dimensions of the trench were 5 x 5 m, and the orientation was north-south. Surface finds, comprised solely of lumps of burnt daub, indicated the existence of larger lumps of daub beneath the surface.[9] After the removal of the surface layer with vegetation and recent soil, chunks of burnt daub, larger than those on the surface, were recorded in a layer of compact greyish soil. Further excavation led to the discovery of an area comprised of burnt red soil, burnt stone, and large lumps of burnt and shaped daub. This area was marked as Feature 1. Most of the feature was positioned in the northern and north-western portion of the trench and had an irregular circular shape. The feature was shallow and narrowed towards a circular bottom. The borders of the feature were defined by sterile compact yellow soil (virgin soil), in which the feature was buried. In terms of borders, the south-eastern border of the feature was hard to define, as the boundary between the red burnt soil and compact yellow soil was not sharply defined and, therefore, the south-eastern portion of Feature 1 was marked as Feature 2. This feature could either represent archaeological material that eroded from Feature 1 or another individual feature.[10] The internal stratigraphy of Feature 1 is comprised of two distinct layers. A 10-30 cm thick layer of burnt red soil mixed with a considerable number of large lumps of daub with imprints of wattle and wooden beams. This layer yielded some prehistoric pottery, chipped stone tools, fragments of a grindstone, and a weight made of baked clay. Beneath this layer, a thin layer comprised of ash and soot was recorded in the north-western, central, and southern portions of the feature. This layer contained numerous prehistoric potsherds, of which some belong to the same vessels. A small pit (post hole?), with a diameter of 12 cm, filled with soot, was recorded within the south-western portion of the layer.

Trench 2/18 (Spasovine). This trench was laid out east of Trench 1/18, on a slight slope above the right bank of the Milinska river, covering a part of the recorded anomaly (**Figure 7**). The dimensions of the trench were 5 x 3 m, and the orientation was east-west.[11] The vertical stratigraphy was composed of the surface layer, with sporadic finds of prehistoric pottery, followed by a 25-40 cm thick layer of loose brown soil with prehistoric pottery and chipped stone artifacts. This layer lay directly above a layer of compact yellow soil (virgin soil). An area (pit) that penetrated the northern and eastern cross-section in the north--western corner of the excavated portion of the trench, buried into the virgin soil, was comprised of loose brown soil mixed with prehistoric pottery, burnt daub, and pebbles. This area was marked as Feature 3. The western border of the feature was defined by large stones and daub, and the southern border was defined by burnt daub

[9] The area in which the trench was laid out is cultivated and, therefore, the surface finds were brought to the surface by constant ploughing.

[10] The terrain on which the trench was laid out is quite steep, and the idea of erosion from higher ground seems highly plausible.

[11] Due to several factors, including the number of professional archaeologists, and time limits, only the eastern half of the trench was excavated.

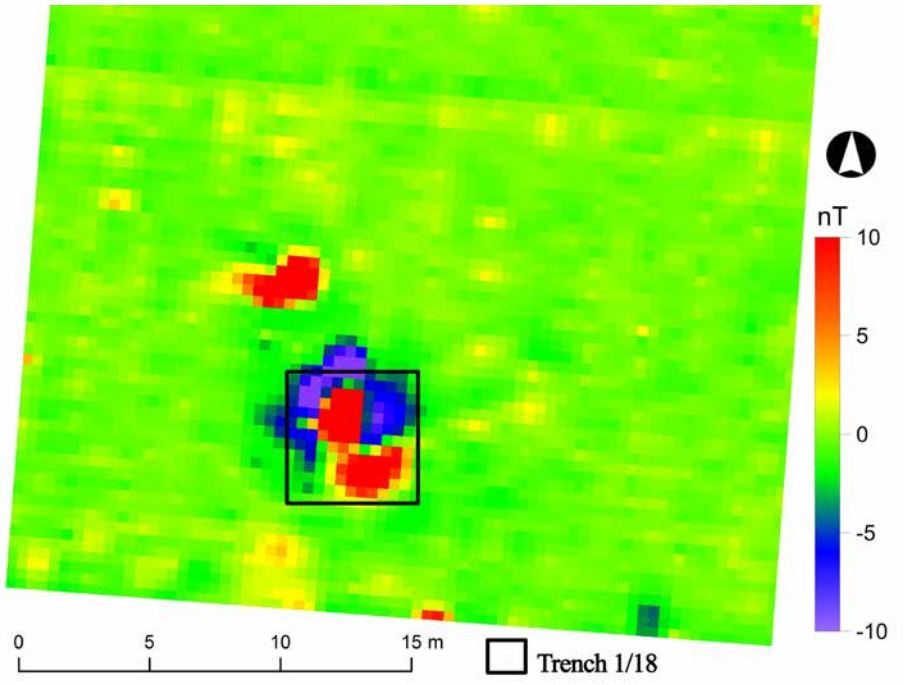

Figure 4. Results of prospection and the outline of Trench 1/18.

