

# ISKOPAVANJA I GEOFIZIČKA PROSPEKCIJA ŽELJEZNODOBNOG I RIMSKOG NALAZIŠTA NA POZICIJI SISAK-POGORELAC (2012.-2017.)

## EXCAVATIONS AND GEOPHYSICAL PROSPECTI- ON OF THE IRON AGE AND ROMAN-PERIOD SITE AT SISAK-POGORELAC POSITION (2012-2017)

**Ivan Drnić**

Arheološki muzej u Zagrebu  
Trg Nikole Šubića Zrinskog 19  
HR-10000 Zagreb  
idrnic@amz.hr

**Ivan Drnić**

Archaeological Museum in Zagreb  
Trg Nikole Šubića Zrinskog 19  
HR-10000 Zagreb  
idrnic@amz.hr

**Stefan Groh**

Österreichisches Archäologisches Institut  
ÖAW, Fachbereich Zentraleuropäische Archäologie  
Franz Klein-Gasse 1  
A-1190 Wien  
stefan.groh@oeai.at

**Stefan Groh**

Österreichisches Archäologisches Institut  
ÖAW, Fachbereich Zentraleuropäische Archäologie  
Franz Klein-Gasse 1  
A-1190 Wien  
stefan.groh@oeai.at

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*Kao rezultat recentnih iskopavanja i geofizičke magnetske prospekcije, provedenih na poziciji Sisak-Pogorelac u razdoblju između 2012. i 2017. godine, dobiveni su novi uvidi o povijesnom razvoju željeznodobnog i rimskog naselja na prostoru današnje- ga grada Siska. Taj razvoj uključuje kompleksnu dijakronijsku naseobinsku aktivnost sa strukturama različitih orijentacija i tlocrta. Također, na lokalitetu su zabilježene i pogrebne aktivnosti iz kasnoantičkog razdoblja. Sinteza probnog iskopavanja i geofizičke prospekcije omogućila je stvaranje slike o korištenju sjeveroistočnog dijela Pogorelca u starijem i mlađem željeznom dobu (8.(?)/6.– 1. st. pr. Kr.) te rimskom razdoblju. Naime, u sjeverozapadnom dijelu istraženog područja željeznodobno je naselje djelomično prekriveno rimskim naseobinskim slojevima iz 2. i 3. stoljeća te kasnoantičkim grobljem datiranim od kraja 3. do prve polovice 5. stoljeća. Nadalje, u središnjem je dijelu područja pregledanog u geofizičkoj prospekciji zabilježena moguća građevinska aktivnost s tragovima rimskodobnih kuća u nizu, dok su u južnom dijelu zabilježene raštrkane naseobinske strukture. Nažalost, zbog nedostatka iskopavanja, precizno datiranje navedenih kuća u nizu te raštrkanih struktura na jugu za sada ostaje nepoznato.*

*As a result of recent excavations and geophysical magnetic prospecting at the Sisak-Pogorelac position, conducted in the period between 2012 and 2017, important new insights into the history of the Iron Age and Roman settlement in present-day Sisak can be gained. It features a complex diachronic settlement activity with buildings with different orientations and layouts. Burial activity from the Late Roman period has also been detected at the site. The synthesis of trenching and prospection has given us a picture of utilization of the north-eastern part of the Pogorelac 'peninsula' from the period of the Early and Late Iron Age (8<sup>th</sup>(?)/6<sup>th</sup>– 1<sup>st</sup> century BC) and also the Roman period. In the north-western part of the area researched, the Iron Age settlement is partially superimposed with the remains of a 2<sup>nd</sup>– 3<sup>rd</sup> century Roman layer with remains of wooden architecture and a Late Roman cemetery, dated to a period from the end of the 3<sup>rd</sup> century AD to the first half of the 5<sup>th</sup>. Furthermore, in the central part of the area surveyed, a building activity with strip houses from the Roman period is possible, while in the southern part a scattered settlement can be recognized. Due to a lack of excavation, exact dates for the strip houses in the central area and the scattered structures in the south for now remain unknown.*

**Ključne riječi:**

Sisak, Segestica, Siscija, iskopavanja, geofizički pregled, željeznodobno naselje, rimske naseobinske strukture, kasnoantičko groblje

**Key words:**

Sisak, Segestica, Siscia, excavations, geophysical survey, Iron Age settlement, Roman-period settlement structures, Late Roman cemetery

## Uvod

S obzirom na izniman položaj na ušću rijeke Kupe u Savu, Sisak predstavlja ključnu poziciju za istraživanje društvenih i kulturnih procesa koji su se odvijali na prostoru južne Panonije od kasnoga brončanog doba do ranoga srednjeg vijeka (sl. 1). Iako su se u posljednjih dvadesetak godina arheološka istraživanja u Sisku znatno intenzivirala, fokus je primarno ostao na ostacima antičke Siscije na lijevoj obali rijeke Kupe, uz prisustvo slojeva mladeželjeznodobnog naselja zabilježenih na nekoliko pozicija (Povijesni arhiv, Dunavski Lloyd, Željeznički kolodvor itd.). S ciljem boljeg razumijevanja kompleksne dinamike naseljavanja prostora na desnoj obali rijeke Kupe, koji nosi toponim Pogorelac, a na kojemu su više od stotinu godina poznati ostaci naselja iz željeznog doba, kao i periferni dio rimskog naselja koje se nalazilo izvan gradskih zidina, od 2012. godine Arheološki muzej u Zagrebu sa suradnicima provodi intenzivna arheološka iskopavanja i geofizička snimanja.<sup>1</sup>

### Geofizička prospekcija provedena 2012.–2013. na poziciji Sisak-Pogorelac (S. Groh)

Kao dio istraživačke suradnje između Austrijskoga arheološkog instituta (Odjel za srednjoeuropsku arheologiju, S. Groh) i Arheološkog muzeja u Zagrebu, tijekom 2012. i 2013. godine na poziciji Sisak-Pogorelac provedena je geofizička prospekcija korištenjem magnetometra, a istražena je površina od 7,97 ha. Cilj je prospekcije bio prikupljanje novih podataka o razvoju naselja i izgradnji struktura, uključujući moguće tragove rimskoga vjornog logora na poluotoku Pogorelac oko kojeg teče rijeka Kupa. Zasad su na sjeveroistočnom dijelu Pogorelca pronađeni ostaci željeznodobnog naselja koje se smatra jednim od najvažnijih naselja iz tog razdoblja u južnoj Panoniji.<sup>2</sup> Osim toga, 1985. godine u koritu Kupe na istočnom dijelu Pogorelca (položaj Kovnica) pronađeni su rimskodobni piloti (vjerojatno od gospodarskih objekata) te ostaci broda.<sup>3</sup>

## Introduction

Given its exceptional position on the mouth of the River Kupa into the Sava, Sisak is a key site for research into the social and cultural processes that proceed in the territory of southern Pannonia from the Late Bronze Age to the early Middle Ages (Fig. 1). Even though archaeological excavations have intensified considerably in Sisak, the focus has remained primarily on the remains of Roman period Siscia on the left bank of the Kupa River, with the presence of the remains of a Late Iron Age settlement recorded at several points (Povijesni arhiv, Dunavski Lloyd, Railway station, etc.). With the aim of better understanding the complex dynamics of human habitation on the right bank of the Kupa, which bears the toponym Pogorelac, at which the remains of an Iron Age settlement have been known for well over a century, as well as the periphery of the Roman settlement situated outside of the city's walls, since 2012 the Archaeological Museum in Zagreb and partner institutions have been conducting intensive archaeological excavations and geophysical prospection.<sup>1</sup>

### The geophysical prospection of 2012–2013 in Sisak-Pogorelac position (S. Groh)

As part of a research collaboration between the Austrian Archaeological Institute (Department of Central European Archaeology, S. Groh) and the Archaeological Museum in Zagreb, geophysical prospecting using magnetics was conducted at the position of Sisak-Pogorelac in the years 2012 and 2013 over a surface of 7.97 ha. The aim of the prospection was to gather new data about the settlement's development and building structures, including possible traces of the Roman military camp on the Pogorelac peninsula, round which the River Kupa flows. So far, in north-eastern Pogorelac remains of the Iron Age settlement have been found, which is seen as one of the most important settlements of this period in southern Pannonia.<sup>2</sup> In addition, in the Kupa riverbed, in the eastern part of Pogorelac (the position called "Kovnica", or "the Mint"), Roman pile dwellings (probably industrial facilities) and a barge had been excavated in 1985.<sup>3</sup>

1 Glavni je nositelj istraživanja Arheološki muzej u Zagrebu, a suradnici na projektu su Gradski muzej Sisak, Austrijski arheološki institut (*Österreichisches Archäologisches Institut*) i Konzervatorski odjel Ministarstva kulture RH u Sisku. Također, određene spoznaje o arheološkoj slici Pogorelca rezultat su zaštitnih iskopavanja koje je provodila arheološka tvrtka Arheolog d.o.o. Sredstva za provedbu istraživanja primarno je osiguralo Ministarstvo kulture RH, a dodatna sredstva omogućili su Ministarstvo znanosti i obrazovanja RH i Sisačko-moslavačka županija. Također, određena su sredstva osigurala navedene institucije koje su sudjelovale u istraživanju.

2 Lolić 2003, 110; Drnić, Miletić Čakširan 2014, 148–151.

3 Wiewegh 2001; Gaspari, Erič, Šmalcelj 2006.

1 The lead research institution is the Archaeological Museum in Zagreb, while its partners in the project are the Sisak City Museum, the Austrian Archaeological Institute (*Österreichisches Archäologisches Institut*) and the Conservation Department of the Croatian Ministry of Culture in Sisak. Furthermore, some knowledge of the archaeological picture of Pogorelac was gained as a result of rescue excavations conducted by the archaeological company Arheolog d.o.o. The funding to carry out this research was primarily provided by the Croatian Ministry of Culture, while additional funding was secured by the Croatian Science Foundation within the framework of the project entitled "Cultural, Economic, Monetary and Social Transformations in the Light of the Archaeological Heritage of the Central Danubian Basin between 279 BC and 582 BC" (1549, project leader Tomislav Bilić, Ph.D.) and Sisak-Moslavina County. Some funding was additionally secured by the aforementioned institutions which participated in the research.

2 Lolić 2003, 110; Drnić, Miletić Čakširan 2014, 148–151.

3 Wiewegh 2001; Gaspari, Erič, Šmalcelj 2006.

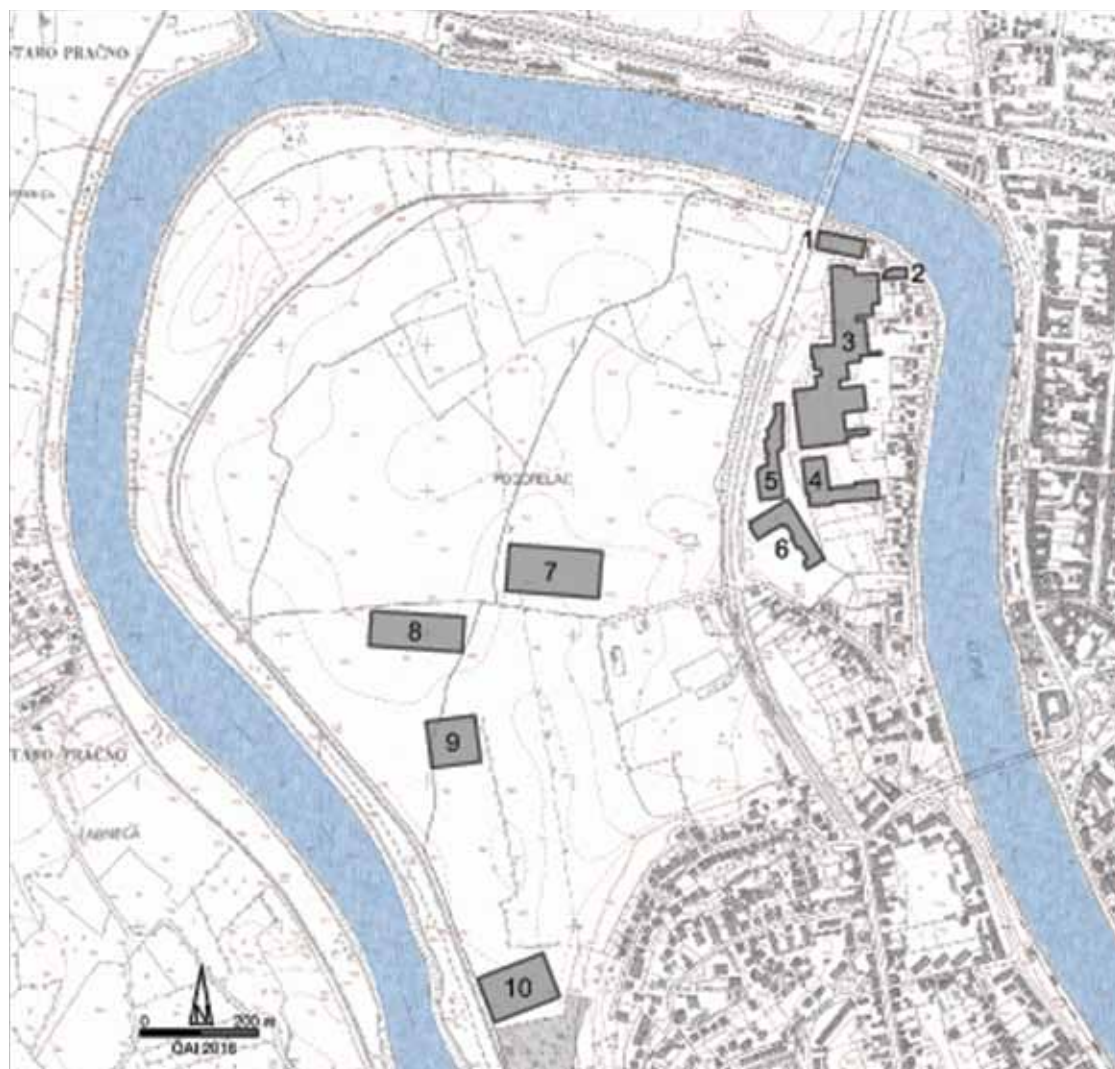


SLIKA 1. Smještaj Segestike/Siscije.

FIGURE 1. Position of Segestica/Siscia.

SLIKA 2. Pregledana područja 1 – 10.

FIGURE 2. Surveyed areas 1–10.



### Interpretacija geofizičkih istraživanja iz 2012.–2013.

Mjerenjima je obuhvaćeno šest lokacija na sjeveroistočnom dijelu poluotoka Pogorelac (zone 1 – 6) te četiri lokacije na njegovu središnjem i zapadnom dijelu (zone 7 – 10) (sl. 2–3). Geofizička prospekcija odvijala se u dvije kampanje (od 13. do 15. studenoga 2012. i od 14. do 17. svibnja 2013. godine), a provodili su je A. Gorbach, D. Hagmann, A. Langendorf, V. Lindinger i A. Steininge, koristeći uređaj *dual Geoscan-Fluxgate-gradiometer-system* (FM 256 Dual, rezolucija: 0,1 nT, veličina mreža: 20 × 40 m, udaljenost: 0,5 m, interval uzorkovanja: 0,125 m). Podaci su obrađeni koristeći Geoplot 3.0 softver te su zatim uvedeni u geografski informacijski sustav (ArcMap 10.2).



SLIKA 3. Geofizička magnetska prospekcija.

### The interpretation of the geophysical survey of 2012–2013

Measurements extended to six locations at the northeast edge of the Pogorelac peninsula (areas 1–6) and four locations at its central and western parts (areas 7–10) (Fig. 2–3). The geophysical prospections were conducted in two campaigns (13<sup>th</sup>–15<sup>th</sup> November 2012 and 14<sup>th</sup>–17<sup>th</sup> May 2013) by A. Gorbach, D. Hagmann, A. Langendorf, V. Lindinger, and A. Steininge with a dual Geoscan Fluxgate gradiometer system (FM 256 Dual, resolution: 0.1 nT, grid size: 20 × 40 m, traverse distance: 0.5 m, sample interval: 0.125 m). The data were processed with the Geoplot 3.0 software and imported into a geographic information system (ArcMap 10.2).

FIGURE 3. Geophysical prospecting with magnetics.

### Nalazi iz preglednih zona 1 – 6

Pregledne zone 1 – 6, smještene na sjeveroistočnom dijelu poluotoka Pogorelac, pružile su nove važne podatke o povijesti željeznodobnog i rimskog naselja (*Segestika* i *Siscija*) (sl. 4–7).<sup>4</sup> Istraživane zone nalaze se izravno uz rijeku Kupu i obiteljske kuće na uskim i dugačkim parcelama. Pregledi su napravljeni upravo u vrtovima i livadama zapadno od tih kuća (Obala Ruđera Boškovića) te istočno od Ulice Josipa Jurja Strossmayera i Avenije V. Janića Cape. Odabir preglednih zona ovisio je o trenutnom stanju vegetacije koju je na mnogim položajima bilo potrebno ukloniti prije provođenja prospekcije.<sup>5</sup>

### The findings from surveyed areas 1–6

Surveyed areas 1–6, situated in the north-eastern part of the Pogorelac peninsula, yielded important new information on the settlement history of the Iron Age and Roman settlements (*Segestica* and *Siscia*) (Fig. 4–7).<sup>4</sup> The areas surveyed were situated directly on the River Kupa close to located installations with family houses on strip plots. It was in the gardens and meadows west of these houses (Obala Ruđera Boškovića) and east of Ulica Josipa Jurja Strossmayera (Strossmayer Street) and Aleja V. Janić Capeo (Janić Avenue) that the survey took place. The selection of the areas surveyed depended on the current state of vegetation, which had to be clear-cut from many areas before the prospection.<sup>5</sup>

4 Zona 1: parc. 13/5; zona 2: parc. 15/2; zona 3: parc. 15/1, 15/3, 15/6, 17/1, 17/3, 19/1, 22, 25, 28/1–3, 31/2, 34, 37, 40, 43; zona 4: parc. 49/2, 55/1; zona 5: parc. 90/1, 90/3–4; zona 6: parc. 90/5.

5 Zahvaljujem hrvatskim partnerima J. Balen i I. Drniću koji su preuzeli zaduženja oko autoriziranja prospekcije te financirali krčenje vegetacije na mjernim zonama. Velik su dio logistike obavili kolege iz Konzervatorskog odjela Ministarstva kulture Republike Hrvatske u Sisku (I. Miletić Čakširan) i Gradskog muzeja Sisak (R. Škrkulja).

4 Area 1: Plot 13/5; Area 2: Plot 15/2; Area 3: Plot 15/1, 15/3, 15/6, 17/1, 17/3, 19/1, 22, 25, 28/1–3, 31/2, 34, 37, 40, 43; Area 4: Plot 49/2, 55/1; Area 5: Plot 90/1, 90/3–4; Area 6: Plot 90/5.

5 My thanks go to my Croatian partners J. Balen and I. Drnić, who undertook the authorizations for the prospection and financed the clear-cut of the measuring areas. A great deal of logistical work had been done by colleagues from the Conservation Department in Sisak of the Ministry of Culture of the Republic of Croatia (I. Miletić Čakširan) and Sisak City Museum (R. Škrkulja).



SLIKA 4. Pregledano područje na sjeveroistočnom dijelu Pogorelca.

FIGURE 4. Area surveyed in the north-eastern part of Pogorelac.

U istraženoj zoni 1, posebno na njezinu sjevernom dijelu, bilo je moguće uočiti velike anomalije prouzročene recentnim preslojavanjem.<sup>6</sup> Na sjevernom je dijelu zone 3 u iskopavanjima definirano kasnoantičko groblje, dok se istočni dio zone 3 preklapa

At surveyed area 1, especially in its western part, it was possible to detect strong anomalies caused by recent deposits.<sup>6</sup> In the northern part of area 3, a Late Roman burial ground was documented in excavations, while the eastern part of area 3

<sup>6</sup> Zaštitna istraživanja, provedena na istočnoj strani Avenije V. Janića Cape, potvrdila su činjenicu da bi jake magnetske anomalije na zapadnom dijelu zone 1 mogle biti posljedica odlaganja velike količine građevinskog otpada koji je odbacivan tijekom gradnje mosta.

<sup>6</sup> Rescue excavation conducted at the eastern side of Aleja V. Janića Cape (Janić Avenue) confirmed that strong magnetic anomalies in the western part of area 1 could be a result of the large quantity of scrap metal discarded during the construction of the bridge.



**SLIKA 5.** Zabilježene i interpretirane strukture na sjeveroistočnom dijelu Pogorelca.

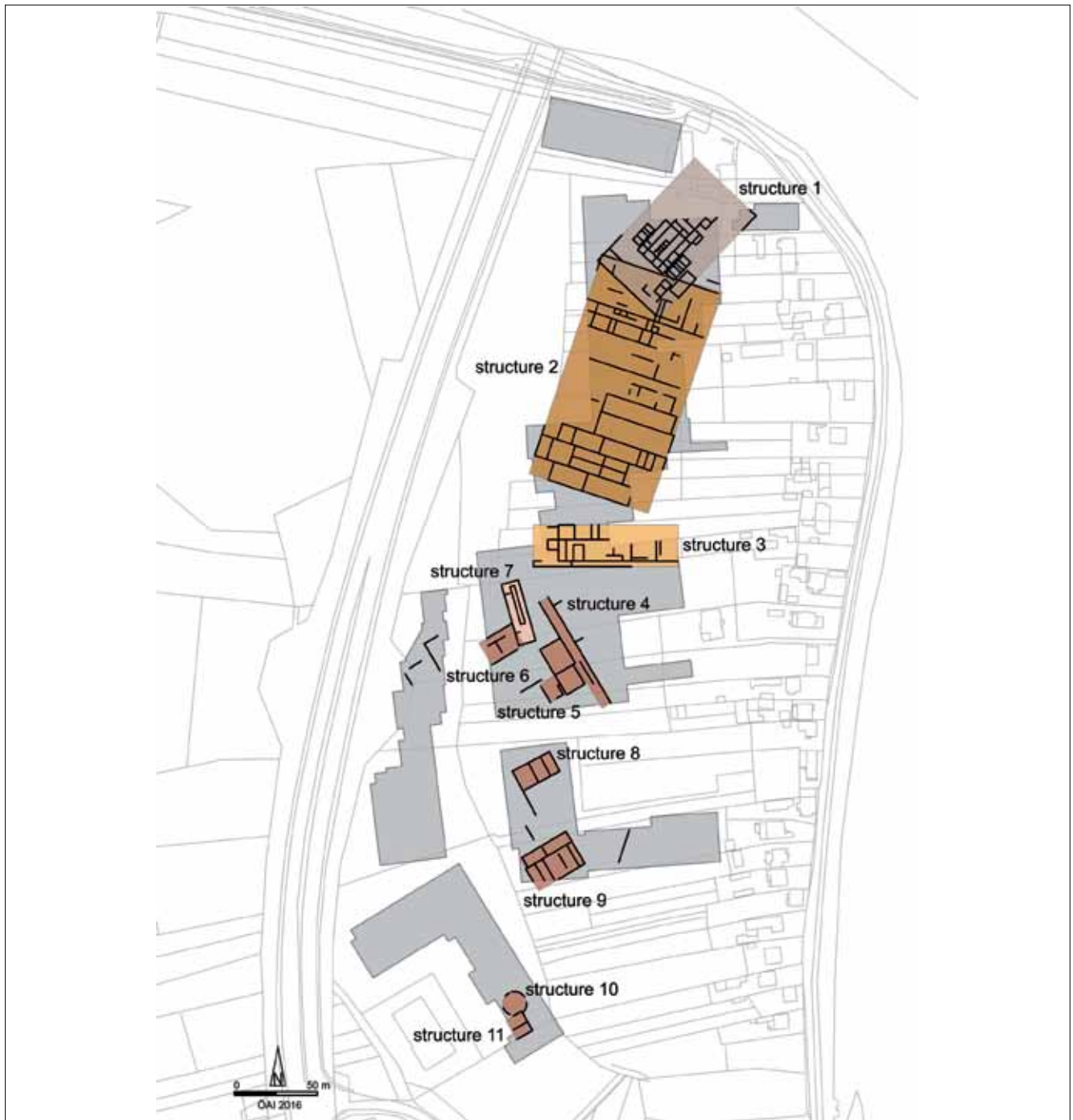
**FIGURE 5.** Structures recorded and interpreted in the north-eastern part of Pogorelac.

s magnetskim anomalijama kakve su zabilježene sjeveroistočno od zone 3, što bi moglo ukazivati na to da su se drvene strukture, kakve su zabilježene u Sondama 1 i 2, mogle protezati u istočni dio zone 1.

Sjeverni dio sveukupnoga istraživanog područja, gdje su mjerne zone 2 i 3, pokazuje najveću gustoću struktura, a sveukupno je moguće razlikovati strukture s pet različitih orijentacija.

corresponds in magnetic anomalies to the north-east of area 3. This may indicate that wooden structures, verified through excavations in Trenches 1 and 2, extend into the eastern part of area 1.

The northern part of the total area prospected, with measuring areas 2 and 3, has the highest density of structures. Altogether, structures with five different orientations can be distinguished.

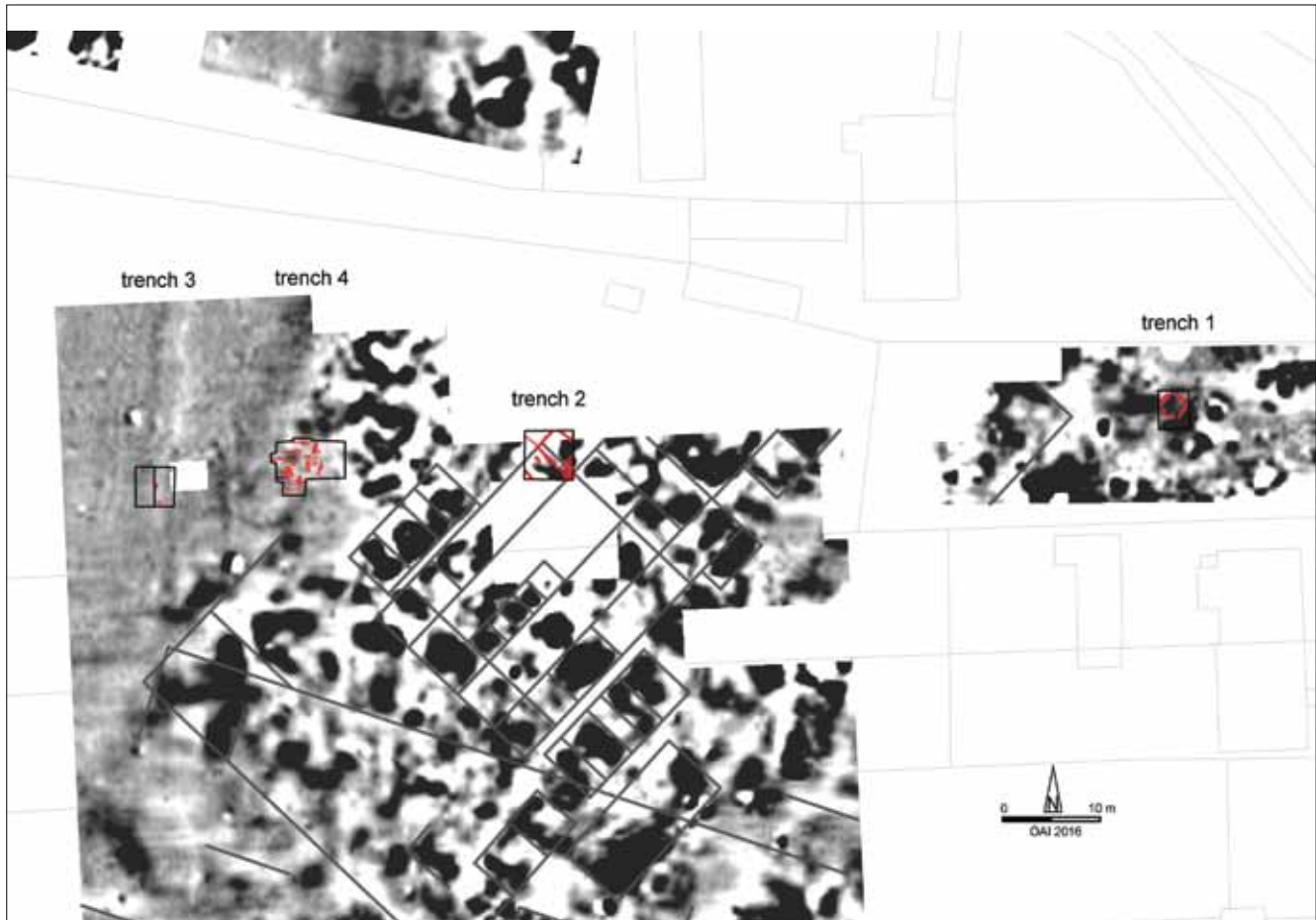


**SLIKA 6.** Zabilježene i interpretirane strukture na sjeveroistočnom dijelu Pogorelca (strukture 1 – 11).

**FIGURE 6.** Structures recorded and interpreted in the north-eastern part of Pogorelac (Structures 1–11).

Na sjevernom je dijelu otkrivena Struktura 1, pravokutni kompleks veličine otprilike 55 x 85 m (4675 m<sup>2</sup>), orijentacije 47° prema sjeveroistoku, i sastavljen od niza prostorija kvadratnog i pravokutnog oblika. Ovu zonu karakteriziraju snažne termomagnetne anomalije koje ukazuju na postojanje drvene arhitekture i posljedice požara.

In the north, Structure 1 was located, a rectangular complex approximately 55 x 85 m (4675 m<sup>2</sup>) in size, with an orientation of 47° to the north-east, composed of a number of square and rectangular rooms. This area is characterized by very strong thermoremanent magnetic anomalies, suggesting wooden buildings and the effects of fire.



SLIKA 7. Rezultati geomagnetskog pregleda u kombinaciji s rezultatima iskopavanja u zonama 1 – 2.

FIGURE 7. Geomagnetic survey results combined with the results of excavations in areas 1–2.

Iskopavanjima u Sondi 2 otkrivene su dvije faze stariježeljeznodobnih građevina, čija je drvena konstrukcija bila uništena požarom, a geofizički je pregled ove zone dao potpunu sliku svih izmjerenih anomalija. Prepoznate strukture mogu biti, ostatci naselja s drvenim građevinama razmještenim unutar pravokutne mreže, ili mogu biti dijelom velike građevine pravokutnog tlocrta s mnogobrojnim manjim prostorijama. Na temelju prepoznatih struktura teško je odrediti funkciju ovih građevina, tip građevine ili tip naselja. Ipak, Struktura 1 izgledno se preklapa sa Strukturom 2 koja se nalazi nešto južnije i orijentacijom prati tok rijeke Kupe. Rezultati iskopavanja i prospekcije dokazuju izostanak rupa od stupova, a pretpostavlja se postojanje konstrukcija s drvenim okvirima. Veličina, oblikovanje i struktura nalaza analogne su onima s brončanodobnog i željeznodobnog naselja Tribuna u Ljubljani.<sup>7</sup>

U preglednoj zoni 2, gdje se nalazi Sonda 1, mjerenja su pokazala jake termomagnetske anomalije. Pokretni materijal, uglavnom ulomci keramičkih posuda, prikupljen u istraživanjima, svjedoči

The excavation in Trench 2 yielded bi-phase Early Iron Age buildings in timber construction technique that had been destroyed by fire. The geophysical survey in this area represents a total image of all anomalies measured. The structures recognized could be either remains of the settlement with wooden buildings organized within a rectangular grid or a large building, rectangular in plan, with numerous smaller rooms. The function of these buildings, building type, or type of settlement, is difficult to define on the basis of recognizable structures. However, Structure 1 is likely to overlap Structure 2, situated further south, and relates in its orientation to the bend of the Kupa River. Excavations and prospection results testify to an absence of post buildings, and wood-frame construction is assumed. The size, design and structure of the findings have an analogy in the Bronze and Iron Age settlement of Tribuna in Ljubljana.<sup>7</sup>

In surveyed area 2, where Trench 1 is situated, the measurements showed strong thermoremanent magnetized anomalies. Movable material, mostly pottery sherds, collected in the excavations



o kompleksnom razvoju naselja kroz više faza, uključujući drvene građevine – *Objekti 1-3* koji imaju istu orijentaciju kao i objekti iz Sonde 2.<sup>8</sup> Drvena je konstrukcija sa zemljanim podom datirana kombinacijom tipologije fine keramike i AMS datiranja u mlađu fazu starijega željeznog doba. Ipak, zanimljivo je da obje istražene strukture u Sondama 1 i 2 imaju istu orijentaciju kao i velika Struktura 1, definirana geofizičkim pregledom 1 (sl. 7).

Na sjevernom dijelu zone 3, unutar i izvan Strukture 1, u istraživanjima su pronađeni kasnoantički kosturni ukopi (Sonde 2 i 4). Pojedinačne grobove nije moguće prepoznati u rezultatima geomagnetskog pregleda jer su u zoni primijećene samo difuzne anomalije.

Središnji i južni dio pregledne zone 3 obuhvaćaju otprilike 76 × 138 m (10 350 m<sup>2</sup>) velikog kompleksa – Struktura 2. Orijentacija ovih građevina odstupa 108° od sjevera prema sjeveroistoku. Čini se da je Struktura 2 (rimska?) na sjevernom dijelu koso postavljena iznad Strukture 1 (starije željezno doba), što može biti prouzročeno snažnim anomalijama koje pokazuju geofizički podaci u Strukturi 1. Građevine prate tok rijeke Kupe na istočnoj obali poluotoka Pogorelac. Područje, na kojem je konstrukcija, podijeljeno je u parcele prosječne širine između 11 i 15 m te do 76 m dužine. Parcele su uglavnom izduženoga pravokutnog oblika. Nalazi u Strukturi 2 pokazuju relativno visok stupanj termomagnetizma, koji je ipak znatno niži od onog u Strukturi 1 – to bi također mogle biti drvene građevine s kamenim temeljima. Budući da niti materijal prikupljen na površini niti rezultati istraživanja još nisu dostupni, datacija ovih građevina i dalje je nejasna. Tlocrt građevina podsjeća na rimskodobne kuće u nizu, kakve su česte u sjevernim provincijama, ali i u Panoniji.<sup>9</sup> Ipak, nije moguće isključiti mogućnost da je riječ o skladištima poput onog kakvo je istraženo i zabilježeno tijekom geofizičke prospekcije u Nauportu – Vrhnići.<sup>10</sup>

Na južnom je dijelu zone 3 zabilježen još jedan kompleks sa znatno manjim termomagnetizmom – Struktura 3. Ova velika struktura, dimenzija 25 × 86 m (2150 m<sup>2</sup>), ima odklon 90° od sjevera, kakav imaju moderne kuće u blizini rijeke Kupe, ali i tlocrt rimske Siscije,<sup>11</sup> a koji su usmjereni prema istoku. Dvije parcele, širine 9 i 13 m, na jugu su omeđene trakom širine 3 m (cesta?). Prema rezultatima pregleda, Struktura 3 nimalo se ne preklapa sa Struktururom 2 i, iako ih se može interpretirati kao kuće u nizu, njihova je datacija nejasna.

Nešto južnije zabilježene su Strukture 4 – 11. Izuzev Strukture 7, sve imaju istu orijentaciju s odklonom od 60° od sjevera prema sjeveroistoku. Za razliku od sjevernog dijela pregledanog područja, na južnom dijelu nisu uočeni tragovi razvoja većih razmjera, osim nekoliko razbacanih građevina različitih veličina. Teško

testifies to a complex multi-phase settlement development, including a timber buildings – *Structures 1-3* – with the same orientation as structures in Trench 2.<sup>8</sup> Combining typology of the fine pottery with AMS dating, the timber constructions with clay floors are dated to the later phase of the Early Iron Age. However, it is striking that both structures excavated in Trenches 1 and 2 have the same orientation as the overall geophysically-defined Structure 1 (Fig. 7).

In the northern part of area 3, inside and outside Structure 1, excavations yielded late Roman skeletal burials (Trenches 2 and 4). Individual graves cannot be recognized as such in the results of geomagnetic surveying: the area has only diffuse anomalies.

The middle and southern part of surveyed area 3 is occupied by a complex approximately 76 × 138 m (10 350 m<sup>2</sup>) in size – Structure 2. The orientation of these buildings differs by 108° from the north to the northeast. It seems that Structure 2 (Roman?) is superposed obliquely in the north with Structure 1 (Early Iron Age), which could be caused by the high anomalies of the geophysical data in Structure 1. The buildings follow the course of the River Kupa on the east bank of the Pogorelac peninsula. The construction area is parcelled with plots averaging between 11 and 15 m wide and up to 76 m in length. The parcels are mainly divided into longitudinal rectangular spaces. The thermoremanent magnetization of the findings in Structure 2 is relatively high, but significantly lower than in Structure 1; it should likewise be wooden buildings that may have had stone foundations. Since neither material from surface surveys nor excavation results are yet available, the dating of these buildings remains uncertain. The layout of the buildings is reminiscent of Roman-period terraced houses, frequently encountered in the northern provinces, as well as in Pannonia.<sup>9</sup> However, warehouses are not to be ruled out, like, for example, that which had been excavated and recorded during geophysical prospection in Nauportus–Vrhnići.<sup>10</sup>

In the southern part of area 3 a further building complex, with significantly lower thermoremanent magnetization of the findings, was recorded – Structure 3. This large structure, measuring 25 × 86 m (2150 m<sup>2</sup>), has a demarcation of 90° from the north, making it, like the modern houses near the River Kupa and the layout of Roman Siscia,<sup>11</sup> aligned exactly to the east. Two plots, 9 and 13 m wide, are bordered to the south by a strip (road?) 3m wide. According to the surveying results, Structure 3 has no overlap with Structure 2. The layout is similar to the layout of the buildings observed in Structure 2 and, while they may be interpreted as terraced houses, their dating is uncertain.

Further south, Structures 4–11 have been documented. Except for Structure 7, all have the same orientation, namely 60° from north to northeast. In contrast to the northern part of the area

8 Termin „struktura“ u tekstu je korišten za pojave zabilježene geofizičkim pregledom, kao i za istražene ostatke željeznodobnih građevina. Kako bi ih bilo moguće razlikovati u engleskom tekstu drugi pojam je pisan u kurzivu (*Struktura*).

9 Ditmar-Trauth 1995, Bd. 2, 193–206 (Carnuntum, Budapest).

10 Mušić, Horvat 2007, 254, sl. 36.

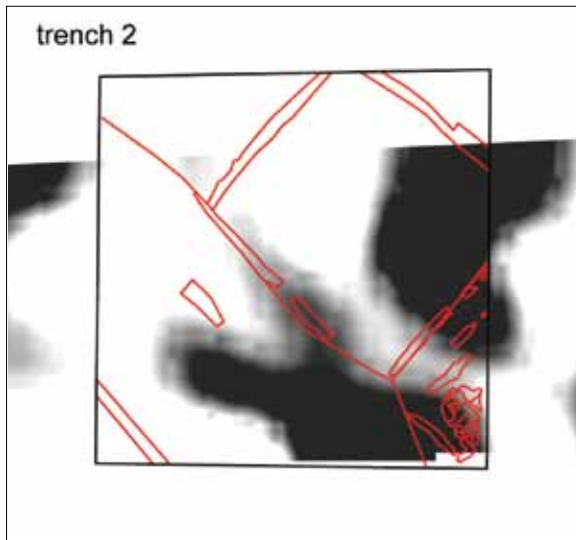
11 Lolić 2014.

8 The term ‘structure’ is used in the text for the features recorded in geophysical survey, and also for the excavated remains of the Iron Age buildings. In order to make the distinction, the second term is written in italics (*Structure*).

9 Ditmar-Trauth 1995, Bd. 2, 193–206 (Carnuntum, Budapest).

10 Mušić, Horvat 2007, 254, Abb. 36.

11 Lolić 2014.



SLIKA 8. Ostaci struktura istraženih u Sondama 1 i 2 u kombinaciji s rezultatima geomagnetskog pregleda.

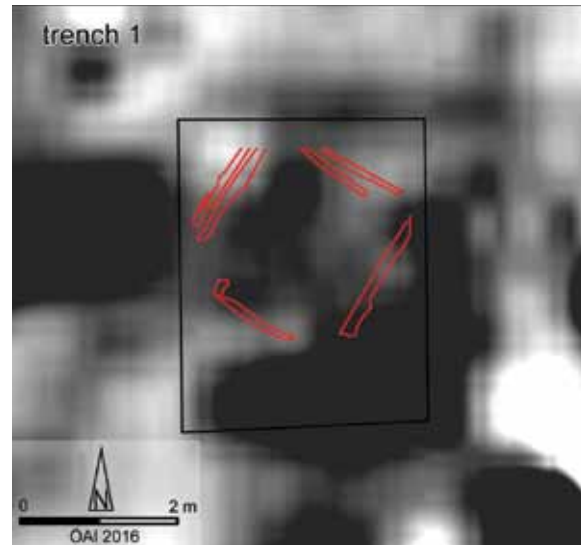


FIGURE 8. Remains of the structures excavated in Trenches 1 and 2 combined with the results of geomagnetic survey.

je odrediti tlocrt ovih građevina jer su unutrašnje strukture teško prepoznatljive, ali izgledno je očekivati da njihova orijentacija prati otprilike 6 m široku prometnicu – Struktura 4. Prometnica je definirana 6 m širokom magnetskom anomalijom koja ima istu orijentaciju kao i Strukture 4 – 9. Podaci ukazuju da se radi o šljunčanoj cesti.

Samo Struktura 7, dimenzija  $11 \times 36$  m ( $396 \text{ m}^2$ ), odstupa od sjevera prema zapadu za  $17^\circ$  i preklapa se sa Strukturom 6, odnosno građevinama s otklonom od  $60^\circ$ . Struktura 6, dimenzija  $15 \times 23$  m ( $345 \text{ m}^2$ ), pokazuje jedva vidljivu unutarnju podjelu na najmanje tri prostorije, poput Strukture 5, koja se sastoji od tri pravokutne prostorije, s jednom jasno definiranom prostorijom na sjeverozapadnom dijelu, dimenzija  $14 \times 18$  m ( $252 \text{ m}^2$ ). Na sjeverozapadnom su dijelu zone 4 identificirane mnogobrojne anomalije koje je moguće interpretirati kao peći. Oko 15 izduženih ovalnih struktura nalaze se s vanjske strane izvan građevine, a dimenzije im variraju od 1 do 2 m. Visina jakosti magnetskog polja (izražena u nanoteslima; nT) definira strukturu kao peć (30 – 120 nT). Strukture zabilježene iza Strukture 5 pokazuju jakost magnetskog polja između 35 i 80 nT, a dokazi dozvoljavaju da se Strukturu 5 interpretira kao proizvodnu. Oblik i distribucija peći ukazuju na to da se vjerojatno radi o metalurškim, a ne keramičarskim pećima. U usporedbi sa susjednim Strukturama 6 – 8, ovo je jedina građevina na čiju funkciju upućuju prikupljeni podatci. Distribucija struktura s visokom snagom magnetskog polja nastavlja se na istočnoj strani ceste (Struktura 4), bez dokaza o postojanju drugih građevina.

prospected, no large-scale development has been detected in the southern part, except for a few scattered buildings of various sizes. The layout of these buildings cannot easily be defined, with the inner structures hardly recognizable, but their orientation is expected to follow a roadway approximately six metres wide – Structure 4. The roadway is determined by an elongated magnetic anomaly, six metres wide, having the same orientation as Structures 4–9. Data indicate that it is a gravelled road.