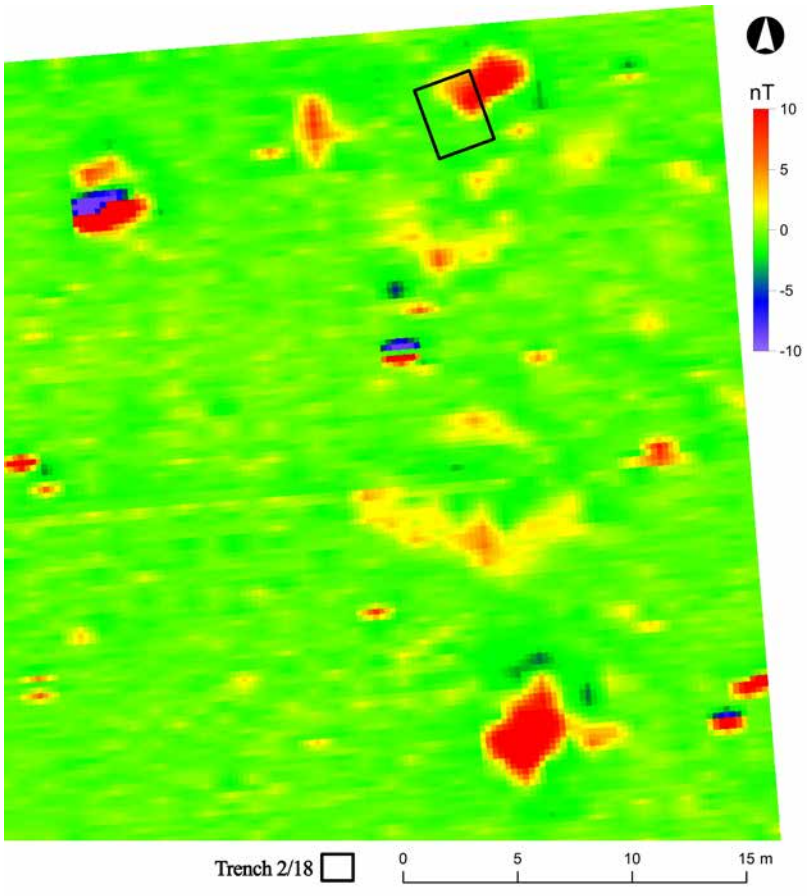

Figure 5. Results of prospection and the outline of Trench 2/18.

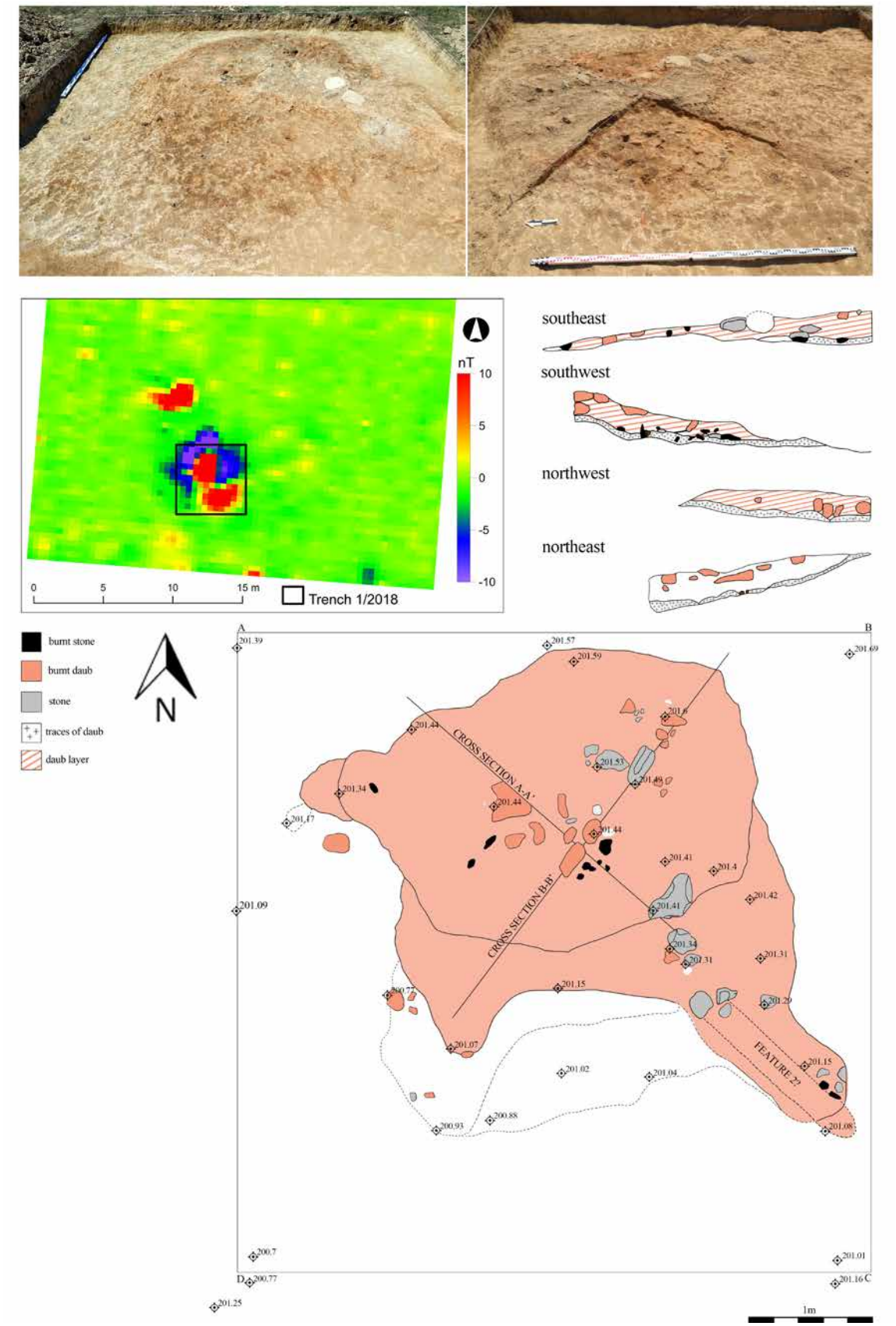

Figure 6. Composite representation of Trench 1/18 (drawings and photo by the authors).

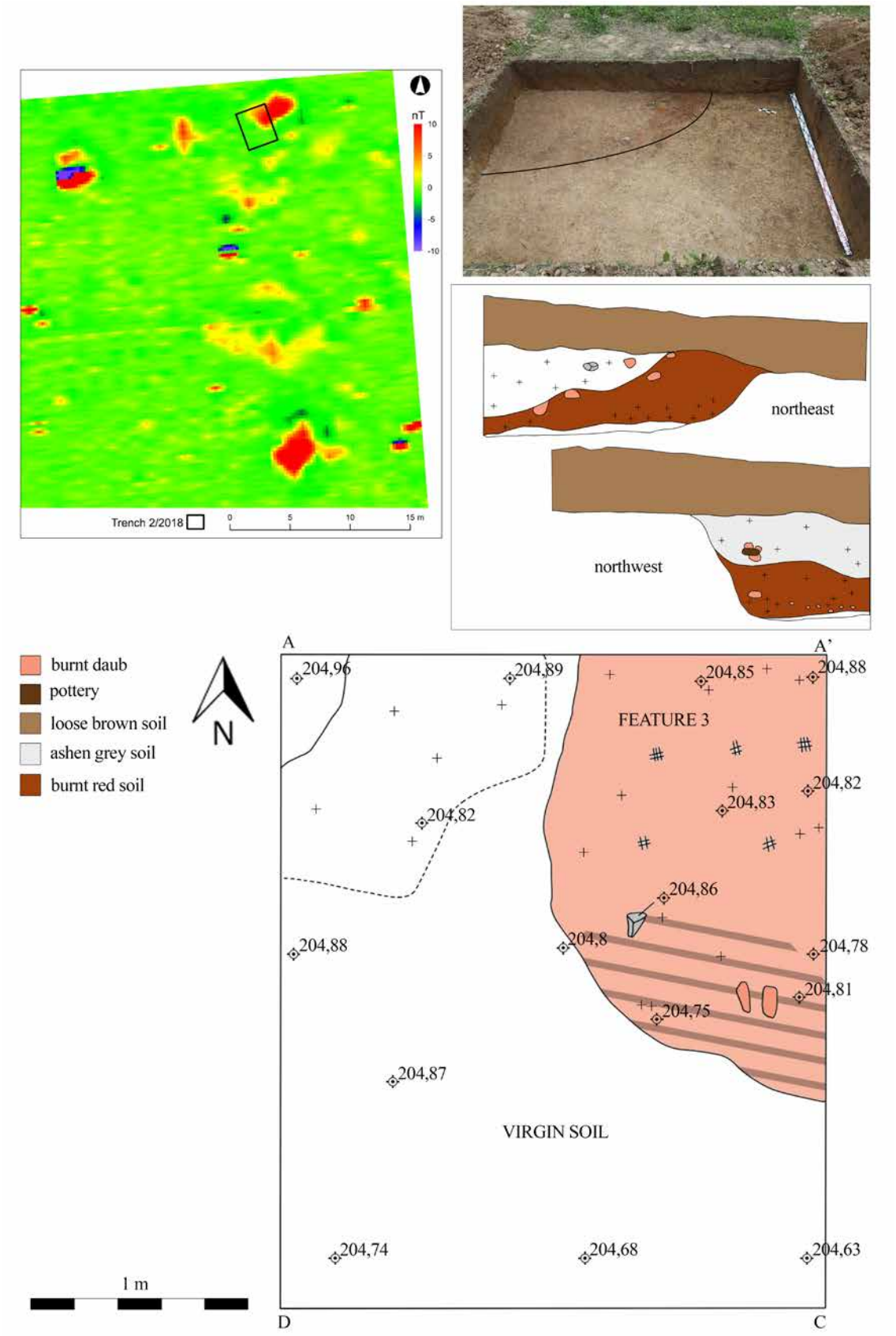

Figure 7. Composite representation of Trench 2/18 (drawings and photos by the authors).

and burnt red soil. The shape of the excavated portion of the feature was irregularly elongated, in a north-south orientation.[12] The infill of the pit was comprised of several distinct layers. First, a layer of loose brown soil with larger fragments of prehistoric pottery, lumps of daub, soot, and pebbles in the central part, which represents the continuation of the previously described layer that occurs throughout the trench. Beneath this layer, a 40 cm thick layer of loose ashen grey soil was recorded. This layer contained larger fragments of prehistoric pottery, traces of soot, and carbonised wood, while chipped stone tools, a grindstone, and a spindle whorl made of baked clay were also recorded in it. This layer is followed by a 20-40 cm thick layer of burnt red soil mixed with large lumps of burnt and shaped daub. The layer of burnt red soil lies directly on virgin soil. The pit narrowed towards the bottom, and the total depth was around 80 cm.

The portable archaeological material recorded during the excavations of the Spasovine site comprised primarily of potsherds, chipped stone tools, and other objects of everyday use, which were made of stone and baked clay. The stylistic and typological characteristics of the potsherds have provided us with a relative chronological span of the features excavated during the 2018 campaign. Biconical bowls with an inverted rim, decorated with button-shaped applications and small tongue-shaped handles, a conical plate with a semi-circular thickened inner side of the rim, a beaker with small arched handles in line with the rim and numerous tunnel-shaped and large arched handles indicate that the excavated features at the site of Spasovine should be attributed to the so-called Benska Bara III phase (Трбуховић и Васиљевић 1983), meaning the Late Neolithic/ Early Eneolithic of western Serbia (Mladenović i dr. 2021) or the transitional phase/horizon from the Late Neolithic to the Early Eneolithic (Bulatović *et al.* 2020). Based on the absolute date acquired from charcoal from Feature 3, which is 5706 ±25 BP, meaning 4561-4411 calBC (with a probability of 95.4%) or 4528–4444 calBC (with the probability of 68.2%),[13] this object can be dated to a period covering the mid-5th millennium BC (Bulatović *et al*. 2020).