Only Structure 7, measuring  $11 \times 36$  m ( $396 \text{ m}^2$ ), deviates by  $17^\circ$  from north to west and overlaps Structure 6 – buildings with a  $60^\circ$  orientation. Structure 6, measuring  $15 \times 23$  m ( $345 \text{ m}^2$ ), has a barely visible internal division into at least three rooms, like Structure 5, which is composed of three rectangular rooms, with one clearly defined room in the north-western part, measuring  $14 \times 18$  m ( $252 \text{ m}^2$ ). In the south-western part of area 4, numerous anomalies have been identified that are likely to be interpreted as ovens. There are up to 15 of these longitudinal-oval features, situated outside in the back yard of the building, their dimensions ranging from 1–2 m. The height of the magnetic field strength (measured in nanotesla (nT)) defines the structures as ovens (from 30–120 nT). The features in the back yard of structure 5 have magnetic field strengths between 35 and 80 nT. The evidence could allow the interpretation of Structure 5 as a production site. The shape and distribution pattern of the furnaces indicate production that is metallurgic rather than of pottery. Compared to the adjacent Structures 6–8, this is the only building for which we could have evidence of a function. The distribution of features with high magnetic field strengths continues on the east side of the road (Structure 4) without any evidence of further buildings.

Struktura 8, dimenzija 13 × 25 m (325 m<sup>2</sup>), sastoji se od tri pravokutne prostorije, a (drveni?) temelji ove građevine slabo su vidljivi. Struktura 9, dimenzija 22 × 32 m (704 m<sup>2</sup>), sastoji se od užega sjevernog dijela, koji nalikuje hodniku, te četiri pregradna zida na jugu. U ovom je slučaju, kao i u slučaju većine građevina iste orijentacije, moguće očekivati drvenu konstrukciju. Nema indikacija za postojanje žbukanih podova, a nije bilo ni tragova požara (izgoreni slojevi poput onih u Strukturama 1 i 2). Na najjužnijem dijelu pregledne zone 6 zabilježene su dvije strukture – kružna Struktura 10, otprilike 14 m u promjeru, i dvodijelna Struktura 11, dimenzija 11 × 13 m (143 m<sup>2</sup>). Struktura 10 vjerojatno se preklapa sa Strukturom 11. Pitanje je treba li se ove dvije strukture interpretirati kao grobnice, odnosno tumul, ostaje otvoreno.

Structure 8, measuring 13 × 25 m (325 m<sup>2</sup>), consists of three rectangular spaces; the (wooden?) foundations of this building are only faintly discernible. Structure 9, measuring 22 × 32 m (704 m<sup>2</sup>), is composed of a narrower, corridor-like northern part, articulated by four partition walls in the southern part. We should expect here, just as with the majority of buildings with this orientation, a timber construction. There are no indications of mortar floors, and traces of fire (burned layers such as in Structures 1 and 2) could not be detected. In the southernmost part of surveyed area 6, two structures were recorded: the circular Structure 10, approximately 14 m in diameter, and the two-part Structure 11, measuring 11 × 13 m (143 m<sup>2</sup>). Structure 10 probably overlaps Structure 11. It is a matter of discussion whether these two structures are to be interpreted as a tombs and a burial mound.



SLIKA 9. Pregledana područja (7 - 10) u središnjem i jugoistočnom dijelu Pogorelca.

FIGURE 9. Areas surveyed (7-10) in the central and south-eastern part of Pogorelac.

Pitanje datacije Struktura 4 – 11 potpuno je otvoreno i, začuđujuće, njihova se orijentacija razlikuje od one Struktura 2 i 3. Ove zadnje treba interpretirati kao kuće, dok Struktura 4 – 11, pak, treba smatrati raspršenim naseljem s mogućim grobljem na jugu. Ovakav razvoj može se povezati s kasnoantičkom nekropolom koja je pronađena u preglednim zonama 1 i 3.

### Pregledne zone 7 – 10

Podaci dobiveni magnetskim mjerenjem u zonama 7 – 10 ne pokazuju abnormalnosti, izuzev nekoliko jama, dimenzija 0,5 – 1 m, koje bi mogle biti antropogenog karaktera. Na temelju uzorka distribucije jama moguće je isključiti bilo kakvo pravilno / sustavno korištenje struktura na stupovima u ovom području. Također, nisu pronađeni ni tragovi rimskodobnoga vojnog logora, obrambenih jaraka ili pak unutrašnjih prostorija (sl. 8).

### Iskopavanja Arheološkog muzeja u Zagrebu na poziciji Sisak–Pogorelac (2012.–2017.) (I. Drnić)

Iskopavanja na poziciji Sisak–Pogorelac počela su u ljeto 2012. godine otvaranjem Sonde 1 s ciljem utvrđivanja stratigrafske situacije na ovom dijelu lokaliteta. Do kraja 2017. godine, kada je završena prva faza istraživanja na Pogorelcu, istražene su četiri

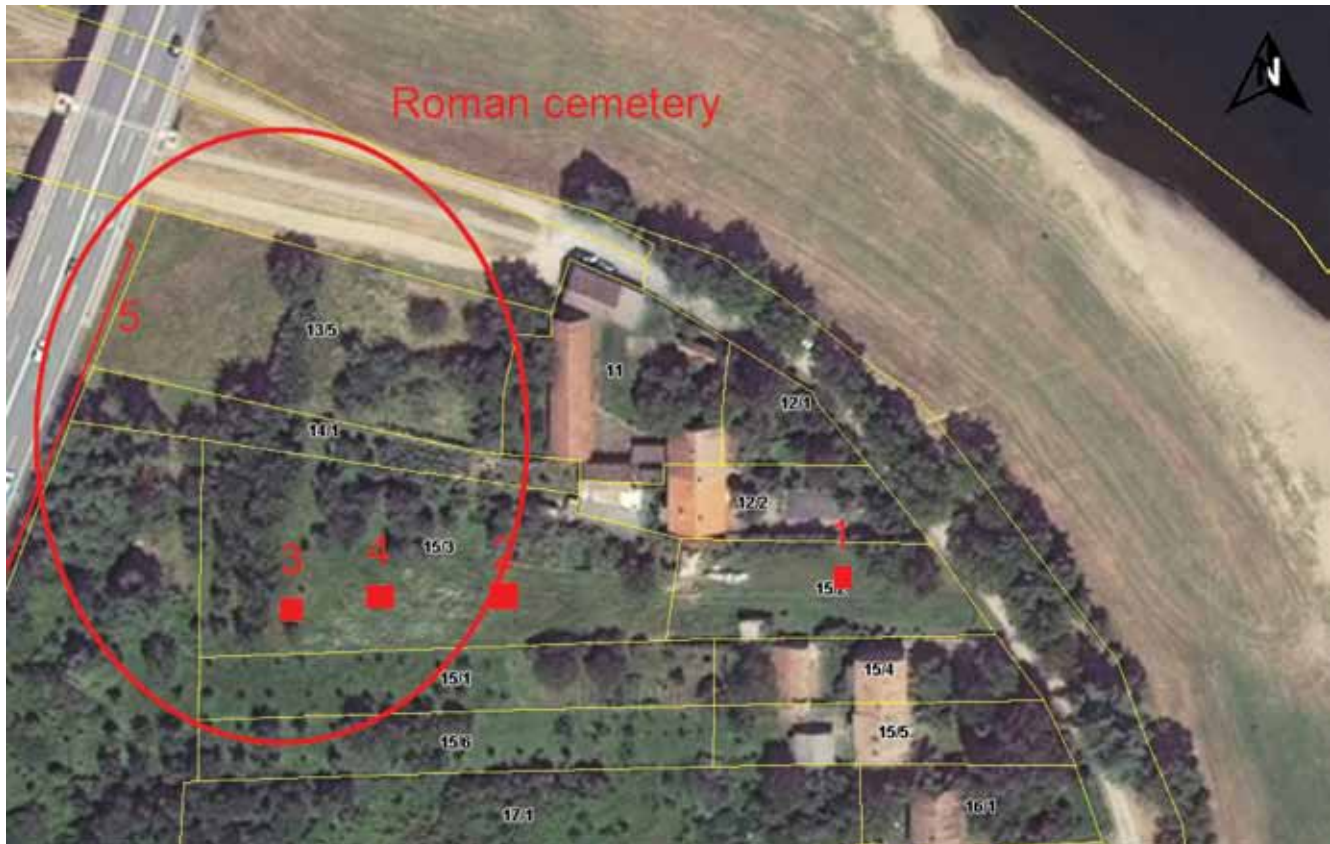
The dating of Structures 4–11 is completely open, and, strikingly, their layouts differ from Structures 2 and 3. The latter are to be interpreted as strip houses, while Structures 4–11, on the other hand, are to be seen as scattered settlements, perhaps with a graveyard to the south. This development might be related to the late Roman burial ground, situated in surveyed areas 1 and 3.

### Surveyed areas 7–10

The data of magnetic measurements in areas 7–10 shows no abnormalities, except for some pits, 0.5–1 metre in size, which may be of anthropogenic construction. Based on the distribution pattern of the pits it is possible to rule out any regular/systematic use of post structures in this area. No traces of a Roman-period military camp, its trenches or even internal buildings could be recognized (Fig. 8).

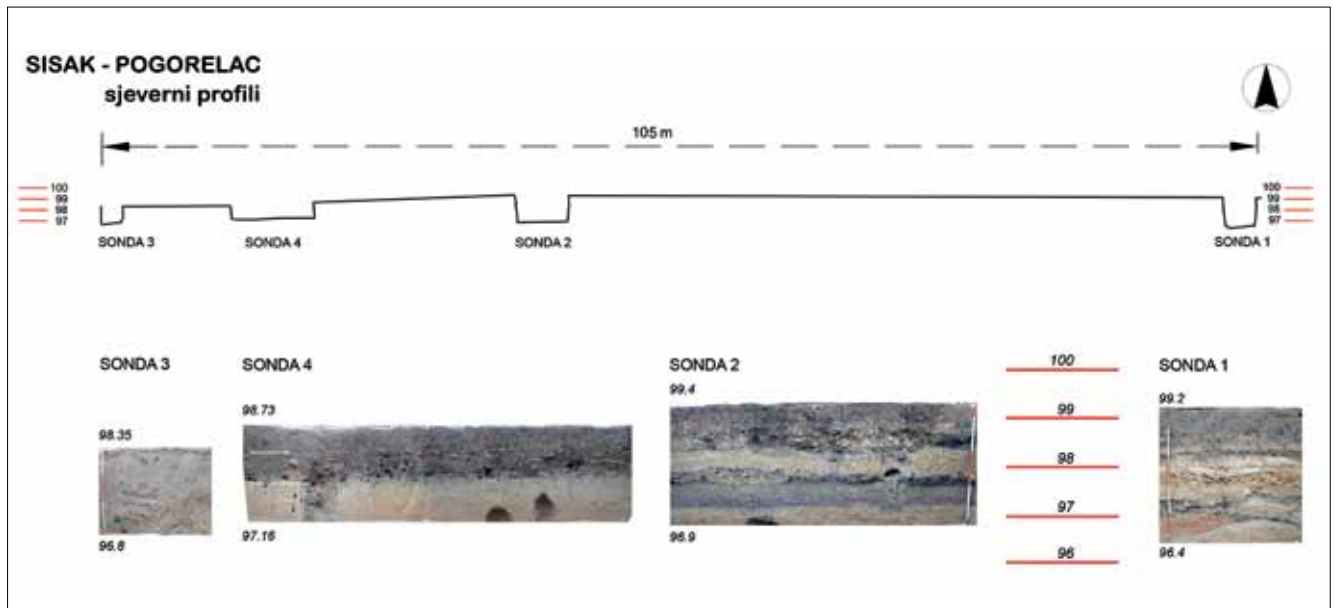
### Excavations by the Archaeological Museum in Zagreb at the Sisak–Pogorelac site (2012–2017) (I. Drnić)

Excavations at the Sisak-Pogorelac position commenced in the summer of 2012, when Trench 1 was opened with the objective of ascertaining the stratigraphic situation at this part of the site. By the end of 2017, when the first phase of research at Pogorelac



SLIKA 10. 1. Položaj istraženih Sondi 1 – 4 na sjeveroistočnom dijelu pozicije Pogorelac (kat. č. 15/2 i 15/3); 5. Zaštitno iskopavanje provedeno 2013. i 2014. godine (Arheolog d.o.o) ©Google Maps.

FIGURE 10. 1. Position of excavated Trenches 1-4 in the north-eastern section of the Pogorelac position (cad. plots 15/2 and 15/3); 5. Rescue excavations conducted in 2013 and 2014 (Arheolog d.o.o) ©Google Maps.



SLIKA 10. 2. Presjek kroz istraženi dio lokaliteta s prikazom sjevernih profila u Sondama 1–4 (izradili I. Drnić, M. Mađerić).

FIGURE 10. 2. Cross-section of the excavated section of the site with depiction of northern profiles in Trenches 1–4 (made by I. Drnić, M. Mađerić).

sonde na kat. č. 15/2 i 15/3 (kat. općina Novi Sisak) u kojima su zabilježene strukture iz tri vremenska razdoblja: nasebinski slojevi iz željeznog doba (8.(?) 6. – 1. st. pr. Kr.) i rimskog razdoblja (2. – 3. st.) te groblje iz razdoblja kasne antike (4. i prva polovina 5. st.) (sl. 10 : 1–2). U nastavku rada bit će analizirana i interpretirana stratigrafija i kontekstualni podaci za sva tri razdoblja u kojima je na različite načine korišten ovaj prostor.

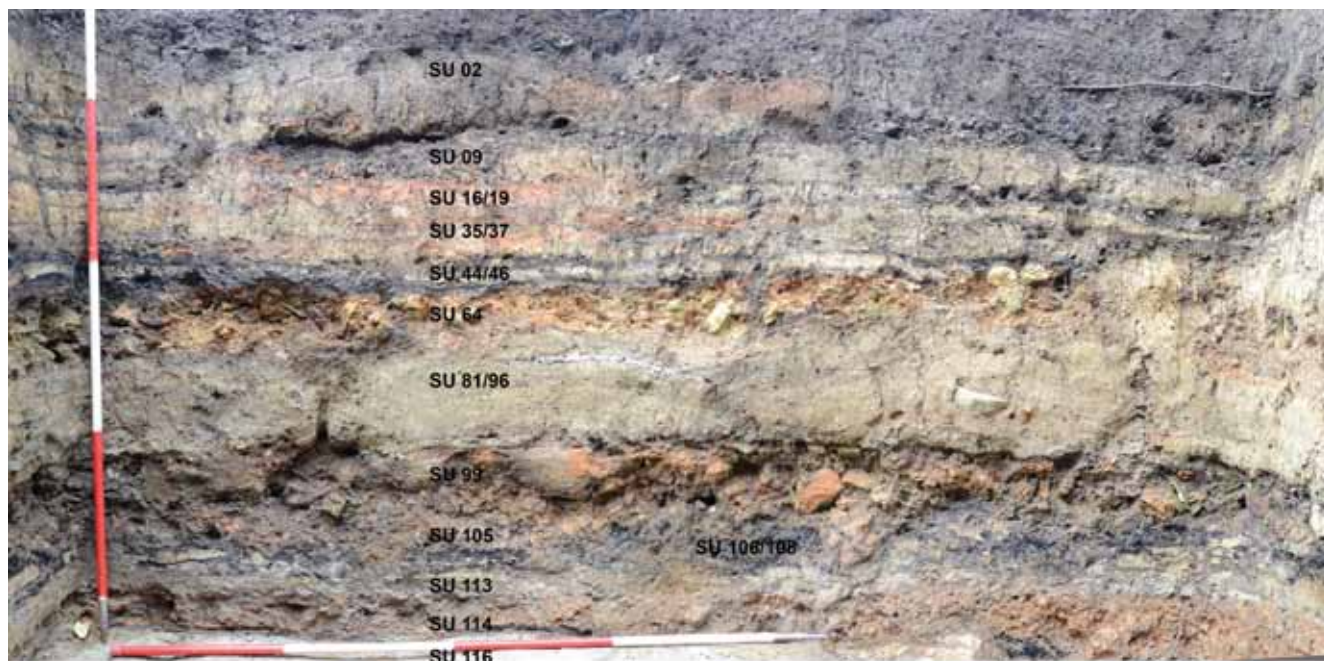
### Sonda 1

Gotovo 3 m debeli kulturni slojevi u Sondama 1, dimenzija 3 x 4 m, koje pokretni materijal te rezultati radiokarbonskih analiza datiraju u razdoblje starijeg i mlađega željeznog doba, (8. (?) / 6. - 1. st. pr. Kr.), istraživani su u četiri arheološke kampanje (2012. – 2015.) (sl. 11 i 12). Najstariji antropogeni sloj (SJ 119) u Sondama 1, koji se sastoji od tankoga sivog sloja s tragovima gorenog drveta, zabilježen je na apsolutnoj dubini od 96,15 m.n.v., a definiran je kao nasebinski *horizont 0*. Neposredno iznad njega istražen je sloj žute gline s intenzivnim tragovima gorenja (SJ 116), uključujući ostatke spaljenog drveta (SJ 117) (sl. 13: 1) iznad kojega se nalazio sloj kućnog lijepa, ukazujući na postojanje nadzemne strukture sa zemljanim podom orijentacije sjeveroistok – jugozapad (*Objekt 1*) i drvenim zidovima premazanim kućnim lijepom (sl. 13: 2). Sivi sloj (SJ 114) s dosta gorenog drveta, zabilježen u jugoistočnom uglu Sonda 1, predstavlja prostor izvan *Objekta 1*. Rezultat radiokarbonske analize, provedene na koštanom uzorku iz SJ 116, dao je uslijed fenomena „halštatskog koljena“ relativno širok datum između 745. i 400. god. pr. Kr. (745-400 cal BC) s vjerojatnošću od 68%

was completed, four trenches had been excavated on cadastral plots 15/2 and 15/3 (Novi Sisak cadastral municipality) in which structures from three chronological periods were registered: settlement layers from the Iron Age (8(?) 6<sup>th</sup>-1<sup>st</sup> centuries BC) and the Roman era (2<sup>nd</sup>-3<sup>rd</sup> centuries AD) and the Late Roman cemetery, dated to the period from the end of the 3<sup>rd</sup> to the first half of the 5<sup>th</sup> century (Fig. 10: 1-2). In the remainder of this work, the stratigraphy and contextual data for all three periods in which this area was differently used will be analysed and interpreted.

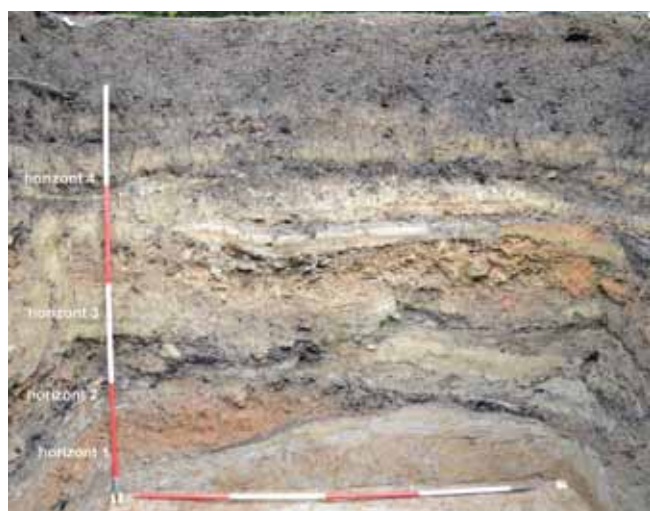
### Trench 1

The almost three-meter thick cultural layers in Trench 1 (dim. 3 x 4 m), which based on the movable materials and radiocarbon results have been dated to the Early and Late Iron Age (8(?)/6<sup>th</sup>-1<sup>st</sup> centuries BC), were examined in four archaeological campaigns (2012-2015) (Fig. 11-12). The oldest anthropogenic layer (SU 119) in Trench 1, which consists of a thin grey layer containing traces of burned wood, was recorded at an absolute depth of 96.15 m asl., and it has been defined as settlement *horizont 0*. Above it there is a sterile ochre-yellow layer. This is followed by a layer of yellow clay with intense traces of burning (SU 116), including the remains of charred wood (SU 117) (Fig. 13: 1), above which there was a layer of daub, indicating the existence of an above-ground structure with an earthen floor having NE-SW orientation (*Structure 1*) and wooden walls coated with daub (Fig. 13: 2). The grey layer (SU 114) with a considerable quantity of burnt wood, some potsherds and animal bones, recorded in the south-eastern corner of Trench 1, was an area outside of *Structure 1*. The results of radiocarbon analysis conducted on the bone sample from SU 116 yielded, as a consequence of the “Hallstatt plateau,” a relatively



SLIKA 11. Zapadni profil u Sondi 1 (snimio I. Drnić).

FIGURE 11. Western profile in Trench 1 (photo by I. Drnić).



SLIKA 12. 1. Sjeverni profil u Sondi 1 (snimio I. Drnić).

FIGURE 12. 1. Northern profile in Trench 1 (photo by I. Drnić).



SLIKA 12. 2. Južni profil u Sondi 1 (snimio I. Drnić).

FIGURE 12. 2. Southern profile in Trench 1 (photo by I. Drnić).

za razdoblje između 540. i 410. (540-410 cal BC) (Beta-435082),<sup>12</sup> ukazujući na formiranje naseljavanja na ovom dijelu lokaliteta u razdoblju starijega željeznog doba, vjerojatno u mlađem dijelu, odnosno kasnohalštatskom razdoblju (sl. 16). U opisanom je naseobinskom horizontu prikupljen manji broj ulomaka keramičkih posuda, uglavnom grublje izrade, koji nisu prikladni za preciznije datiranje, ali i ulomak kvalitetno izradene zdjele crne,

broad date between 745 and 400 BC (745-400 cal BC) with a 68% probability of the period between 540 and 410 (540-410 cal BC) (Beta-435082),<sup>12</sup> indicating the formation of a settlement at this part of the site in the Early Iron Age, probably in its later phase, i.e., the late Hallstatt period (Fig. 16). A small number of potsherds, mainly mainly coarse ware not conducive to more precise dating, were gathered in this settlement horizon thus described, but

<sup>12</sup> cal BC 745 – 400: cal BC 745 to 685, cal BC 665 to 645, cal BC 550 to 400 (95% Probability), cal BC 540 to 410 (68% probability).

<sup>12</sup> cal BC 745 – 400: cal BC 745 to 685, cal BC 665 to 645, cal BC 550 to 400 (95% Probability), cal BC 540 to 410 (68% probability).



SLIKA 13. 1. Ostaci podnice Objekta 1; b) urušenje Objekta 1 (snimio I. Drnić).

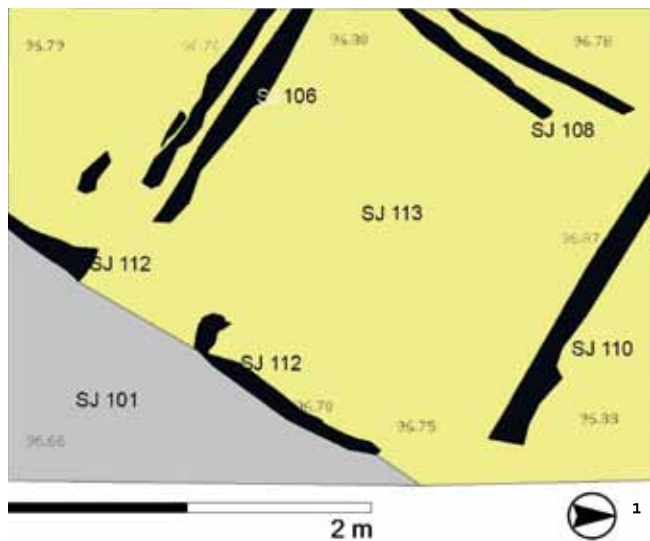
FIGURE 13. 2. Remains of floor in Structure 1; b) rubble in Structure 1 (photo by I. Drnić).

uglačane površine, ukrašene plitkim žlijebljenjem i ubadanjem (T. 1: 2) te ulomak zdjele uvučenog, fasetiranog ruba (T. 1: 3) koji bi, zajedno s oštećenom brončanom tuljastom sjekirom (T. 1: 7), mogao ukazivati na nešto stariju dataciju prvoga naseobinskog horizonta (Ha C - D1). Osim navedenih nalaza, u ovome su horizontu zabilježeni u potpunosti sačuvan kameni brus cilindričnog oblika s perforacijom na jednom kraju (T. 1: 10), ulomak pokretnog ognjišta (T. 1: 4) te željezno šilo pravokutnog presjeka (T. 1: 6).

Iznad naseobinskog sloja 1 u Sondri 1 nalazio se djelomično istraženi mlađi objekt iste orijentacije kao i onaj stariji (sjeveroistok – jugozapad) (Objekt 2). Sastojao se od 30 do 40 cm debelog sloja urušenja (SJ 99) s velikom količinom kućnog lijepa, keramičkih ulomaka te ulomaka keramičkih ploča ukrašenih plastičnim, geometrijski izvedenim ukrasom koje su bile postavljene na zidove u unutrašnjosti objekta (T. 3). Ispod opisanog urušenja nalazio se sloj gorene zemlje s dosta spaljenog drveta i većim komadima zapečene zemlje crvene boje (SJ 105) te ostacima dviju paralelnih spaljenih greda, orijentacije sjeverozapad – jugoistok (SJ 106) (sl. 14: 3). Uz sjeverni i istočni rub opisane strukture nalazilo se nekoliko komada kamena. Na podu Objekta 2, među brojnim keramičkim ulomcima, pronađen je gotovo u cijelosti sačuvan lonac koji je u potpunosti bio ispunjen arheobotaničkim ostacima. Provedena je analiza pokazala da većinu prikupljenog uzorka čine spaljene sjemenke prosa (engl. *foxtail millet*, *Setaria italica* [L.]

also a piece of a more finely crafted bowl with a black burnished surface, decorated with shallow grooves and stabbing (Pl. 1: 2) and a fragment of a bowl with everted, faceted rim (Pl. 1: 3) which, together with the damaged bronze socketed axe (Pl. 1: 7), may indicate a somewhat earlier dating of the first settlement horizon (Ha C-D1). Besides these finds, also recorded in this horizon are an entirely preserved cylindrical whetstone with a perforation on one end (Pl. 1: 10), a fragment of a movable hearth (Pl. 1: 4) and an iron awl with rectangular cross-section (Pl. 1: 6).

There was a partially excavated later structure with the same orientation as the earlier one (NE-SW) (Structure 2) above the settlement horizon 1 in Trench 1. It consisted of a 30-40 cm thick layer of rubble (SU 99) containing a high quantity of daub, potsherds and a fragments of ceramic tiles adorned with sculpted, geometrically rendered decorations which were installed on the walls in the structure's interior (Pl. 3). Below the aforementioned rubble, there was a layer of charred soil with a considerable quantity of burned wood and many pieces of fired red earth (SU 105) and the remains of two parallel burned beams with a NW-SE orientation (SU 106) (Fig. 14: 3). Several pieces of stone were situated along the northern and eastern edge of this structure. Among the many potsherds on the floor of Structure 2, an almost entirely preserved pot filled with archaeobotanical remains was found. The completed analysis showed that the large majority of the



SLIKA 14. 1-2. Ostaci podnice i drvene arhitekture Objekta 2; 3. urušenje Objekta 2 (snimio I. Drnić, izradio M. Maderić).

FIGURE 14. 1-2. Remains of floor and wooden architecture of Structure 2; 3. rubble of the wall construction of Structure 2 (photo by I. Drnić, made by M. Maderić).

*P. Beauv.*<sup>13</sup> U jugoistočnom je kutu sonde registriran tamnosivi sloj s dosta spaljenog drveta, keramike i životinjskih kostiju, koji predstavlja prostor izvan Objekta 2 (SJ 101), dok se iznad njega nalazio veći komad spaljenog drveta (dio grede?) (SJ 100).<sup>14</sup> Uklanjanjem sloja urušenja (SJ 105), postalo je jasno da je gotovo cijela površina sonde, osim već spomenutoga jugoistočnog ugla, bila prekrivena slojem nabijene žute i djelomično crveno zapečene zemlje (SJ 113), koja predstavlja pod nadzemnog objekta (Objekt 2), a koji je, zbog dimenzija sonde, samo djelomično istražen. Na podu od nabijene zemlje nalazili su se ostaci spaljene drvene arhitekture (SJ 106, 108, 110, 112) (sl. 14: 1-2). Grede, sačuvane u visini

gathered samples consist of burned foxtail millet seeds (*Setaria italica* [L.] *P. Beauv.*).<sup>13</sup> A dark-grey layer with a considerable quantity of burned wood, pottery and animal bones was registered in the south-eastern corner of the trench, which constitutes the area outside of Structure 2 (SU 101), while above it there was a large piece of burned wood (part of a beam?) (SU 100).<sup>14</sup> After removal of the rubble layer, (SU 105), it became clear that virtually the entire surface of the trench, besides the already mentioned south-eastern corner, was covered with a layer of packed yellow and partly red fired soil (SU 113), which constituted the floor of the above-ground structure (Structure 2), and which due to the

<sup>13</sup> Reed, Drnić 2016.

<sup>14</sup> Analiza drveta pokazala je da se radi o hrastu (*Quercus sect. Quercus*). Nažalost, pokušaj provođenja dendrokronološke analize bio je neuspješan zbog nedovoljnog broja godina. Analize je provela Katherine Seufer s Cornell Tree-Ring Laboratory.

<sup>13</sup> Reed, Drnić 2016.

<sup>14</sup> Analysis of the wood has shown that it is oak (*Quercus sect. Quercus*). Unfortunately, an attempt at dendrological analysis was unsuccessful due to an insufficient number of rings. The analysis was conducted by Katherine Seufer at the Cornell Tree-Ring Laboratory.



od 5 do 10 cm, bile su organizirane u obliku pravokutne strukture, orijentacije sjeveroistok – jugozapad. Nekoliko konstrukcijskih elemenata, registriranih prilikom istraživanja *Objekta 2*, ukazuju na to da je građevina vjerojatno bila podignuta u tehnici *postpad construction* s vodoravnim temeljnim gredama na koje su bile postavljene okomite osnovice zidne konstrukcije.<sup>15</sup> Naime, u iskopavanju nisu zabilježeni ostaci rupa od stupova koji bi činili okomitu osnovu zidne konstrukcije. Također, zabilježeno je i nekoliko većih komada kamena, koji su mogli biti korišteni za temeljenje objekta, što je čest slučaj kod ovog tipa drvene arhitekture. Isti je način gradnje zabilježen na nekoliko slovenskih kasnobrončanodobnih i ranoželjeznodobnih lokaliteta, primjerice u mlađoj fazi naselja na Pošteli u Štajerskoj (kraj stupnja Ha C1 i Ha D),<sup>16</sup> Kučar u Beloj Krajini (Ha D),<sup>17</sup> kao i u petoj naseobinskoj fazi naselja Tribuna u Ljubljani, datiranoj u razdoblje između 550. i 410. god. pr. Kr. (550-410 cal BC).<sup>18</sup> S ciljem apsolutnog datiranja opisanoga naseobinskog horizonta, na jednome koštanom uzorku iz sloja urušenja (SJ 105) te jednom iz prostora izvan *Objekta 2* (SJ 101) provedene su radiokarbonske analize. Rezultat analize na prvom uzorku (SJ 105, Beta-435081) datira *Objekt 2* u razdoblje između 370. i 180. god. pr. Kr.,<sup>19</sup> dok drugi rezultat (SJ 101, R\_Date 2265, 15) smješta drugi naseobinski horizont između 394. i 234. god. pr. Kr. (sl. 16).<sup>20</sup> Uzevši u obzir da su u njemu zabilježeni i ulomci karakteristične fine, redukcijski pečene keramike, crne, glačane površine (T. 4: 8–13, T. 5: 7–9), u nekoliko slučajeva ukrašene karakterističnim naboranim ukrasom (T. 4: 8, T. 5: 9) (o kojemu će više biti rečeno u nastavku teksta!), koju analogije sa slovenskog, ali i zapadnobalkanskog te južnapanonskog prostora datiraju u kasnohalštatsko razdoblje, smatramo da se datacija *Objekta 2* i drugoga naseobinskog horizonta može preciznije definirati u razdoblje 4. st. pr. Kr.

U drugome je naseobinskom horizontu prikupljena velika količina ulomaka keramičkih posuda. Iz kronološke perspektive važno je naglasiti da među njima nema ulomaka posuda izrađenih na lončarskom kolu, kao niti onih s dodatkom grafita u glinenoj smjesi, koji se na prostoru južne Panonije vežu uz pojavu latenske kulture, a koje, doduše u relativno malom broju, nalazimo u mlađim naseobinskim slojevima u *Sondi 1* (*horizont 4*) kao i mlađeželjeznodobnim slojevima naselja na lijevoj obali rijeke Kupe.<sup>21</sup> Većinu prikupljenoga keramičkog materijala čine ulomci posuda grublje izrade (lonci, zdjele, peke) (T. 4: 1-7, T. 5: 1-6) uz spomenute nalaze fine keramike crne, glačane površine (rijetko oker i smeđe) koja tipološki obuhvaća samo zdjele, i to primjerke sa

dimensions of the trench has only been partially examined. Remains of wooden architecture (SU 106, 108, 110, 112) were on the packed-earth floor (Fig. 14: 1-2). Beams, preserved to a height of 5-10 cm, were organized in the form of a rectangular structure with a NE-SW orientation. Several construction elements registered during the excavations of *Structure 2* indicate that the building was probably erected using the post and pad construction technique with horizontal foundation beams onto which the vertical frames of the wall construction were installed.<sup>15</sup> The remains of holes from the posts that would have composed the foundation for the wall construction were not found during the digs. Furthermore, several larger pieces of stone were registered which may have used for the structure's foundation, which is often the case for this type of wooden architecture. The same construction method was recorded at several Slovenian Late Bronze Age and Early Iron Age sites, for example in the more recent phase of the settlements at Poštela in Styria (end of phases Ha C1 and Ha D),<sup>16</sup> Kučar in Bela Krajina (Ha D),<sup>17</sup> and in the fifth settlement phase of the Tribuna settlement in Ljubljana, dated to the period between 550 and 410 BC (550-410 cal BC).<sup>18</sup> With the aim of absolute dating of the above-described settlement horizon, radiocarbon analysis was conducted on a bone sample from the rubble layer (SU 105) and one from the area outside of *Structure 2* (SU 101). The results of analysis on the first sample (SU 105, Beta-435081) dated *Structure 2* to the period between 370 and 180 BC,<sup>19</sup> while the other result (SU 101, R\_Date 2265, 15) placed the second settlement horizon between 394 and 234 BC (Fig. 16).<sup>20</sup> Taking into consideration that it also contained several pieces of typical fine, reduction-fired pottery with black burnished surfaces (Pl. 4: 8-13, Pl. 5: 7-9), in several cases adorned with characteristic embossed decoration (Pl. 4: 8, Pl. 5: 9) about which more will be said below, and which, based on analogies from Slovenian, but also Western Balkan and South Pannonian territory, date to the late Hallstatt period, we believe that the dating of *Structure 2* and the second settlement horizon may be more precisely set in the 4<sup>th</sup> century BC.

A large quantity of potsherds was gathered in the second settlement horizon, and from the chronological perspective it is vital to stress that among them there are no fragments of vessels made on a potter's wheel, nor those with graphite temper in the clay mixture, which is linked to the appearance of the La Tène culture in the territory of southern Pannonia, and which, in a relatively small number to be sure, we found in the later settlement layers in Trench 1 (*horizon 4*) and in the late Iron Age layers on the left

15 Prvotna interpretacija građevinske tehnike, korištene u izgradnji *Objekta 2*, išla je u smjeru gradnje vodoravnim slaganjem balvana i križnim vezanjem u uglovima strukture (engl. *corner timbering*), ali su istraživanja u *Sondi 2* ukazala na to da se vjerojatnije radi o prethodno navedenoj tehnici. Istraženi ostaci željeznodobne drvene arhitekture s Pogorelca bit će detaljnije analizirani u zasebnom poglavlju.

16 Teržan 1990, 31.

17 Dular, Ciglencčki, Dular 1995, 63–69.

18 Vojaković 2014, 409–411.

19 Cal BC 370-180 (95 % probability): cal BC 355 to 275 i cal BC 255-200 (68 % probability) pri čemu je, na osnovi stratigrafskih odnosa, izgledniji prvi interval između 355. i 275. god. pr. Kr.

20 Cal BC 395-234 (95.4 % probability): cal BC 394-356 (64.7 % probability), cal BC 286-234 (30.7 % probability) pri čemu je, na osnovi stratigrafskih odnosa izgledniji prvi interval između 394. i 356. god. pr. Kr.

15 The initial interpretation of the construction technique used to build *Structure 2* went in the direction of corner timbering, but excavations in Trench 2 showed that it was more likely a case of the aforementioned technique. The examined remains of Iron Age wooden architecture in Pogorelac will be analysed in greater detail in a separate chapter.

16 Teržan 1990, 31.

17 Dular, Ciglencčki, Dular 1995, 63–69.

18 Vojaković 2014, 409–411.

19 Cal BC 370-180 (95 % probability): cal BC 355-275 and cal BC 255-200 (68 % probability) wherein, based on the stratigraphic relations, the first interval between 355 and 275 BC is more likely.

20 Cal BC 395-234 (95.4 % probability): cal BC 394-356 (64.7 % probability), cal BC 286-234 (30.7 % probability) wherein, based on the stratigraphic relations, the first interval between 394 and 356 BC is more likely.

zaobljenim tijelom i izvučenim rubom koji kod pojedinih komada više izgleda kao kratak, ljevkasto oblikovani vrat. Također, ovoj skupini pripadaju primjerci zaobljenog ili bikoničnog trbuha i cilindričnog / stožastog vrata s izvučenim rubom, za koje tipološki i tehnološki bliske analogije nalazimo na prostoru dolenjske halštatske skupine, i to uglavnom u stupnju zmijolike fibule, te certoškom i negovskom stupnju (6. – 4. st. pr. Kr.),<sup>22</sup> ali i na širem prostoru Donjeg Pokuplja (Turska kosa, Klinac, Kiringrad)<sup>23</sup> kojem geografski i kulturološki pripada i željeznodobno naselje u Sisku. Sličan je keramički materijal zabilježen i istočno na lokalitetima Donja Dolina i Sanski most, koji pripadaju istoimenoj željeznodobnoj kulturnoj skupini, a svjedoči o povezanosti krajeva uz gornji i srednji tok rijeke Save i Kupe u razdoblju 6. – 4. st. pr. Kr. Ova se željeznodobna kulturna skupina odražava u postojanju specifičnoga keramičkog stila zastupljenog u materijalnoj kulturi različitih željeznodobnih zajednica.<sup>24</sup> Ukrašen je na ovom tipu keramičkih posuda razmjerno uniformiran, a sastoji se od trokuta te vodoravnih, okomitih i kosih linija, često organiziranih u skupine koje mogu biti obrubljene točkama. Dominantne su tehnike, kojima se izvodi opisani ukras, urezivanje, žlijebljenje i ubadanje, a važan nalaz iz kronološke perspektive čine dva ulomka iz SJ 101 i 105 sa spomenutim naboranim ukrasom (T. 4: 8, T. 5: 9). U analizi dolenjske halštatske skupine J. Dular pojavu ovoga specifičnog ukrasa smješta u stupanj zmijolike fibule, odnosno prvu polovicu 6. st. pr. Kr.<sup>25</sup> Nešto kasnije B. Teržan je predložila raniju dataciju u stupanj Stična 2 (druga polovica 7. st. pr. Kr.),<sup>26</sup> koje se u objavi keramičke građe s Vinjeg vrha kod Stične drži i L. Grahek.<sup>27</sup> U recentnoj analizi grobnih cjelina, što sadrže posude ukrašene naboranim ukrasom, D. Božić zaključuje da bi se pojavu predmetne keramike trebalo smjestiti ne ranije od certoškog stupnja, odnosno u kraj 6. te u prvu polovicu 5. st. pr. Kr.<sup>28</sup> Osobnim uvidom u sve navedene grobne cjeline sklon sam se prikloniti inicijalnoj dataciji J. Dulara, prema kojoj se ovaj ukras pojavljuje od stupnja zmijolike fibule iako najveći procvat doživljava upravo u certoškom stupnju s kontinuitetom u negovski stupanj. Ukratko, riječ je o karakterističnoj kasnohalštatskoj pojavi zabilježenoj u zapadnom dijelu Karpatske kotline, uključujući periferna područja južne Panonije i zapadnog Balkana!

Osim ulomaka keramičkih posuda u sloju urušenja zidne konstrukcije *Objekta 2* (SJ 99), pronađeni su i masivni plosnati keramički ulomci izrađeni od grube glinene smjese s primjesom organskog materijala, ukrašeni geometrijskim motivima izvedenim u dubokom reljefu (T. 3). Ovako je izvedeni ukras poznat s nekoliko vrsta predmeta iz razdoblja starijega željeznog doba: predmeti vezani uz ognjište – pokretna ognjišta i prekladi,<sup>29</sup> pred-

bank of the River Kupa.<sup>21</sup> Most of the gathered potsherds consist of fragments of coarsely crafted vessels (pots, bowls, baking lids) (Pl. 4: 1-7, Pl. 5: 1-6), together with the aforementioned finds of fine ware with black, burnished surfaces (more rarely ochre and brown) which typologically encompass only bowls – specifically examples with rounded bodies and everted rims that, on individual pieces, more resemble a short, funnel-shaped neck. This group also includes examples with rounded or biconical bellies and cylindrical/conical necks with everted rims that are typologically and technologically similar to analogies found in the area of the Dolenjska Hallstatt group, generally in the Serpentine fibula phase and the Certosa and Negova phases (6<sup>th</sup>-4<sup>th</sup> cent. BC),<sup>22</sup> but also in the wider territory of the Lower Kupa Valley (Turska kosa, Klinac, Kiringrad)<sup>23</sup> which geographically and culturally corresponds to the Iron Age settlement in Sisak. Similar pottery was also recorded farther east at the Donja Dolina and Sanski most sites, which belong to the eponymous Iron Age cultural group, and testify to the links between areas along the upper and middle courses of the Sava and Kupa during the period from the 6<sup>th</sup> to 4<sup>th</sup> centuries BC, which is reflected in the existence of a specific pottery style present in the material culture of different Iron Age communities.<sup>24</sup> The decoration on this type of ceramic vessel is relatively uniform, and consists of triangles and horizontal, vertical and skewed lines, often organized into groups that may be bordered by dots. The dominant techniques used to render these descriptions were incisions, shallow grooving and stabbing, and from the chronological standpoint an important find consists of two fragments from SU 101 and 105 with the aforementioned embossed decoration (Pl. 4: 8, Pl. 5: 9). In an analysis of the Dolenjska Hallstatt group, J. Dular placed the appearance of this specific decoration into the Serpentine fibula phase, i.e., the first half of the 6<sup>th</sup> century BC.<sup>25</sup> Somewhat later, B. Teržan proposed an earlier dating to the Stična 2 phase (latter half of 7<sup>th</sup> cent. BC),<sup>26</sup> which was upheld by L. Grahek in a publication of the pottery from the Cvinger settlement at Stična.<sup>27</sup> In a recent analysis of grave units containing vessels with the embossed decoration, D. Božić concluded that the appearance of this pottery should be placed no earlier than the Certosa phase, i.e., the end of the 6<sup>th</sup> and first half of the 5<sup>th</sup> century BC.<sup>28</sup> After a personal inspection of all of these graves, I prefer J. Dular's initial dating, according to which this decoration appeared in the Serpentine fibula phase, even though it experienced its greatest bloom precisely in the Certosa phase and continued into the Negova phase. This is, in summation, a typical late Hallstatt phenomenon which has been recorded in the western part of the Carpathian Basin, including southern Pannonia and the western Balkans!

21 Drnić, Miletić Čakširan 2014.

22 Dular 1982, skodele tipa 5 i 6, ročate skodele tipa 1, 64-68.

23 Majnarić-Pandžić 1986; Balen-Letunić 1987; Čučković 2012.

24 Fiala 1899, Fig. 12, 23, 58, 60, 63, 69, 82-83; Truhelka 1904, Fig 23, T. 25-26; Dular 1982, 143-144, Sl. 27.

25 Dular 1982, 85.

26 Teržan 1990, 68, f.n. 215; Teržan 1994, 122; Teržan 2008, 283.

27 Grahek 2016, 213-214.

28 Božić 2016.

29 Grahek 2016, 182-183, Sl. 52.

21 Drnić, Miletić Čakširan 2014.

22 Dular 1982, bowls types 5 and 6, handled bowl type 1, 64-68.

23 Majnarić-Pandžić 1986; Balen-Letunić 1987; Čučković 2012.

24 Fiala 1899, Fig. 12, 23, 58, 60, 63, 69, 82-83; Truhelka 1904, Fig 23, P. 25-26; Dular 1982, 143-144, Fig. 27.

25 Dular 1982, 85.

26 Teržan 1990, 68, f.n. 215; Teržan 1994, 123; Teržan 2008, 283.

27 Grahek 2016, 213-214.

28 Božić 2016.

meti vezani uz kult – žrtvenici<sup>30</sup> i dekorativne ploče koje su služile za ukrašavanje zidova kuća.<sup>31</sup> Oblik sisačkih primjeraka, kao i kontekst nalaza u urušenju zidne konstrukcije, pri čemu su ukrašene strane gotovo uvijek bile okrenute prema podu, ukazuju da se u ovome slučaju ipak radi o dekorativnim pločama, slično brojnim primjercima pronađenima na lokalitetu Most na Soči. Ipak, jedan ulomak s malom cilindričnom nogom (T. 3: 4) ukazuje na moguće postojanje i predmeta koji je mogao imati i kultnu funkciju. Nažalost, nisu pronađeni kronološki osjetljiviji predmeti, izrađeni od metala ili stakla, koji bi dodatno potvrdili prethodno postavljenu precizniju dataciju drugoga naseobinskog horizonta.

Treća naseobinska faza sastoji se od debelog sloja žuto-zelene gline (SJ 81 i 96), iste orijentacije kao i *Objekt 2*, koji također predstavlja ostatke poda trećeg objekta u Sondi 1, iako kod *Objekta 3*, za razliku od prethodno opisanih struktura, nisu zabilježeni ostaci spaljene drvene arhitekture. Također, istraživanje je pokazalo da je ovaj pod imao dvije faze! U starijoj fazi (SJ 96), u sjevernom je dijelu objekta istraženo ovalno ognjište, promjera 60 cm (SJ 97), koje se sastoji od nekoliko centimetara debelog sloja zapečene, ispucane zemlje. Istočno od ognjišta, u naboju poda, nalazio se veći kamen i fino izrađena zdjela zaobljenog tijela te izvučenog ruba (T. 6: 1) (sl. 15: 1–2). U mlađoj fazi objekta (SJ 81), u obnovljenom su podu prvi put u Sondi 1 zabilježene rupe od stupova (sl. 15: 3–4). Naime, u sjevernom dijelu objekta nalazile su se četiri, a u središnjem i jugozapadnom dijelu po jedna rupa, od kojih su SJ 86, 92 i 94 mogli činiti ukope za stupove što su činili osnovu zidne, odnosno krovne konstrukcije. Kod ovog tipa gradnje prostor između nosivih stupova ispunjava se prepletom od šiblja koji se premazuje kućnim lijepom. Upravo masivni sloj urušenja s velikom količinom kućnog lijepa i gorenog drveta, istražen iznad i oko poda objekta (SJ 64), debljine 20 – 30 cm, predstavlja ostatke zidne konstrukcije *Objekta 3* koji je uništen u požaru. Činjenica da je objekt građen drugačijom tehnikom u odnosu na onu kod *Objekata 1* i 2, vjerojatno objašnjava nedostatak spaljenih horizontalno postavljenih gređa zabilježenih u starijim naseobinskim fazama. U jugozapadnom dijelu sonde, na mlađoj fazi poda, nalazila se veća koncentracija keramičkih ulomaka koji pripadaju jednoj većoj keramičkoj posudi, vjerojatno korištenoj za čuvanje zaliha, i nekoliko manjih (SJ 82) (Sl. 15: 3). Zanimljivo je da je u slučaju *Objekta 3* došlo do obnove koja je registrirana u dvije faze poda, bez destrukcije u starijoj fazi (*horizont 3a*) koja je zabilježena kod starijih objekata u Sondi 1.

U navedenom sloju urušenja (SJ 64) nalazila se veća količina ulomaka keramičkih posuda od kojih su neki u potpunosti deformirani uslijed izlaganja visokoj temperaturi, što predstavlja dodatnu potvrdu da je mlađa faza *Objekta 3*, kao uostalom i dva starija objekta u Sondi 1, uništen u požaru. Većinu prikupljene keramičke građe čine ulomci grubljeg posuđa izrađenog rukom, ali se prvi put javljaju i ulomci posuda izrađenih na lončarskom kolu (T. 6: 6–10), kao i tipični latenski oblik lonca sa zadebljalim rubom i tijelom ukrašenim okomito postavljenim češljastim ukrasom, uz dodatak grafitu u glinenu smjesu (T. 6: 5). Naime, pojava novih oblika i tehnologija jasno ukazuje na određene promjene

Besides fragments of ceramic vessels, also found in the rubble layer of the wall construction in *Structure 2* (SU 99) were massive flat ceramic pieces made of a coarse clay mixture tempered with organic materials and decorated with geometric motifs rendered in deep relief (Pl. 3). The decoration rendered in this manner is known on several items from the Early Iron Age: items tied to the hearth - movable hearth and andiron,<sup>29</sup> items associated with cult – altars,<sup>30</sup> and decorative tiles used to line the walls of houses.<sup>31</sup> The shape of the Sisak examples and the context of their discovery in the rubble of a wall structure, wherein the decorated sides were always facing the floor, indicate that in this case they are indeed decorative tiles, similar to numerous examples found at the Most na Soči site. Even so, one fragment with a small foot having a circular cross-section indicates the possible existence of an item which may have also had a cult function (Pl. 3: 4). Unfortunately, chronologically sensitive items made of metal or glass, which would further confirm the previous dating of the second settlement horizon to the 4<sup>th</sup> century BC were not found in the excavations.

The third settlement phase consists of a thick layer of yellow-green clay (SU 81 and 96) with the same orientation as *Structure 2*, which also constitutes the remains of the floor of the third structure in Trench 1, although in *Structure 3*, as opposed to the previously described structures, the remains of burned wooden architecture were not recorded. Excavations have additionally shown that this floor had two phases! In the earlier phase (SU 96), an oval hearth with a diameter of 60 cm (SU 97) was examined in the northern part of the structure; it consists of a several centimetre thick layer of fired, cracked earth. East of the hearth, a large finely wrought stone bowl with a rounded body and everted rim (Pl. 6: 1) (Fig. 15: 1-2) was found in a section of the packed earth floor. In the structure's later phase (SU 81), post-holes were recorded for the first time in the restored floor in Trench 1 (Fig. 15: 3-4). Namely, in the northern section of the structure there were four holes, and one each in the central and south-western sections, of which SU 86, 92 and 94 may have been holes for posts that served as the foundation for the wall and roof construction. In this building technique, the spaces between the load-bearing posts were filled with wattle that was coated with daub. This is in fact the massive rubble layer with a high quantity of daub and charred wood examined above and around the structure's floor (SU 64) with a thickness of 20-30 cm, which constitutes the remains of the wall construction of *Structure 3* that was destroyed in a fire. The fact that the structure was built using a different technique, in comparison to one used for *Structures 1* and 2, probably explains the absence of the burned horizontally set beams recorded in the earlier settlement phases. In the south-western part of the trench, in the later phase of the floor, there was a high concentration of potsherds which belonged to single large ceramic vessel, probably used to store supplies, and several smaller ones (SU 82) (Fig. 15: 3). It is interesting that in the case of *Structure 3* there was renovation works, which were registered in two phases of the floor, without destruction of the earlier phase (*horizon 3a*) which was recorded in the earlier structures in Trench 1.

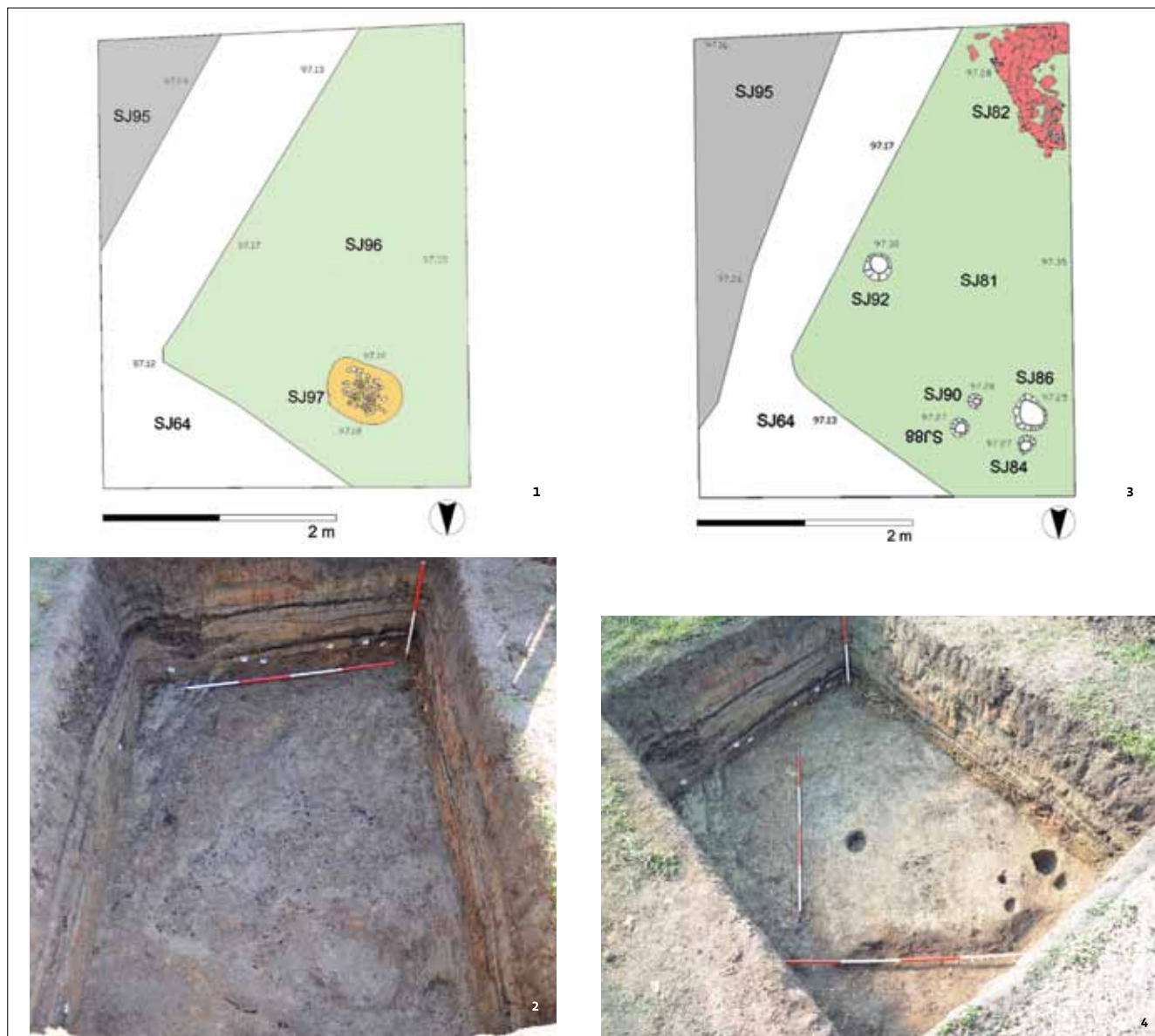
29 Grahek 2016, 182–183, Fig. 52.

30 Molnár, Farkas 2010; Kerman 2014.

31 Svoljšak, Dular 2016.

30 Molnár, Farkas 2010; Kerman 2014.

31 Svoljšak, Dular 2016.



**SLIKA 15.** 1-2. Ostaci podnice *Objekta 3a* s ovalnim ognjištem; 3-4. Ostaci podnice *Objekta 3b* s rupama za stupove i ulomcima keramičkih posuda (snimio I. Drnić, nacrt izradio M. Maderić).

**FIGURE 15.** 1-2. Remains of the floor of *Structure 3a* with oval hearth; 3-4. Remains of the floor of *Structure 3b* with post-holes and potsherds (photo by I. Drnić, layout made by M. Maderić).

u keramografiji sisačke željeznodobne zajednice koje se na prostoru jugoistočnih Alpa i južne Panonije povezuju s pojavom latenske kulture u posljednjoj trećini 4. st. pr. Kr. S druge strane, u kontekstu starije faze objekta (SJ 96) zabilježeni su ulomci fine kasnohalštatske keramike, uključujući jedan ulomak s karakterističnim naboranim ukrasom (T. 6: 4), što ukazuje na činjenicu da se treća naseobinska faza u Sondri 1 može datirati u prijelaz starijeg u mlađe željezno doba, odnosno drugu polovicu 4. i početak 3. st. pr. Kr.

Nakon treće naseobinske faze, struktura slojeva u Sondri 1 znatno se mijenja, što vjerojatno odražava promjene u strukturi naselja, korištenju prostora, načinu gradnje itd. iako je površina Sonde 1 od 12 m<sup>2</sup> premalena za donošenje nekih jasnijih zaključaka. Mlađe naseobinske slojeve debljine jednog metra, koji su

In the aforementioned rubble layer (SU 64), there was a high quantity of potsherds, of which some are entirely deformed due to exposure to high temperatures, which serves as additional proof that in the earlier phase of *Structure 3*, indeed like the two earlier structures in Trench 1, was destroyed in a fire. Most of the gathered potsherds consist of fragments of coarse hand-made vessels, although fragments of vessels made on a potter's wheel also appear for the first time (Pl. 6: 6-10), as does a typical La Tène pot with a thickened rim and a body adorned with a vertically rendered comb-like decoration, with graphite temper in the clay (Pl. 6: 5). The appearance of new shapes and technologies clearly indicate certain changes in the ceramography of the Sisak Iron

Age community, which are linked to the emergence of the La Tène culture in the territory of the south-eastern Alps and south-

definirani kao *horizont 4*, nije moguće detaljnije interpretirati, kao što je slučaj sa starijim naseobinskim fazama u kojima su jasno izdvojeni stambeni objekti. Najmlađi naseobinski horizont sastoji se od niza tankih slojeva koji se međusobno izmjenjuju – žute gline i tamnosivih i smeđih slojeva s tragovima gorenog drveta, keramičkim materijalom i životinjskim kostima (SJ 02 - 63). Također, zabilježeno je i nekoliko ukopanih jama te okruglih / ovalnih ognjišta s nekoliko sukcesivnih faza (primjerice, ognjište uz zapadni profil sonde (SJ 16, 19, 35, 37 – sl. 11) te ognjište uz južni profil (SJ 3, 15, 28). Gotovo identična stratigrafska slika zabilježena je na poziciji Povijesni arhiv na lijevoj obali rijeke Kupe, gdje su ispod slojeva rimske Siscije iz razdoblja 1. do 5. st. istraženi gotovo dva metra debeli naseobinski slojevi iz mlađega željeznog doba,<sup>32</sup> što je vremenski okvir u koji se može smjestiti *horizont 4* istražen u Sondi 1 na Pogorelcu. Također, keramički je materijal iz *horizonta 4* identičan onome s Povijesnog arhiva s predominacijom ručno izrađene keramike (T. 7) i manjim brojem keramičkih ulomaka posuda izrađenih na brzorotirajućem lončarskom (T. 8) kolu te lonaca s primjesom grafita u glinenoj smjesi (T. 7: 7). Jedina je zabilježena promjena u keramičkom materijalu u najmlađim slojevima četvrtog naseobinskog horizonta (SJ 09, 02) (uključujući humusni sloj u kojemu je prikupljen velik broj keramičkih ulomaka, vjerojatno iz uništenih mlađeželjeznodobnih kulturnih slojeva), povećan je broj ulomaka posuda izrađenih na lončarskom kolu. Ipak, važno je naglasiti da postotak ulomaka posuda izrađenih na kolu u ukupnom broju ne prelazi 10 %, što je podatak koji, kada se usporedi s keramografskom slikom s pojedinih južnopanonskih lokaliteta dominantne latenske materijalne kulture, zasigurno nosi i određene kulturne informacije o stanovnicima sisačkoga mlađeželjeznodobnog naselja. Preciznije rečeno, smatramo da relativno mali postotak ulomaka posuda izrađenih na lončarskom kolu odražava činjenicu da je materijalna kultura segestanske zajednice, u ovome slučaju keramografija kao znatan segment, samo djelomično latenizirana, a dominantan način izrade keramičkog posuđa, kao i repertoar oblika, temelje se na autohtonoj panonskoj / lokalnoj tradiciji, kao i na lokalnim interpretacijama latenskih oblika. Spomenuto povećanje broja keramičkih ulomaka posuda izrađenih na kolu, zabilježeno u najmlađim kulturnim slojevima (SJ 01, 02, 04, 09) u Sondi 1, moglo bi ukazivati na nešto snažniji latenizacijski impuls u razdoblju kasnog latena.

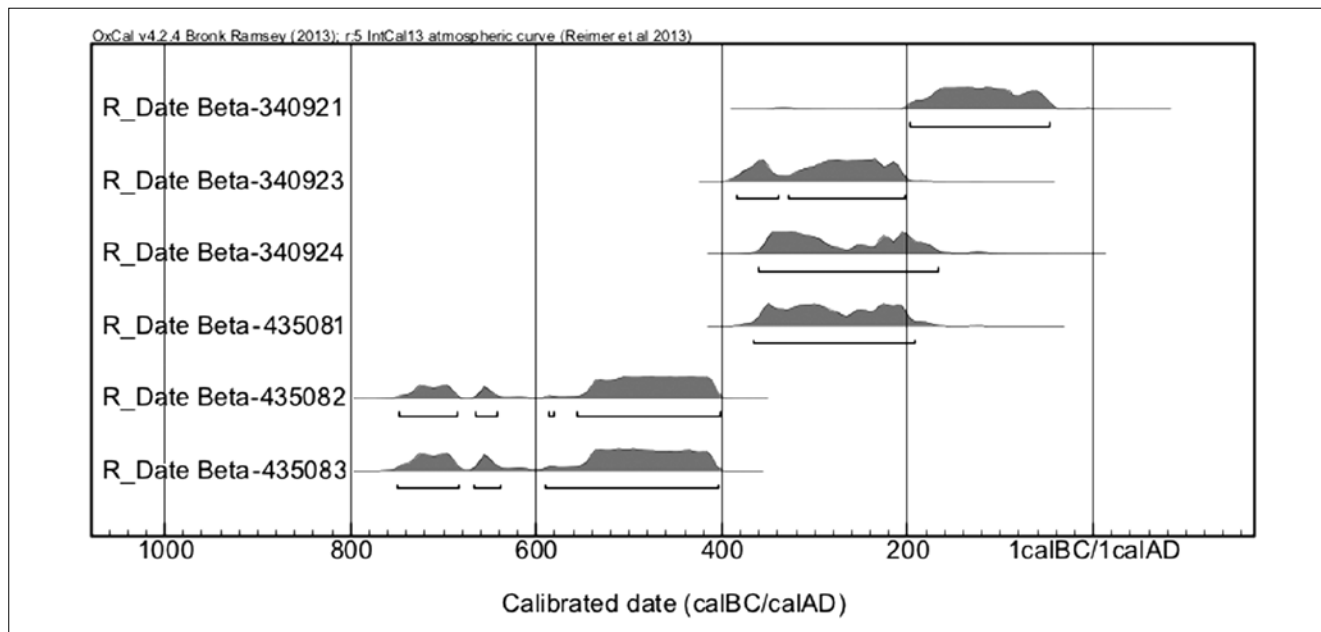
Četvrti naseobinski horizont u Sondi 1 apsolutno je datiran s ukupno tri radiokarbonska datuma (Sl. 16). Analiza provedena na koštanom uzorku iz SJ 44 dala je datum između 360. i 170. god. pr. Kr. (Beta-340924: cal BC 360-270, 260-170), analiza spaljenog drveta iz SJ 41 potvrdila je vremenski period između 390. i 200. pr. Kr. (Beta-340923: cal BC 390-200), dok datum dobiven analizom koštanog uzorka iz najmlađeg sloja SJ 09 obuhvaća razdoblje od 200. do 40. god. pr. Kr. (Beta-340921: cal BC 200-40). Analizom koštanog uzorka iz SJ 02, dobiven je datum između 440. i 600. god., ukazujući na djelomičnu kontaminaciju najmlađega kulturnog sloja, iako je i u samom iskopavanju bilo teško odrediti razgraničenje između humusa i prvoga intaktnoga kulturnog sloja. Ipak, važno je naglasiti da među prikupljenim materijalom u SJ 01 i SJ 02 nema

ern Pannonia in the final third of the 4<sup>th</sup> century BC. On the other hand, within the context of the structure's earlier phase (SU 96), fragments of fine late Hallstatt pottery, including one fragment with the typical embossed decoration (Pl. 6: 4), were recorded, which points to the fact that the third settlement horizon in Trench 1 can be dated to the transition from the earlier to the later Iron Age, i.e., the latter half of the 4<sup>th</sup> and beginning of the 3<sup>rd</sup> century BC.

After the third settlement horizon, the composition of the layers in Trench 1 changes considerably, which probably reflects changes in the structure of the settlement, the use of space and building techniques, even though the surface of Trench 1, covering 12 m<sup>2</sup>, is too small to draw any more detailed conclusions. The later settlement layers with a thickness of one meter, defined as *horizon 4*, cannot be interpreted in greater detail, as is the case with the earlier settlement phases in which the residential structures are clearly distinguished. The youngest settlement horizon consists of a series of thin layers which alternate: yellow clay and dark grey and brown layers with traces of burned wood, potsherds and animal bones (SU 02-63). Additionally, several pits and round/oval hearths were found with several successive phases (for example, the hearth along the western profile of the trench (SU 16, 19, 35, 37 – Fig. 11) and the hearth along the southern profile (SU 3, 15, 28). A virtually identical stratigraphic picture was recorded at the Povijesni arhiv position on the left bank of the Kupa River, where – below the layers of Roman Siscia from the 1<sup>st</sup> to 5<sup>th</sup> centuries, almost two-meter thick settlement layers from the Late Iron Age were excavated,<sup>32</sup> which is the chronological frame into which settlement *horizon 4* excavated in Trench 1 at Pogorelac may be placed. Furthermore, the ceramic materials from *horizon 4* are identical to those from Povijesni arhiv, with a predominance of hand-made pottery (Pl. 7) and a smaller number of potsherds made on a fast potter's wheel (Pl. 8) and pots with graphite temper in the clay (Pl. 7: 7). The sole recorded change in the pottery in the youngest layers of the fourth settlement horizon (SU 09, 04, 02), including the humus layer (SU 01), in which a high number of potsherds from the devastated Late Iron Age cultural layers were gathered, is the increased number of fragments of pottery made on a potter's wheel. Even so, it is noteworthy that the percentage of vessel fragments made on a wheel does not exceed 10% of the total number, which is a fact that, when compared to the ceramographic picture at some southern Pannonian sites with a dominant La Tène material culture, certainly also conveys specific cultural information on the inhabitants of this late Iron Age settlement in Sisak. More precisely, we believe that the relatively small percentage of vessel fragments made on a potter's wheel reflect the fact that the material cultural of the Segestan community, in this case the ceramography as its significant segment, had only been partially "Latènized," while the dominant vessel-making technique as well as the repertoire of forms were based on the indigenous Pannonian/local tradition and on local interpretations of La Tène forms. The aforementioned increase in the number of wheel-made ceramic vessel fragments, recorded in the youngest cultural layers (SU 01, 02, 04,

32 Drnić, Miletić Čakširan 2014, 155-161, sl. 2, 4-5.

32 Drnić, Miletić Čakširan 2014, 155-161, Fig. 2, 4-5.



SLIKA 16. Radiokarbonski datumi s uzoraka iz Sondi 1 i 2 na poziciji Sisak-Pogorelac (OxCal).

FIGURE 16. Radiocarbon dates with samples from Trenches 1 and 2 at the Sisak-Pogorelac site (OxCal).

keramičkih ulomaka koji bi ukazivali na određenu aktivnost na ovoj poziciji u razdoblju kasne antike ili ranoga srednjeg vijeka. Važno je istaknuti da u Sondi 1 nisu zabilježeni ni najraniji rimski slojevi s prijelaza stare u novu eru (od ranoga srednjeaugustovskog do tiberijevskog razdoblja), a koji su registrirani na lijevoj obali rijeke Kupe, iznad mlađeželjeznodobnih kulturnih slojeva, na pozicijama Povijesni arhiv, Dunavski Lloyd, Frankopanska b.b. i Željeznički kolodvor.<sup>33</sup> Nalazi prikupljeni u tim slojevima, primjerice, fino stolno posuđe (tera sigilata), datirano u srednje i kasnoaugustovsko razdoblje, kao i pojedini predmeti, koji se jasno mogu dovesti u vezu s vojskom (tzv. *militaria*: klinovi šatora, oružje, dijelovi oklopa itd.) te ostaci drvene arhitekture, ukazuju na postojanje rimskoga vojnog logora na lijevoj obali rijeke Kupe, ispod ostataka kasnijega civilnog naselja (*Colonia Flavia Siscia*).

Analizom stratigrafskih podataka, prikupljenoga arheološkog materijala te apsolutnih datuma u Sondi 1, definirano je pet horizonata naseljavanja željeznodobnog naselja na desnoj obali rijeke Kupe. Najstariji horizont zabilježen je kao tanki sloj p-ljevine bez mogućnosti detaljnije interpretacije. Horizonti 1 i 2 kronološki pripadaju razdoblju starijega željeznog doba, i to vjerojatno mlađem dijelu, odnosno kasnohalštatskom razdoblju, s trajanjem od 6. do druge polovice 4. st. pr. Kr, iako bi nekoliko nalaza iz *horizonta 1* moglo ukazivati i na nešto stariju dataciju u Ha C - D1 stupnjeve (brončana sjekira, zdjela s uvučenim i fasetiranim rubom (T. 1: 3, 7). Ako su predstavljeni stratigrafski podaci dobro interpretirani, treći horizont, s dvije podfaze (obnova pod-

09) in Trench 1, may point to a somewhat more potent La Tène impact in the late La Tène period from the latter half of the 2<sup>nd</sup> and into the 1<sup>st</sup> century BC.

The fourth settlement horizon in Trench 1 has been absolutely dated with a total of three radiocarbon dates. The analysis conducted on a bone sample from SU 44 yielded a date between 360 and 170 BC (Beta-340924: cal BC 360-270, 260-170), the analysis of burned wood from SU 41 confirmed a chronological period between 390 and 200 BC (Beta-340923: cal BC 390-200), while the date obtained from analysis of a bone sample from the youngest layer, SU 09, encompassed the period from 200 to 40 BC (Beta-340921: cal BC 200-40). An analysis of the bone sample from SU 02 yielded a date between 440 and 600 AD, indicating the partial contamination of the most recent cultural layer, even though during the actual excavations it was rather difficult to ascertain the boundary between the humus and the first intact cultural layer. Even so, it is important to stress that among the gathered materials in SU 01 and SU 02 there were no potsherds that would have indicated any specific activity at this position in Late Antiquity or the early Middle Ages. It is additionally noteworthy that not even the earliest Roman layers from the turn of the Common Era (from the early/mid-Augustan to the Tiberian period) were registered in Trench 1, but which were registered on the left bank of the Kupa above the Late Iron Age cultural layers at the Povijesni arhiv, Dunavski Lloyd, Frankopanska b.b., Ulica braće Radić 33 and Railway station positions.<sup>33</sup> The finds gathered in these

33 Bačani et al. 2012; Drnić, Miletić Čakširan 2014; Drnić 2015; Jerončić, Paro, Mesarić 2018, (u pripremi); Miletić Čakširan 2018, (u pripremi); Škrgulja 2018, (u pripremi).



SLIKA 17. Sjeverni profil u Sondi 2 (snimio I. Drnić).

FIGURE 17. Northern profile in Trench 2 (photo by I. Drnić).

nice Objekta 3), stajao bi na prijelazu starijeg u mlađe željezno doba (druga polovica 4. početak 3. st. pr. Kr.), a četvrti horizont može se šire datirati u razdoblje mlađega željeznog doba koje na prostoru južne Panonije traje od posljednje trećine 4. pa sve do kraja 1. st. pr. Kr., kada je ovaj prostor uključen u okvire rimske države. Stratigrafski nije bilo moguće detaljnije interpretirati slojeve koji su definirani kao *horizont 4*, iako apsolutni datumi ukazuju na kontinuirano korištenje prostora od kraja 4. / početka 3. pa do druge polovice 1. st. pr. Kr. (stariji datumi: SJ 44: 360. i 170. pr. Kr.; SJ 41: 390. i 200. pr. Kr.; mlađi datum: SJ 09: 200. do 40. god. pr. Kr.) (sl. 16).

### Sonda 2

Sonda 2, dimenzija 5 x 5 m, postavljena je 60 m zapadno od Sonde 1. Prvi je antropogeni sloj (SJ 287) zabilježen na dubini od 96,9 m n. v. (sl. 17). U ovom je tankome sloju pronađeno samo nekoliko ulomaka keramičkih posuda, kućnog lijepa i životinjskih kostiju, kao i manja količina spaljenog drveta, a definiran je kao naseobinski *horizont 0*. Radiokarbonska analiza, provedena na koštanom uzorku iz SJ 287, dala je relativno širok datum između 750. i 410. god. pr. Kr.<sup>34</sup> koji u korelaciji s datumom iz naseobinskog *horizonta 1* u Sondi 1 (SJ 116, Beta-435082) ukazuje na vjerojatnost da je željeznodobno naselje na navedenim pozicijama formirano u istom vremenskom razdoblju. Iznad SJ 287 nalazio se sterilni sloj žute gline, bez nalaza (SJ 286), ukazujući na određenu prirodnu aktivnost, možda fluvijalnog karaktera, koja je prouzročila prekrivanje prvoga naseobinskog sloja.<sup>35</sup>

layers, for example the fine tableware (*terra sigillata*) dated to the mid- and late Augustan period, as well as individual items that may clearly be connected to the army (so-called *militaria*: tent pegs, weapons, elements of armour, etc.) and the remains of wooden architecture indicate the existence of a Roman military camp on the left bank of the Kupa, below the subsequent civilian settlement (*Colonia Flavia Siscia*).

Based on an analysis of stratigraphic data, the gathered archaeological materials and the absolute dates, five settlement horizons of the Iron Age settlement on the right bank of the River Kupa have been defined in Trench 1. The earliest horizon (0) was registered as a thin layer with traces of burning without the possibility of any more detailed interpretation. *Horizons 1* and 2 chronologically belong to the early Iron Age, probably its later part, i.e., the late Hallstatt period, with a duration from the 6<sup>th</sup> to the latter half of the 4<sup>th</sup> century BC, even though several finds from *horizon 1*, such as a bronze axe and a fragment of a bowl with an everted and faceted rim, may indicate earlier dating to phase Ha C - D1. If the presented stratigraphic data have been soundly interpreted, the third horizon, with two subsidiary phases (renovation of the floor in *Structure 3*), would be at the transition from the earlier into the later Iron Age (latter half of 4<sup>th</sup> and beginning of 3<sup>rd</sup> cent. BC), while the fourth horizon may be broadly dated to the period of the Late Iron Age which in the territory of southern Pannonia lasted from the final quarter of the 4<sup>th</sup> until the end of the 1<sup>st</sup> century BC, when this area was incorporated into the Roman state. It was not stratigraphically possible

34 Uzorak Beta-435083: cal BC 730 to 690, cal BC 660 to 650, cal BC 540 to 410 (68 % probability). Posljednji je interval identičan najmlađem intervalu s datuma dobiovenog na uzorku iz najstarijega kulturnog sloja SJ 117 iz Sonde 1.

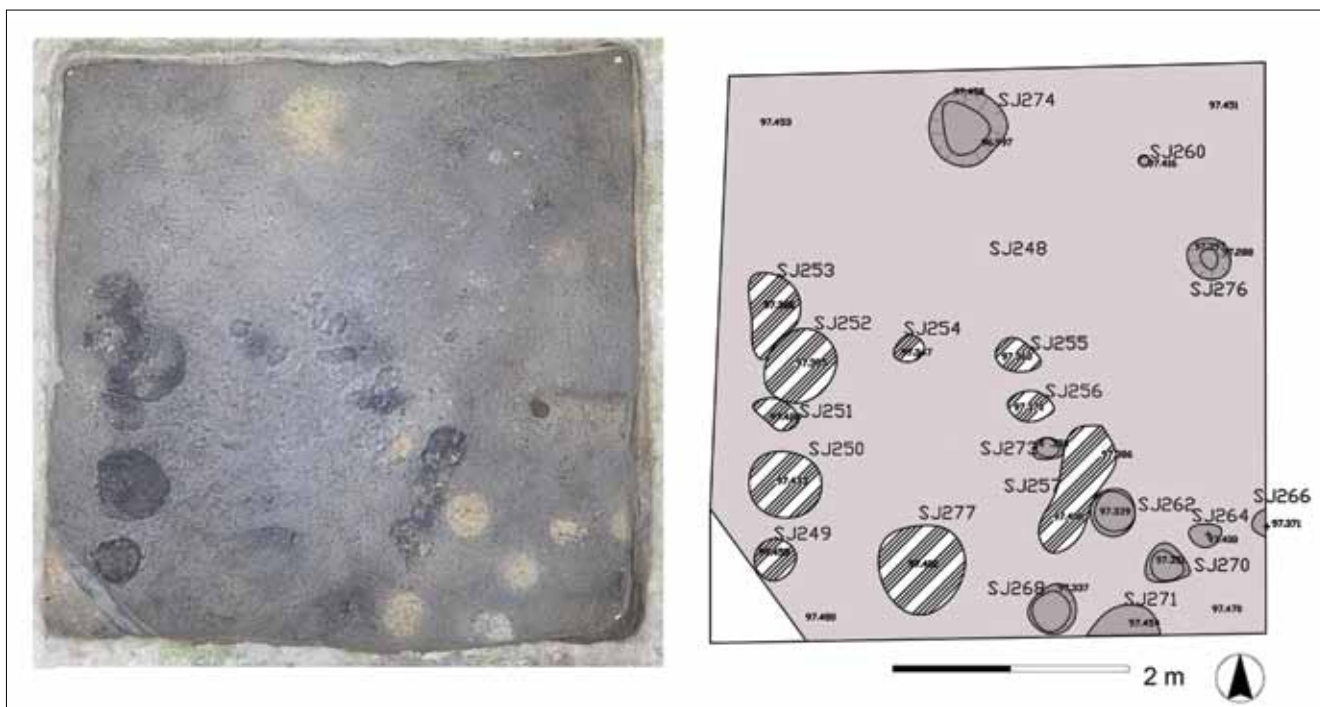
35 Ista situacija zabilježena je u Sondama 1 i 4 u kojima se iznad definiranog naseobinskog horizonta 0 nalazio sterilni sloj oker-žutog tla.

33 Bačani et al. 2012; Leleković 2012; Drnić, Miletić Čakširan 2014; Drnić 2015; Jerončić, Paro, Mesarić 2018, (forthcoming); Miletić Čakširan 2018, (forthcoming); Škrgulja 2018, (forthcoming).



SLIKA 18. 1-2 Ostaci objekta s ukopima stupova i ognjištem u naseobinskom horizontu 1a (snimio I. Drnić; nacrt izradio M. Maderić).

FIGURE 18. 1-2 Remains of a structure with post-holes and hearth in settlement horizon 1a (photo by I. Drnić; drawing made by M. Maderić).



SLIKA 18. 3-4 Situacija u naseobinskom horizontu 1b (snimio I. Drnić; nacrt izradio M. Maderić).

FIGURE 18. 3-4 Situation in settlement horizon 1b (photo by I. Drnić; drawing made by M. Maderić).

Iznad navedenoga sterilnog sloja istraženi su kulturni slojevi debljine gotovo dva metra s nekoliko naseobinskih faza koje pokretni nalazi datiraju isključivo u starije željezno doba, za razliku od Sonde 1, u kojoj su istraženi više od metra debeli kulturni slojevi iz razdoblja mlađega željeznog doba. Također, za razliku od Sonde 1, u kojoj su u prvom naseobinskom horizontu definirani ostaci nadzemnog objekta s podnicom od nabijene zemlje

to more precisely interpret the layers defined as horizon 4, even though the absolute dates indicate the continuous use of the area from the end of the 4<sup>th</sup>/beginning of the 3<sup>rd</sup> to the latter half of the 1<sup>st</sup> century BC (earlier dates: SU 44: 360 and 170 BC; SU 41: 390 and 200 BC; later dates: SU 09: 200 to 40 BC) (Fig. 16).



i vjerojatnim ostacima drvene arhitekture (*Objekt 1*), iznad sterilnog sloja u Sondi 2 istražen je naseobinski horizont drugačije strukture s ukopima stupova i ostacima ognjišta, definiran kao *horizont 1*. U navedenom su sterilnom sloju zabilježeni ostaci triju ukopa od stupova (SJ 281, 283 i 285) koji su se nalazili oko ovalnog vatrišta (SJ 279), potvrđujući postojanje određene nadzemne konstrukcije s okomito postavljenim stupovima kao strukturnom osnovom (Sl. 18: 1–2). Iznad ostataka opisane konstrukcije nalazio se tamnosivi sloj (SJ 248) s velikom količinom keramičkog materijala i životinjskih kostiju u kojemu je registrirano nekoliko većih i manjih okruglih / ovalnih stratigrafskih jedinica s intenzivnim tragovima gorenja, kao i nekoliko rupa za stupove zapunjenih žutim i sivo-žutim sedimentom u istočnom dijelu sonde (sl. 18: 3-4). Iako je teško ponuditi jasnu interpretaciju opisane situacije, prije svega zbog relativno malih dimenzija sonde, nedvojbeno se može pretpostaviti postojanje još jednog, mlađega naseobinskog horizonta sa strukturama koje su građene u tehnici okomitih stupova, a koja prethodi mlađoj fazi s objektima identičnima onima iz Sonde 1 s podovima od nabijene zemlje i ostacima drvene arhitekture koja će biti opisana u nastavku teksta.

Kao što je vidljivo iz opisa stratigrafskih odnosa, opisani horizont može se dodatno podijeliti na stariju i mlađu fazu (*horizont 1a i 1b*) koje su opisane u prethodnom paragrafu. Ipak, za razliku od prilično jasne stratigrafske slike, među prikupljenim materijalom iz ovog horizonta, koji uglavnom potječe iz tri glavne stratigrafske jedinice SJ 248, 234 i SJ 229, nisu zabilježeni stariji elementi u odnosu na keramički materijal sljedećih dviju naseobinskih faza istraženih u Sondi 2. Primjerice, uz kronološki relativno neosjetljivu grubu keramiku i peke (T. 9: 8-9; T. 10: 1-2; T. 11: 1), ulomci fine, u prethodnom poglavlju opisane halštatske keramike (T. 9: 1-7; T. 10: 2-5), pojavljuju se podjednako u svim naseobinskim horizontima u Sondi 2, a nisu pronađeni metalni nalazi koji bi pomogli detaljnijem kronološkom pozicioniranju pojedinih faza. Od posebnih je nalaza u SJ 248 pronađeno sedam jednostavnih okruglih staklenih perli, izrađenih od kobaltno-plavog stakla koje se, na osnovu analogija iz grobova iz Dolenjske, mogu samo široko datirati u razdoblje cijelog trajanja dolenske halštatske skupine (8. - 4. st. pr. Kr.) (T. 9: 10).<sup>36</sup>

Iznad naseobinske faze, definirane kao *horizont 1*, na visini od 97,50 do 97,70 m.n.v., u sjevernom i središnjem dijelu sonde istraženi su relativno slabo sačuvani ostaci poda od žute nabijene gline (SJ 235-236), iznad kojega se na većem dijelu sjevernog i istočnog dijela sonde nalazio masivan sloj spaljene drvene arhitekture (SJ 225a) koja se s dosta vjerojatnosti može interpretirati kao ostatak urušene zidne konstrukcije kuće građene u prethodno opisanoj *postpad construction* tehnici (sl. 19: 1-2). Naime, struktura i specifičan položaj drvenih ostataka uključivao je deblje grede okruglog presjeka, orijentacije sjeveroistok – jugozapad, te na njih okomito položene tanje daske kojima je popunjavan

## Trench 2

Trench 2, with dimensions of 5 x 5 meters, was opened 60 meters west of Trench 1. The first anthropogenic layer (SU 287) was registered at a depth of 96,9 m a.s.l. (Fig. 17). Only several fragments of ceramic vessels, daub and animal bones, as well as a small quantity of burned wood, were found in this thin layer, and it has been defined as settlement *horizon o*. Radiocarbon analysis conducted on a bone sample from SU 287 yielded a relatively broad date between 750 and 410 BC,<sup>34</sup> which, in correlation with the date from settlement horizon 1 in Trench 1 (SU 116, Beta-435082), indicates the probability that the Iron Age settlement at these positions was formed in the same period. Above SU 287 there was a sterile layer of yellow clay without finds (SU 286), indicating some natural activity, possibly of fluvial character, which led to the covering of the earliest settlement layer.<sup>35</sup>

Cultural layers almost two meters thick above the aforementioned sterile layer were excavated, which had several settlement phases and which were dated based on the movable finds to exclusively the Early Iron Age, as opposed to Trench 1, in which cultural layers over a meter in thickness from the Late Iron Age were excavated. Additionally, as opposed to Trench 1, in which the remains of an above-ground structure with a packed earth floor and the probable remains of architecture (*Structure 1*) have been defined, a settlement horizon with a different composition was excavated above the sterile layer in Trench 2, containing post-holes and the remains of a hearth, and defined as *horizon 1*. The remains of three post-holes (SU 281, 283 and 285) were registered in this sterile layer, which were situated around an oval fireplace (SU 279), confirming the existence of some kind of above-ground construction with vertically placed posts as the structural foundation (Fig. 18: 1-2). A dark-grey layer (SU 248) was found above the remains of this construction, with a high quantity of ceramic materials and animal bones, in which several large and small round/oval stratigraphic units were registered with intense traces of burning, as well as several post-holes filled with a yellow and grey-yellow sediment in the eastern section of the trench (Fig. 18: 3-4). Even though it is difficult to offer a clear interpretation of the situation so described, primarily due to the relatively small dimensions of the trench, one may unequivocally hypothesize the existence of another, later settlement horizon with structures built in the vertical-post technique that preceded the later phase with structures identical to those from Trench 1 with packed-earth floors and the remains of wooden architecture that will be described below.