CIKOTE HILLFORT (GRADAC, CIKOTSKI GRADAC, MALI GRADAC) - RESEARCH RESULTS

The Cikote hillfort is located in the eponymous village of Cikote (Vasiljević 1980), some 17 km by air from the city of Loznica (**Figure 1**). The site is located in the eastern portion of the village, on a dominant and difficult to access plateau with an elevation of between 300 and 307 m and an area of approximately 5 hectares (N44°29.343‘E19°25.432‘) (**Figure 8**). Archaeological excavations, which have been continuously conducted since 2014, were concentrated on the south-eastern fringe of the site, where a series of trenches have confirmed the existence of a rampart made of stone and wood (Булатовић *et al*. 2017: 64, fig. 47). A defensive platform more than 5 m wide, positioned at the entrance to the site, which continues into the rampart, is located on the most accessible side of the site. A shallow trench with a width of around 5 m is located in front of the platform. The stylistic and typological characteristics of the recorded archaeological material indicate that the hillfort was utilised during the Late Bronze Age, the so-called Transitional Period[14] and the Roman Period (Булатовић *et al*. 2017: 259–262).

Geomagnetic prospection

A relatively small area of approximately 0.2 ha was measured using magnetometry in the sloping terrain of the site of Cikote, as other parts of the hillfort were inaccessible due to grown crops or forests (**Figure 9**). Two irregular anomalies reaching values of 4 nT were identified and both later excavated in the northern part of the measured area. These could have represented the remains of prehistoric features severely damaged by erosion or, alternatively, local changes in the geological subsoil.

[12] Approximately 1/4 of the pit was excavated in total.

[13] The AMS analysis was conducted by the University of Arizona AMS Laboratory in Tucson, USA, and the laboratory number of the sample is AA 113502.

[14] The absolute date acquired at the site falls within the Ha B period.

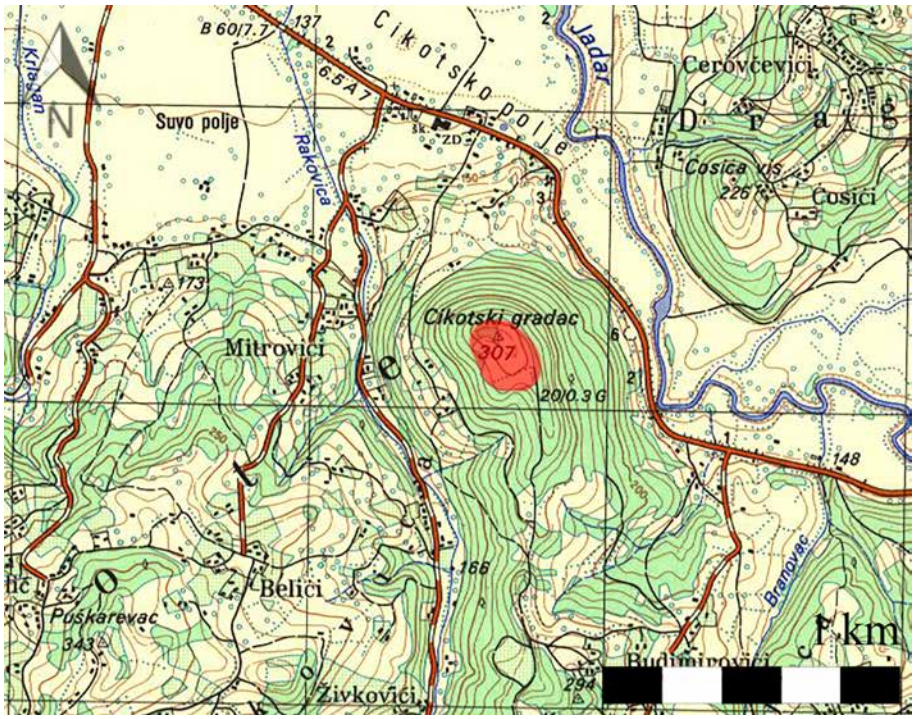

Figure 8. Position of the site of Cikote (marking by the authors on the topographic map of Serbia 1:25,000).

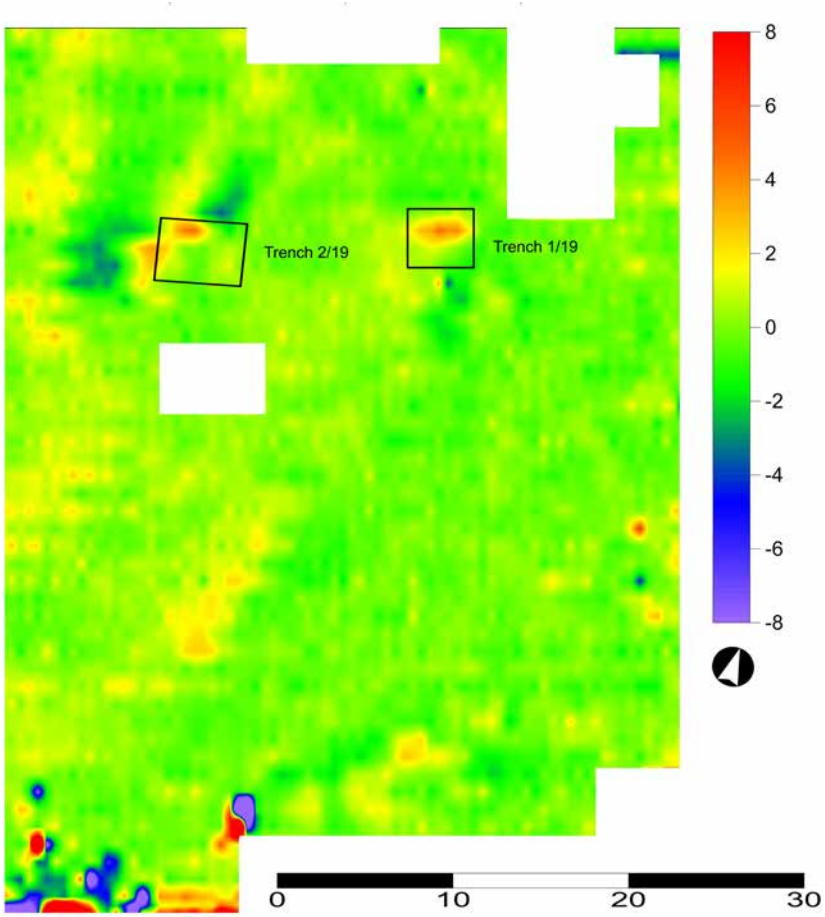

Figure 9. Results of prospection and the outline of trenches 1/19 and 2/19.