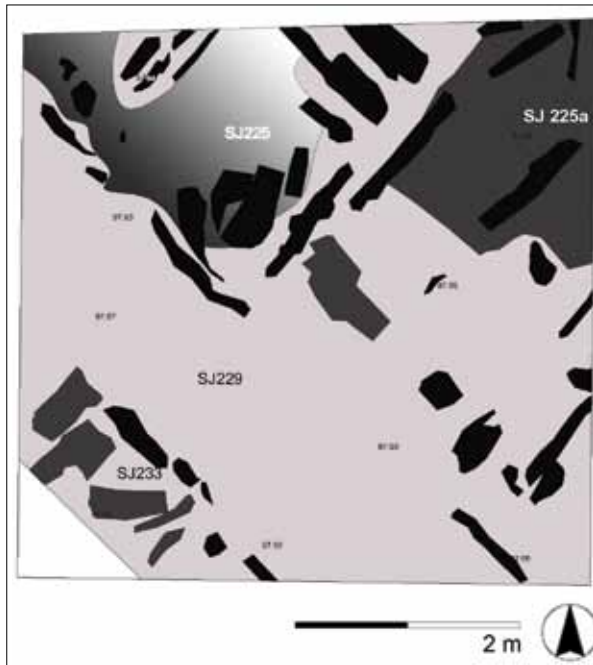
As apparent from the description of the stratigraphic relationships, the above-described horizon can be separated into an earlier and later phase (*horizon 1a* and *1b*) which were described in the preceding paragraph. Even so, as opposed to the rather clear stratigraphic picture, among the materials gathered from

36 S. Gabrovec navodi da se sitne plave perle nalaze već u grobovima Podzemelj stupnja (Gabrovec 1987, 41, sl. 1: 18), a na lokalitetima kao što su Stična, Magdalenska gora ili Novo Mesto nalazimo ih u grobovima svih razvojnih faza dolenske halštatske skupine.

37 Dular 2008.

34 Sample Beta-435083: cal BC 730 to 690, cal BC 660 to 650, cal BC 540 to 410 (68% probability). The final interval is identical to the youngest interval with the date obtained on a sample from the oldest cultural layer SU 117 from Trench 1.

35 The same situation was registered in Trenches 1 and 4, in which a sterile layer of ochre-yellow soil was found above the defined settlement horizon o.



SLIKA 19. 1-2 Ostaci spaljene drvene arhitekture *Objekata 4 i 5* (snimio I. Drnić, nacrt izradio M. Maderić).



FIGURE 19. 1-2. Remains of burned wooden architecture of *Structures 4 and 5* (photo by I. Drnić; drawing made by M. Maderić).

prostor između okomitih osnovica (Sl. 32: 2).<sup>37</sup> Iznad spaljenih drvenih ostataka arhitekture nalazio se debeli sloj s velikom količinom kućnog lijepa i gorenog drveta (SJ 225 i 227) koji predstavlja urušenje zidne konstrukcije opisane strukture definirane kao *Objekt 4*, a koja je uništena u požaru. I u jugozapadnom uglu Sonde 2 istraženi su ostaci spaljene drvene građe (SJ 233) iznad koje se nalazio tridesetak centimetara debeo sloj urušenja s kućnim lijepom (SJ 231), potvrđujući da je riječ o još jednoj, samo manjim dijelom istraženoj strukturi – *Objektu 5* (sl. 19-20). Između zidnih urušenja i spaljenih ostataka drvene arhitekture *Objekata 4 i 5* nalazio se prazan prostor, što potvrđuje postojanje dvaju objekata između kojih se nalazio prolaz, odnosno komunikacija unutar naselja, orijentacije sjeverozapad – jugoistok. Kao što je vidljivo iz opisa, u ovoj naseobinskoj fazi (*horizontu 2*) u Sondi 2, nisu zabilježeni tragovi rupa od stupova, što jasno ukazuje na promjenu tehnike gradnje s one koja se koristila stupovima zabijenim u zemlju kao zidnom osnovom u odnosu na tehniku s vodoravno sleganim temeljnim gredama i zidnom konstrukcijom od okomitih greda i vodoravnih dasaka. Slična je situacija zabilježena na već spomenutom štajerskom nalazištu Poštela, gdje je navedeni prijelaz zabilježen krajem stupnja Ha C1, kada se počinju graditi nastambe s vodoravno položenim trupcima, položenim na kamene temelje izrađene u tehnici suhozida.<sup>38</sup> Ista je tehnika s kamenim temeljima zabilježena i na drugim željeznodobnim naseljima, primjerice u Mostu na Soči.<sup>39</sup>

this horizon, which generally came from the three principal stratigraphic units SU 248, 234, and SU 229, no earlier elements were registered in relation to the pottery from the following two settlement phases excavated in Trench 2. For example, together with the chronologically insensitive coarse pottery and baking lids (Pl. 9: 1-7, Pl. 10: 2-5), fragments of the fine Hallstatt pottery described in the preceding chapter (Pl. 9: 1-7, Pl. 10: 2-5) appear uniformly in all settlement horizons in Trench 2, while the metal finds that could help to chronologically pinpoint individual phases in greater detail were not found. Among the special finds in SU 248, seven simple round cobalt-blue glass beads were discovered, which based on analogies from graves in Dolenjska may be broadly dated to the entire duration of the Dolenjska Hallstatt group (8<sup>th</sup>-4<sup>th</sup> cent. BC) (Pl. 9: 10).<sup>36</sup>

Relatively poorly preserved remains of a packed yellow clay floor (SU 235-236) were excavated above the settlement phase defined as *horizon 1*, at an elevation of 97.5-97.7 m asl., in the northern and central section of the trench. A massive layer of burned wooden architecture (SU 225a) is above it over the majority of the northern and eastern part of the trench, and it may be interpreted with considerable certainty as the remains of the collapsed wall of a house built in the previously described post and pad construction technique (Fig. 19: 1-2). This is because the structure and the specific position of the wooden remains at sev-

37 Teržan 1990, 31. B. Teržan navodi da su građevine građene vodoravno položenim trupcima iako se na osnovu dostupnih podataka ne može isključiti i *postpad construction* tehnika.

39 Svoljšak, Dular 2016.

36 S. Gabrovec stated that tiny glass beads had been found in graves of the Podzemelj phase (Gabrovec 1987, 41, Fig. 1: 18), while at sites such as Stična, Magdalenska gora or Novo mesto they can be found in graves of all phases of the Dolenjska Hallstatt group.



SLIKA 20. Presjek jugoistočnog ugla u Sondi 2 s ostacima urušenja Objekta 5 i spaljenom drvenom arhitekturom Objekta 7 (snimio I. Drnić).

FIGURE 20. Cross-section of the south-eastern corner in Trench 2 with remains of rubble of *Structure 5* and the burned foundation beam of *Structure 7* (photo by I. Drnić).

Nakon opisanoga naseobinskog horizonta, slijedi mlađa faza s ostacima dviju struktura – *Objektima 6 i 7* koji su građeni istom tehnikom, točno na ostacima starijih *Objekata 4 i 5*, potvrđujući da su graditelji i u mlađoj fazi poštovali prethodno ustanovljenu naseobinsku logiku s nastambama postavljenim u smjeru sjeveroistok – jugozapad i odvojenim jasno definiranim komunikacijama (sl. 21: 1-2). Naime, kombinirajući rezultate geofizičkih istraživanja na ovoj poziciji (sl. 6-7, 9), čini se izvjesnim da je željeznodobno naselje na Pogorelcu u svojoj kasnohalštatskoj fazi imalo pravilan raster na površini od minimalno 2,5 - 3 ha, što ga uistinu čini jedinstvenim primjerom u Donjem Pokuplju, a uz Donju Dolinu vjerojatno i na prostoru cijele južne Panonije.

Spomenuti *Objekt 6*, izgrađen na ruševinama starijeg *Objekta 4*, čine dobro sačuvani ostaci poda od žute nabijene zemlje, debljine 20 – 30 cm (Sj 215), na kojem su se nalazili ostaci spaljene drvene arhitekture u obliku greda orijentacije sjeveroistok – jugozapad i sjeverozapad – jugoistok (Sj 217, 218 i 220). *Objekt 6* nije u potpunosti istražen jer je djelomično ulazio pod sjeverni i istočni

eral points included thicker beams with round cross-section, a NE-SW orientation, and thin boards vertically set on them, filling the spaces between the vertical foundations (Fig. 32: 2).<sup>37</sup> Above the burned wooden architectural remains, there was a thick layer with a high quantity of daub and charred wood (SU 225 and 227) which is the rubble of the wall construction of the above-defined *Structure 4* that had been destroyed in a fire. The remains of burned wooden materials (SU 233) were also excavated in the south-western corner of Trench 2, and above it there was a roughly 30 cm thick layer of rubble containing daub (SU 231), confirming that this was another structure only excavated in small part – *Structure 5* (Fig. 19-20). There was an empty space between the wall rubble and burned remains of wooden architecture of *Structures 4* and *5* which was a passage between them a communication route inside the settlement with a NW-SE orientation. As apparent from the description, in this settlement phase (*horizon 2*) in Trench 2, no traces of post-holes were registered, which clearly indicates a change in building techniques from those using posts driven into the ground as the foundation for walls toward horizontally installed foundation beams and wall construction consisting of vertical stakes and horizontal boards. A similar situation was registered at the already mentioned Poštela site in Styria, where this transition was registered at the end of phase Ha C1, when dwellings began to be built with horizontally placed trunks, set on stone foundations made by the stacked-stone technique.<sup>38</sup> The same technique with stone foundations was also registered at other Iron Age settlements, for example in Most na Soči.<sup>39</sup>

This settlement horizon was followed by a later phase with the remains of two structures – *Structures 6* and *7*, which were built using the same technique, more accurately on the remains of the earlier *Structures 4* and *5*, confirming that the builders in the later *horizon 3* adhered to the previously established settlement pattern with dwellings placed in the NE-SW direction and separated by clearly defined communication passages (Fig. 21: 1-2). By combining the results of geophysical prospecting at this site (Fig. 6-7, 9), it would appear certain that the Iron Age settlement at Pogorelac during its late Hallstatt phase had a standardized grid over a surface of at least 2.5-3 ha, which truly made it a unique example in the Lower Kupa River Valley, and, together with Donja Dolina, perhaps throughout the territory of southern Pannonia.

The aforementioned *Structure 6*, built on the ruins of the earlier *Structure 4*, consists of well-preserved remains of a yellow packed-earth floor, with a thickness of 20-30 cm (SU 215) on which there were remains of burned wooden architecture in the form of beams with a NE-SW and NW-SE orientation (SU 217, 218 and 220). *Structure 6* has not been entirely excavated, because it partially ran under the northern and eastern profile of Trench 2, and research funds at that point did not, unfortunately, allow for its further expansion. In the south-eastern corner of the trench,

37 Dular 2008.

38 Teržan 1990, 31. B. Teržan stated that the buildings were built on horizontally laid logs, even though based on available data the post and pad construction technique cannot be excluded.

39 Svoljšak, Dular 2016.

profil Sonde 2, a istraživačka sredstva u tom trenutku, nažalost, nisu dopuštala dodatno proširenje. U jugoistočnom je uglu sonde istražena veća koncentracija spaljenih drvenih ostataka s tri paralelne grede te komadima kućnog lijepa *in situ* (SJ 221 – 223, 226), što bi moglo ukazivati da se radi o dijelu zidne konstrukcije *Objekta 6*. Uz južnu je stranu objekta istražen preostali dio masivne spaljene grede (SJ 220) koji je činio temeljnu gredu zidne konstrukcije koja je bila položena izravno na zemlju (Sl. 32: 1-2), kao u slučaju *kuće 2* s lokaliteta Kučar.<sup>40</sup> U središnjem dijelu poda nalazio se plići kanal, ispunjen sivom zapunom (SJ 224), u kojemu se mogla nalaziti poprečna greda što je mogla nositi stup krovne konstrukcije, ali i zid koje bi dijelio objekt na dvije prostorije. Naime, u zapuni je kanala zabilježena znatna količina spaljenog drveta. Zanimljiva je i činjenica što je u jugozapadnom uglu *Objekta 6* gotovo u potpunosti nedostajala žuta nabijena zemlja koja je činila pod nastambe, a što bi moglo upućivati na poziciju vrata zbog čega je na tom dijelu pod bio istrošen. Na ostacima je poda i drvene arhitekture istražen masivan sloj urušenja s velikom količinom spaljenog drveta i kućnog lijepa koji su činili zidnu konstrukciju objekta (SJ 204, 212 i 213), među kojima su i veliki komadi s otiscima plosnato tesanih greda, ali i balvana okruglog presjeka, dodatno potvrđujući iznesenu tezu o načinu gradnje s okomitim gredama i vodoravnim tesanim daskama (sl. 31).

Kao i u slučaju starijega naseobinskog horizonta, u jugozapadnom je uglu sonde registriran manji dio strukture s podom od žute nabijene zemlje (SJ 207) i ostacima spaljene grede, orijentacije sjeverozapad – jugoistok (SJ 208), koja je definirana kao *Objekt 7* (sl. 21: 1–2). S vanjske se strane spaljene grede nalazilo desetak piramidalnih utega, poredanih u pravilnu liniju, vjerojatno čineći ostatke okomitoga tkalačkog stana koji je mogao biti naslonjen na vanjski zid *Objekta 7* (sl. 22, sl. 32: 4). Uz ovaj, doista zanimljiv *in situ* nalaz dijela tkalačkog stana, o intenzivnoj proizvodnji tekstila na lokalitetu svjedoče deseci pronađenih alatki, kao što su već spomenuti piramidalni utezi, ali i pršljenci vretena te kalemovi za namatanje izpredenih niti, izrađeni od pečene zemlje, a koje su korištene u različitim fazama ove, čini se za segestansku zajednicu prilično važne gospodarske aktivnosti. Slični su ostaci tkalačkog stana zabilježeni i na lokalitetu Turska kosa,<sup>41</sup> kao i nizu drugih željeznodobnih lokaliteta na prostoru zapadne Panonije i istočnih Alpa.<sup>42</sup> Iznad istraženog dijela *Objekta 7* također se nalazio sloj s tragovima spaljenog drveta i kućnim lijepom kao ostacima zidne konstrukcije (SJ 203). Između opisanih nastambi (*Objekata 6* i *7*), koje u Sondi 2 čine naseobinski *horizont 3*, nalazio se metar i pol širok, prazan prostor koji je u potpunosti poštovao orijentaciju starije naseobinske komunikacije.

Nekoliko struktura istraženih u Sondi 2 ukazuje na postojanje još jednog, najmlađega naseobinskog horizonta na ovom dijelu lokaliteta (*horizont 4*). Naime, odmah nakon uklanjanja humusa, definirana je 1,5 – 2 metra široka traka, orijentacije sjeverozapad – jugoistok, koja se sastojala od crvenkastoga pjeskovitog tla (SJ 206) za koju se daljnjim iskopavanjem ispostavilo da predstavlja

a high concentration of burned wooden remains with three parallel beams and pieces of daub were excavated *in situ* (SU 221-223, 226), which may indicate that this is a part of the wall construction of *Structure 6*. Along the southern side of the structure, the remaining portion of a massive burned beam (SU 220) was excavated; it served as the foundation beam for the wall construction, which was set directly into the ground (Fig. 32: 1-2), as in the case of *house 2* at the Kučar site.<sup>40</sup> There was a shallow channel with grey fill (SJ 224) in the middle section of the floor, in which there may have been a cross-beam that could have borne the roof construction, but also a possible wall that could have divided the structure into two rooms. A considerable quantity of burned wood was registered in the fill in the channel. An interesting fact is that yellow packed earth was almost entirely absent in the south-western corner of *Structure 6*, although it otherwise formed the floors in dwellings, so this may indicate the position of a door, which is why the floor would have been worn away in this section. Atop the remains of the floor and wooden architecture, a massive layer of rubble was excavated, containing a high quantity of burned wood and daub which formed the wall construction of the structure (SU 204, 212 and 213). Among the debris there were large pieces of flatly cut beams, as well as logs with round cross-section, additionally confirming the hypothesis on a wall construction technique involving vertical beams and horizontally set dressed boards (Fig. 31).

As in the case of the earlier settlement horizon, in the south-western corner of the trench a small part of a structure was registered with a floor made of yellow packed earth (SU 207) and the remains of a burned beam, with NW-SE orientation (SU 208), which was defined as *Structure 7* (Fig. 21: 1-2). On the external side of the burned beam, there were roughly ten pyramidal weights placed in a straight line, probably the remains of a vertical weaving loom that may have rested against the outer wall of *Structure 7* (Fig. 22, Fig. 32: 4). Besides this, truly fascinating, *in situ* find of parts of a loom, dozens of tools were found, like the aforementioned pyramidal weights, which further testify to the intense production of textiles at the site, such as spindle whorls and spools for coiling woven threads made of fired clay, which were used in various phases of this economic activity – which appears to have been rather vital to this Segestan community. Similar remains of a loom were registered at the Turska kosa site,<sup>41</sup> and in a series of other Iron Age sites in western Pannonia and the eastern Alps.<sup>42</sup> A layer with traces of burned wood and daub, the remains of a wall construction (SU 203), were also found above the excavated part of *Structure 7*. Between the dwellings so described (*Structures 6* and *7*), which form settlement *horizon 3* in Trench 2, there was a meter and a half wide empty space which entirely adhered to the orientation of the earlier settlement communication route.

40 Dular, Ciglencečki, Dular 1995, 39-45, 65, Sl. 38.

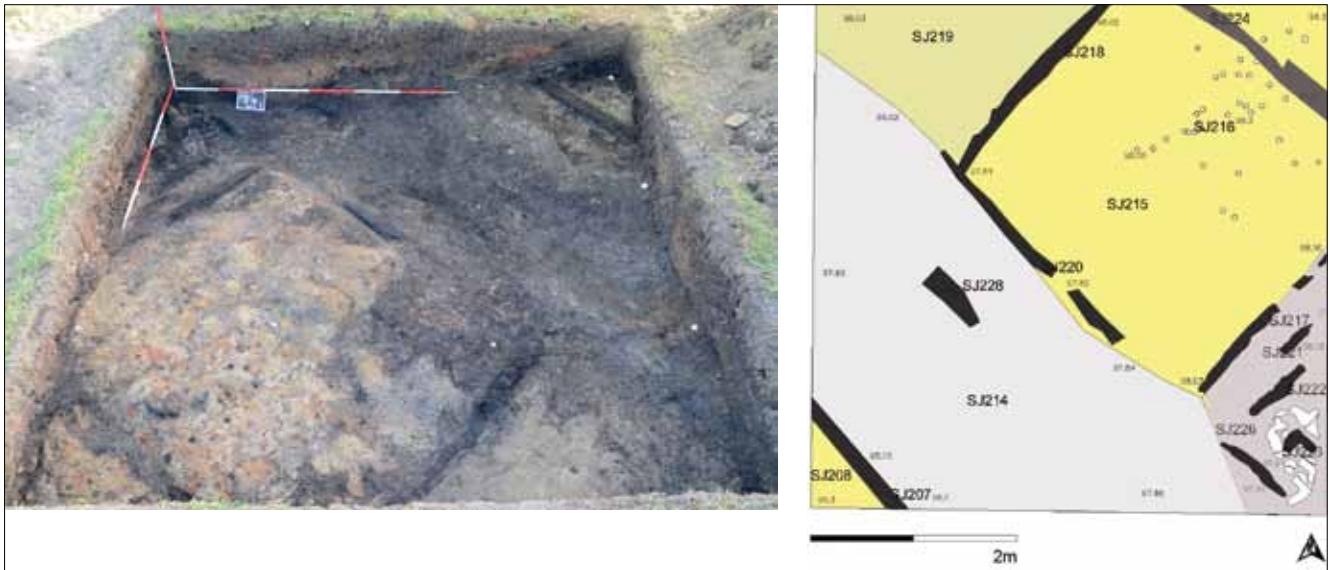
41 Čučković 2009, 24, Fig. 17.

42 Teržan 1996; Belanová, Čambal, Stegmann-Rajtár 2007.

40 Dular, Ciglencečki, Dular 1995, 39-45, 65, Fig. 38.

41 Čučković 2009, 24, Fig. 17.

42 Teržan 1996; Belanová, Čambal, Stegmann-Rajtár 2007.



SLIKA 21. 1-2. Ostaci podnica i drvene arhitekture *Objekata 6 i 7* (snimio I. Drnić, nacrt izradio M. Maderić).

FIGURE 21. 1-2. Remains of floor and wooden architecture of *Structures 6 and 7* (photo by I. Drnić; drawing made by M. Maderić).

zapunu prostora između dviju ruševina *Objekata 6 i 7*, odnosno svojevrsnu nivelaciju terena. Uz južni profil sonde, iznad opisane pjeskovite zapune, definirana je veća nakupina kućnog lijepa (SJ 202) (sl. 23: 1–2). Također, uz istočni je profil definiran kontekst SJ 205 kojemu pripadaju nalazi triju posuda, zdjele i dvaju lonaca koji su se nalazili uz manje ovalno ognjište od zapečene zemlje (sl. 23: 3) (T. 12). Nadalje, u humusnom i predhumusnom sloju (SJ 01, 201) prikupljena je iznimno velika količina ulomaka keramičkih posuda, ukazujući na postojanje uništenih kulturnih slojeva (T. 13: 2-9). Materijal je tipološki identičan onomu iz starijih naseobinskih faza u Sondi 2, uključujući prethodno opisanu finu kasnohalštatsku keramiku (T. 13: 2-3, 9), čak i dijelove pokretnih ognjišta (T. 13: 8), uz iznimku triju ulomaka posuda izrađenih na lončarskom kolu (T. 13: 4-5), kao i dvaju ulomaka latenskih lonaca zadebljalog ruba s češljastim ukrasom (T. 13: 6-7), iako, njihovo prisustvo, uzevši u obzir nesiguran kontekst nalaza, ne može biti nedvojbeno potvrda postojanja mladeželjeznodobnog kulturnog sloja. Naime, važno je još jedanput naglasiti da u Sondi 2 nije zabilježen intaktni naseobinski horizont mlađega željeznog doba kao u slučaju opisanih slojeva iz Sonde 1, što uz njihov nedostatak u Sondi 4 – a što će biti detaljnije opisano u nastavku teksta – ukazuje na određenu promjenu u dinamici naseljavanja na sjeveroistočnom dijelu pozicije Pogorelac koja se odrazila u smanjenju površine naselja u početnoj fazi mlađega željeznog doba, kao i u promjeni stratigrafske slike s drugačijim uslojavanjem kulturnih slojeva (navedeno u prethodnom poglavlju!).

Također, u središnjem su dijelu Sonde 2 otkriveni i ostaci kosturnoga groba orijentacije istok – zapad (glava prema istoku), koji je bio ukopan u SJ 204, bez jasno definirane rake, od kojega su sačuvane samo kosti donjih ekstremiteta (T. 16). Antropološka je analiza pokazala da posmrtni ostaci pripadaju djetetu u dobi između 10 i 12 godina.<sup>43</sup> Od grobnih su priloga zabilježena četi-

Several structures excavated in Trench 2 indicate the existence of another, youngest, settlement horizon in this part of the site (*horizon 4*). Immediately after the removal of the humus, a 1.5-2 meter wide band with NW-SE orientation was defined, consisting of reddish sandy soil (SU 206) which after further digging was ascertained as the fill for the space between two ruins, *Structures 6 and 7*, i.e., some manner of ground levelling. Alongside the southern profile of the trench, above the sandy filler material, a large accumulation of daub (SU 202) was defined (Fig. 23: 1-2). Moreover, along the eastern profile, context SU 205 was defined, to which three vessels, a bowl and two pots, belong. They were found next to a small oval hearth made of fired earth (Fig. 23: 3) (Pl. 12). Furthermore, in the humus and pre-humus layer (SU 01, 201), an exceptionally high quantity of potsherds was gathered, indicating the existence of destroyed cultural layers (Pl. 13: 2-9). The materials are typologically identical to those from the earlier settlement phases in Trench 2, including the previously described fine late Hallstatt pottery (Pl. 13: 2-3, 9), even pieces of portable ovens (Pl. 13: 8) and two fragments of La Tène pots with thickened rims and comb-like decorations (Pl. 13: 6-7) and three sherds of wheel-thrown pottery, although their presence, taking into account the uncertain discovery context, cannot serve as an unambiguous confirmation of the existence of a Late Iron Age cultural layer. Namely, it is important to once more stress that no intact later Iron Age settlement horizon was found in Trench 2, as in the case of the above-described layers in Trench 1. This, together with the absence of the same in Trench 4 (which will be described in greater detail below), indicates a certain change in the settlement dynamics in the north-eastern section of the Pogorelac site, which was reflected in the reduction of the settlement's surface area in the initial phase of the Late Iron Age and the change in the stratigraphic picture with a different layering of cultural layers as stated in the preceding chapter.



SLIKA 22. Piramidalni utezi kao ostatak okomitog tkalačkog stana (snimio I. Drnić).

FIGURE 22. Pyramidal weights as the remains of the vertical loom (photo by I. Drnić).

ri komada novca (T. 16: 2-5), stakleni balzamarij (T. 16: 1), srebrna karičica (T. 16: 6) te perla od tirkiznog stakla (T. 16: 7), smješteni ispod stopala pokojnika te jedan komad novca ispod zdjelice (T. 16: 8). Analiza novca, provedena nakon čišćenja predmeta, pokazala je da se radi o brončanim antoninijanima, kovanim u vrijeme careva Galijena i Klaudija II., s tim da najmlađi novac u grobu predstavlja posthumno kovani antoninijan Klaudija II. iz 270 / 271. god., što grob smješta u posljednju četvrtinu 3. ili vjerojatnije u početak 4. st.<sup>44</sup> Nedaleko od antropoloških ostataka pronađena je i cijela zdjela koja predstavlja imitaciju tere sigilate s crvenim premazom (imitacija oblika Dragendorff 37) kao jedini rimski nalaz u sondi uz prethodno navedne priloge (T. 16: 9). Takve imitacije izrađivane su u radionicama u Sisciji u razdoblju od 2. do početka 4. st. pa je i ova posuda vjerojatno predstavljala prilog u opisanom grobu.

Kao zaključak u opisu stratigrafske slike u Sondi 2, može se sumirati da se analizom stratigrafskih odnosa, prikupljenog materijala i apsolutnih datuma svi kulturni slojevi, debljine 1,8 m i definirani kroz naseobinske *horizonte* 0 – 4, mogu datirati isključivo u razdoblje starijega željeznog doba, bez postojanja mlađeželjeznodobnog horizonta naseljavanja. Tanki sloj s ulomcima kućnog lijepa i manjem brojem ulomaka keramičkih posuda, prekriven sterilnim slojem, definiran je kao *horizont* 0. Slijedi naseobinska faza s tragovima rupa za stupove i ognjištima (*horizont* 1a i b) nakon kojih slijede dvije naseobinske faze s objektima građenim

Additionally, in the central part of Trench 2, the remains of a skeletal grave with east-west orientation (head pointed eastward) were also discovered; it was dug into the rubble of *Structure* 6 (SU 204) without a clearly defined grave pit, in which only the bones of the lower extremities have been preserved (Pl. 16). Anthropological analysis has shown that the corporeal remains belonged to a child aged 10 to 12.<sup>43</sup> The grave goods included four coins (Pl. 16: 2-5), a glass balsamarij (Pl. 16: 1), a silver ring (Pl. 16: 6) and a bead made of turquoise-coloured glass (Pl. 16: 7), situated under the foot of the deceased, as well as one coin below the pelvis (Pl. 16: 8). An analysis of the coins showed that they are bronze antoniniani minted during the reigns of Emperors Gallienus and Claudius II, although the most recent coin in the grave is a posthumously minted antoninianus of Claudius II from 270/271, which places the grave in the final quarter of the 3<sup>rd</sup> or, more likely, at the beginning of the 4<sup>th</sup> century.<sup>44</sup> An intact bowl was found not far from the anthropological remains; it is an imitation *terra sigillata* with red gloss (imitation of Dragendorff 37 type) and the sole Roman-period find in the trench together with the previously mentioned grave goods (Pl. 16: 9). Such imitations were made in workshops in Siscia from the 2<sup>nd</sup> to the beginning of the 4<sup>th</sup> century, so this one was also probably a good in the above-described grave.

A summary conclusion to the description of the stratigraphic picture in Trench 2 may be that, based on an analysis of the stratigraphic relations, gathered materials and absolute dates of all cultural layers, the thickness of 1.8 meters defined through settlement *horizons* 0-4, may be dated exclusively to the period of the Early Iron Age, without the existence of an intact Late Iron Age settlement horizon. The thin layer with pieces of daub and a small number of potsherds, covered with a layer of sterile soil, has been defined as *horizon* 0. This is followed by two phases with the remains of post-holes and hearths (*horizons* 1a and b) and then two settlement phases with structures built in the post and pad technique and packed-earth floors (*horizons* 2 and 3). A levelling of the terrain by filling in the space between the ruins of *Structures* 6 and 7, a part of the rubble containing daub in the southern section of the trench and a hearth next to which three vessels were found *in situ* have been registered as the youngest settlement horizon (*horizon* 4). Several fragments of ceramic vessels made on a potter's wheel from the humus level probably constitute an inclusion at this part of the site, even though it is possible that the destroyed cultural layers, as part of the most recent settlement horizon in Trench 2 are contemporaneous with the later part of *horizon* 3 in Trench 1, in which vessels made on a wheel appeared for the first time. The above-described grave 1 is, so far, the westernmost known find

43 Antropološku analizu na svim iskopanim kosturima iz kasnoantičkoga groblja s Pogorelca provela je dr. sc. Željka Bedić iz Antropološkog centra HAZU-a.

44 PN 110, T. 13: 2 (Galijen, RIC 180), PN 106, T. 13: 3 (Klaudije II., RIC 265/266), PN 111, T. 13: 4 (Klaudije II., RIC 104), PN 109, T. 13: 5 (Galijen, RIC 283), PN 112, T. 112 (Galijen, RIC 180). Datacija najmlađeg novca: 1. rana 270. – 271. (Sylviane Estiot, Jérôme Mairat, Roman Imperial Coinage AD 268-276 (online) (<http://www.ric.mom.fr>), 2. 2. ½ 270. (Robert Göbl, Moneta Imperii Romani 47, Die Münzprägung des Kaisers Aurelianus: (270 - 275), 1995.) Novac je analizirao Miroslav Nad iz AMZ-a.

43 The anthropological analysis of all excavated skeletons from the Late Roman cemetery at Pogorelac was conducted by Željka Bedić, Ph.D. from the Anthropology Centre of the Croatian Academy of Arts and Science.

44 PN 110, P. 13: 2 (Gallienus, RIC 180), PN 106, P. 13: 3 (Claudius II, RIC 265/266), PN 111, P. 13: 4 (Claudius II, RIC 104), PN 109, P. 13: 5 (Gallienus, RIC 283), PN 112, P. 112 (Gallienus, RIC 180). Dating of most recent coin: 1. early 270-271 (Sylviane Estiot, Jérôme Mairat, Roman Imperial Coinage AD 268-276 (online) (<http://www.ric.mom.fr>), 2. 2. ½ 270. (Robert Göbl, Moneta Imperii Romani 47, Die Münzprägung des Kaisers Aurelianus: (270-275), 1995). The coins were analysed by Miroslav Nad from the Archaeological Museum in Zagreb.



SLIKA 23. 1-2. Ostaci najmlađih željeznodobnih struktura u Sondi 2 (*horizont 4*); 3. Keramičke posude uz ostatke ognjišta (SJ 205) (snimio I. Drnić; nacrt izradio M. Maderić).

FIGURE 23. 1-2. Remains of the most recent Iron Age structures in Trench 2 (*horizon 4*); 3. Ceramic vessels with remains of a hearth (SU 205) (photo by I. Drnić; drawing made by M. Maderić).

od vodoravno položenih greda, prekrivenih kućnim lijepom i podovima od nabijene zemlje (*horizonti 2 i 3*). Kao dio najmlađega naseobinskog horizonta (*horizont 4*), zabilježena je nivelacija terena nasipavanjem prostora između ruševina *Objekata 6 i 7*, dio urušenja u južnom dijelu sonde te ognjište uz koje su se nalazile tri *in situ* položene posude. Nekoliko keramičkih ulomaka posuda izrađenih na lončarskom kolu iz humusnog sloja vjerojatno predstavljaju inkluziju na ovom dijelu lokaliteta iako je moguće da su uništeni kulturni slojevi, kao dio najmlađega naseobinskog horizonta u Sondi 2, istovremeni s mladim dijelom *horizonta 3* u Sondi 1, u kojemu se prvi put pojavljuju keramičko posude izrađeno na kolu. Navedeni grob (grob 1) za sada predstavlja najzapadniji poznati nalaz u kontekstu kasnoantičkoga groblja o kojemu će više biti rečeno u nastavku teksta.

in the context of the Late Roman cemetery in the north-eastern section of Pogorelac, about which more will be said in the continuation of this text.

### Sonda 3

S ciljem definiranja zapadne granice željeznodobnog naselja, na udaljenosti od 35 m zapadno od Sonde 2, otvorena je Sonda 3, dimenzija 4 x 4 m (sl. 10, Sl. 24: 1). Nakon iskopavanja humusnog sloja (SJ 01), debljine 30 cm, u kojemu nisu zabilježeni ulomci pretpovijesnih keramičkih ulomaka, površina je sonde smanjena na 8 m<sup>2</sup>. Zdravica u Sondi 3, registrirana na 96,87 m. n. v., sastojala se od žutoga pjeskovitog tla nakon čega je slijedio 1,3 m deo sloj (SJ 301) s arheološkim materijalom koji potječe iz rimskog razdoblja (ulomci keramičkih posuda, građevinski materijal – tegule, imbreksi, šesterokutne pločice te životinjske kosti) (sl. 24: 2). Također, u sondi su zabilježena i dva kosturna ukopa koji pripadaju kasnoantičkom groblju s istraženim grobovima u Sondama 2 i 4, kao i u zaštitnom istraživanju trase vodovoda uz aveniju V. Janića Cape te ispod Mosta Gromova, smještenom 70 m zapadno od Sonde 3. Grob 3 (sl. 24: 3), orijentacije jug – sjever, nalazio se uz zapadni profil sonde, a bio je ukopan u opisani nasipani sloj bez ostataka grobne arhitekture. Donji dio kostura nedostaje, a antropološke su analize pokazale da se radi o muškarcu, u dobi između 30 i 35 godina. Uz kostur nisu zabilježeni grobni prilozi. Grob 2, orijentacije jugoistok – sjeverozapad, istražen je samo u manjem dijelu (lijeva nadlaktica, rebra, lijeva ključna kost). Grob je bio ukopan u sterilni sloj žute pjeskovite gline, također bez tragova grobne arhitekture. Kao i u slučaju groba 3, ni ovdje nisu pronađeni grobni prilozi.

Istraživanje u Sondi 3 potvrdilo je nepostojanje naseobinskih tragova iz predrimskog razdoblja, čime je jasno definirana zapadna granica željeznodobnog naselja. Keramički materijal iz rimskog sloja potvrđuje naseljavanje ovoga prostora u 2. i 3. st., o čemu će nešto više biti riječi u interpretaciji stratigrafije u Sondi 4.

### Sonda 4

S obzirom na to da u istraživanju Sonde 3, kao uostalom i spomenuto zaštitnom istraživanju uz aveniju V. Janića Cape, nisu zabilježeni ostaci naselja iz željeznog doba, 2014. godine je na prostoru između Sonde 2 i 3 započeto istraživanje Sonde 4, dimenzija 2 x 4 m, kako bi se detaljnije definirao rubni dio naselja. U narednim je kampanjama površina sonde proširena u smjeru zapada s ukupnom površinom od 35 m<sup>2</sup> (sl. 10: 1-2). Istraženi kulturni slojevi potječu iz tri različita vremenska razdoblja: naseobinski ostaci iz starijega željeznog doba nakon kojih slijede naseobinski horizont iz rimskog razdoblja, datiran prikupljenim materijalom u 2. i 3. st., i naposljetku kosturni grobovi kasnoantičkoga groblja 4. i prve polovice 5. st. (sl. 29).

Željeznodoni je horizont u Sondi 4 po strukturi sličan *horizontima 0 i 1* u Sondi 2 (SJ 287). U najstarijem su kulturnom sloju zabilježeni skromni ostaci vjerojatno dvaju nadzemnih objekata. Prvi, odnosno *Objekt 8*, nalazio se u sjeveroistočnom uglu sonde, a sastojao se od sloja manjih komada kućnog lijepa (SJ 539) koji su uz istočni profil oštećeni kasnijim ukopima stupova. U južnom i središnjem dijelu sonde zabilježeni su nešto konkretniji ostaci strukture definirane kao *Objekt 9* u obliku nepravilno

### Trench 3

With the objective of defining the western boundary of the Iron Age settlement, Trench 3, with dimensions of 4 x 4 meters (Fig. 10, Fig. 24: 1), was opened at a distance of 35 meters west of Trench 2. After the removal of the 30 cm thick humus layer (SU 01) in which no prehistoric potsherds were registered, the surface of the trench was reduced to 8 m<sup>2</sup>. The sterile material in Trench 3, registered at an elevation of 96.87 m. a.s.l., consisted of yellow sandy soil, followed by a 1.3 m thick layer (SU 301) with archaeological materials from the Roman period (potsherds, construction materials – tegulae, imbrices, hexagonal tiles and animal bones) (Fig. 24: 2). Also found in the trench were two skeletal burials that belong to the Late Roman cemetery together with the graves excavated in Trenches 2 and 4 and in the rescue excavation in the water pipeline section next to Aleja V. Janić Capo and below the Bridge of the Gromovi brigade, situated 70 meters west of Trench 3. Grave 3 (Fig. 24: 3), with south-north orientation, was adjacent to the western profile of the trench, and was buried in the above-described filler layer without remains of tomb architecture. The lower part of the skeleton is missing, and the anthropological remains show that it was a man between the ages of 30 and 35. Grave goods were not registered with the skeleton. Grave 2, with SE-NW orientation, was excavated only to a lesser extent (left upper arm, part of the ribs, left clavicle). The grave was dug into the sterile layer of yellow sandy clay, also without traces of tomb architecture. As in the case of grave 3, no grave goods were found here, either.

Excavations in Trench 3 have confirmed the absence of settlement traces from the pre-Roman period, thereby clearly defining the western boundary of the Iron Age settlement. The ceramic materials from the Roman layer confirm the settlement of this area in the 2<sup>nd</sup> and 3<sup>rd</sup> centuries, about which more shall be stated in the interpretation of the stratigraphy in Trench 4.

### Trench 4

Given that no remains of an Iron age settlement were registered during excavations in Trench 3, like, indeed, the aforementioned rescue excavations next to Aleja V. Janić Capo, in 2014 the excavation of Trench 4 began in the space between Trenches 2 and 3, with dimensions of 2 x 4 m, in order to define the settlement's periphery in greater detail. In subsequent campaigns, the trench was expanded in the westerly direction, covering a total surface of 35 m<sup>2</sup> (Fig. 10: 1-2). The examined cultural layers date to three different chronological periods: settlement remains from the Early Iron Age, followed by a Roman period settlement horizon, dated on the basis of gathered materials to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries, and finally skeletal graves in a Late Roman cemetery from the 4<sup>th</sup> and first half of the 5<sup>th</sup> centuries (Fig. 29).

The Iron Age horizon in Trench 4 is, based on its structure, the most similar to the *horizons 0 and 1* in Trench 2. The modest remains of probably two above-ground structures were registered in the oldest cultural layer. The first, i.e., *Structure 8*, was situated in the north-eastern corner of the trench, and it consisted of a thin layer of small pieces of daub (SU 539) which were damaged along the eastern profile due to the digging of post-holes. In the





SLIKA 24. 1. Sonda 3; 2. Sjeverni profil u Sondi 3; 3. grob 2 u Sondi 3 (snimio I. Drnić).

FIGURE 24. 1. Trench 3; 2. Northern profile in Trench 3; 3. grave 2 in Trench 3 (photo by I. Drnić).



SLIKA 25. 1. Sjeverni profil u Sondii 4; 2. Južni profil u Sondii 4 (snimio I. Drnić).

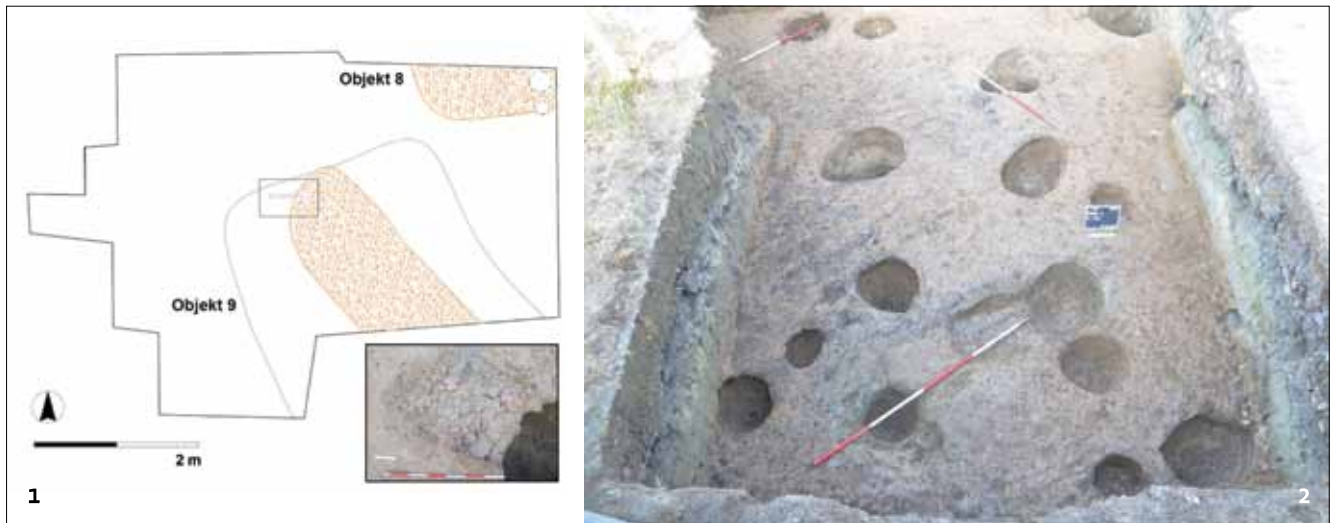
FIGURE 25. 1. Northern profile in Trench 4; 2. Southern profile in Trench 4 (photo by I. Drnić).

pravokutnog sloja kućnog lijepa te velike količine karboniziranih sjemenki koje su se neobično nalazile u obliku pravilnih traka u smjeru sjeverozapad – jugoistok, što je vjerojatno bila orijentacija objekta (SJ 537-538) (sl. 26: 1-2).<sup>45</sup> Također, pri iskopavanju u sjevernom dijelu Objekta 9 zabilježena je veća koncentracija keramičkih ulomaka, dok su sporadični nalazi pronađeni na cijeloj površini objekta, od kojih je dio deformiran uslijed izlaganja visokoj temperaturi. Obradom prikupljenih ulomaka i njihovom rekonstrukcijom utvrđeno je da pripadaju trima većim posudama (loncima) korištenima za skladištenje namirnica, vjerojatno spomenutih sjemenki. Prikupljeni podaci (postojanje veće količine kućnog lijepa, keramičke posude s tragovima izlaganja visokoj temperaturi i velika količina karboniziranih sjemenki) nedvosmisleno potvrđuju postojanje nastambe u najstarijem horizontu naseljavanja koja je uništena u požaru. Iznad opisanih objekata, koje možemo pripisati tzv. nasebinskom horizontu 0, nalazio

southern and central sections of the trench, somewhat more specific structural remains were registered and defined as *Structure 9*, in the shape of an irregular rectangular layer of daub and a high quantity of carbonized seeds that were unusually situated in the form of regular bands in a NW-SE direction, which was probably the structure's orientation (SU 537-538) (Fig. 26: 1-2).<sup>45</sup> Moreover, during digs in the northern section of *Structure 9*, a high concentration of potsherds was registered, while sporadic pieces were found over the structure's entire surface, of which some were deformed as a result of exposure to high temperatures. Analysis of the gathered shards and their reconstruction has ascertained that they belong to three larger vessels (pots) used to store food, probably the aforementioned seeds. The gathered data (the existence of a high quantity of daub, ceramic vessels with traces of exposure to high temperatures and a high quantity of carbonized seeds) confirm the existence of a dwelling in the oldest settle-

<sup>45</sup> Preliminarna analiza sjemenki, koju provodi K. Reed, pokazala je da se radi o bobu (*Vicia faba*).

<sup>45</sup> Preliminary analysis of the seeds conducted by K. Reed showed that they were broad beans (*Vicia faba*).

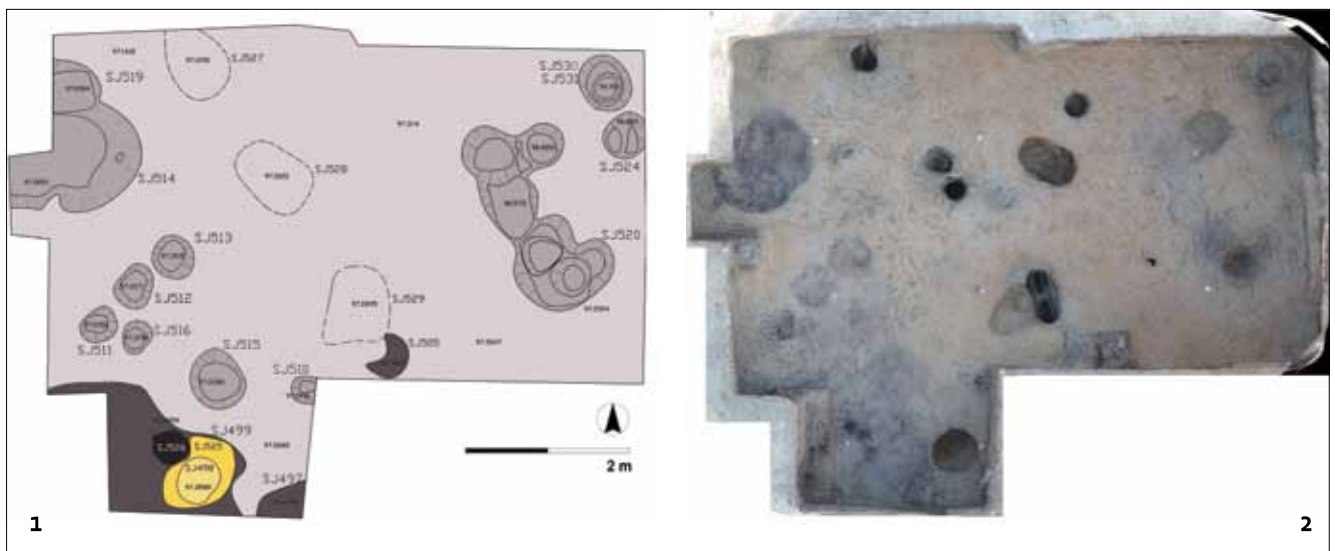


SLIKA 26. 1-2. Ostaci *Objekata* 8 i 9 u najstarijem željeznodobnom *horizontu* 0 u Sondi 4 (snimio I. Drnić; nacrt izradio M. Maderić).

FIGURE 26. 1-2. Remains of *Structures* 8 and 9 in the earliest Iron Age *horizon* 0 in Trench 4 (photo by I. Drnić; drawing made by M. Maderić).

se sterilan sloj oker-crvene boje (SJ 534), što je iz stratigrafske perspektive istovjetno situaciji u Sondi 2 sa stratigrafskim jedinicama SJ 286 i 287. Prisustvo trobridnog brončanog vrha strelice (T. 14: 7), s jasnim analogijama u brojnim grobovima Dolenjske halštatske skupine, datira ovaj naseobinski horizont u kasnohalštatsko razdoblje.

ment horizon which was destroyed in a fire. Above the described structures, which may be ascribed to settlement *horizon* 0 in Trench 4, there was a sterile ochre-red layer (SU 534) which from the stratigraphic perspective was contemporaneous with the situation in Trench 2 with stratigraphic units SU 286 and 287. The presence of three winged arrowhead (Pl. 14: 7), with clear analogies in numerous graves of Dolenjska Hallstatt group, dates this settlement horizon to Late Hallstatt period.

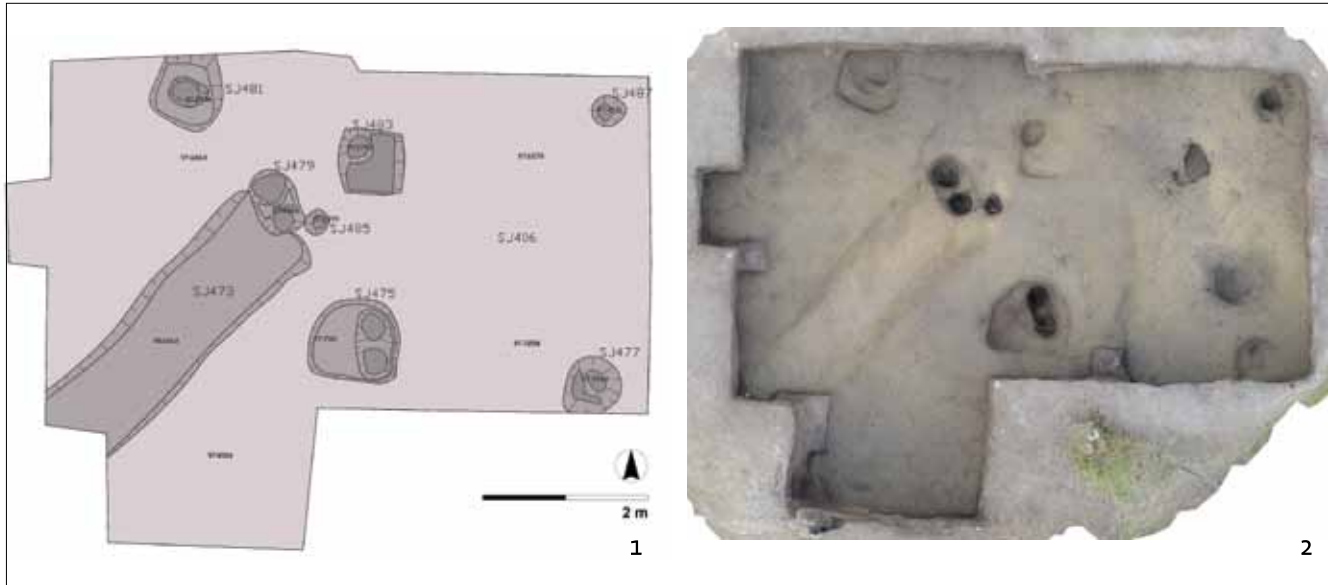


SLIKA 27. 1-2. Naseobinski *horizont* 1a u Sondi 4 (snimio I. Drnić; nacrt izradio M. Maderić).

FIGURE 27. 1-2. Settlement *horizon* 1a in Trench 4 (photo by I. Drnić; drawing made by M. Maderić).

Slijedili su slojevi po strukturi vrlo slični onima iz Sonde 2 koji su definirani kao naseobinski *horizont* 1a (sl. 27: 1-2). U jugozapadnom dijelu sonde nalazilo se ovalno ognjište s dvije faze (SJ 498, 533) koje se nalazilo na naboju od žute gline (SJ 525). Oko ognjišta nalazio se tamnosivi sloj s dosta gara koji je vjerojatno nastao

This was followed by layers that were compositionally quite similar to those in Trench 2, which were defined as settlement *horizon* 1a (Fig. 28: 1-2). In the south-western section of the trench there was an oval hearth with two phases (SU 498, 533) that was situated on a layer of packed yellow clay (SU 525). There was a



**SLIKA 28.** 1-2. Ostaci rimskih struktura ukopanih u željeznodobni naseobinski *horizont 1b*; 3. ostaci dubokih ukopa za stupove rimskog objekta (snimio I. Drnić; nacrt izradio M. Maderić).

**FIGURE 28.** 1-2. Remains of Roman structures embedded in the Iron Age settlement *horizon 1b*; 3. Deep post-holes of the Roman structure (photo by I. Drnić; drawing made by M. Maderić).

učestalim uklanjanjem izgorenoga goriva s ognjišta (SJ 499). Sjeverno od vatrišta registrirano je pet okruglih / ovalnih, u SJ 534 plitko ukopanih ukopa ispunjenih zapečenom zemljom i velikom količinom gara (SJ 501/503, 508/509), identičnog izgleda i struktu-

dark-grey layer with considerable soot around the hearth, which was probably created by the frequent removal of burned fuel from the hearth (SU 499). North of the firing place, five round/oval in SU 534, shallowly dug holes filled with fired earth and a high

re kao i prethodno opisane strukture iz naseobinskog *horizonta 1b* u Sondi 2, a koji je prethodio objektima sa zemljanim podovima i ostacima drvene arhitekture. U ovome je kontekstu istražena i jama ovalnog obrisa (SJ 504/514), dimenzija 1 x 1,3 m, koja je u potpunosti bila ispunjena gorenim materijalom (gar, pepeo, zapečena zemlja), dok su u presjeku zapune jasno vidljivi tragovi barem triju faza gorenja. Sjeverno od opisane jame nalazio se manji ovalni ukop zapunjen sivo-zelenom zapunom s tragovima gara (SJ 518/519). U istočnom je dijelu sonde istražen izduženi, nepravilni ukop čiju je namjenu teško definirati (SJ 517/520), a samom jugoistočnom uglu i dva ukopa od stupova (SJ 521/522 i 523/524), od kojih je prvi imao dvije zapune, svijetlosivu većeg promjera unutar koje se nalazila manja zapuna tamnosive boje koja predstavlja donji dio ukopa prethodno istraženog stupa (SJ 487), vidljivog u mlađim slojevima SJ 494/406.

Iznad opisanih struktura nalazio se kompaktni sloj SJ 494, koji sa slojevima što se nalaze iznad njega (SJ 406 i SJ 405) čini *horizont 1b* u Sondi 4 (sl. 25), s velikom količinom životinjskih kostiju i keramičkih ulomaka, uključujući finu halštatsku keramiku glačane površine s nekoliko ulomaka ukrašenih naboranim ukrasom koji, kao što je prethodno navedeno, jasno datiraju sloj u kasnohalštatsko razdoblje (T. 14: 1-6). U ovome su sloju registrirana i djelomično istražena dva vatrišta: u sjevernom dijelu sonde SJ 495 s crveno zapečenom zemljom i crnim, spaljenim materijalom te SJ 497 u južnom dijelu. Slijedili su 20 – 30 cm debeo sivo-zeleni sloj (SJ 406), po strukturi vrlo sličan slojevima SJ 248, 234 i 229 iz Sonde 2, te tamnosivi sloj rahlog tla SJ 405. Oba su sloja pokrivala cijelu površinu Sonde 4 i bila su iznimno bogata pokretnim nalazima, osobito životinjskim kostima, a keramički je materijal istovjetan onome iz kasnohalštatskih slojeva u Sondama 1 i 2. U sjeveroistočnom uglu sonde nalazi se ukop stupa (SJ 476-477) koji se može pripisati određenom objektu iz željeznodobne faze naseljevanja. Posljednji kulturni sloj, koji pripada periferiji starije željeznodobnog naselja, sloj je s velikom količinom kućnog lijepa i mjestimično zabilježenoga spaljenog drveta, registriran gotovo na cijeloj površini Sonde 4 (SJ 402a = 438 = 465 = 470) iako je dobrim dijelom uništen mlađim ukopima rimskoga naseobinskog sloja, kao i kasnijim grobnim ukopima.

Tragovi građevinske aktivnosti iz rimskog razdoblja sastoje se od plitkog kanala kosih stranica (SJ 472/473), orijentacije jugozapad – sjeveroistok te više dubokih ukopa za stupove (sl. 28: 1-2) ukopanih u SJ 406. Zapunu kanala činilo je pjeskovito tlo, a osim keramičkih ulomaka, u njoj se nalazilo i dosta ulomaka tegula (opeka) i nešto kamena. Opisani kanal završava ovalnim ukopom s dvjema vrlo dubokim rupama od stupova (SJ 478 i 479), na koje se u pravoj liniji u smjeru jugoistoka nadovezuju još jedan ukop, također s dvjema okruglim rupama za stupove (SJ 474/475), te još jedan u smjeru sjeverozapada (SJ 481/482). U liniji kanala nalazio se plitki pravokutni ukop s okruglom rupom od stupa u sjeverozapadnom uglu (SJ 482/483). Također, u jugozapadnom je uglu sonde istražen ovalni ukop stupa čiji se presjek jasno vidi u južnom profilu, potvrđujući koliko je duboko bio ukopan, počevši od rimske razine naseljevanja kroz sve željeznodobne slojeve i duboko u geološku podlogu (sl. 28: 3). Identična je situacija zabilježena i u slučaju ukopa SJ 527 čiji se presjek jasno ocrtava u sjevernom profilu (sl. 25: 1). Navedeni ukopi stupova i pliće ukopani kanal vjerojatno čine ostatke rimskodobnog objekta, pravokut-

quantity of soot (SU 501/503, 508/509) were registered, identical in appearance and features to the previously described composition in settlement *horizon 1b* in Trench 2, which preceded the structures with earthen floors and the remains of wooden architecture. A pit with oval contours (SU 504/514) and dimensions of 1 x 1.3 m was also excavated in this context; it was entirely filled with burned materials (soot, ash, fired earth), while traces of at least three phases of burning are clearly visible in the cross-section of the fill. North of the described pit, there was a smaller oval hole filled with grey-green material with traces of soot (SU 518/519). In the eastern part of the trench, an oblong, irregular hole whose purpose is difficult to ascertain was excavated (SU 517/520), while in the south-eastern corner two post-holes were excavated (SU 521/522 and 523/524), of which the first had two different filler: light grey with larger diameter inside which the smaller dark-grey fill was found; it was the lower section of the hole for the previously excavated post (SU 487), visible in the later layers SU 494/406.

Above the structures so described there was a compact layer, SU 494, which with the layers above it (SU 406 and SU 405) form *horizon 1b* in Trench 4 (Fig. 25), containing a high quantity of animal bones and potsherds, including fine Hallstatt pottery with burnished surfaces and several adorned with embossed decorations which, as stated above, clearly date it to the late Hallstatt period (Pl. 14: 1-6). In this layer, two fire-places were also partially excavated: in the northern part of the trench, SU 495 with red fired earth and black, charred materials, and SU 497 in the southern part. This is followed by a 20-30 cm thick grey-green layer (SU 406) very similar in composition to layers SU 248, 234 and 229 from Trench 2 and the dark-grey layer of friable soil, SU 405. Both layers covered part of the surface of Trench 4 and they were exceptionally rich in movable finds, particularly animal bones, while the ceramics are identical to those from the late Hallstatt layers in Trenches 1 and 2. In the north-eastern corner of the trench, there is a post-hole, SU 476-477, which may be attributed to a specific structure from the Iron Age phase of habitation. The final cultural layer that belongs to the periphery of the Early Iron Age settlement is one with a high quantity of daub and partially registered burned wood, registered over virtually the entire surface of Trench 4 (SU 402a = 438 = 465 = 470), even though it was partially destroyed by more recent diggings of the Roman settlement layer and later grave pits.

Traces of construction activities from the Roman period consist of a shallow ditch with diagonal sides (SU 472/473), with SW-NE orientation and several deep post-holes (Fig. 28: 1-2) dug into SU 406. The ditch was filled with sandy soil, and besides potsherds, it also contained numerous fragments of tegulae (brick) and some stones. The described ditch ends in an oval pit with two very deep post-holes (SU 478 and 479) to which another pit is connected in a straight line in the south-easterly direction, also with two round post-holes (SU 474/475) and one more in the north-westerly direction (SU 481/482). A shallow rectangular pit with a round post-hole in the north-west corner (SU 482/483) was situated along the same line as the ditch. Additionally, an oval pit, of which the cross-section can clearly be seen in the southern profile, was excavated in the south-western corner of the trench, confirming how deeply it had been dug, beginning from the Ro-

nog tlocrta. Dubina opisanih rupa ukazuje na potrebu kvalitetnog temeljenja stupova građevine koji su činili zidnu osnovu, što bi moglo ukazivati na njene znatne dimenzije, a čija se namjena na sadašnjem stupnju istraženosti ne može preciznije definirati. Ostaci drvene arhitekture iz rimskog razdoblja zabilježeni su i na drugim pozicijama izvan gradskih zidina Siscije. Osim struktura definiranih geofizičkom prospekcijom na Pogorelcu, ostaci spaljene drvene arhitekture u obliku ukopa stupova i otisaka greda i dasaka, uz prisustvo željeznih čavala i klinova te ulomaka kućnog ljepa i tegula, istraženi su prilikom zaštitnih iskopavanja provedenih 2013. godine u Zagrebačkoj ulici, na zapadnom ulazu u Sisak.<sup>46</sup>

Iznad sloja s kućnim lijepom (SJ 402a = 438 = 465 = 470) slijedio je tanji prijelazni sloj s miješanim željeznodobnim i rimskim materijalom SJ 402, a iznad njega rimskodobni sloj s keramičkim materijalom 2. i 3. st. (SJ 401), čija se debljina povećava od istoka sonde, gdje iznosi 20 – 30 cm, do 50 – 60 cm u zapadnom profilu (Sl. 25: 1-2). Kao što je navedeno u prethodnom poglavlju, taj sloj (SJ 301) u Sondi 3, smještenoj 10 m zapadno od Sonde 4, doseže debljinu od čak 1,3 m. S druge strane, on nije zabilježen istočno u Sondi 2, kao ni u istraživanjima na trasi vodovoda uz Aveniju V. Janića Cape, pa mu se dužina može procijeniti na 50 – 60 m. U humusnom je sloju Sonde 4 zabilježen isključivo rimskodobni materijal, uključujući ulomak izrazito profilirane fibule i brončane narukvice rastavljenih krajeva, za razliku od Sondi 1 i 2, gdje nema tragova naseljavanja iz antičkog razdoblja.

Detaljna analiza rimskodobnoga keramičkog materijala tek predstoji, a za potrebe datacije naseobinskog sloja izdvojeno je nekoliko dijagnostičkih komada kao što je ulomak srednjogalske tere sigilate s motivom jelena, koji predstavlja tip Dragendorff 37, proizveden u radionici Lezoux u vrijeme vladanja careva Trajana i Hadrijana (T. 15: 1).<sup>47</sup> Slijedi ulomak posude tipa Dragendorff 33 iz radionice Rheinzabern, datiran u 2. polovicu 2. i 1. polovicu 3. st. (T. 15: 2).<sup>48</sup> Također, iz istog razdoblja potječe i zdjela ukrašena kotačićem (oblik identičan tipu Dragendorff 37) koja pripada skupini panonske glazirane keramike (njem. *Pannonische Glanztonware*) (T. 15: 3).<sup>49</sup> U isto vremensko razdoblje možemo smjestiti i keramičku lampicu lokalne proizvodnje s pečatom VIBIANI (T. 15: 4).<sup>50</sup> Ovome horizontu naseljavanja pripada i Vespazijanov as kovan 71. godine (T. 15: 5).<sup>51</sup>

man level of settlement through all Iron Age layers and deeply into the geological foundation (Fig. 28: 3). An identical situation was also registered in the case of pit SU 527, of which the cross-section is clearly outlined in the northern profile (Fig. 25: 1). These post-holes and the shallowly-dug ditch are probably the remains of a Roman period structure with a rectangular ground-plan. The depth of the holes indicate the need for high-quality grounding of the structure's posts, which formed the foundation for the wall, possibly indicating rather sizeable dimensions. At the current extent of excavations, its purpose cannot be more precisely defined. The remains of wooden architecture from the Roman era were also registered at other sites outside of Siscia's city walls. Besides the structures defined by geophysical prospecting at Pogorelac, the remains of burned wooden architecture in the form of post-holes and impressions of beams and boards, with the presence of iron nails and pegs and fragments of daub and tegulae, were examined during rescue excavations conducted in Zagrebačka ulica (street), at Sisak's western entrance, in 2013.<sup>46</sup>

The layer with daub (SJ 402a = 438 = 465 = 470) was followed above by a thin transitional layer containing mixed Iron Age and Roman-period materials, SU 402, while above it is a Roman-period layer containing pottery dated to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries (SU 401); its thickness increases from the eastern part of the trench, where it is 20-30 cm, to 50-60 cm in the western profile. As stated in the preceding chapter, this layer (SU 301) in Trench 3, situated 10 meters west of Trench 4, reaches a thickness of 1.3 meters. On the other side, it was not registered east in Trench 2, nor in excavations in the water pipeline section along Aleja V. Janic Capo, so its length may be estimated at 50-60 meters. Exclusively Roman-period material was registered in the humus layer in Trench 4, including the fragment of an strongly profiled fibula and a bronze bracelet with separated ends, as opposed to Trenches 1 and 2, where there are no traces of settlement from Roman period.

A detailed analysis of Roman-period pottery still awaits, but for the needs of dating the settlement layer, several diagnostic pieces were set aside, such as the fragment of a Central Gaulish *terra sigillata* with a deer motif, which is the Dragendorff 37 type, made in the workshop in Lezoux during the reign of Emperors Trajan and Hadrian (Pl. 15: 1).<sup>47</sup> This is followed by a Dragendorff 33 vessel from the Rheinzabern workshop, dated to the latter half of the 2<sup>nd</sup> and first half of the 3<sup>rd</sup> century (Pl. 15: 2).<sup>48</sup> Additionally, a bowl decorated with small wheel (the shape is identical to Dragendorff 37) also originates from this same period and belongs to the same group of Pannonian glazed ware (Ger. *Pannonische Glanztonware*) (Pl. 15: 3).<sup>49</sup> The same period can be ascribed to the locally produced ceramic lamp with VIBIANI stamp (Pl. 15: 4).<sup>50</sup> An as of Vespasian minted in 71 AD also belongs to this settlement horizon (Pl. 15: 5).<sup>51</sup>

46 Koprivnjak, Miletić 2014.

47 Oswald 1964, 112, Pl. LXX, 1704 A.

48 Dragendorff 1895; Oswald, Pryce 1920, 189-191, Plate LI; Ruprechtsberger 1980, 99-100; Garbsch 1982, 63; Brulet, Vilvorder, Delage 2010, 175-179, 188, 190.

49 Alarm-Stern 2009; Ožanić Roguljić 2016.

50 Brando, Sebastiani 2016, 139.

51 RIC 2/1, 305.

46 Koprivnjak, Miletić 2014.

47 Oswald 1964, 112, Pl. LXX, 1704 A.

48 Dragendorff 1895; Oswald, Pryce 1920, 189-191, Plate LI; Ruprechtsberger 1980, 99-100; Garbsch 1982, 63; Brulet, Vilvorder, Delage 2010, 175-179, 188, 190.

49 Alarm-Stern 2009; Ožanić Roguljić 2016.

50 Brando, Sebastiani 2016, 139.

51 RIC 2/1, 305.

Ukratko, u Sondi 4 istraženi su kulturni slojevi iz starijega željeznog doba, u kojima je prikupljen keramički materijal istovjetan onome iz svih naseobinskih horizonata Sonde 2 te *horizontima* 1, 2 i 3a u Sondi 1, koji pripada razdoblju starijega željeznog doba. Za razliku od navedenih horizonata u Sondama 1 i 2, u kojima su istraženi dijelovi objekata s jasno definiranim ostacima arhitekture, uključujući zemljane podnice sa spaljenim drvenim temeljima i urušenjima zidnih konstrukcija, u Sondi 4 nisu registrirane slične strukture, što ukazuje na to da je ovdje istraživana periferna dio naselja. Ovu tvrdnju potvrđuju i rezultati geofizičkih istraživanja koji jasno ukazuju na nedostatak sličnih struktura na ovom dijelu lokaliteta (sl. 7). Ipak, u najstarijem naseobinskom horizontu, koji je vjerojatno istovremen s *horizontom* 0 u Sondama 1 i 2, zabilježeni su ostaci dvaju objekata o čemu svjedoče nakupine kućnog lijepa, ali i ostaci karboniziranih sjemenki koje su vjerojatno bile pohranjene u keramičkim posudama, pronađenim u kontekstu *Objekta* 9. Prema strukturi, stariježeljeznodobni slojevi (SJ 494, SJ 406 i SJ 405) iz Sonde 4 slični su onima iz *horizonta* 1 Sonde 2 s velikom količinom keramičkog materijala i životinjskih kostiju te vatrištima i rupama za stupove koje mogu ukazivati na postojanje nadzemnih građevina s okomitim stupovima kao zidnom osnovom čije tlocrte, uslijed nedovoljnih informacija, nije bilo moguće rekonstruirati. U Sondi 4, kao u ostalim ni u Sondi 2, nije zabilježen naseobinski horizont iz mlađega željeznog doba, potvrđujući prethodno izrečenu tezu da je naselje iz razdoblja od kraja 4. do 1. st. pr. Kr. na Pogorelcu površinom bilo znatno manje od stariježeljeznodobnog i da je funkcioniralo bliže rijeci Kupi, barem njezinu današnjem toku, kao i na lijevoj obali rijeke.

Slijedi rimskodobni naseobinski sloj s ukopima stupova i kanalom koji upućuju na postojanje objekta pravokutnog tlocrta, čiju su zidnu osnovu činili duboko ukopani drveni stupovi. U rimskim su slojevima prikupljeni ostaci građevinskog materijala, uglavnom ulomaka tegula, te velika količina životinjskih kostiju i keramičkih ulomaka, koji datiraju naseljavanje na ovome položaju u 2. i 3. stoljeću.

## Groblje

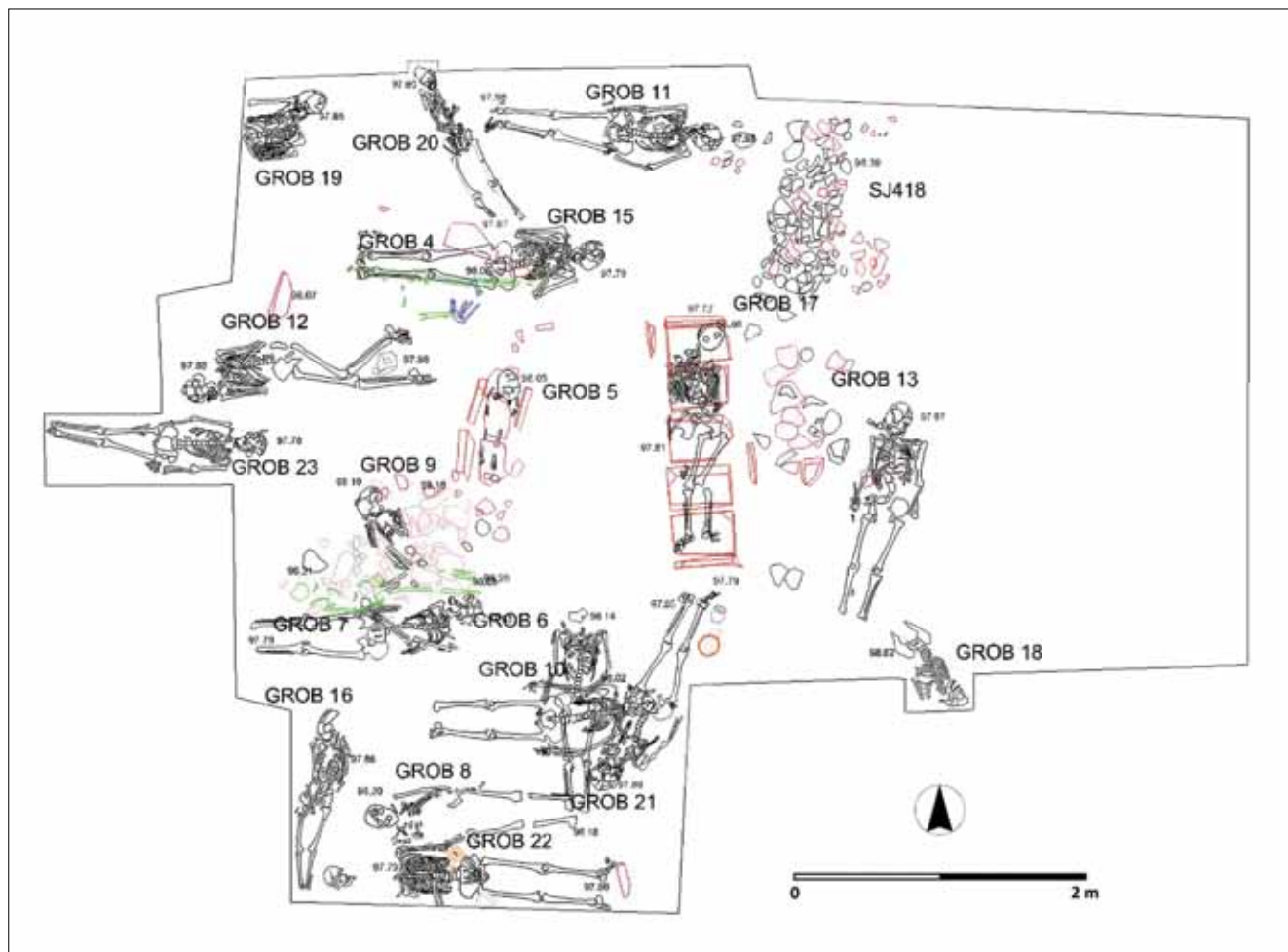
Najmlađu arheološku fazu korištenja prostora na istraženom dijelu Pogorelca predstavljaju ostaci kasnoantičkoga groblja rimske Siscije. Njeno postojanje potvrđeno je trima kosturnim ukopima pronađenim tijekom istraživanja u Sondama 2 i 3, s dvadeset grobova u Sondi 4 te šezdeset i pet grobova, istraženih prilikom zaštitnih iskopavanja spojnog kolektora sustava odvodnje naselja Zeleni Brijeg s kolektorom Lađarska, koje je provela tvrtka Arheolog d.o.o. 2013. i 2014. godine, pedesetak metara zapadno od pozicije Sonde 4 (paralelno s avenijom V. Janića Cape).<sup>52</sup> Zanimljivo je što u istraživanju iz 2014. godine, u istočnom dijelu Sonde 4, nije zabilježen ni jedan grob osim nekoliko dislociranih ljudskih kostiju, dok su iskopavanja u razdoblju 2015. – 2017. iznjedrila čak dvadeset kosturnih ukopa (grobovi 4-23) (sl. 29).

In summary, cultural layers from the Early Iron Age were excavated in Trench 4 in which ceramic materials were gathered that are contemporaneous with those from the settlement horizons in Trench 2 and *horizons* 1, 2 and 3a in Trench 1, which belong to the Early Iron Age. As opposed to the aforementioned horizons in Trenches 1 and 2, in which parts of structures were excavated with clearly defined architectural remains, including the earthen floors with burned wooden foundations and collapsed wall structures, in Trench 4 no similar structures were registered, indicating that the peripheral part of the settlement was excavated here. This assertion is further confirmed by the results of geophysical research which clearly indicates the absence of similar structures in this part of the site (Fig. 7). Nonetheless, in the oldest settlement horizon, which was probably contemporaneous with *horizon* 0 in Trenches 1 and 2, the remains of two structures were registered, to which the accumulations of daub, as well as the remains of carbonized seeds – probably held in the ceramic vessels found in the context of *Structure* 9 – testify. Based on their composition, the Early Iron Age layers (SU 494, SU 406 and SU 405) from Trench 4 are similar to those from *horizon* 1 of Trench 2 with a high quantity of pottery and animal bones and fire-places and post-holes which may indicate the existence of above-ground structures with vertical posts as the base of the walls, for which the floor-plan could not be reconstructed due to insufficient information. In Trench 4, as in Trench 2, no settlement horizons from the Late Iron Age were registered, confirming the previously stated hypothesis that the settlement from the end of the 4<sup>th</sup> to 1<sup>st</sup> centuries BC at Pogorelac was considerably smaller than the Early Iron Age one and that it was situated closer to the Kupa, at least its current course, and on this river's left bank.

This is followed by the Roman-period settlement layer with post-holes and a ditch that indicates the existence of a structure with rectangular floor plan, with the base of the walls consisting of interred wooden posts. Remains of construction material, mainly tegula fragments, and a high quantity of animal bones and potsherds, were gathered in the Roman-period layers, dating settlement at this site to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries.

## Cemetery

The remains of the Late Roman cemetery of Siscia constitutes the youngest archaeological phase of use in the excavated part of Pogorelac. Its existence was confirmed by three skeletal graves found during excavations in Trenches 2 and 3, twenty graves in Trench 4, and sixty five graves examined during a rescue excavation of the collector for the Zeleni Brijeg settlement's drainage system connected to the Lađarska collector, which was conducted by the company Arheolog d.o.o. in 2013 and 2014, roughly fifty meters west of Trench 4 (parallel to V. Janić Cape Avenue).<sup>52</sup> Interestingly, during excavations in 2014 in the eastern section of Trench 4, not a single grave was registered, with the exception of several scattered human bones, while during research in 2015-2017 as many as twenty skeletal burials turned up (graves 4-23) (Fig. 29).



SLIKA 29. Nacrt istraženog dijela kasnoantičkoga groblja u Sondi 4 (nacrt izradili M. Maderić, I. Drnić).

FIGURE 29. Map of the excavated part of the Late Roman cemetery in Trench 4 (drawing made by M. Maderić, I. Drnić).

Navedeni grobovi pripadaju zapadnom groblju antičke Siscije, nedavno definiranom u literaturi iako su pojedini slučajni nalazi iz druge polovice 20. stoljeća ukazivali na njezino postojanje.<sup>53</sup> Groblje se formiralo na sjeveroistočnom dijelu Pogorelac uz prometnicu koja je vjerojatno spajala most na Kupi uz gradske zidine s mostom koji se nalazio na ušću Odre u Kupu. Prilozi i dijelovi nošnje iz dosad istraženih grobova, kao i pogrebni ritus (isključivo kosturno pokapanje), datiraju ovo groblje u kasnoantičko razdoblje, od kraja 3. do prve polovice 5. stoljeća.<sup>54</sup>

Većina grobova nije imala grobne konstrukcije, a sporadični nalazi željeznih čavala ukazuju na ukope u drvenim sanducima. Grobne konstrukcije u obliku grobnice, izgrađene od tegula, zabilježene su kod grobova 5 i 17. U slučaju groba 4 i 22 korištena je jedna ili nekoliko tegula, položenih uz glavu, noge i bočne stranice za označavanje groba. Grobovi su imali različite orijentacije i često se nalaze jedan preko drugoga, ali oštećenje starijega

These graves belong to the western necropolis of Roman-period Siscia, recently defined in the literature even though individual chance finds from the latter half of the 20<sup>th</sup> century pointed to its existence.<sup>53</sup> The necropolis was formed in the north-eastern section of Pogorelac next to the road which probably connected the bridge on the Kupa River, situated next to the western city wall, to the bridge at the mouth of the Odra River into the Kupa. The goods and elements of costume from the thus far examined grave goods and the burial rites (exclusively skeletal interments) date this necropolis to Late Antiquity, from the end of the 3<sup>rd</sup> to the first half of the 5<sup>th</sup> century.<sup>54</sup>

Most of the excavated graves did not have construction elements, while the sporadic finds of iron nails indicate burials in wooden coffins. Graves constructed like tombs made of tegulae were registered at graves 5 and 17. In the case of graves 4 and 22, one or several tegulae were used, laid next to the head, feet and lat-

53 Baćani, Tomaš Barišić 2018, 194–210.

54 Baćani, Tomaš Barišić 2018, 211–231.

53 Baćani, Tomaš Barišić 2018, 194–210.

54 Baćani, Tomaš Barišić 2018, 211–231.



groba mlađim ukopom zabilježeno je samo u slučaju groba 13, koji je uništio donje ekstremitete kostura iz groba 18 te groba 20, kod kojega je ukop groba 15 uništio kosti stopala. Vrlo zanimljiv ukop predstavlja grob 9, orijentacije sjeverozapad – jugoistok, u kojemu je kostur juvenilne osobe u dobi od 11 do 12 godina, u zgrčenom položaju položen na desni bok na prostirku od ulomaka keramičkih posuda. Također, u iskopavanju je zabilježena i suhozidna konstrukcija (SJ 418) orijentacije sjever – jug, građena od nepravilnog kamenja i ulomaka tegula. Iako se njezina funkcija ne može sa sigurnošću utvrditi, jedna od mogućih interpretacija, uzevši u obzir arheološki kontekst, definirala bi suhozidnu konstrukciju kao dio temelja ograde grobne parcele, koje su potvrđene na brojnim rimskim grobljima, uključujući jugoistočno groblje Siscije. Svi su grobovi bili ukopani u prethodno opisani rimski naseobinski sloj, s tim da su najdublji ukopi djelomično ušli i u stariježeljenodobne slojeve.

U četrnaest su grobova zabilježeni dijelovi nošnje pokojnika i grobni prilozi karakteristični za kasnoantička groblja u Panoniji 4. i prve polovice 5. st. U svrhu datacije ovoga dijela kasnoantičkog, zapadnoga groblja rimske Siscije, analiziran je materijal iz nekoliko grobova.

U grobu 5 bilo je pokopano dijete u dobi od 1,5 do 2 godine. Grobna je konstrukcija bila izgrađena od tegula, a kostur je u predjelu prsa i nogu bio prekriven s nekoliko ploča od bijelog pješčenjaka (T. 17). Uz desnu su se ruku nalazila dva ulomka narebrene željezne narukvice četvrtastog presjeka (T. 17: 1). Radi se o karakterističnom elementu ženske nošnje 4. i prve polovice 5. st. koji nalazimo na brojnim grobljima u Panoniji. Primjerice, na Štrbincima su pronađene u grobovima 19 (ukrašena perlama od bakrene slitine), 62 (okrugli presjek, neukrašena), 116 (narebrena s perlama od bakrene slitine), 121 (narebrena) i 131 (narebrena).<sup>55</sup> Uz lijevu ruku nalazio se ulomak glatke koštane narukvice trakastog presjeka, s jednom zakovicom od bakrene slitine (T. 17: 2). Kao i slučaju željeznih narukvica, radi se o tipičnom predmetu kasnoantičkog razdoblja s velikim brojem poznatih primjerka, uključujući Zmajevac<sup>56</sup> i Štrbince. U interpretaciji ovih predmeta B. Migotti navodi da u 4. st. na prostoru Panonije dolazi do procvata proizvodnje koštanih predmeta, što se posljedično odrazilo na broj narukvica u tadašnjim grobljima, pri čemu se pretpostavlja postojanje niza lokalnih radionica.<sup>57</sup> U pravilu su nošene na lijevoj ruci, a nalazimo ih isključivo u grobovima žena i djevojčica. Oko lubanje pokojnika iz groba 5 pronađeno je šest sitnih valjkastih perli izrađenih od plavog (4 kom.) i bijelog (2 kom.) stakla (T. 17: 3-5). Slične su se perle nalazile i u grobovima 6 (4 kom.), 10 (9 kom.) i 13 (3 kom.) iz Sonde 4, što je zanimljivo, s vrlo malim brojem primjeraka. Za usporedbu, u nizu štrbinačkih grobova (19, 45, 87, 95 i dr.), datiranih u 4. i prvu polovicu 5. st., nalazimo ogrlice koje su sastavljene od znatno većeg broja perli, uključujući primjerke morfološki identične navedenim sisačkim perlama.<sup>58</sup> Između

eral side to mark the grave. The graves had differing orientations and were often next to each other, but the damage to an earlier grave due to a subsequent burial was registered only in the case of grave 13, which destroyed the lower extremities of the skeleton from grave 18, and grave 20, which had the bones of the feet destroyed by the digging of grave 15. A very interesting burial is grave 9, with NW-SE orientation, containing the skeleton of a juvenile, aged 11-12, curled on the right side and lying on a mat of potsherds. Furthermore, during excavations a stacked stone structure (SU 418) made of irregular stones and tegula fragments, with north-south orientation, was also registered. Even though its function cannot be ascertained with any certainty, one of the possible interpretations, taking into consideration the archaeological context, would define the stacked stone construction as a part of the foundations of the grave plot's fence, which have been confirmed at numerous Roman cemeteries, including the south-east necropolis of Siscia. All of the graves were dug into the previously described Roman settlement layer, although the deepest burials partially entered the Iron Age layers as well.

In fourteen graves, elements of costume of the deceased and grave goods typical of Late Roman cemeteries in Pannonia in the 4<sup>th</sup> and first half of the 5<sup>th</sup> century were registered. The material from several graves was analysed for the purpose of dating this section of the Late Roman western necropolis of Siscia.

For example, in grave 5, a child aged 1.5-2 years was buried. The grave construction was made of tegulae, while the skeleton was covered with several white sandstone tiles at the chest and legs (Pl. 17). Next to the right arm there were two fragments of ribbed iron bracelets with rectangular cross-section (Pl. 17: 1). This was a typical element of women's costume of the 4<sup>th</sup> and first half of the 5<sup>th</sup> century which has been found in numerous cemeteries in Pannonia. They were found, for example, at Štrbinci, in graves 19 (decorated with copper-alloy beads), 62 (round cross-section, unadorned), 116 (ribbed with copper-alloy beads), 121 (ribbed) and 131 (ribbed).<sup>55</sup> Next to the left arm, there was a fragment of a smooth bone bracelet with linear cross-section, and with a rivet made of copper alloy (Pl. 17: 2). As in the case of iron bracelets, this is a typical Late Roman item with a high number of known examples, including Zmajevac<sup>56</sup> and Štrbinci. In the interpretation of these items, B. Migotti stated that there was a boom in the production of bone items in the territory of Pannonia in the 4<sup>th</sup> century, which was consequently reflected in the number of bracelets in contemporaneous cemeteries, wherein the existence of a series of local workshops has been hypothesized.<sup>57</sup> They were worn on the left arm as a rule, and they have been found exclusively in the graves of woman and girls. Six tiny cylindrical beads made of blue (4 pcs.) and white (2 pcs.) glass (Pl. 17: 3-5) were found around the skull in grave 5. Similar beads were found in graves 6 (4 pcs.), 10 (9 pcs.) and 13 (3 pcs.) from Trench 4,

55 Migotti, Perinić 2011, 113-114, T. 13: sl. 2; Migotti 2007, 167, T. 8: sl. 2; Migotti, Leleković 2013, 236, 239, 248, T. 1: 5, T. 3: 6, T. 25: 1, T. 9: 5.

56 Filipović 2010, grob 90 (kat. br. 84), grob 157 (kat. br. 119-121).

57 Migotti, Perinić 2001, 159; Migotti 2004, 187; Migotti, Leleković 2013, 231.

58 Migotti, Perinić 2001, 114, T. 13: Sl. 5; Migotti 2004, 168-171, T. 14: 10; Migotti 2009, 131, 137, T. 19: Sl. 3, T. 23: 3 i dr.

52 Nakić 2014.

55 Migotti, Perinić 2011, 113-114, Pl. 13: Fig. 2; Migotti 2007, 167, Pl. 8: Fig. 2; Migotti, Leleković 2013, 236, 239, 248, Pl. 1: 5, Pl. 3: 6, Pl. 25: 1, Pl. 9: 5.