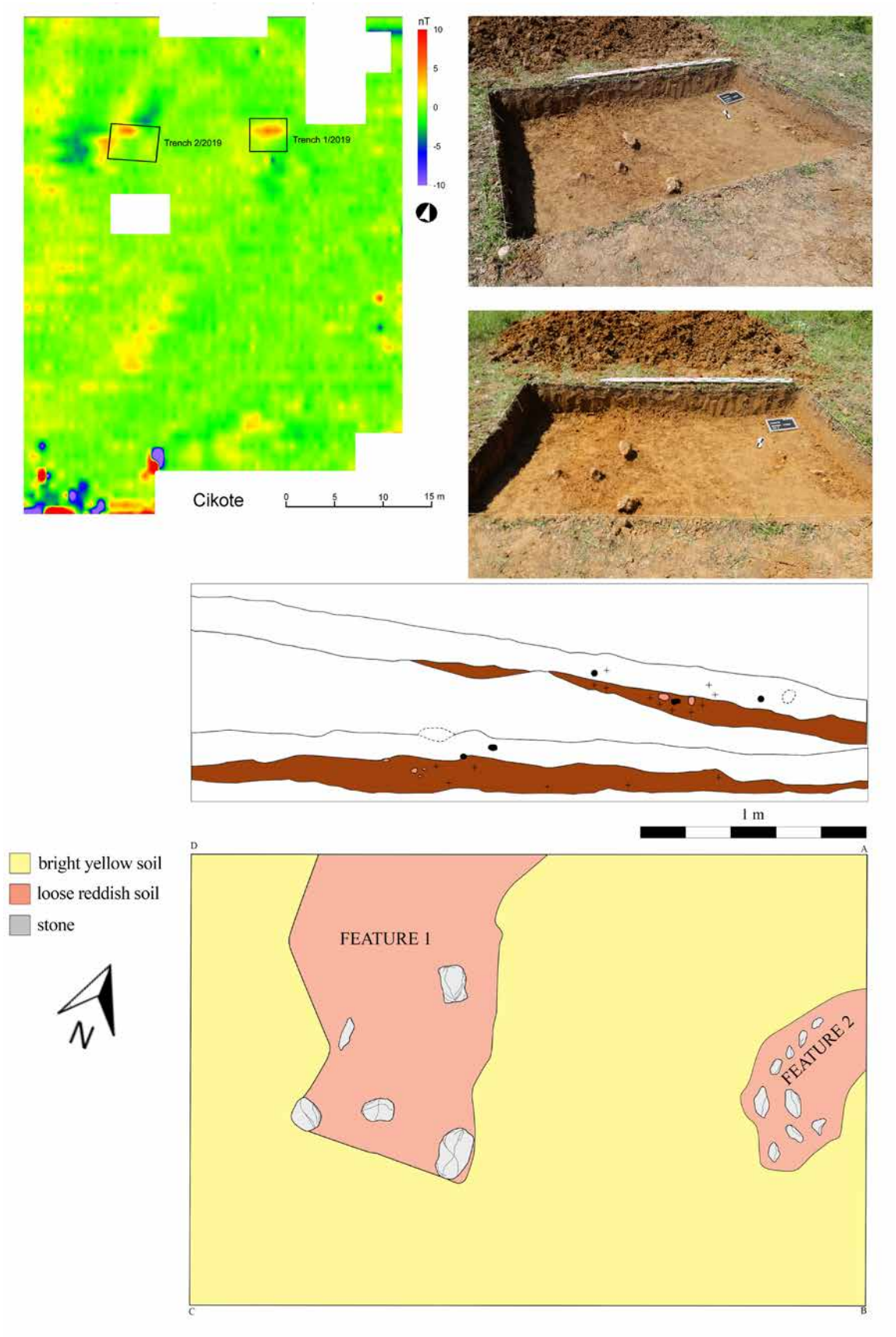

Figure 10. Composite representation of Trench 1/19 (drawings and photos by the authors).

Excavations

Trench 1/19 (Cikote). The 3 x 3 m trench covered the recorded anomaly in the eastern portion of the prospected area (**Figure 10**). It should be highlighted that the trench was located on a steep slope, which affected both the cultural layer and the finds. The vertical stratigraphy was comprised solely of a surface layer composed of bright yellowish soil, and compact yellowish virgin soil.[15] Two clusters of small and medium-sized rocks mixed with loose reddish soil were recorded within the layer of bright yellowish soil. One of the collections was recorded in the central part of the trench (Feature 1), and the other was located in the central line of the eastern portion of the trench (Feature 2). Both features lay directly on the aforementioned virgin soil, and no patterns were noted in terms of the position or internal structure of the stone collections. The layer contained small amounts of atypical prehistoric potsherds and stone flakes.

Trench 2/19 (Cikote). The trench was located several dozen meters west of Trench 1/19, in a position that covered one of the recorded anomalies (**Figure 11**). The trench measured 4 x 3 m. The vertical stratigraphy of the trench was similar to that recorded in Trench 1/19. A 20 and 35 cm thick layer of brown soil mixed with traces of daub and soot concentrated in certain areas was recorded beneath the surface layer. Two such areas, abundant in soot mixed with greyish soil, were marked as Feature 1 and Feature 1a. Feature 1 was located in the eastern portion of the trench and covered approximately one third of the total surface of the trench, and Feature 1a was located in the western portion of the trench, next to the south-western corner. Both features lay directly above the virgin soil. Sporadic potsherds and flakes were recorded in both features, as well as the layer of brown soil.