56 Filipović 2010, grave 90 (cat. no. 84), grave 157 (cat. no. 119-121).

57 Migotti, Perinić 2001, 159; Migotti 2004, 187; Migotti, Leleković 2013, 231.

tegula nalazio se štapić trakastog presjeka, dužine 1,8 cm, koji bi na osnovu analogija iz groba 17, koje su pronađene uz lijevu i desnu stranu pokojnične lubanje, mogao predstavljati dio naušnice (T. 17: 6).

U spomenutom grobu 9 na rukama pokojnika nalazile su se dvije narukvice izrađene od bakrene slitine (T. 18: 2-3), a uz lijevu stranu lubanje željezni klin. Prva narukvica, pronađena na desnoj ruci, ima obruč okruglog presjeka i otvorene, raskovane krajeve uz čije se rubove nalaze urezane linije. Također, na jednom dijelu narukvice nalazi se ukras od osam kratkih urezanih linija. Slične su narukvice pronađene u grobovima 45, 87, 105, 113, 125 i 157 na Štrbincima, a datirane su u 4. i prvu polovicu 5. st.<sup>59</sup> Druga narukvica, trakastog presjeka, otvorenih krajeva, ukrašena je nizom utisnutih motiva točke i kose crte. Ulomci narukvica trakastog presjeka, ukrašenih različitim motivima (klepsidra, krug s točkom), zabilježeni su u štrbinačkim grobovima 74 i 84, dok primjerak trakastog presjeka iz groba 106 ima mehanizam za zakapčanje, sastavljen od perforacije na jednom kraju i kukice na drugom.<sup>60</sup> Datacija je ovih predmeta identična prethodno opisanim narukvicama s raskovanim krajevima.

U grobu 13, bez tragova grobne arhitekture, bila je pokopana ženska osoba u dobi između 35 i 45 godina, sa šupljom narukvicom rastavljenih krajeva od bakrene slitine na desnoj (T. 19: 1) i ulomcima koštane narukvice na lijevoj podlaktici (T. 19: 2). Gotovo je identična šuplja narukvica pronađena na lijevoj ruci pokojnice iz groba 113 iz Štrbinaca i datirana je u prvu polovicu 5. st.<sup>61</sup> Ulomci neukrašene koštane narukvice ovalnog su presjeka i spajani su zakovicama od bakrene slitine. Uz lijevu stranu lubanje nalazila su se dva ulomka naušnice, izrađena od žice bakrene slitine, a između rebara i tri cilindrične perle od zelenog stakla. Četvrta, koštana perla bačvastog oblika, pronađena je uz lubanju prilikom pranja koštanog materijala. Veći je broj koštanih perli zabilježen, primjerice, u grobu 60 iz Zmajevca u kojemu je bilo pokopano dijete u dobi od 4 do 5 godina.<sup>62</sup>

Za dataciju istraženog dijela groblja važna je i skupina grobova otkrivenih u južnom dijelu sonde u kojoj se nalaze četiri kosturne ukopa, položena jedan iznad drugoga, bez ijednog oštećenja starijih grobova mlađim ukopima (sl. 29). Naime, kao prilozi u najstarijem grobu 21, u kojemu je bila pokopana žena u dobi između 40 i 45 godina, nalazile su se dvije keramičke posude (zdjela i vrč) (T. 21: 5-6) i stakleni balzamarij (T. 21: 4), položeni uz lijevu nogu, a dijelovima nošnje pripada deset bikoničnih perli od plavog (9 kom.) i zelenog (1 kom.) stakla (T. 20: 3), pronađenih s donje strane lubanje. Također, na zdjelici su pokojnice pronađena dva novca: AE3 cara Konstansa, kovan između 348. i 350. godine u Solunu (T. 20: 1), te AE2 cara Decencija, kovan 351. god. u Akvileji (T. 20: 2), koji

interestingly with a very small number of examples. By way of comparison, the Štrbinci graves (19, 45, 87, 95 and others), dated to the 4<sup>th</sup> and first half of the 5<sup>th</sup> century, contained necklaces made of a considerably high number of beads, including examples morphologically identical to the aforementioned beads in Sisak.<sup>58</sup> A small rod with linear cross-section, 1.8 cm long, was found between the tegulae, which based on analogies from grave 17, found to the left and right of the skull of the deceased, may have been earring (Pl. 17: 6).

In the aforementioned grave 9, two copper-alloy bracelets were found on the arms of the deceased (Pl. 18: 2-3), and on the left side of the skull an iron peg. The first bracelet, found on the right arm, had a hoop with round cross-section and open, hammered ends with lines engraved on the edges. Additionally, one part of the bracelet features a decoration of eight short engraved lines. Similar bracelets were found in graves 45, 87, 105, 113, 125 and 157 at Štrbinci, and dated to the 4<sup>th</sup> and first half of the 5<sup>th</sup> century.<sup>59</sup> Another bracelet, with linear cross-section, has open ends decorated with a series of impressed dot and skewed-line motifs. Pieces of bracelets with linear cross-section and decorated with various motifs (clepsydrae, circles with dots) were registered in Štrbinci graves 74 and 84, while an example with linear cross-section from grave 106 had a clasping mechanism composed of perforations on one end and small hooks on the other.<sup>60</sup> The dating of these items is identical to that of the previously described bracelets with hammered ends.

A woman, between 35 and 45 years of age, was interred in grave 13, without traces of grave architecture, with a hollow copper-alloy bracelet having separated ends on her right forearm (Pl. 19: 1) and pieces of a bone bracelet on her left forearm (Pl. 19: 2). A virtually identical hollow bracelet was found on the left arm of a deceased woman in grave 113 at Štrbinci and dated to the first half of the 5<sup>th</sup> century.<sup>61</sup> The fragments of unadorned bone bracelets have an oval cross-section and are connected by copper alloy rivets. Along the left side of the skull, there were two fragments of earring made of copper alloy, and between the ribs there were also three cylindrical beads made of green glass. The fourth, bone bead with a barrel shape was found next to the skull when the osteological materials were being washed. A high number of bone beads were registered, for example, in grave 60 from Zmajevac, in which a child aged 4-5 was buried.<sup>62</sup>

A group of graves discovered in the southern part of a trench in which there were four skeletal burials laid one next to the other without any damages to earlier graves by subsequent burials is also important to date the excavated part of the cemetery (Fig. 29). The goods in the oldest grave 21, in which a woman 40 to 45

59 Migotti 2004, 166, T. 13; Migotti 2009, 133, 144, T. 19; Sl. 8, T. 30; Sl. 4, T. 35; Sl. 1; Migotti, Leleković 2013, 244, T. 5; Sl. 6-7; Migotti, Leleković 2017, T. 6; Sl. 2-3.

60 Migotti, Perinić 2001, 107, T. 4; sl. 4; Migotti 2009, 123, 129, 145, sl. 11; 7, T. 16; sl. 6, T. 31; sl. 6.

61 Migotti 2009, 149, T. 34; sl. 5.

62 Filipović 2010, grob 60 (kat. br. 15).

63 Na planu groblja označeni su zelenom bojom!

58 Migotti, Perinić 2001, 114, Pl. 13; Fig. 5; Migotti 2004, 168-171, Pl. 14: 10; Migotti 2009, 131, 137, Pl. 19; Fig. 3, Pl. 23: 3 and others.

59 Migotti 2004, 166, Pl. 13; Migotti 2009, 133, 144, Pl. 19; Fig. 8, Pl. 30; Fig. 4, Pl. 35; Fig. 1; Migotti, Leleković 2013, 244, Pl. 5; Fig. 6-7; Migotti, Leleković 2017, Pl. 6; Fig. 2-3.

60 Migotti, Perinić 2001, 107, Pl. 4; Fig. 4; Migotti 2009, 123, 129, 145, Fig. 11; 7, Pl. 16; Fig. 6, Pl. 31; Fig. 6.

61 Migotti 2009, 149, Pl. 34; Fig. 5.

62 Filipović 2010, grave 60 (cat. no. 15).

predmetni grob datiraju u sredinu, odnosno vjerojatnije u drugu polovicu 4. st. Iznad glave pokojnice nalazila se veća željezna spojica koja je vjerojatno bila dio lijesa, na što upućuju sačuvani ostatci drveta (T. 21: 7). Posljedično, ostala tri groba, koji se nalaze iznad opisanoga groba 21, a to su redom grobovi 10, 6 i 8, uzevši u obzir vrijeme potrebno za razgradnju tijela i drvenog lijesa, ukopana su u posljednjoj četvrtini 4. te početkom, odnosno u prvoj polovici 5. st. Pritom najmlađi grob 8 ima istu orijentaciju zapad – istok, kao i najpliće ukopani i najslabije očuvani grobovi 4 i 7 (sl. 29).<sup>63</sup>

U istraživanju rimskoga naseobinskog sloja, u koji su bili ukopani opisani grobovi, pronađeno je nekoliko numizmatičkih nalaza koji zasigurno pripadaju kasnoantičkoj fazi korištenja ovoga prostora dok je imao funkciju groblja, a u zemlju su mogli dospjeti slučajno ili kao dio pogrebnog rituala. Riječ je o antoninijanu cara Aurelijana, kovanom između 271. i 274. u Sisciji (T. 15: 7),<sup>64</sup> AE3 cara Valensa, kovanom između 364. i 367. godine u Akvileji (T. 15: 8)<sup>65</sup> te AE3 careva Valentinijana I. ili Teodozija I., kovanom između 364. i 395. (T. 15: 9).

## Arhitektura željeznodobnih nastambi

Na osnovu podataka prikupljenih u istraživanju od 2012. do 2017. godine mogu se pretpostaviti dva (možda i tri!) tipa drvene gradnje na istraženom dijelu željeznodobnog naselja na Pogorelcu. Prvi tip predstavlja gradnja s okomitim, u zemlju zabijenim stupovima koji su činili zidnu osnovu objekta. Postojanje objekata građenih ovom tehnikom potvrđuju ukopi za stupove zabilježeni u naseobinskom *horizontu 1* iz starijega željeznog doba u Sondi 2 te na periferiji naselja u Sondi 4. Zbog relativno male istražene površine u obje sonde, navedene stupove nije bilo moguće povezati u sigurne cjeline koje bi tvorile tlocrte pojedinih građevina. Nešto je jasnija situacija zabilježena u *horizontu 1a* u Sondi 2, gdje su u sterilan sloj žute gline bile ukopane tri rupe od stupova, polukružno postavljene oko ovalnog ognjišta, promjera 60 cm. Također, rupe za stupove zabilježene su u mlađoj fazi *Objekta 3* u Sondi 1, kod kojega su se u obnovljenom podu od žuto-zelene gline nalazili ukopi za stupove (sl. 15: 3-4). Naime, u sjevernom dijelu objekta nalazila su se četiri, a u središnjem i jugozapadnom dijelu po jedan ukop od kojih su SJ 86, 92 i 94 mogli činiti ukope za stupove što su činili osnovu zidne, odnosno krovne konstrukcije. Kod ovog tipa gradnje prostor između nosivih stupova ispunjava se prepletom od šiblja koji se premazuje kućnim lijepom, a koji je potvrđen masivnim slojem urušenja koji je u potpunosti pre-

years of age was buried, included two ceramic vessels (a bowl and jug) (Pl. 21: 5-6) and a glass balsamarium (Pl. 21: 4), laid next to the left leg, while the elements of costume included ten bi-conical beads made of blue (9 pcs.) and green (1 pc.) glass (Pl. 20: 3), found on the lower side of the skull. Furthermore, two coins were found next to the deceased woman's pelvis: AE3 of Emperor Constans, minted between 348 and 350 in Thessalonica (Pl. 20: 1), and AE2 of Emperor Decentius, minted in Aquileia in 351 (Pl. 20: 2), which date the grave to the mid-, or more likely the latter half of the 4<sup>th</sup> century. Above the deceased woman's head there was a large clamp which was probably part of a coffin indicated by remains of the wood. Consequently, the remaining three graves, which are above this grave 21, graves 10, 6 and 8, taking into account the time necessary for the decomposition of bodies and wooden coffins, were dug in the final quarter of the 4<sup>th</sup> century, or in the first half of the 5<sup>th</sup> century. The most recent grave 8 has the same west-east orientation as the shallowest and most poorly preserved graves 4 and 7 (Fig. 29).<sup>63</sup>

In the excavation of the Roman settlement layer, in which the aforementioned graves had been dug, several numismatic finds were discovered which belong to the Late Roman phase of use of this area when it had a functioning cemetery, and they may have ended up in the ground either by chance or as a part of burial rites. These are an antoninianus of Emperor Aurelian, minted in Siscia between 271 and 274 (Pl. 15: 7),<sup>64</sup> an AE3 of Emperor Valens, minted in Aquileia between 364 and 367 (Pl. 15: 8)<sup>65</sup> and an AE3 of Valentinian I or Theodosius I, minted between 364 and 395 (Pl. 15: 9).

## The architecture of Iron Age dwellings

Based on the data gathered during excavations conducted from 2012 to 2017, the existence of two (and possibly three!) types of ancient construction may be assumed in the excavated section of the Iron Age settlement at Pogorelac. The first type constitutes construction with vertical posts driven into the ground which formed the basis of the walls. The existence of buildings constructed by this technique have been confirmed by post-holes that were registered in settlement *horizon 1* from the Early Iron Age in Trench 2 and in the settlement's periphery in Trench 4. Due to the relatively small excavated surfaces, in both trenches these posts could not be linked to any certain whole unit that could have formed the layouts of individual buildings. A somewhat clearer situation was recorded in *horizon 1a* in Trench 2, where three post-holes were dug into the sterile, yellow clay layer in a semi-circle around an oval hearth with a diameter of 60 cm. Additionally, post-holes were registered in the later phase of *Structure 3* in Trench 1, in which the post-holes were dug in the restored yellow-green clay floor (Fig. 15: 3-4). Namely, in the northern section of the structure there were four holes, and one each in the central and south-western sections, of which SU 86, 92 and 94 may have been post-holes that formed the basis for the wall and also roof construction. In this type of construction,

64 RIC 5/1, 284, br. 174.

65 RIC 9, 95, 9b(xa).

66 Npr. nastambe 1 i 6 (1. naseobinska faza), 1a-b i 10 (2. faza), 17 (4. faza) itd.

63 They are indicated in green on the map of the cemetery!

64 RIC 5/1, 284, no. 174.

65 RIC 9, 95, no. 9b(xa).



SLIKA 30. 1. Presjek poda Objekta 6 u Sondi 2; 2. Ostaci temeljne grede Objekta 6 u Sondi 2; 3-4. Ostaci zidne konstrukcije Objekta 4 u Sondi 2 (snimio I. Drnić).

FIGURE 30. 1. Cross-section of the floor in Structure 6 in Trench 2; 2. Remains of the foundation beam of Structure 6 in Trench 2; 3-4. Remains of wall construction of Structure 4 in Trench 2 (photo by I. Drnić).

krio ostatke poda (SJ 64) (sl. 11-12). Slično konstrukcijsko rješenje s podovima od nabijene zemlje i okomitim stupovima zabijenima u tlo zabilježeno je na nizu objekata na ljubljanskoj Tribuni, u svim kasnobrončanodobnim i stariježeljeznodobnim fazama naselja od kojih je 5. faza, datirana u certoški i negovski stupanj doljenjske halštatske skupine, više-manje istovremena s 2. i 3. nasebinskim horizontom u Sondi 1, *horizontima 1-3* u Sondi 2 i *horizontima 0 i 1* u Sondi 4.<sup>66</sup>

Drugi, iz tehničke perspektive napredniji tip, predstavlja gradnja s horizontalno postavljenim temeljnim gredama na koje se postavljaju okomiti stupovi kao konstrukcijska osnova zidne plohe (slo. *sohasta gradnja*, njem. *Ständerbau*, engl. *postpad construction*).<sup>67</sup> Vodoravne temeljne grede mogu biti postavljene na kamene temelje izrađene u suhozidnoj tehnici, koji su zabilježeni na nizu jugoistočnoalpskih lokaliteta, od Mosta na Soči,<sup>68</sup> preko ljubljanske Tribune,<sup>69</sup> do Kučara u Beloj Krajini<sup>70</sup> i Poštele u Štajerskoj,<sup>71</sup> a koji su služili kao izolacija od vlage, što je posljedično

the spaces between the load-bearing posts was filled with interwoven branches (wattle) that were coated with daub, which was confirmed in the massive layer of rubble that entirely covered the remains of the floor (SU 64) (Fig. 11-12). A similar construction solution with packed-earth floors and vertical posts driven into the ground was recorded in a series of structures at the Tribuna site in Ljubljana in all Late Bronze Age and Early Iron Age phases of the settlement, of which the fifth phase, dated to the Certosa and Negova phases of the Dolenjska Hallstatt group, is more or less contemporaneous with the second and third settlement horizons in Trench 1, *horizons 1-3* in Trench 2, and *horizons 0-1* in Trench 4.<sup>66</sup>

The second, technically more advanced type is post and pad construction, involving horizontally laid foundation beams on which vertical posts are set as the construction basis for the wall surfaces (slo. *sohasta gradnja*, Ger. *Ständerbau*).<sup>67</sup> The horizontal foundation beams may be placed on a stone foundation made in

(Vojaković 2013, 37-38, 44-45, 79-81, 183-185, 193, sl. 15, 20, S. 38-39, 100-102, 107, sažetak: 300-302).

67 Dular 2008, 340, Sl. 4-5a; Vojaković 2013, 303-304, sl. 155.

68 Svoljšak, Dular 2016.

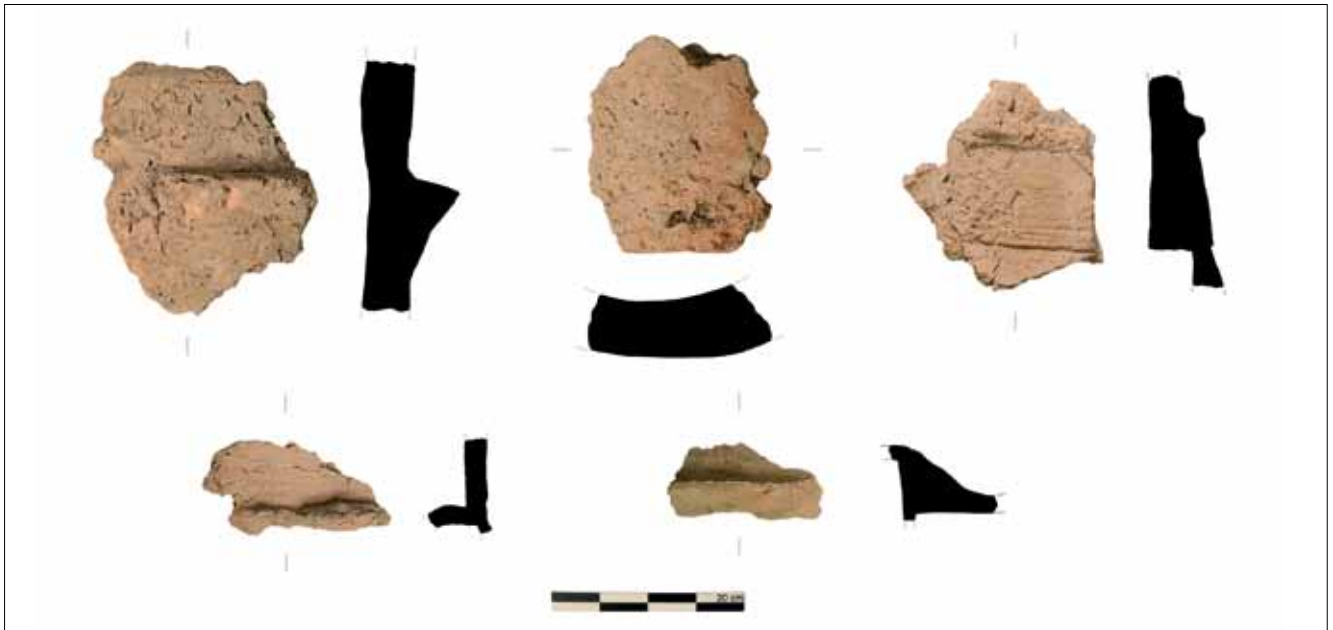
69 Vojaković 2013, 303-304, sl. 155.

70 Dular, Ciglencečki, Dular 1995, 33-38.

71 Teržan 1990, 31.

66 E.g. dwellings 1 and 6 (first settlement phase), 1a-b and 10 (second phase), 17 (fourth phase), etc. (Vojaković 2013, 37-38, 44-45, 79-81, 183-185, 193, Fig. 15, 20, S. 38-39, 100-102, 107, summary: 300-302).

67 Dular 2008, 340, Fig. 4-5a; Vojaković 2013, 303-304, Fig. 155.



SLIKA 31. Komadi kućnog lijepa iz urušenja Strukture 6 (snimio I. Drnić).

FIGURE 31. Pieces of house daub from wall construction of Structure 6 (photo by I. Drnić).

utjecalo na sporije propadanje drveta i produženi vijek nastambe. Također, zabilježeni su i primjeri gdje su građevine postavljene izravno na tlo, što utječe na brže propadanje drvene građe, kao što je slučaj s kućom B na lokalitetu Kučar, ali i sisačkim objektima.<sup>72</sup> Nažalost, zbog malih dimenzija sondi na Pogorelcu, ni jedan stambeni objekt nije u cijelosti istražen, stoga se interpretacija, kao i pokušaj rekonstrukcije, temelji na nepotpunim podacima. Ipak, registrirani konstrukcijski elementi dopuštaju određene zaključke o načinu gradnje. Na osnovu sačuvanih podnica i elemenata drvene građe te ostataka kućnog lijepa zaključujemo da je u slučaju *Objekata 2* u Sondi 1 te *Objekata 4 - 6* u Sondi 2 vjerojatno korištena *postpad construction*, što će biti elaborirano u nastavku teksta. Kod *Objekta 1* i ne raspoložemo s dovoljno podataka za detaljniju interpretaciju pa u obzir dolaze dva tipa gradnje: građevinska tehnika *postpad construction* i tzv. blokovska gradnja (njem. *Blockbau*, engl. *corner timbering*, *bauk wall construction*) kod koje se zidovi građe vodoravnim polaganjem balvana / greda koje se na uglovima objekta vežu križnom vezom.<sup>73</sup> Također, u slučaju starije faze *Objekta 3* nisu zabilježeni ukopi od stupova pa možemo pretpostaviti jednu od dvije navedene gradnje. Važno je istaknuti da opisane graditeljske tehnike nisu međusobno isključive pa, primjerice u slučaju naselja na Tribuni, imamo primjere kombinirane gradnje s tragovima horizontalnih temeljnih gredi, suhozidnih temelja i ukopa za stupove koji su mogli nositi krovnu konstrukciju.<sup>74</sup>

the dry stone stone technique, which have been registered at a series of south-eastern Alpine sites, from Most na Soči,<sup>68</sup> through Ljubljana's Tribuna,<sup>69</sup> to Kučar in Bela Krajina<sup>70</sup> and Poštela in Styria,<sup>71</sup> which served as insulation from moisture, consequently ensuring the slower decay of the lumber and a longer-life for the dwelling. Moreover, examples have been registered in which the structures were set directly on the ground, which led to the more rapid deterioration of the lumber, as was the case in *house B* at the Kučar site, but also *Structures 4-6* from Sisak.<sup>72</sup> Unfortunately, due to the small dimensions of the trench at Pogorelac, not a single residential structure has been entirely excavated, so interpretations and any attempts at reconstruction are based on incomplete data. Even so, the registered construction elements allow for certain conclusions on the construction technique. Based on the preserved floors and wooden construction elements, as well as remains of daub, we have concluded that the post and pad technique was used in the cases of *Structure 2* in Trench 1 and *Structures 4-6* in Trench 2, which will be elaborated below. We do have not at our disposal sufficient data for *Structure 1* to make a detailed interpretation, so two types of construction may be considered: post and pad and so-called corner timbering (also baulk wall construction, Germ. *Blockbau*), wherein the walls were built by laying logs horizontally and connecting them at the corners with cross-ties.<sup>73</sup> Additionally, in the case of the earlier phase of *Structure 3*, no post-holes were registered, so we may assume

72 Dular, Ciglenečki, Dular 1995, 39-45.

73 Dular 2008, 341, sl. 2B-C

74 Vojaković 2013, 304-305.

68 Svoljšak, Dular 2016.

69 Vojaković 2013, 303-304, Fig. 155.

70 Dular, Ciglenečki, Dular 1995, 33-38.

71 Teržan 1990, 31.

72 Dular, Ciglenečki, Dular 1995, 39-45.

73 Dular 2008, 341, Fig. 2B-C

Objekte građene u *postpad construction* tehnici s Pogorelca karakteriziraju sljedeći konstrukcijski elementi:

1. Podovi od žute nabijene gline, koja je funkcionirala kao izolator, zabilježeni su u *Objektima 1 – 7*. Debljina je podova varirala od nekoliko centimetara kod *Objekta 4* do 20 do 30 cm u slučaju *Objekta 6* (sl. 30: 1). Isto je konstrukcijsko rješenje zabilježeno na nekoliko objekata na ljubljanskoj Tribuni, gdje se za izradu podova glina koristi u kombinaciji s lomljenim kamenom i oblucima.<sup>75</sup>

2. Ostaci spaljene drvene građe u obliku horizontalno položenih balvana / greda zabilježeni su u slučaju *Objekata 2* te *Objekata 4 – 7*. U kontekstu su *Objekta 1* zabilježeni ostaci spaljenog drveta, ali su malobrojni i teško ih je jasnije definirati u konstrukcijskom smislu. Kod *Objekta 3* nisu zabilježeni ostaci drvene arhitekture, ali se to možda može objasniti drugačijim tipom gradnje, s okomitim stupovima, čiji su tragovi zabilježeni u mlađoj fazi poda.

Činjenica da je kod svih navedenih objekata zabilježen samo jedan red spaljenih greda, navela nas je na razmišljanje da su istraženi sisački kasnohalštatski objekti građeni tehnikom s vodoravno postavljenim temeljnim gredama na koje su bili postavljeni okomiti stupovi kao osnova zidne konstrukcije (sl. 32). Dobar primjer tomu su dio masivnog balvana kružnog presjeka (SJ 220), istraženog u južnom dijelu *Objekta 6*, koji se nalazio tik uz nabijeni pod (sl. 30: 2), te balvan uz zapadni rub istog objekta (SJ 218), kao i dobro očuvan, ali samo u manjem dijelu istražen balvan uz sjeveroistočni rub *Objekta 7* (SJ 207). Kod ovoga tipa drvene gradnje zidne plohe popunjavaju se daskama ili oblicama koje se uglavljaju u okomite stupove nakon čega se zid može premazati i kućnim lijepom (sl. 32: 2-3).<sup>76</sup> Upravo je takva struktura zabilježena u slučaju *Objekta 4*, gdje su u sloju s velikom količinom spaljenog drveta u sjeveroistočnom uglu sonde definirani ostaci dvaju balvana kružnog presjeka, orijentacije sjeveroistok – jugozapad, ispod kojih su se nalazile tanje daske, okomite na balvane, orijentacije sjeverozapad – jugoistok (sl. 30: 2; sl. 32: 2). Cijeli sloj sa spaljenim drvatom bio je prekriven debelim slojem kućnog lijepa, a ispod spaljenog drveta nalazi se tanji sloj žute, nabijene zemlje koji je vjerojatno činio podnicu objekta. Zapadno od opisane situacije nalazila se velika količina spaljenog drveta u kojoj je bilo teško raspoznati konkretne konstrukcijske elemente, ali smo ih ipak definirali na nekoliko pozicija (Sl. 19):

1. ostaci grede uz južni rub građevine, orijentacije sjeverozapad – jugoistok (temeljna greda) (sl. 19: 1-2);
2. na nju paralelna greda uz sjeverni profil (vjerojatno okomiti stup zidne konstrukcije) (sl. 19: 1-2);
3. ostaci triju dasaka uz sjeverni profil, koje su okomite na smjer navedenih gredi, a koje su mogle činiti dio zidne konstrukcije objekta (identično opisanoj situaciji u istočnom dijelu sonde) (sl. 30: 4);
4. ostaci dasaka u središnjem dijelu sonde orijentacije sjever – jug (sl. 19: 1-2).

one of these two construction methods. It is vital to stress that these construction techniques were not mutually exclusive, so, for example, in the case of the settlement at Tribuna, there are examples of combined construction with traces of horizontal foundation beams, stacked stone foundations and post-holes for which may have borne the roof construction.<sup>74</sup>

Structures built using the post and pad technique in Pogorelac are characterized by the following construction elements:

1. Floors made of yellow packed clay, which served as insulation, registered in *Structures 1-7*. The thickness of the floors varied from several centimetres in *Structure 4* to 20-30 cm in the case of *Structure 6* (Fig. 30: 1). The same construction solution was recorded in several structures at Tribuna in Ljubljana, where clay was used in combination with broken stones and pebbles to make the floors.<sup>75</sup>

2. Remains of burned lumber in the form of horizontally laid logs/ beams as registered in the case of *Structure 2* and *Structures 4-7*. In the context of *Structure 1*, the remains of burned wood were registered, but they were scant and it was difficult to more clearly define them in the architectural sense. Wooden architectural remains were not registered in *Structure 3*, but this may perhaps be explained by a different construction technique with vertical posts, traces of which were registered in the later phase of the floor.

The fact that in all of the aforementioned structures only one row of burned beams was registered has prompted us to speculate that the excavated late Hallstatt structures in Sisak were built using the post and pad technique (Fig. 32). A good example of this is the part of a massive log with circular cross-section (SU 220) excavated in the southern part of *Structure 6*, which was situated immediately adjacent to the packed floor (Fig. 30: 2), and the log along the western edge of the same structure (SU 218), and also a well-preserved log, albeit only excavated in small part, in the north-eastern edge of *Structure 7* (SU 207). In this type of wooden construction, the wall surfaces are covered with boards or slats that are secured onto vertical stakes, after which they were coated with daub (Fig. 32: 2-3).<sup>76</sup> Precisely this composition was registered in the case of *Structure 4*, where the remains of two logs with circular cross-section and a NE-SW orientation were defined in the layer with a high quantity of burned wood in the north-eastern corner of the trench, below which there were thin boards, vertical on the logs, with a NW-SE orientation (Fig. 30: 2; Fig. 32: 2). The entire layer with burned wood was covered with a thick layer of daub, and below the burned wood there was a thin layer yellow packed earth which was probably the structure's floor. West of the situation so described was a high quantity of burned wood in which it was difficult to discern any specific construction elements, but they were nonetheless defined at several positions (Fig. 19):

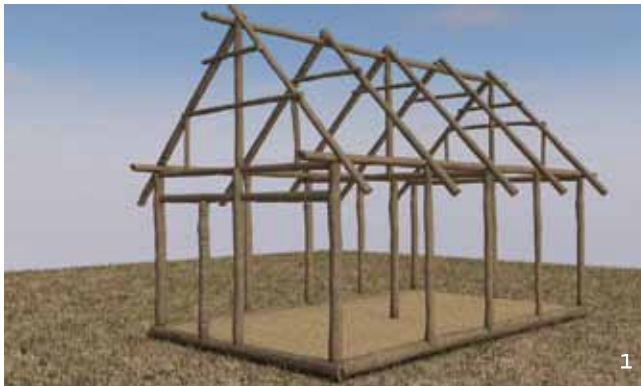
75 Vojaković 2013, primjerice objekt br. 8: 91-94, općenito: 300, sl. 150.

76 Dular 2008, 340, sl. 4-5A.

74 Vojaković 2013, 304-305; Vojaković 2014.

75 Vojaković 2013, for example, structure no. 8: 91-94, in general: 300, Fig. 150.

76 Dular 2008, 340, Fig. 4-5A.



1



4



2



3

SLIKA 32. 1-4. Idealna rekonstrukcija kuće iz kasnohalštatske faze naselja na Pogorelcu (izradio M. Maderić).

FIGURE 32. 1-4. Ideal reconstruction of the house from the late Hallstatt phase of the settlement at Pogorelac (made by M. Maderić).

S obzirom na orijentaciju, opisani spaljeni drveni konstrukcijski elementi u središnjem i sjeverozapadnom dijelu sonde vjerojatno predstavljaju ostatke drugog (zapadnog?) zida *Objekta 4*. Ako smo dobro interpretirali ovu situaciju, opisani balvani su činili okomite stupove zidne konstrukcije, a tanje su daske bile pričvršćene na njih s unutrašnje strane objekta, dok je vanjska strana zidova bila premazana kućnim lijepom. Nakon što je objekt bio zahvaćen požarom, zidna se konstrukcija urušila, pri čemu su daske završile ispod greda, na podu od nabijene zemlje, a sve je prekriveno spaljenim kućnim lijepom.

Dodatnu potvrdu *postpad construction* gradnje nalazimo u kontekstu *Objekta 6*, u jugoistočnom dijelu Sonde 2. Naime, uz južnu stranu *Objekta 6* zabilježeni su ostaci nekoliko paralelnih, užih

1. remains of foundation beams set along the southern edge of the building, with NW-SE orientation (Fig. 19: 1-2);
2. a parallel beam along the northern profile (probably a vertical post from the wall construction) (Fig. 19: 1-2);
3. remains of three boards along the northern profile of Trench 2 that are vertical to the direction of the aforementioned beams, and which may have formed a part of the structure's wall construction (identical to the situation described in the eastern section of the trench) (Fig. 30: 4);
4. the remains of boards in the central part of the trench with north-south orientation (Fig. 19: 1-2).

Given the orientation of the burned wooden construction elements in the central and north-western sections of the trench, they probably constituted the remains of another (western?) wall on *Structure 4*. If this situation has been correctly interpreted, the above-described logs were the vertical posts of the wall construction, while the thin boards were fastened to them from the inside, and the external side of the walls were coated with daub. After the structure caught on fire, the wall collapsed, so that the boards ended up below the beams, on the packed-earth floor, and everything was covered by burned daub.

Additional confirmation of the post and pad technique can be found in the context of *Structure 6*, in the south-eastern corner of Trench 2. Namely, along the southern side of *Structure 6*, the remains of several parallel, narrow boards were registered with pieces of daub next to them *in situ* (Fig. 21: 1-2). A massive vertical wooden beam was perpendicular to them (SU 223), level with the aforementioned foundation beam (SU 220), which may have formed the vertical corner post to which these boards were fastened, and coated with daub on the outside (SU 221 and 222). If this structure has been properly interpreted, this part of the wall construction of *Structure 6* fell outward as a result of a fire.

Due to the small excavated surface in Trench 1, the remains of wooden architecture at *Structure 2* are more difficult to interpret, but in the context of the above-described building technique, it is possible that the wooden elements, which form a sort of rectangular frame, constituted a part of the wall or foundation construction (Fig. 14: 1-2). Furthermore, in case of *Structure 5* from Trench 2, which has only been excavated in small part, the thin remains of boards with NW-SE orientation were recorded, while there were meagre vertically laid remains of a beam on

dasaka uz koje su se nalazili i komadi *in situ* kućnog lijepa (sl. 21: 1-2). Okomito na njih nalazila se masivnija drvena greda (SJ 223), u ravnini sa spomenutom temeljnom gredom (SJ 220), koja je mogla činiti kutni okomiti stup na koji su bile pričvršćene navedene daske koje su s vanjske strane bile premazane kućnim lijepom (SJ 221 i 222). Ako je ova struktura dobro interpretirana, ovaj dio zidne konstrukcije *Objekta 6* uslijed požara se srušio prema van.

Zbog male istražene površine u Sondi 1, ostatke drvene arhitekture kod *Objekta 2* teže je interpretirati, ali u kontekstu opisane gradnje moguće je da drveni elementi, koji čine svojevrsan pravokutan okvir, predstavljaju dio zidne ili temeljne konstrukcije (sl. 14: 1-2). Također, u slučaju *Objekta 5* iz Sonde 2, koji je istražen u vrlo malom dijelu, zabilježeni su tanki ostaci dasaka orijentacije sjeverozapad – jugoistok, dok su se s njihove vanjske strane nalazili skromni, okomito položeni ostaci grede koja je mogla činiti okomitu osnovicu zida na koji su navedene daske bile pričvršćene.

Analize drveta korištenog u gradnji objekata provedene su samo na nekoliko prikupljenih uzoraka, a glavna posla tek predstoji. U Sondi 1 analiziran je uzorak spaljene drvene grede koja se nalazila uz *Objekt 2*, a ustanovljeno je da se radi o hrastu (*Quercus sect. Quercus*). Preliminarne analize dvaju uzoraka spaljenog drveta iz *Objekta 2*, provedene na Gozdarskom inštitutu Slovenije, potvrdile su dvije vrste – već spomenuti hrast, ali i smreku, ukazujući na uporabu različitog drveta u gradnji.<sup>77</sup> Primjerice, na nalazištu Tribuna provedene su analize drvene građe na većem broju uzoraka u svim naseobinskim fazama naselja koje su uz sporadičnu pojavu bukve (*Fagus*), javora (*Acer*) i johe (*Alnus*) potvrdile predominaciju uporabe hrasta (*Quercus*) u gradnji nastambi.<sup>78</sup>

3. Nekoliko je puta navedeno da su drveni zidovi nastambi premazivani smjesom blata i organskog materijala, što je potvrđeno masivnim slojevima zidnih urušenja s velikom količinom kućnog lijepa kod svih opisanih objekata istraženih na Pogorelcu, a koji su nastali uslijed uništenja nastambi u požaru. Među njima su pronađeni i komadi s otisnutim tragovima drvene građe, korištene za izgradnju zidnih konstrukcija. Primjerice, tragovi na komadima kućnog lijepa iz SJ 212 i 213, a koje predstavljaju urušenje zida *Objekta 6*, ukazuju na uporabu okruglih balvana / oblica, ali i tesanih greda / dasaka (sl. 31), što je zabilježeno i u ostacima istovremene kasnohalštatske kuće 2 s lokaliteta Kučar.<sup>79</sup> Pravokutni otisci u kućnom lijepu u zidnom urušenju *Objekta 6* potvrđuju uporabu dasaka kojima su ispunjavane zidne plohe između okomitih stupova, što je dodatna potvrda za uporabu *postpad construction* tehnike u izgradnji objekta.

4. Elementi krovne konstrukcije iznimno su rijetko sačuvani u arheološkim kontekstima, a ista je situacija i u slučaju sisačko-ga željeznodobnog naselja. Ipak, koristeći pojedine etnografske primjere, moguće je ponuditi određena konstrukcijska rješenja za pretpovijesnu drvenu arhitekturu. Primjerice, prema rekon-

their external side which may have formed the vertical base of the walls onto which the boards were fastened.

An analysis of the wood used to build the structure was conducted on only a few gathered samples, while most of the work has yet to be done. In Trench 1, a sample of a wooden beam situated next *Structure 2* was analysed, wherein it was ascertained that it was made of oak (*Quercus sect. Quercus*). Preliminary analysis of two samples of burned wood from *Structure 2* confirmed two varieties, the already mentioned oak, but also spruce, indicating the use of different types of wood in construction.<sup>77</sup> For example, at the Tribuna site, the wood materials were analysed in a high number of samples in all settlement phases which, besides the sporadic appearance of beech (*Fagus*), maple (*Acer*) and alder (*Alnus*), confirmed the predominance of the use of oak (*Quercus*) to build dwellings.<sup>78</sup>

3. Several times it has been noted that the wooden walls of dwellings were coated with a mixture of mud and organic materials, which has been confirmed in the massive layers of wall rubble with a high quantity of daub at all of the above-described structures excavated at Pogorelac, which emerged as a result of the destruction of the dwellings in fires. Among them pieces of impressed traces of wooden materials used to build the wall construction were also found. For example, traces on pieces of daub from SU 212 and 213, which constitute the rubble of the wall of *Structure 6*, indicate the use of round logs/slats, but also cut beams/boards (Fig. 31), which was also registered in the remains of the contemporaneous late Hallstatt *house 2* from the Kučar site.<sup>79</sup> Rectangular remains in the daub in the wall rubble of *Structure 6* confirm the use of boards used to fill the wall surfaces between the vertical posts, which further confirms the use of the post and pad technique to build structures.

4. Elements of the roof construction were only exceptionally preserved in archaeological contexts, and the same situation pertained to the case of the Iron Age settlement in Sisak. Even so, by using individual ethnographic examples, it is possible to offer a certain reconstruction of the solutions for prehistoric wooden architecture. For example, according to the reconstruction done by J. Dular in the case of the post and pad technique, the roof structure, i.e., the ridge beam, was set on vertical posts that were situated at the shorter sides of the structure, and may have been additionally supported by posts installed in the structure's interior.<sup>80</sup> An alternative technique may have also been the so-called scissor roof construction, in which the roof is based on two or more pairs of crossed beams fixed to the wall construction.<sup>81</sup> As to the materials used to cover roofs, ethnographic examples indicate several possibilities for the Sisak Iron Age dwellings, and taking into account the climate and geographic milieu, the use of wooden boards or shingles, or straw, should probably be assumed (Fig. 32: 4).

77 Preliminarna analiza je provedena u Gozdarskom inštitutu Slovenije na čemu zahvaljujem kolegi dr. Tomislavu Levaniću.

78 Vojaković 2013, 293–294, Tab. 89.

79 Dular, Ciglencečki, Dular 1995, 40, sl. 17.

77 The preliminary analysis was conducted at the Slovenian Forestry Institute, for which I would like to thank Tomislav Levanič, Ph.D.

78 Vojaković 2013, 293–294, Pl. 89.

79 Dular, Ciglencečki, Dular 1995, 40, Fig. 17.

80 Dular 2008, Fig. 4, 5A.



strukciji J. Dulara, u slučaju *postpad* tehnike krovna konstrukcija, odnosno sljemenska greda, postavljena je na vertikalne stupove koji se nalaze na kraćim stranama građevine, a može biti dodatno poduprta stupovima smještenim u unutrašnjosti objekta.<sup>80</sup> Alternativna tehnika mogla bi biti tzv. škarasta krovna konstrukcija kod koje se krov temelji na dva ili više parova križno postavljenih i na zidnu konstrukciju fiksiranih greda.<sup>81</sup> Što se tiče materijala za pokrivanje krovova, etnografski primjeri ukazuju na nekoliko mogućnosti, pri čemu za sisačke željeznodobne nastambe, uzevši u obzir podneblje i geografsko okruženje, vjerojatno treba pretpostaviti uporabu drvenih dasaka ili šindre, odnosno slame (sl. 32: 4).

## Zaključak

Rezultati magnetske prospekcije na položaju Sisak–Pogorelac mogu se smatrati uspješnim. Različite razvojne strukture zabilježene su u geofizičkim mjerenjima, na relativno maloj površini od 8 ha. Ovu kompleksnu dijakronijsku naseobinsku aktivnost na ograničenom prostoru karakteriziraju različite orijentacije struktura i njihovih tlocrta te preklapanja. Različite jačine termomagnetskih anomalija ključ su za razumijevanje korištenih konstrukcijskih tehnika koje uglavnom uključuju drvene strukture te veće trake slojeva urušenja u Strukturama 1 i 2. U južnom dijelu istražene površine Strukture 1 - 3 korištene su u jednoj fazi ili su samo djelomično uništene u požaru. Ipak, bez potvrde podataka iz geofizičkog pregleda sondiranjem ili analizom površinskih nalaza, ove strukture ne mogu se preciznije datirati. Zbog gustoće struktura i njihova preklapanja te relativno male pregledane površine, određeni podaci, kao što je kasnoantično groblje u sjevernom dijelu, nisu prepoznati u magnetometarskom mjeranju. Iskopavanja su pružila podatke za datiranje višefazne Strukture 1 u starije i mlade željezno doba. Također, iz geofizičkih je prikaza vidljivo da strukture istražene u Sondama 1 i 2 imaju istu orijentaciju. Građevine unutar Struktura 2 i 3, uz znatan oprez, mogle bi se interpretirati kao rimskodobne kuće u nizu, dok bi one iz Struktura 4 - 6 te 8 - 11 mogle predstavljati raštrkane kasnoantičke objekte s mogućnošću postojanja groblja u južnom dijelu. Ipak, bez postojanja nalaza i provedenih iskopavanja jednako se može pretpostaviti da predstavljaju postrimske, srednjovjekovne ili recentne naseobinske ostatke na Pogorelcu. Pregledne zone 7 - 10, smještene na jugozapadu Pogorelca, nisu pružile indikacije o postojanju rimskoga vojnog logora niti nekih drugih kompleksnijih građevina koje bi upućivale na intenzivniju antropogenu aktivnost na lokalitetu.

Recentna iskopavanja, koja se provode u razdoblju od 2012. do 2017. godine, u kombinaciji s prethodno opisanim geofizičkim pregledom, proširila su postojeća, relativno skromna znanja o željeznodobnom naselju na poziciji Sisak–Pogorelac. Zabilježeni su različiti horizonti naseljavanja, kao i kronološki različita uporaba prostora unutar naselja, a definirani su i načini gradnje nastambi i djelomično njihova organizacija. Udruživanje ovih podataka s rezultatima zaštitnih arheoloških iskopavanja, provedenih na lijevoj obali rijeke Kupe,<sup>82</sup> dovelo je do pojašnjenja

## Conclusion

The results of geophysical magnetic prospection at Sisak–Pogorelac may be evaluated as successful. Various development structures could be recognized from geophysical measurements of a relatively small area of 8 hectares. This complex diachronic settlement activity in a confined space is characterized by various orientations, overlays (superimpositions) and layouts. The divergent strengths of thermoremanent magnetic anomalies are clues to the construction techniques used, which include mostly wooden structures and large strips of debris layers in Structures 1 and 2. In the southern part of the area researched, Structures 1-3 were either used in one single phase or were only partially destroyed by fire. Without verification of the survey data with trenching and/or surveys with analysis of surface finds, these structures cannot be dated. Due to dense development, superimposition of structures and the relatively small area surveyed, some evidence, such as the late Roman burial ground in the north, was not recognized in the magnetic data. The excavations gave the first indication for the dating of the multi-phase Structure 1 to the period of the Early and Late Iron Age. It is visible in the geophysical images that both findings in Trench 1, as well as those in Trench 2, have the same orientation. The buildings in Structures 2 and 3 can, with all due caution, be interpreted as Roman-period strip houses, and those of Structures 4-6 and 8-11 might be Late Roman scattered structures with a possible burial ground in the south. Without finds and excavations they may equally be assumed to represent the remains of a post-Roman/mediaeval/modern settlement in the area of Pogorelac. Surveyed areas 7-10, situated in the southwest of the peninsula, gave no indication of a Roman-period military camp or any other complex building which would imply intense anthropogenic activity at the site.

Recent excavations, conducted in the period between 2012 and 2017, combined with the results of geophysical survey described above, have expanded our current, relatively modest, knowledge of the Iron Age settlement at the position of Sisak–Pogorelac. Different settlement horizons and changing use of space within the settlement have been determined, and the architecture of the buildings, and partly their organization, has also been defined. Through combining these results with those from the rescue excavations on the left bank of the River Kupa,<sup>82</sup> spatial and temporal dynamics of the Iron Age settlement in the present-day city of Sisak have begun to emerge.

Chronologically the earliest settlement layers, from the Early Iron Age, were recorded in Trenches 1, 2 and 4. Excavations in Trench 3 showed no traces from this period, thus defining the western boundary of the settlement. If this data is combined with the results of the excavation of 1992, when remains of wooden architecture were found in the bed of the River Kupa at the position called Keltsko (situated fifty metres northwest of

80 Dular 2008, sl. 4, 5A.

81 Črešnar 2007, 331-332; Dular 2008, 340.

82 Bačani et al. 2012, 89-96; Tomaš Barišić 2012; Drnić, Miletić Čakširan 2014; Drnić 2015; Jerončić, Paro, Kristović 2018, (u pripremi); Škrgulja 2018, (u pripremi).

81 Črešnar 2007, 331-332; Dular 2008, 340.

82 Bačani et al. 2012, 89-96; Tomaš Barišić 2012; Drnić, Miletić Čakširan 2014; Drnić 2015; Jerončić, Paro, Kristović 2018, (forthcoming); Škrgulja 2018, (forthcoming).

prostorne i vremenske dinamike željeznodobnog naselja na prostoru današnjeg Siska.

Kronološki najstariji naseobinski slojevi iz starijega željeznog doba zabilježeni su u Sondama 1, 2 i 4. U iskopavanju Sonde 3 nisu zabilježeni tragovi naseljavanja iz ovoga razdoblja, čime je definirana zapadna granica željeznodobnog naselja. Kada se ovim podacima pridruže rezultati iskopavanja iz 1992. godine, u kojima su u koritu rijeke Kupe na poziciji Keltsko zabilježeni ostaci drvene arhitekture (smješteni 50-ak m sjeverozapadno od Sonde 1),<sup>83</sup> zajedno s materijalom iz kasnoga brončanog te starijega i mlađega željeznog doba, može se zaključiti da se stariježeljeznodobno naselje prostiralo u dužini od oko 200 metara u smjeru istok – zapad. Sjevernu je granicu naselja vjerojatno definirao meandar rijeke Kupe, dok južna granica za sada ostaje nedefinirana. Ipak, Struktura 1, definirana u geofizičkom pregledu (sl. 6-7), koja se poklapa u orijentaciji s istraženim stariježeljeznodobnim drvenim nastambama, završava na parcelama 17/2 i 17/3, 60-ak m južno od Sonde 2. To bi mogla biti južna granica naselja, na osnovu čega se pretpostavlja da se naselje prostiralo 150–200 m u smjeru sjever – jug, ali bez dodatnih iskopavanja u sjevernom i južnom dijelu ova tvrdnja ostaje nepotvrđena. Nadalje, iskopavanja u Sondama 1 i 2, kombinirana s rezultatima geofizičkih mjerenja, ukazuju na to da je naselje na Pogorelcu, ili barem njegov dio, u kasnohalštatskoj fazi (6. – 4. st. pr. Kr.) imao dobro organiziranu unutrašnju strukturu s nastambama organiziranim u pravokutnu mrežu. Slična naseobinska organizacija zabilježena je i na nekim drugim kasnobrončanodobnim i stariježeljeznodobnim naseljima u regiji, primjerice na poziciji Tribuna u Ljubljani.<sup>84</sup>

Zabilježeno je nekoliko uzastopnih stariježeljeznodobnih faza s *horizontom 0*, zabilježenim u Sondama 1, 2 i 4, i s određenom mogućnošću datacije *horizonta 1* u Sondi 1 u stariju fazu starijega željeznog doba (Ha C - D1). No preciznije datiranje još nije moguće zbog nedostatka nalaza koji bi se mogli uže datirati te širokog raspona apsolutnih datuma. Naseobinski *horizonti 1* i 2 pripadaju kasnohalštatskom razdoblju (Ha D2-3), dok *horizont 3*, zabilježen u Sondi 1, potječe s kraja starijeg željeznog doba i prijelazne faze u mlađe željezno doba.

Prisustvo mlađeželjeznodobnih slojeva u Sondi 1, drugačijih depozicijskih karakteristika u odnosu na stariježeljeznodobne, kao i njihov izostanak u ostalim sondama smještenim zapadno od Sonde 1 (sl. 10), ukazuje na mogućnost da se naselje opsegom smanjilo te je u razdoblju od kraja 4. st., odnosno početka 3. st. pr. Kr. pa sve do druge polovice 1. st. pr. Kr. funkcioniralo bliže rijeci Kupi. U isto vrijeme, ili nešto kasnije, naselje se formira i na lijevoj obali rijeke Kupe, gdje do sada nisu zabilježeni tragovi naseljavanja iz starijega željeznog doba. Na osnovu sadašnje razi-

Trench 1),<sup>83</sup> together with archaeological material from the Late Bronze and Early and Late Iron Ages, it can be concluded that the Early Iron Age settlement stretched in an east-west direction over a distance of around 200 metres. The northern boundary of the settlement was probably defined by the meander of the River Kupa, while the southern boundary remains undefined for now. Still, Structure 1, defined in the geophysical survey (Fig. 6–7), which matches, in orientation, the excavated Early Iron Age wooden buildings, stops at land parcels 17/2 and 17/3, some 60 metres south of Trench 2. That could be the southern boundary of the prehistoric settlement, with a total length in the north-south direction of 150–200 metres. So the area of the Early Iron Age settlement at Pogorelac could be roughly estimated at 3–4 ha, but without additional excavations in the northern and southern areas this claim remains untested. Furthermore, excavations in Trenches 1 and 2, combined with the results of the geophysical survey, suggest that the settlement at Pogorelac, at least in part, had well-organized internal structure, with dwellings organized in a rectangular grid, in its late Hallstatt phase (6<sup>th</sup>–4<sup>th</sup> century BC). Similar settlement organization has been defined for some other Late Bronze and Early Iron Age settlements in the region: for instance, at the position of Tribuna in Ljubljana.<sup>84</sup>

Several consecutive Early Iron Age settlement phases have been registered in the excavations, with *horizons 0* in Trenches 1, 2 and 4 and *horizon 1* of Trench 1 possibly dated to earlier Hallstatt (Ha C–D1), although clear dating is still not possible due to the lack of more datable finds and broad absolute dates. Settlement *horizons 1* and 2 belong to the Late Hallstatt period (Ha D2–3) while *horizon 3*, registered in Trench 1 stands at the end of the Early Iron Age and at transition to the Late Iron Age period.

The presence of the Late Iron Age layers in Trench 1, with different deposition character in comparison to Early Iron Age ones, and their absence in the other trenches, which are located west of it (Fig. 10), indicate the possibility that the settlement was reduced in size and existed closer to the River Kupa in the period between the end of the 4<sup>th</sup> / beginning of 3<sup>rd</sup> and 1<sup>st</sup> centuries BC. At the same time, or slightly later, a settlement also existed on the left bank of the River Kupa, where, until now, no traces from the Early Iron Age period have been recorded. According to the present state of research, including complete absence of early Roman material in excavated Trenches 1–4, it seems that the settlement on the right bank of the river, in the north-eastern part of Pogorelac, ceased to exist at the end of the 1<sup>st</sup> century BC, coinciding with the historically recorded episode of the Roman conquest of the Iron Age settlement, known as Segesta/Segestica, in 35 BC, and the establishment of the military stronghold.<sup>85</sup> On the other hand, at the positions of Dunavski Lloyd, Sisak–Railway station, Ulica Braće Radića 32 (32 Radić Street), and Povijesni

83 Ovi ostatci drveta datirani su dendrokronološki i AMS metodom u 2.–1. stoljeće pr. Kr. (Durman 1992, 120; Pearson *et al.* 2014), iako postoje naznake i za neke ranije datume (Seufer, Griggs, Manning 2014). Najstariji nalazi keramičkih posuda i metalnih predmeta, pronađeni u iskopavanju iz 1992. god., potječu iz Ha B stupnja odnosno 10. – 9. stoljeća pr. Kr., ukazujući na poziciju jezgri iz koje se širilo buduće željeznodobno naselje koje je egzistiralo do kraja 1. st. pr. Kr.

84 Vojaković 2013; Vojaković 2014.

83 These wooden remains have been dated with dendrochronology and AMS radiocarbon dating to the 2<sup>nd</sup>–1<sup>st</sup> c. BC (Durman 1992, 120; Pearson *et al.* 2014), although there are certain indications of some earlier dates (Seufer, Griggs, Manning 2014). The earliest pottery and metal objects from the 1992 excavation can be dated to the Ha B period, or 10<sup>th</sup>–9<sup>th</sup> c. BC, thus indicating the position of the core of the future Iron Age settlement that existed until the end of the 1<sup>st</sup> century BC (Burkowsky 2004).

84 Vojaković 2013; Vojaković 2014.

85 App. III., 22–24; D.C., 49–37.

ne istraženosti, koje uključuje i potpun nedostatak ranorimskog materijala u Sondama 1 – 4, čini se da je mlađeželjeznodobno naselje na desnoj obali rijeke Kupe, na sjeveroistočnom dijelu pozicije Pogorelac, prestalo funkcionirati krajem 1. st. pr. Kr., što se poklapa s povijesno zabilježenim događajem rimskog osvajanja naselja, poznatog iz izvora pod nazivom Segest(ik)a, i osnivanja vojnog uporišta 35. god. pr. Kr.<sup>85</sup> S druge strane, na pozicijama Dunavski Lloyd, Željeznički kolodvor, Ulica braće Radić 32 i Povijesni arhiv, smještenima na lijevoj obali rijeke Kupe, zabilježen je naseobinski horizont dužine veće od 350 m, koji se pruža u smjeru istok – zapad prema Savi, sa slojevima koje pokretni nalazi (fina keramika, fibule itd.) datiraju u augustovsko i tiberijevsko razdoblje. Ovaj horizont sadrži i ostatke drvene arhitekture ili tragove koji ukazuju na uporabu drvenih struktura.<sup>86</sup> Stratigrafski, oni izravno prekrivaju posljednji naseobinski horizont mlađeželjeznodobnog naselja na ovome prostoru, jasno ukazujući na kontinuitet naseljavanja prostora na prijelazu tisućljeća (ali ne i kontinuitet mlađeželjeznodobnog naselja!). Naime, s obzirom na činjenicu da su u navedenim slojevima pronađene veće količine fine rimske keramike (pehari tipa *Aco*, čaše tipa *Sarius*, aretinska tera sigilata),<sup>87</sup> rane amfore,<sup>88</sup> nalazi rimske vojne opreme – klinovi šatora, oružje, dijelovi oklopa,<sup>89</sup> moguće je pretpostaviti da se ovdje nalazio rimski vojni logor, iako će odnos željeznodobnog naselja i najranijih vojnih instalacija biti detaljnije razjašnjen analizom nekoliko istraživanja na lijevoj obali rijeke Kupe, osobito onoga s pozicije Željezničkog kolodvora.<sup>90</sup>

Nadalje, rimskodobni naseobinski sloj s ostacima koji ukazuju na postojanje drvene arhitekture, preliminarno datiran prikupljenim materijalom (ulomci keramičkih posuda, metalni nalazi, lampica te novac) u 2. i 3. st., zabilježen je na Pogorelcu u Sondama 3 i 4. Važno je naglasiti da navedeni sloj nije zabilježen u Sondama 1 i 2, niti u zaštitnom iskopavanju provedenom 2013. i 2014. godine u kanalu paralelnom s Avenijom V. Janića Cape, zapadno od istražene površine (sl. 10: 1). Njegova dužina u smjeru istok – zapad ugrubo se može procijeniti na 50-ak m. Zanimljivo, ove strukture nisu zabilježene u geofizičkom pregledu provedenom 2012. i 2013. godine (sl. 6-7).

Posljednju fazu korištenja istraženog prostora na Pogorelcu čine ostaci kasnoantičkoga groblja, istraženog u Sondama 2 – 4, s ukupno 23 kosturna groba ukopana u rimske i željeznodobne naseobinske slojeve i datirana od kraja 3. do početka 5. st. Zajedno sa 65 zabilježenih grobova iz prethodno spomenutoga zaštitnog iskopavanja, zapadno od Sonde 3, oni čine dio zapadnoga groblja kasnoantičke Siscije koje je dosad bilo nepoznato široj javnosti.

arhiv, located on the left bank of the River Kupa, a settlement horizon, with a length greater than 350 metres in the east-west direction, was registered, stretching towards the River Sava, with layers dated by the movable finds (fine pottery, fibulae, etc.) to the Augustan and Tiberian period. This horizon also contains the remains of wooden architecture or traces indicating usage of such structures.<sup>86</sup> Stratigraphically, they directly overlay the latest horizon of the Late Iron Age settlement in this area, clearly indicating continuity of the occupation of the area at the turn of the millennium (but not the continuity of the Late Iron Age settlement!). The fact that a large amount of fine Roman pottery (*Aco*-type beakers, *Sarius*-type cups, Arretine ware etc.),<sup>87</sup> earlier amphorae,<sup>88</sup> and some finds of *militaria* (tent pegs, weapons, elements of armour, etc.)<sup>89</sup> had been found in the layers mentioned, it would be possible to assume the existence of a military camp in this area, although more precise relation between the Late Iron Age settlement and the earliest military facilities will be cleared off after thorough analyses of several excavations on the left bank of the River Kupa, especially at the position of Sisak-Railway station.<sup>90</sup>

Furthermore, the Roman-period settlement layer with the remains of what was probably wooden architecture, preliminarily dated with the collected material (fragments of pottery, metal finds, a lamp and a coin) to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD, was registered at Pogorelac in Trenches 3 and 4. It is important to emphasise that the layer described was not registered in Trenches 1 and 2, or even in the rescue excavations conducted in 2013–2014 in the canal parallel to Aleja V. Janić Capo, west of the area researched (Fig. 10: 1). Its length can be roughly estimated at 50 metres in the east-west direction. Interestingly, these structures were not observed in geophysical surveys conducted in 2012 and 2013 (Fig. 6-7).

The latest phase of occupation at the researched area of Pogorelac is represented by the remains of the Late Roman-period cemetery. Altogether 23 skeletal graves, dug into the Iron Age and Roman settlement layers, have been excavated in Trenches 2, 3 and 4, dated to a period from the end of the 3<sup>rd</sup> century AD to the first half of the 5<sup>th</sup>. Together with 65 registered graves from the rescue excavation in the aforementioned canal, west of Trench 3, they represent part of the western necropolis of Late Roman Siscia, until recently unknown to the general public.

85 App. III, 22-24; D.C., 49:37.

86 Lolić 2003, 141–143, sl. 14–17; Lolić 2014, 112, 227–228, 252, 288–289; Leleković 2012; Jerončić, Paro, Kristović 2018, (u pripremi). U najraniju fazu rimske prisutnosti na prostoru Siska T. Lolić datira i građevinske radove koji su uključivali stabilizaciju močvarnog tla korištenjem drvenih pilota koji su zabilježeni na nekoliko pozicija unutar perimetra gradskih zidova (Lolić 2003, 141, sl. 14; Lolić 2014, 110–112, 265–266, 288–289).

87 Bačani et al. 2012, kat. br. 14, 101–107, 110–111; Leleković 2012; Drnić, Miletić 2014, 189–190; Miletić 2018, (u pripremi); Škrgulja 2018, (u pripremi).

88 Drnić, Miletić Čakširan 2014, 188–189; Paro, Novaković, Radman-Livaja 2018, (u pripremi).

89 Škrgulja 2018, (u pripremi). Neobjavljeni nalazi iz iskopavanja na poziciji Sisak–Željeznički kolodvor.

90 Jerončić, Paro, Kristović 2018, (u pripremi).

86 Lolić 2003, 141–143, Fig. 14–17; Lolić 2014, 112, 227–228, 252, 288–289; Leleković 2012; Jerončić, Paro, Kristović 2018, (forthcoming). In the earliest stage of the Roman presence in the area of Sisak, T. Lolić also dates construction work which included the stabilization of wetlands using wooden piles, which are recorded at different positions inside the perimeter of the city walls (Lolić 2003, 141, Fig. 14; Lolić 2014, 110–112, 265–266, 288–289).

87 Bačani et al. 2012, cat. no. 14, 101–107, 110–111; Leleković 2012; Drnić, Miletić 2014, 189–190; Miletić, 2018, (forthcoming); Škrgulja 2018, (forthcoming).

88 Drnić, Miletić Čakširan 2014, 188–189; Paro, Novaković, Radman-Livaja 2018, (forthcoming).

89 Škrgulja 2018, (forthcoming); Unpublished finds from the excavation at the Sisak-Railway station position.

90 Jerončić, Paro, Kristović 2018, (forthcoming).

## KRATICE ABBREVIATIONS

RIC 2/1 - I. A. Carradice, T. V. Buttrey, *The Roman Imperial Coinage* 2/1, Spink, 2007.

RIC 5/1 - P. H. Webb, *The Roman Imperial Coinage* 5/1, Spink, 1927.

RIC 9 - J. W. E. Pearce, *The Roman Imperial Coinage* 9, Spink, 1933.

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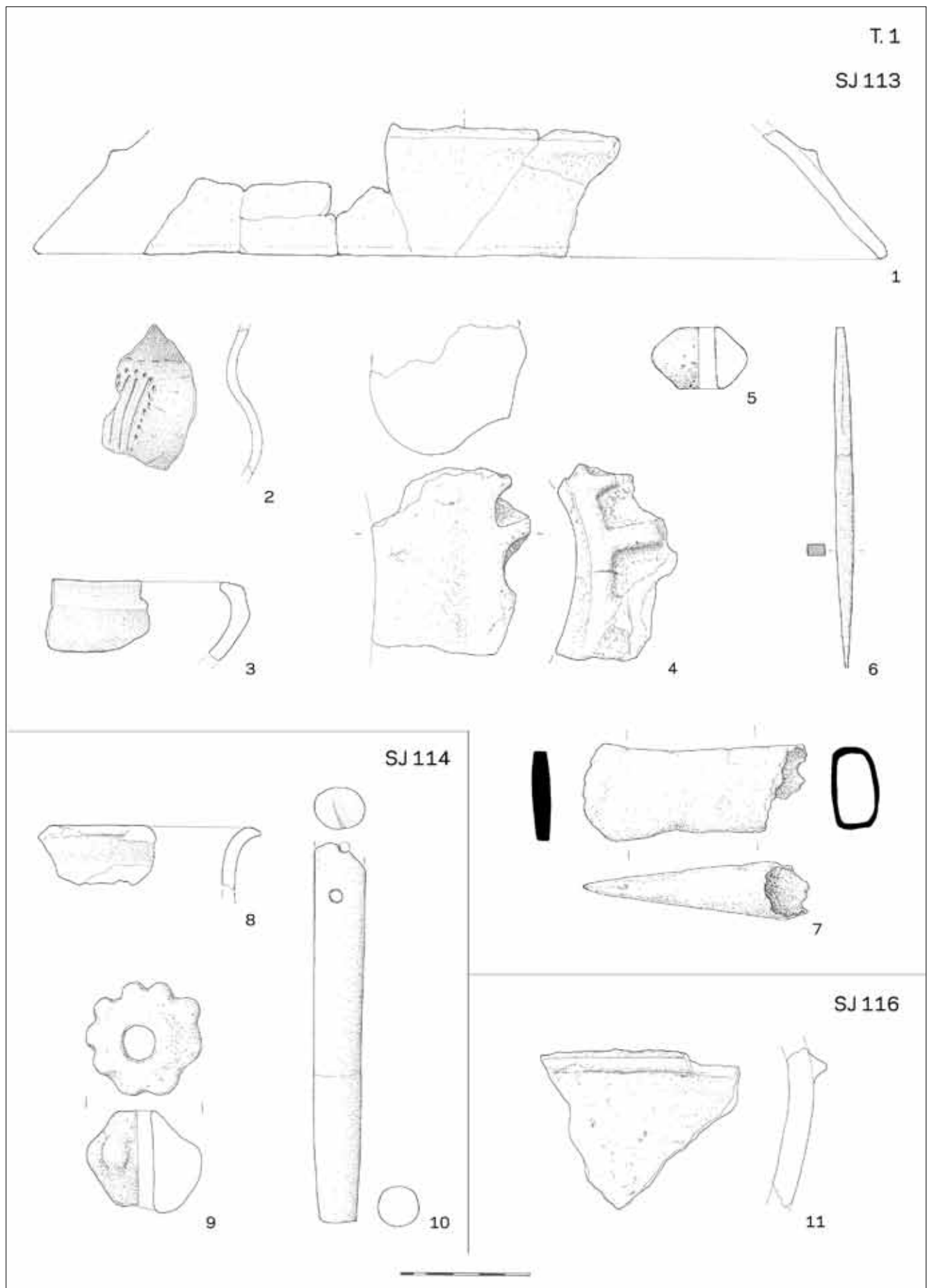
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**TABLA 1** 1-11 (1:2) (izradila M. Galić).

**PLATE 1** 1-11 (1:2) (made by M. Galić).

T. 2

SJ 111

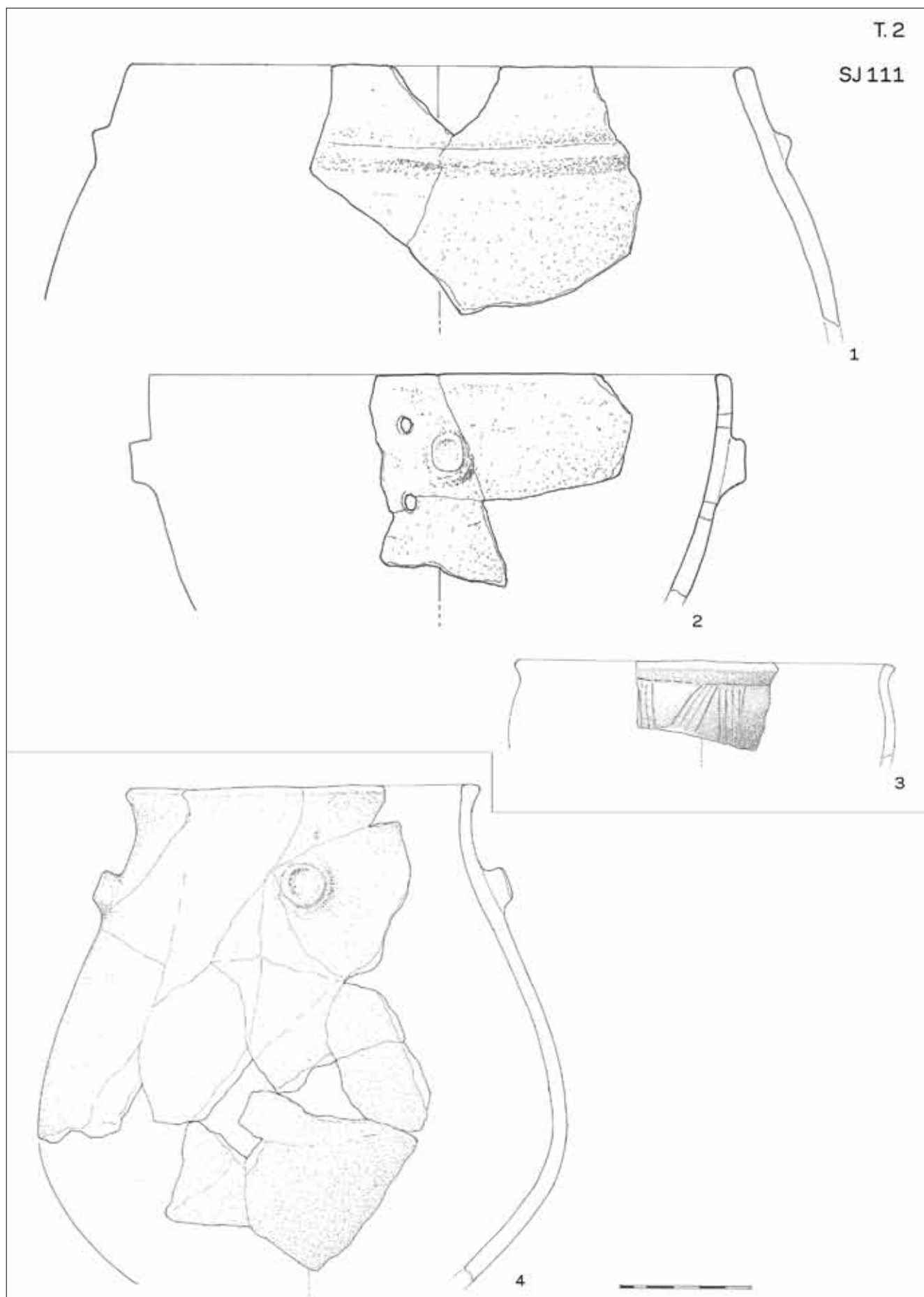


TABLA 2 1-4 (1:2) (izradila M. Galić).

PLATE 2 1-4 (1:2) (made by M. Galić).



TABLA 3 1-5 (1:3) (snimio: I. Drnić).

PLATE 3 1-5 (1:3) (photo by I. Drnić).



T. 4

SJ 101

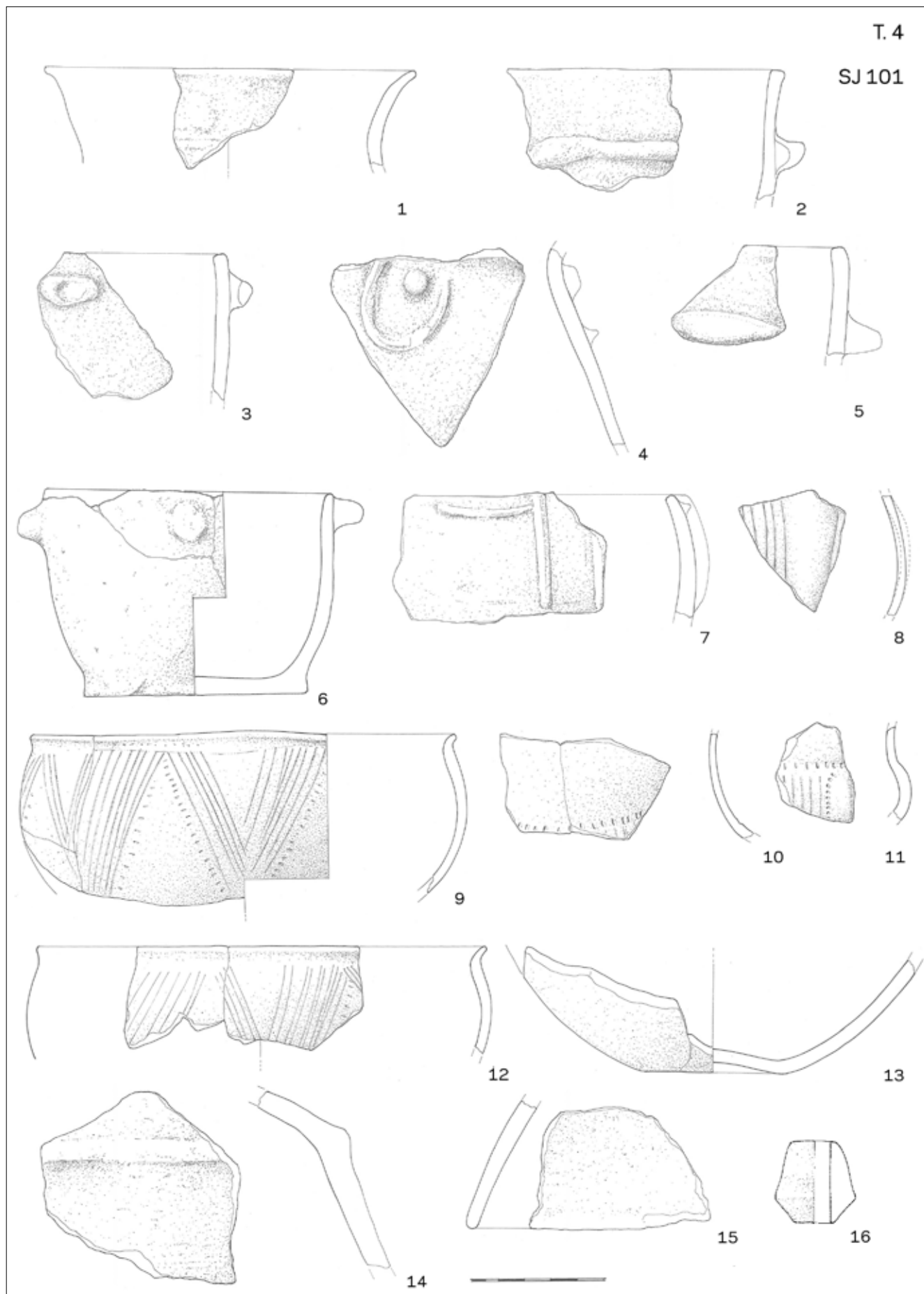


TABLA 4 1-16 (1:2) (izradila M. Galić).

PLATE 4 1-16 (1:2) (made by M. Galić).

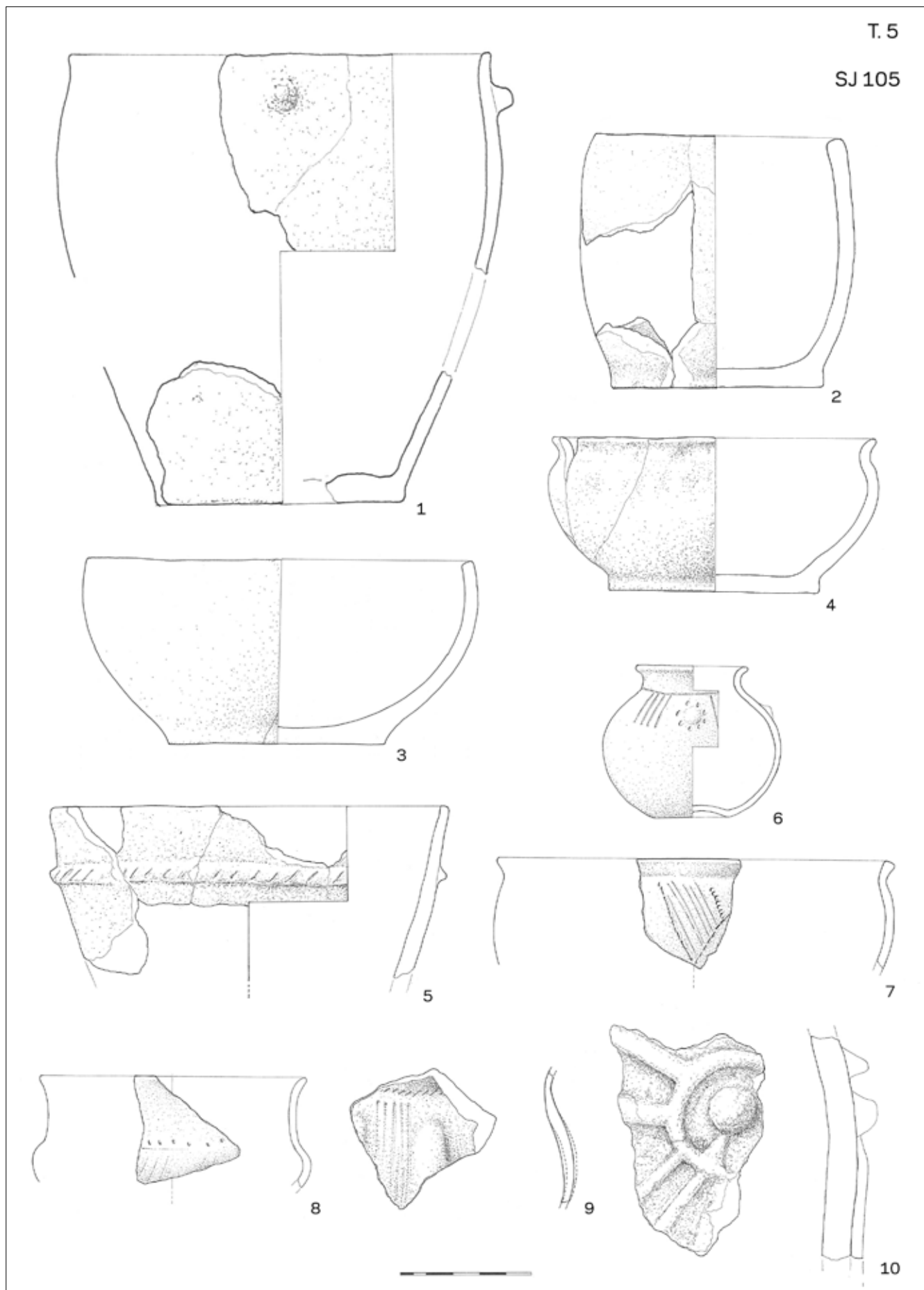


TABLE 5 1-10 (1:2) (izradila M. Galić).

PLATE 5 1-10 (1:2) (made by M. Galić).

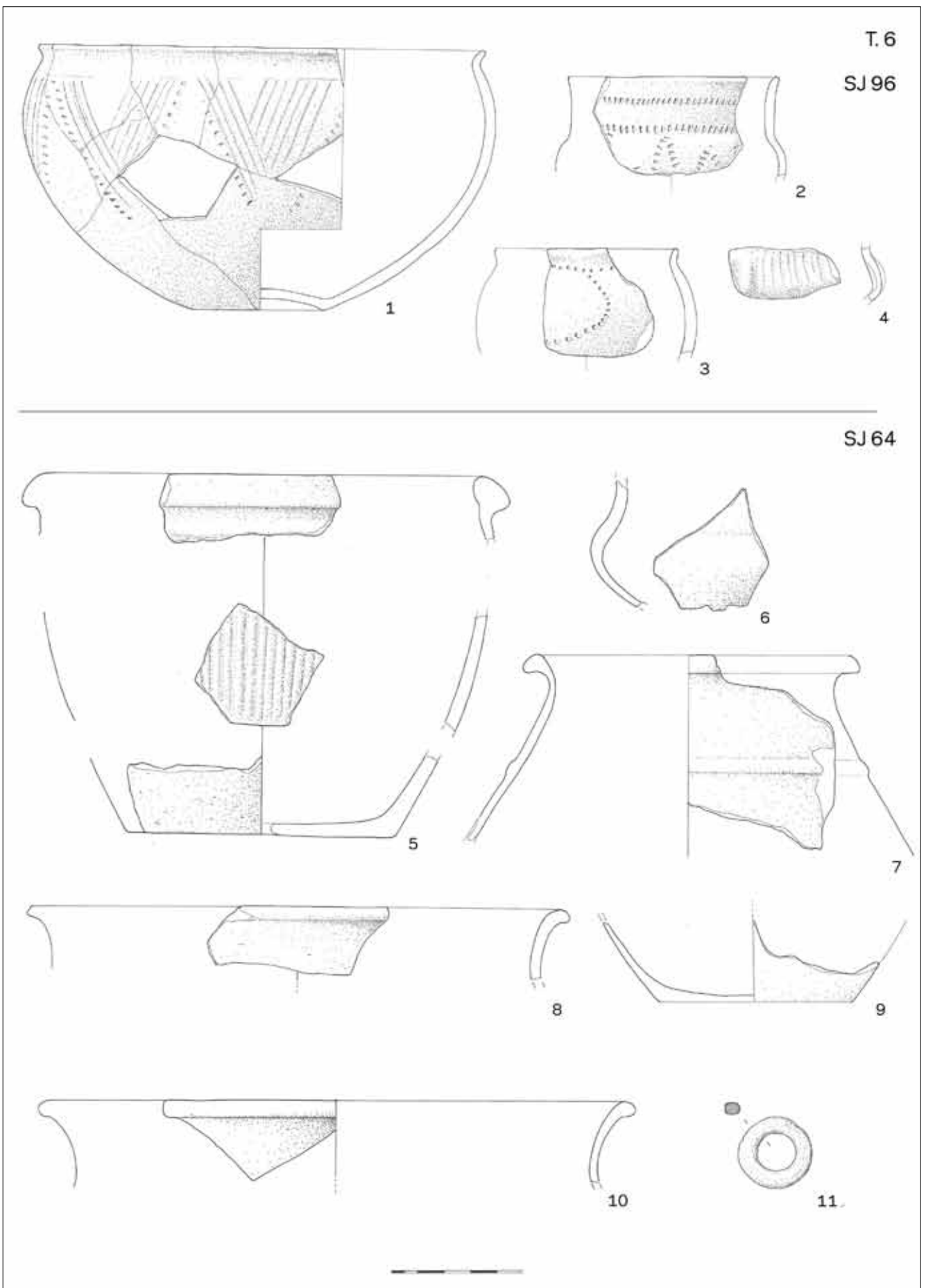
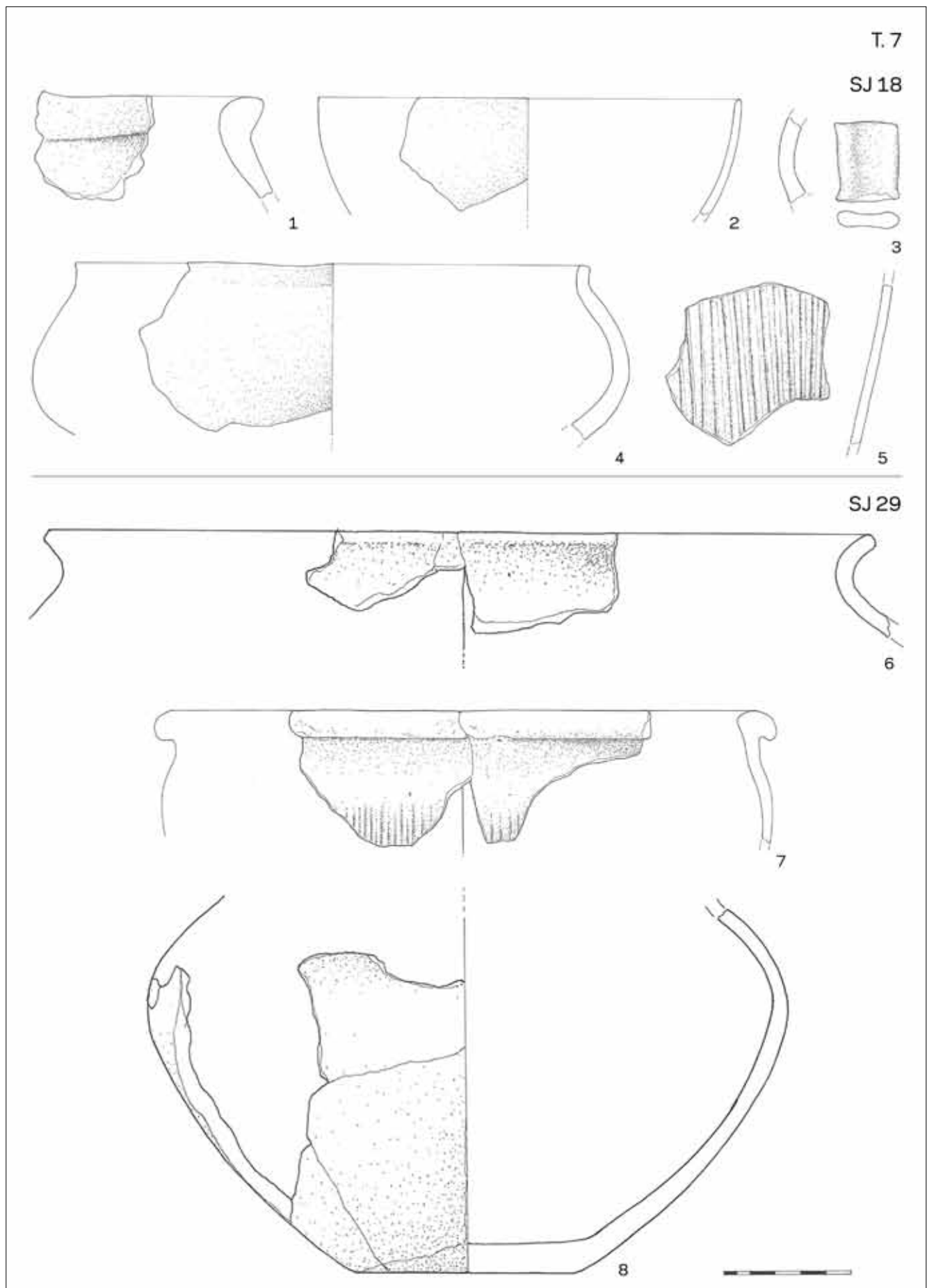


TABLA 6 1-11 (1:2) (izradila M. Galić).