The portable archaeological material recorded at the Cikote hillfort during the 2019 campaign consists of sporadic potsherds and flakes. All of the recorded potsherds were hand-thrown, yet do not possess any of the stylistic or typological elements that could provide a relative chronological frame. Traces of erosion, such as rounded edges, were registered on all of the potsherds and, therefore, they may have been secondarily deposited into the trenches and originated from higher points of the site.

DISCUSSION OF THE RESEARCH RESULTS

At Spasovine, approximately 260 kg of daub covering an area of around 20 m^2 was recorded in Trench 1. Significantly, the area containing archaeological material is relatively shallow compared to the present level of terrain. According to the fragmentation of portable archaeological material, the impossibility of piecing together most of the potsherds, and clear traces of secondary burning of archaeological material, it is assumed that the area represents a waste disposal location containing the remains of a Late Neolithic/Early Eneolithic house burnt in a fire, which explains its depth.

In the geomagnetic image, photos, and drawings (**Figure 6**), the area of the anomaly is up to 1/3 larger than that of the excavations, but the shape of the anomaly almost completely corresponds to the results of the archaeological excavations. Therefore, it can be assumed that such a strong signal was the result of large quantities of burnt material concentrated in a small area and deposited at a relatively shallow depth under the current surface. The archaeological material was most likely deposited on a slight slope, possibly in a shallow pit, which would imply that the uppermost 20 cm constitutes pedological layering in the last 6,500 years. The configuration of terrain at the site, located on the slopes of Mt. Cer, prevents the formation of thicker pedological layers. Also, relatively poor pedological layering has been indicated by surface collected archaeological material in the past decade, which originates from the Late Neolithic/ Early Eneolithic to Late Antiquity.

In Trench 2/19 of the Cikote site, the geomagnetic image corresponds to the results of excavations, most likely due to the greater depth of the feature and the smaller concentration of daub. Based on the thick layer of shaped daub within the lower portion and a layer of ashen soil mixed with soot in the upper portion of Feature 3, the feature most likely represents a semi-sunken

[15] This corresponds to the virgin soil recorded during the previous excavations at the site.

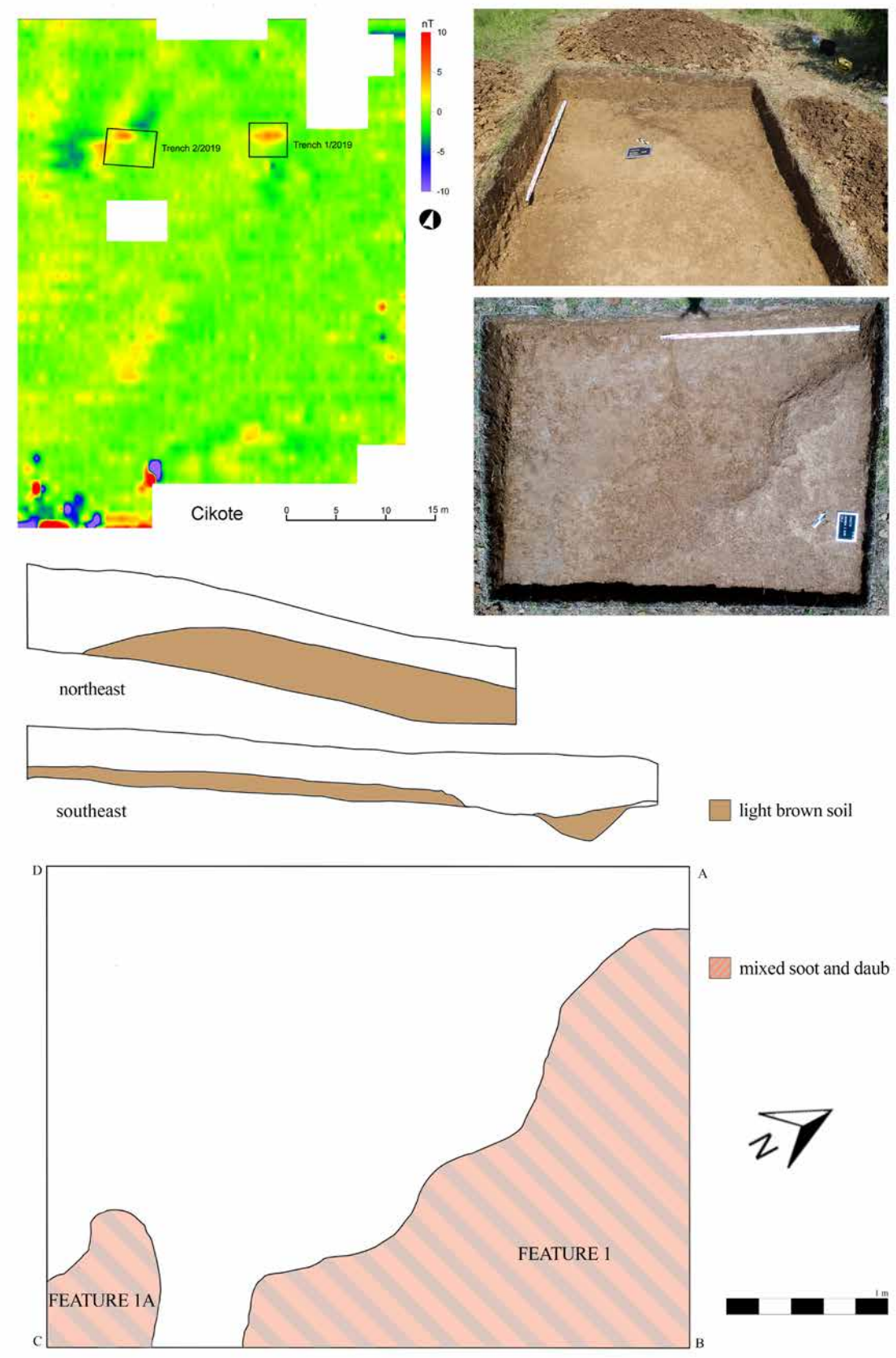

Figure 11. Composite representation of Trench 2/19 (drawings and photos by the authors).

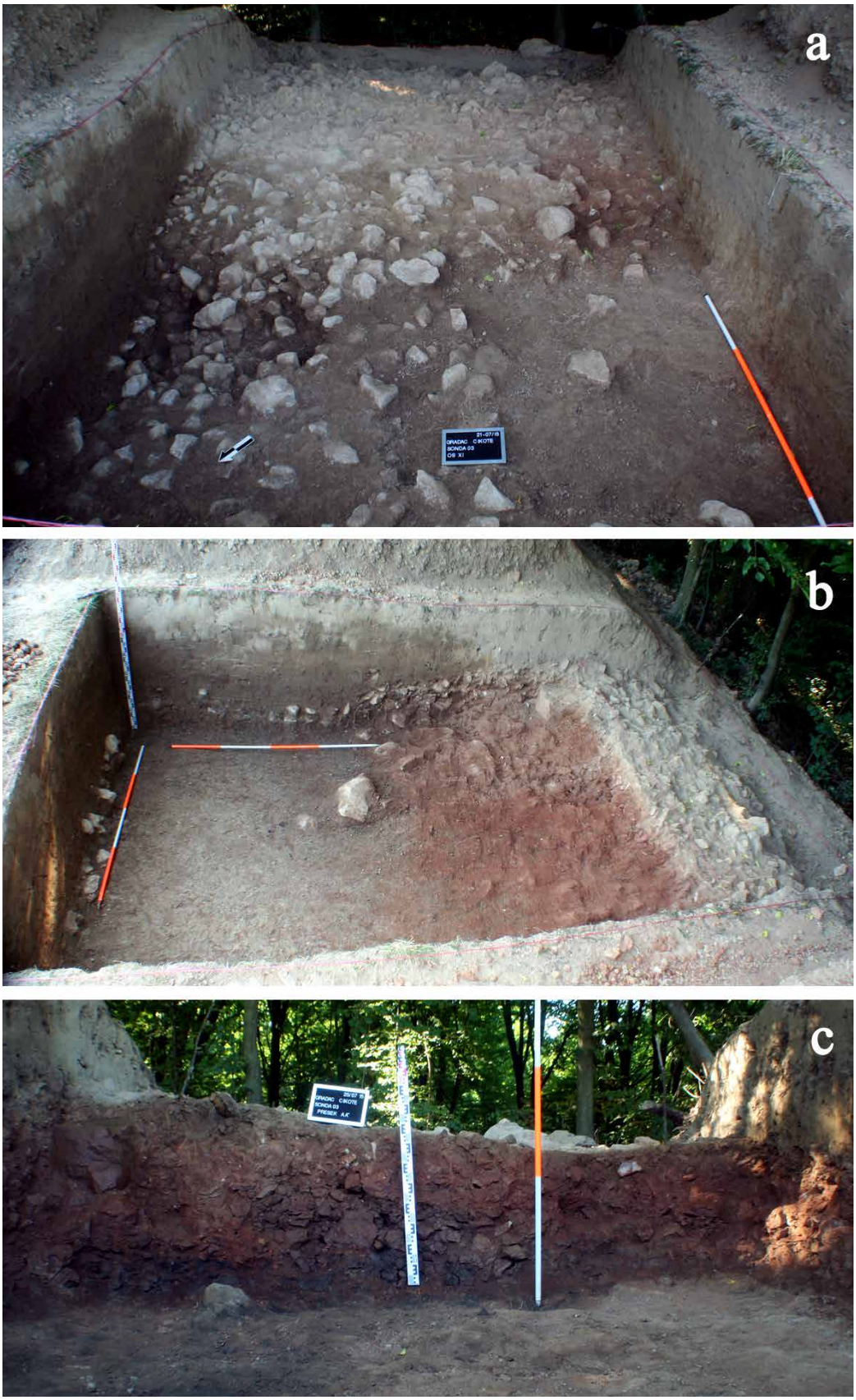

Figure 12. Burnt rampart at the site of Cikote (photos by the authors).

dwelling with the upper portion built using the wattle and daub technique.

Unfortunately, the results of the geomagnetic measurements from the site of Cikote were relatively poor. It is likely that the geological or pedological setting could have reduced the outcome of the geomagnetic signal at the site, or that the signal was influenced by some other source of interference.

Considering that the geomagnetic survey registered the remains of the stone rampart with wooden cassettes that was researched in 2014 and 2015 at Cikote (**Figure 12**) with positive values of up to 50 nT (**Figure 9**, SW corner), the poor signal cannot be attributed to potential disturbance factors. The wooden cassettes of the rampart were destroyed in a fire (**Figure 12c**). Based on the absolute dates from charcoal of 2950–2785 BP, (1000–835 calBC) with the probability of 70.8%,[16] the rampart can be dated to the first two centuries of the 1st millennium BC, i.e., to the transitional period between the Bronze Age and the Iron Age. The results of the geomagnetic measurements display a relatively good signal for the period-related object, which corresponds to the results of the burnt Late Neolithic/Early Eneolithic objects at the site of Spasovine.

On the other hand, detected and archaeologically excavated anomalies in trenches 1/19 and 2/19 indicate a certain amount of activity during the aforementioned period, which unfortunately cannot be properly interpreted and explained with the current degree of archaeological field methods.