PLATE 6 1-11 (1:2) (made by M. Galić).



**TABLA 7** 1-11 (1:2) (izradila M. Galić).

**PLATE 7** 1-11 (1:2) (made by M. Galić).

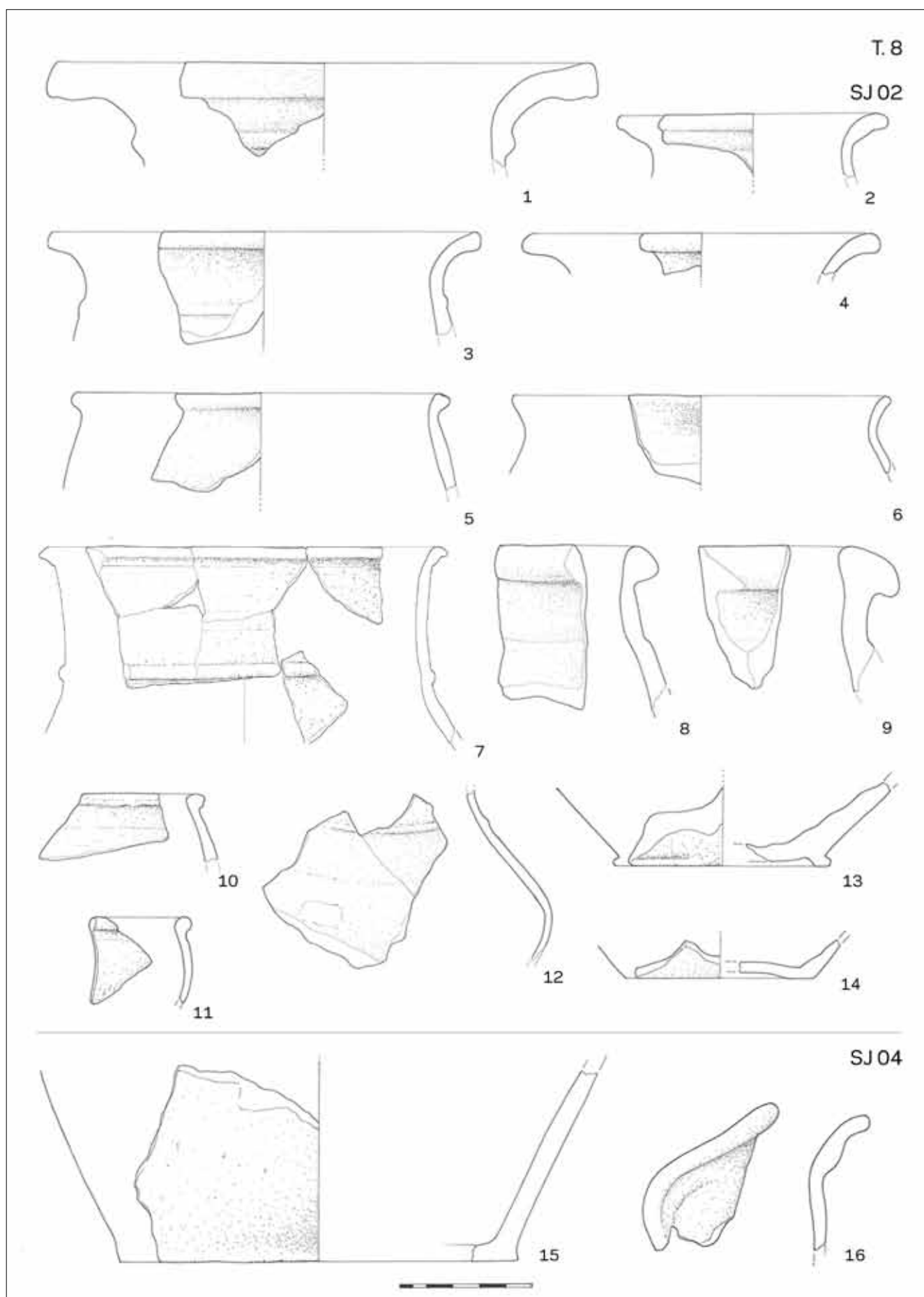
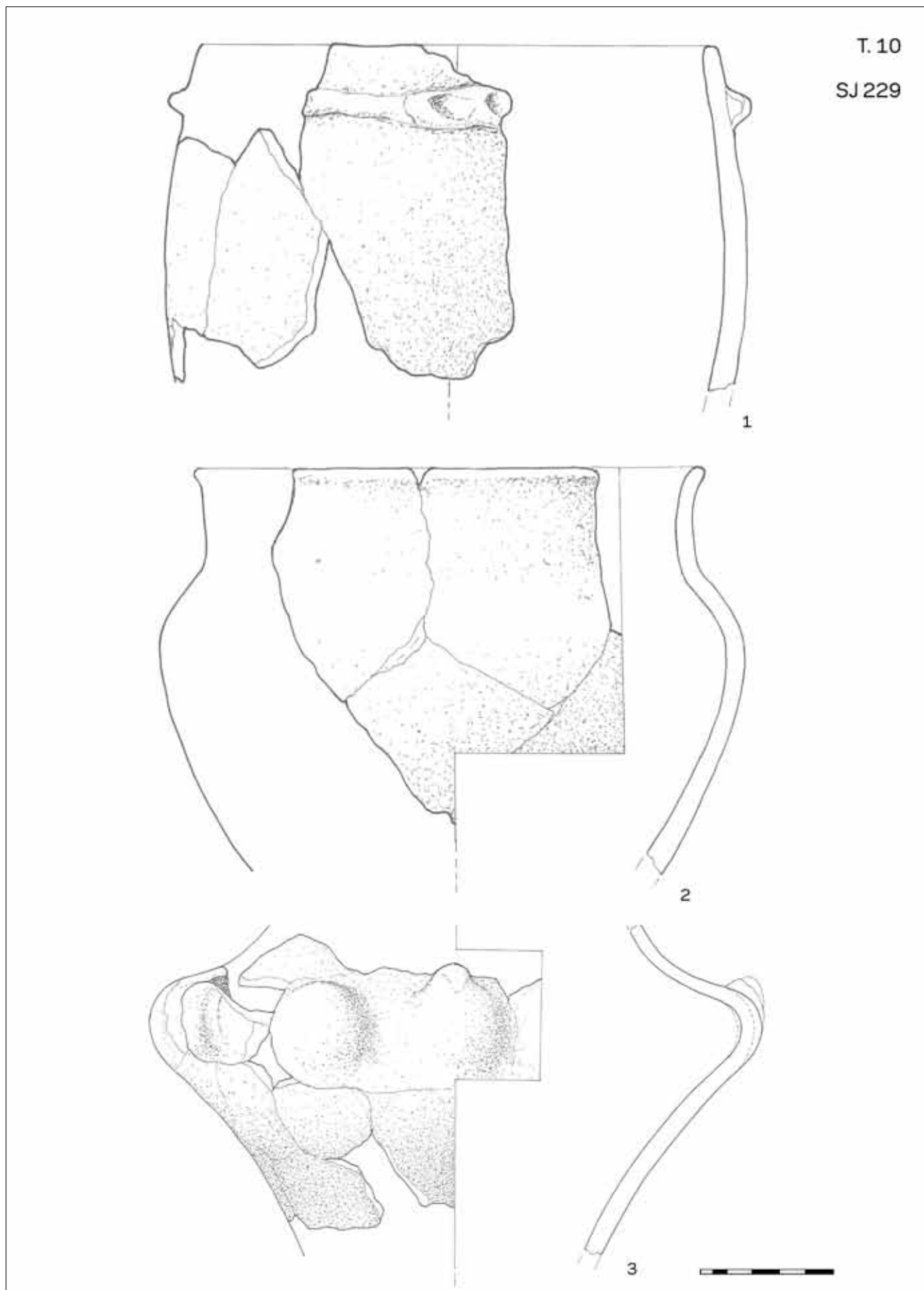


TABLA 8 1-8 (1.2) (izradila M. Galić).

PLATE 8 1-8 (1.2) (made by M. Galić).



**TABLA 9** 1-9 (1:2), 10 (1:1) (izradila M. Galić; snimio I. Drnić).

**PLATE 9** 1-9 (1:2), 10 (1:1) (made by M. Galić; photo by I. Drnić).

T.9

SJ248

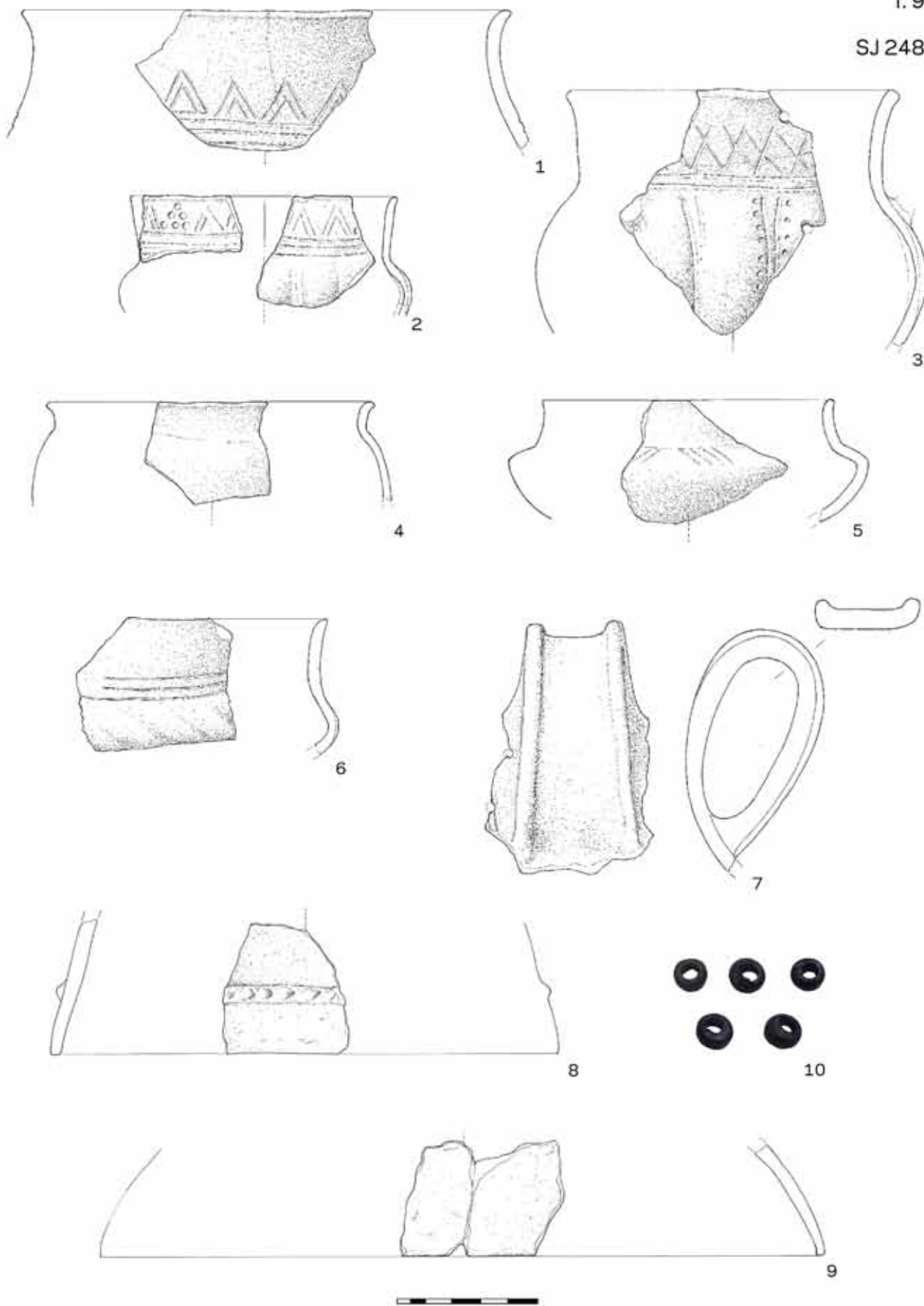
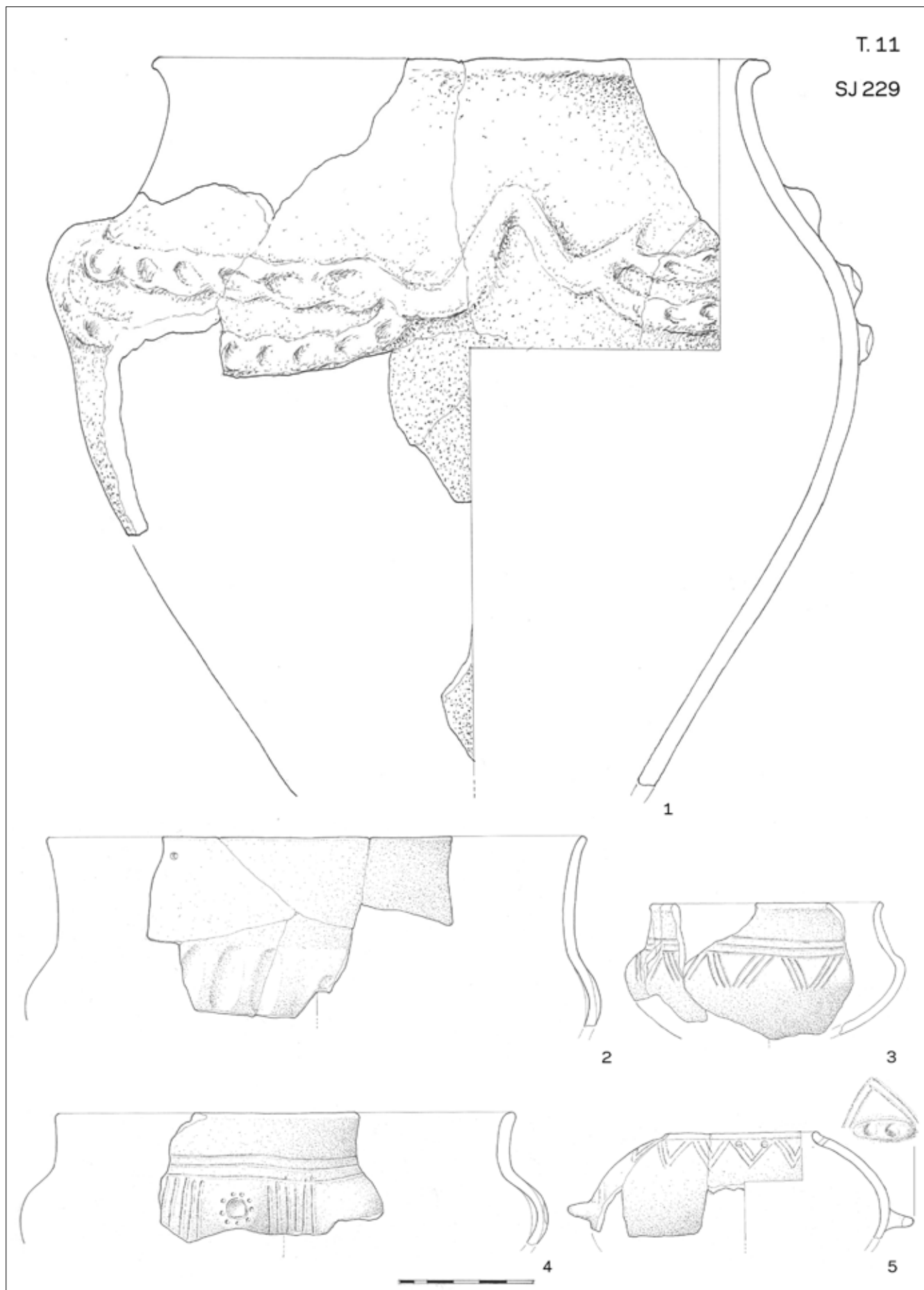


TABLA 10 1-3 (1:2) (izradila M. Galić).

PLATE 10 1-3 (1:2) (made by M. Galić).



**TABLA 11** 1-5 (1:2) (izradila M. Galić).

**PLATE 11** 1-5 (1:2) (made by M. Galić).



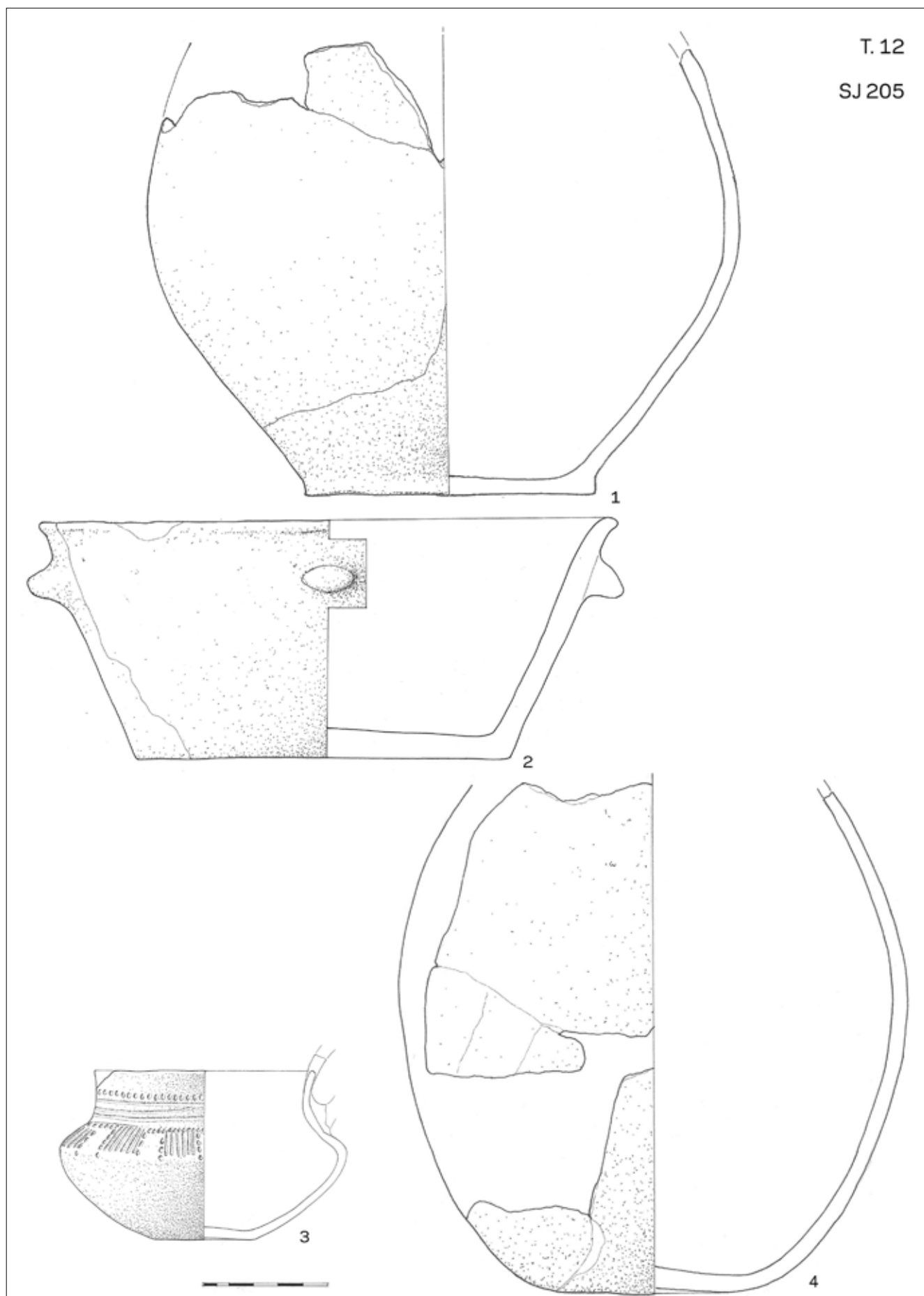
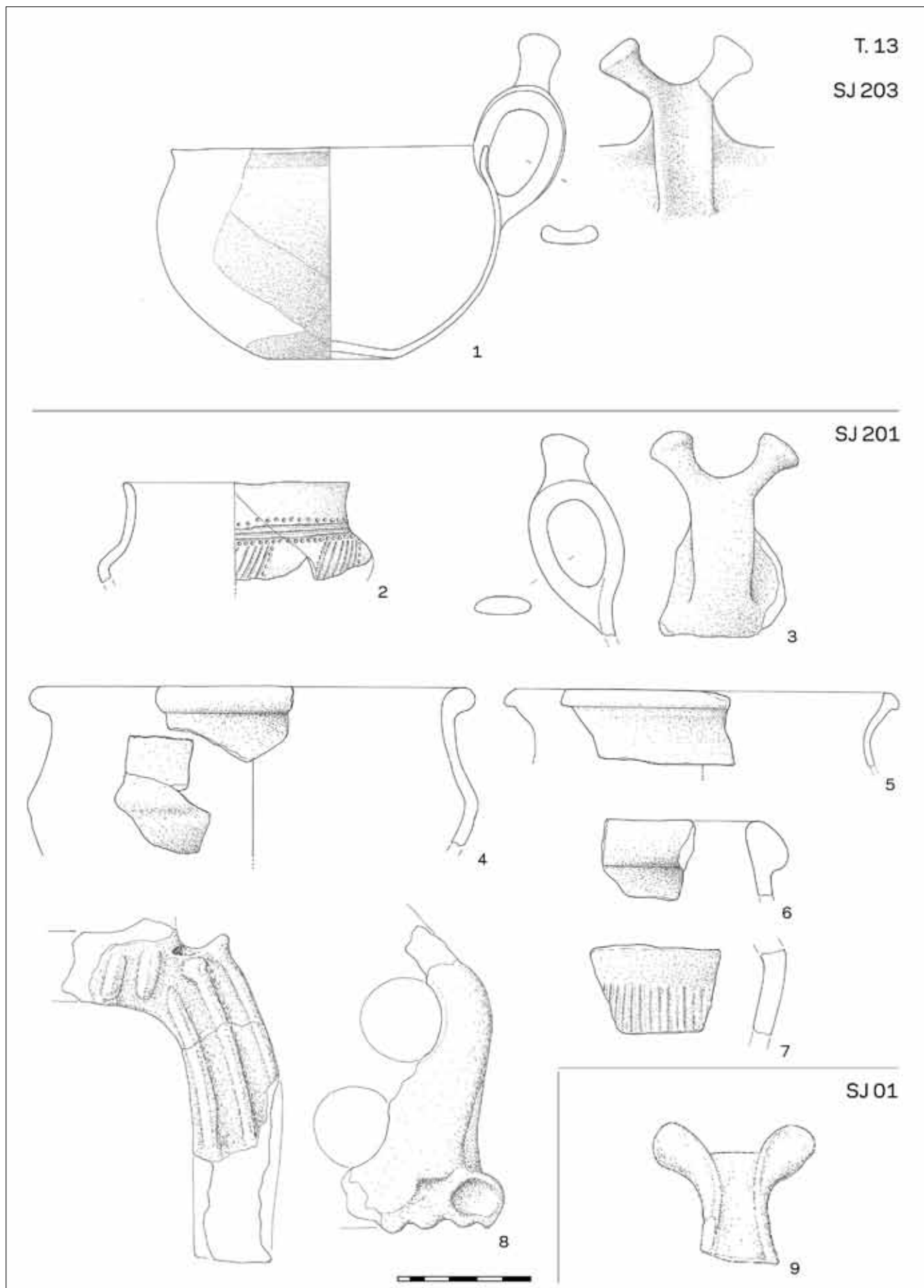


TABLA 12 1-4 (1:2) (izradila M. Galić).

PLATE 12 1-4 (1:2) (made by M. Galić).



**TABLA 13** 1-9 (1:2) (izradila M. Galić).

**PLATE 13** 1-9 (1:2) (made by M. Galić).

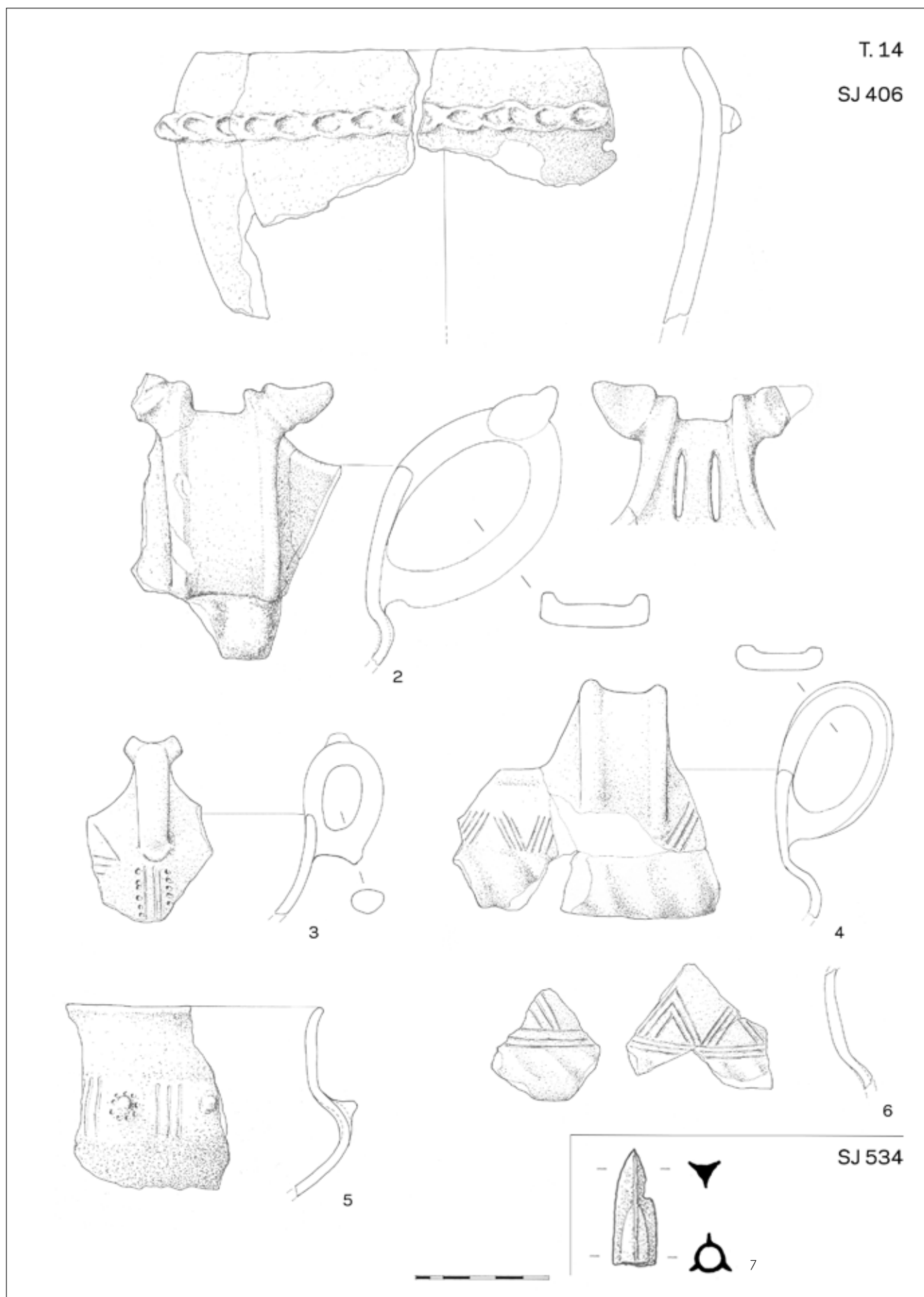


TABLA 14 1-6 (1:2), 7 (1:1) (izradila M. Galić).

PLATE 14 1-6 (1:2) 7 (1:1) (made by M. Galić).



**TABLA 15** 1-2, 5-8 (1:1), 3-4 (1:2) (izradila M. Galić; snimio: I. Krajcar).

**PLATE 15** 1-2, 5-8 (1:1), 3-4 (1:2) (made by M. Galić; photo by I. Krajcar).

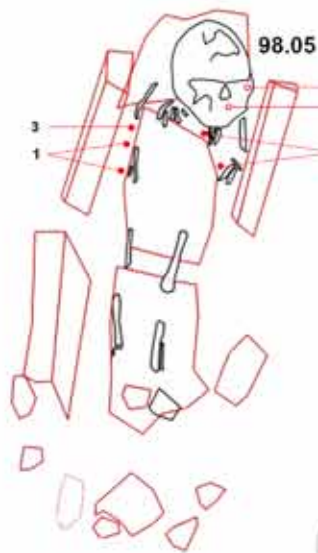


**TABLA 16** 1-8 (1.1), 9 (1.2)  
(izradila M. Galić; snimili I. Krajcar, I. Drnić; nacrt izradio M. Maderić).

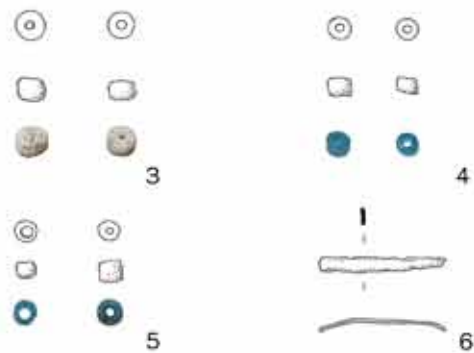
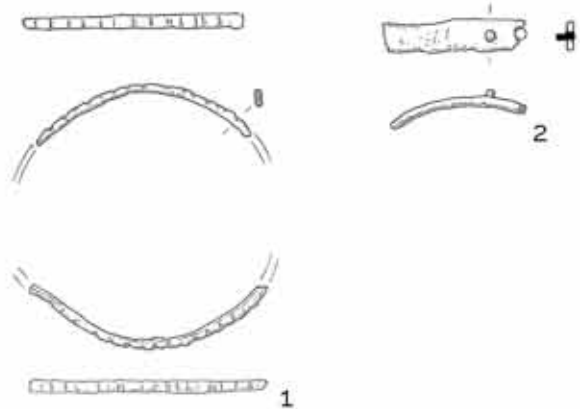
**PLATE 16** 1-8 (1.1), 9 (1.2)  
(made by M. Galić; photo by I. Krajcar, I. Drnić; made by M. Maderić).

T. 17

grob 5



0 1 m

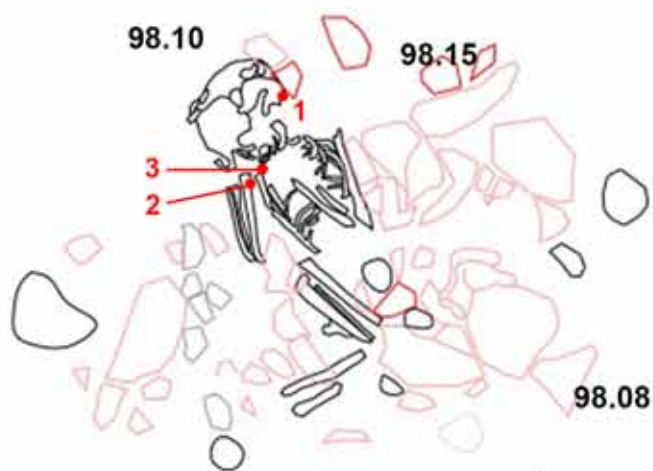


**TABLA 17** 1-6 (1:1)  
(izradila M. Galić; snimili I. Krajcar, I. Drnić; izradio M. Maderić).

**PLATE 17** 1-6 (1:1)  
(made by M. Galić; photo by I. Krajcar, I. Drnić; made by M. Maderić).

T. 18

grob 9



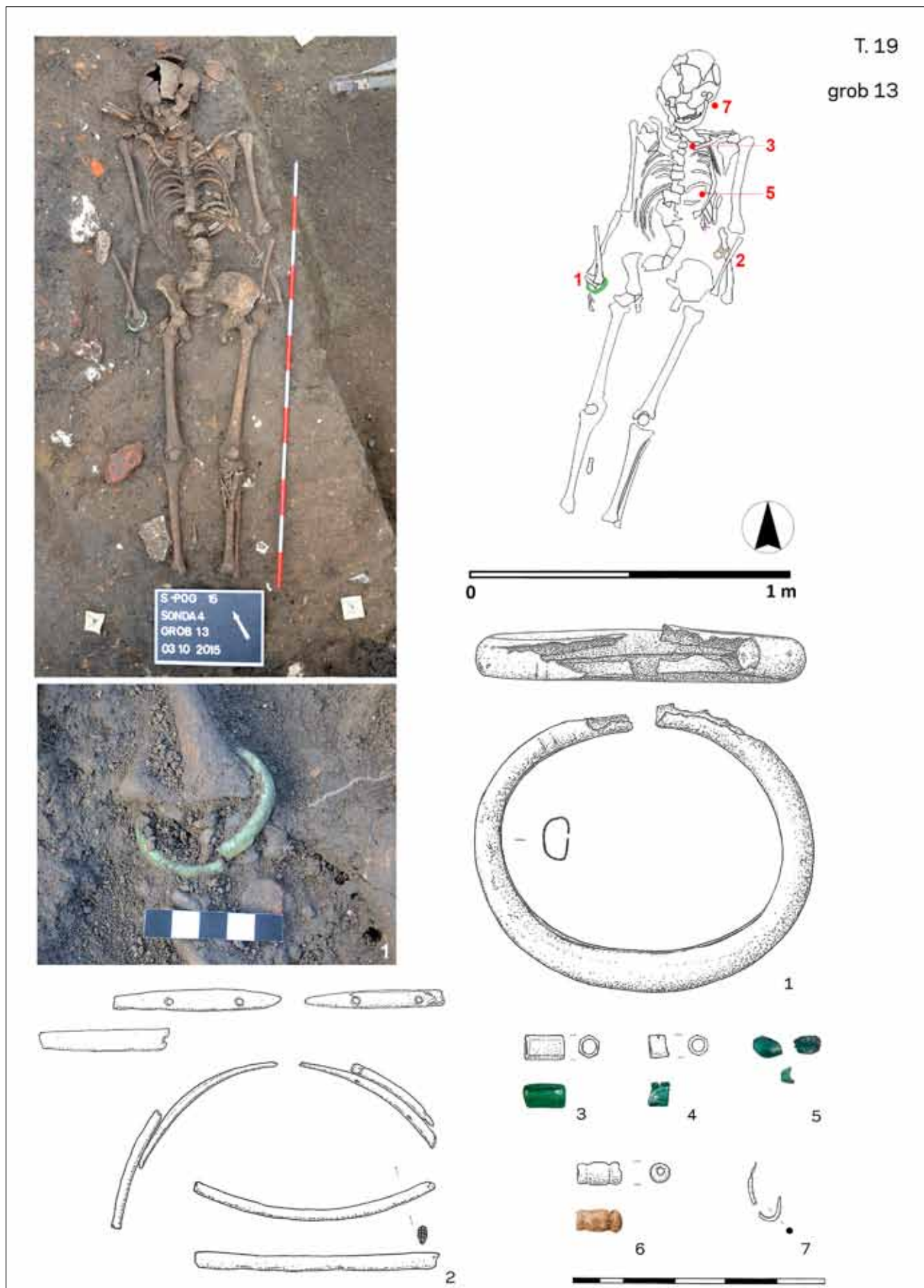
2

3



TABLA 18 2-3 (1:1) (izradila M. Galić; snimili I. Krajcar, I. Drnić; izradio M. Maderić).

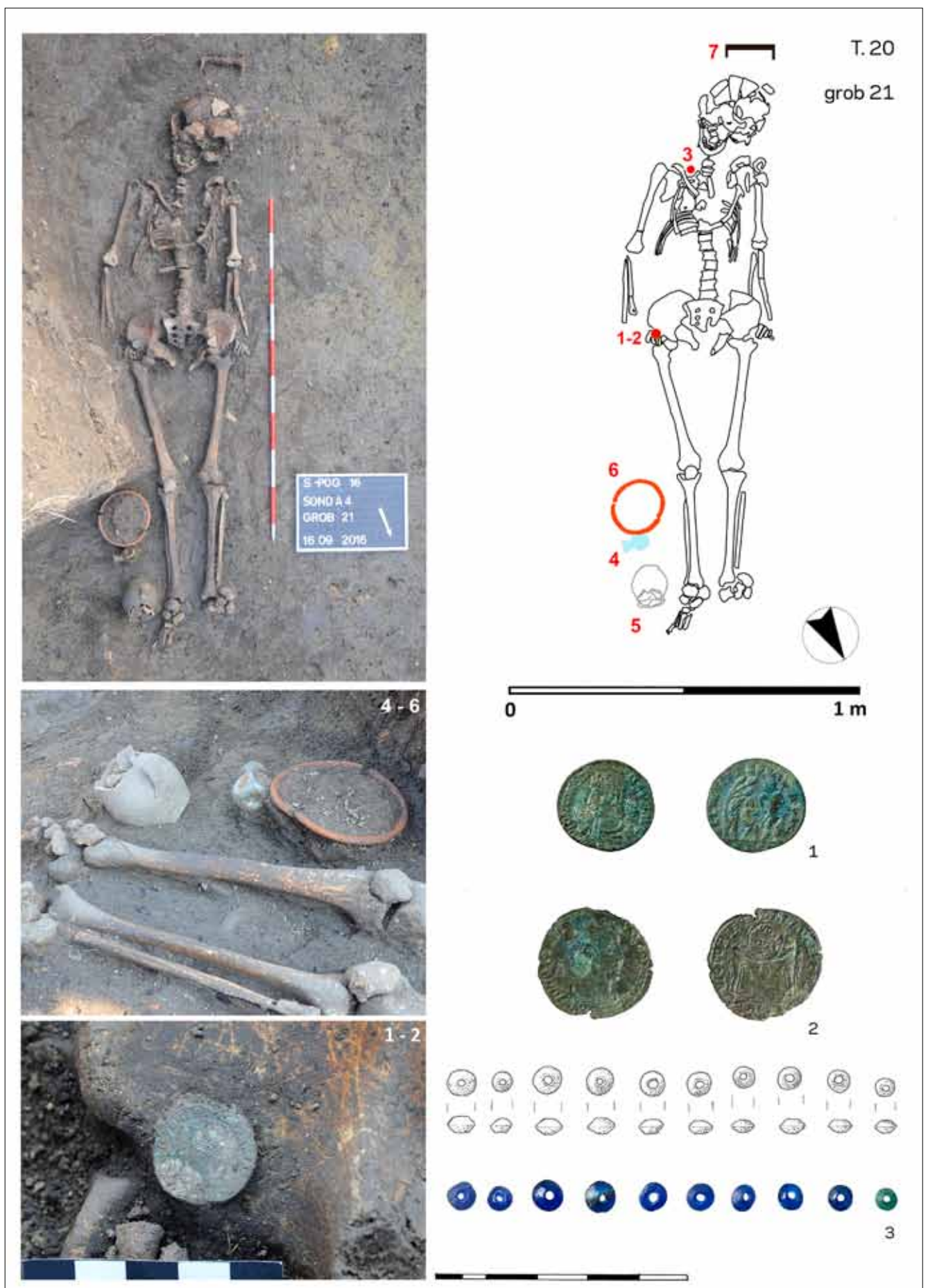
PLATE 18 2-3 (1:1) (made by M. Galić, photo by I. Krajcar, I. Drnić; made by M. Maderić).



**TABLA 19** 1-7 (1:1) (izradila M. Galić, snimili I. Krajcar, I. Drnić, izradio M. Maderić).

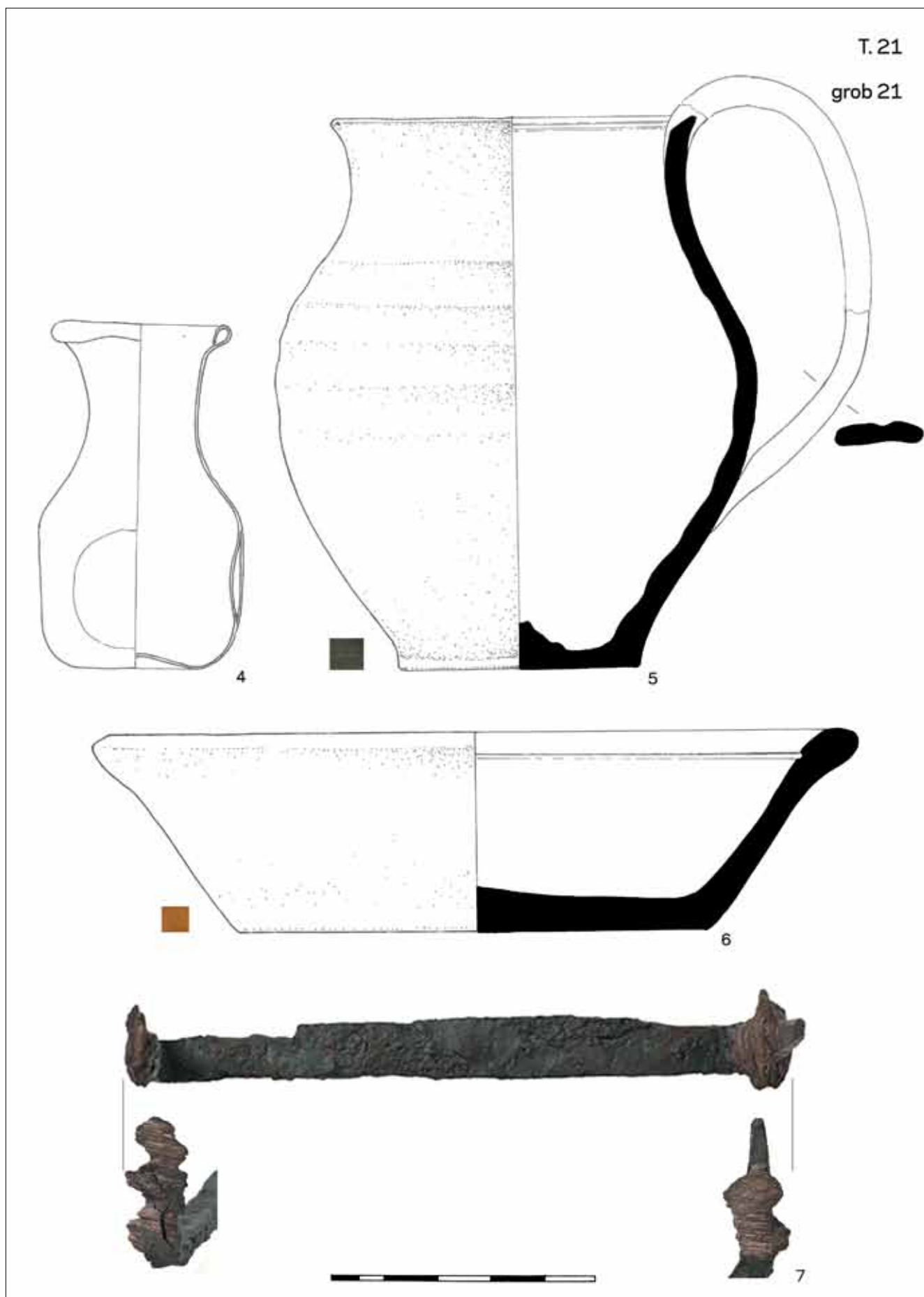
**PLATE 19** 1-7 (1:1) (made by M. Galić, photo by I. Krajcar, I. Drnić, made by M. Maderić).





**TABLA 20** 1-3 (1:1) (izradila M. Galić; snimili I. Krajcar, I. Drnić; izradio M. Maderić).

**PLATE 20** 1-3 (1:1) (made by M. Galić; photo by I. Krajcar, I. Drnić; made by M. Maderić).



**TABLA 21** 4-6 (1:1) (izradila M. Galić).

**PLATE 21** 4-6 (1:1) (made by M. Galić).