An additional consideration of the presented results for both researched sites is that it seems the geomagnetic methods cannot adequately detect houses and settlements from the Late Bronze Age in north-western Serbia. This raises the question of a shift in settlement concepts, life, and residential architecture during the aforementioned period within the hilly-mountainous area of the Central Balkans. The Late Bronze Age and Early Iron Age residential architecture in the area remain practically unknown, and the rare examples are mostly located on slopes either beneath or within hillforts. Those represent light residential architecture, which, compared to the preceding periods, displays a reduction in construction quality and durability of the objects (Kapuran 2009: 129–142). Those are often dugouts of light construction or above-ground objects, whose archaeological traces and geomagnetic signature is different from that of the Neolithic and Eneolithic houses. Assuming residential objects and parts of settlements were intentionally burned as a part of social practices and beliefs of the Neolithic (Stevanović 1997: 387) and Eneolithic societies partially accounts for why geomagnetic surveys clearly and precisely register objects from those periods, which is the case with Spasovine and concurrent surrounding sites (Crnobrnja 2014: fig. 2; Perić *et al.* 2016: figs. 3, 5, 7, 9), while objects from later prehistoric periods remain invisible to geomagnetic measurements, at least in the region of western Serbia.

CONCLUSION

The geomagnetic measurements and subsequent archaeological excavations of the sites Spasovine and Cikote in north-western Serbia have improved our knowledge of the chronology and spatial concepts of these two sites, as well as raised some new questions.

A comparison of the prospection, which covered significantly different areas, and the excavation results provided a preliminary insight into the advantages and limitations of geomagnetic prospection in the aforementioned territory. Structures made using the wattle and daub technique, usually burnt in a fire, provided higher values during the geomagnetic prospection, most likely due to the high concentration of burnt materials. On the other hand, the geomagnetic prospection failed to register any residential structures at the site of Cikote, which could indicate the nature of architecture during the period of habitation at the site, possibly marked by light construction and undisturbed by secondary processes, such as fire. Hence, such structures could prove to be undetectable through geomagnetic prospection. However, other factors such as natural erosion caused by the slope of the terrain might have played a role in the lack of registered features at the site of Cikote. These could include the fact that during the

[16] The AMS analysis was conducted by the Beta Analytic Laboratory in Miami, USA, and the laboratory number of the sample is BETA 419886.

excavation campaigns at the site, high quantities of archaeological materials, such as pottery and daub, were recorded next to the rampart, yet without the existence of an archaeological feature from which the materials would have originated. This could indicate that the artificial rampart served as a sort of collector for eroded materials at the site.

The results of the research conducted using both prospection and excavation and their later interpretation and comparison have, once again, indicated the possible existence of differences in architectural concepts during the various phases of prehistory. Although the wattle and daub technique represent the most common building technique in the Central Balkan prehistory, the data from north-western Serbia so far does not confirm the same for the Bronze Age. Hence, it remains unclear whether the results of the prospection were caused by natural processes, such as erosion, or indicate the aforementioned differences in architectural concepts.

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REZIME

GEOMAGNETNA PROSPEKCIJA I ARHEOLOŠKA ISTRAŽIVANJA DVA PRAISTORIJSKA LOKALITETA U SEVEROZAPADNOJ SRBIJI: PRELIMINARNI REZULTATI I NOVA METODOLOŠKA PITANJA

KLJUČNE REČI: GEOMAGNETNA PROSPEKCIJA, ISKOPAVANJA, STAMBENI OBJEKTI, KASNI NEOLIT/RANI ENEOLIT, KASNO BRONZANO DOBA, SEVEROZAPADNA SRBIJA

U radu su prikazani rezultati geomagnetne prospekcije na dva arheološka lokaliteta na teritorji severozapadne Srbije, Spasovine i Cikote, kao i rezultati arheoloških istraživanja koja su realizovana na osnovu dobijenih rezultata.

Geomagnetnom prospekcijom na lokalitetu Spasovine registrovane su dve koncentracije anomalija (klasteri A i B), koje su prema svojim vrednostima ukazivale na postojanje arheoloških objekata. Prilikom istraživanja koja su usledila, u okviru dve sonde (1/18 i 2/18) otkriveni su ostaci objekata koji su stradali u jakom požaru. Od posebnog je značaja Objekat 3, koji sudeći prema pokretnim nalazima i stratigrafiji predstavlja ostatke poluukopanog stambenog objekta. Na osnovu stilsko-tipoloških karakteristika ulomaka keramike, objekat je opredeljen u fazu Benska Bara III, odnosno sam prelaz između kasnog neolita i ranog eneolita. Apsolutni datum dobijen iz ovog objekta potvrdio je takvo opredeljenje, smestivši ga u sredinu 4. milenijuma pre n. e.

Na lokalitetu Cikote geomagnetna prospekcija ukazala je na postojanje dve nepravilne anomalije, doduše manjeg intenziteta nego što je to slučaj sa lokalitetom Spasovine. Prilikom arheoloških istraživanja u okviru dve sonde (1/19 i 2/19) nisu registrovani ostaci objekata, već manje promene u boji i kvalitetu zemlje, kao i sporadični tragovi gorelog lepa.

Rezultati geomagnetne prospekcije i pratećih arheoloških istraživanja na lokalitetima Spasovine i Cikote još jednom su ukazali na postojeće razlike u arhitekturi tokom različitih perioda praistorije. Objekti zidani u tehnici pletera i lepa, koji su stradali u požaru, daju veće signale usled veće količine gorelog materijala. Sa druge strane, geomagnetna prospekcija nije registrovala ostatke objekata na lokalitetu Cikote, što bi moglo da ukazuje na samu prirodu arhitekture tokom kasnije praistorije, odnosno kasnog bronzanog doba, koju nije moguće registrovati geomagnetnom prospekcijom.

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Use of tools based on large language models and generative AI: None.