

DISSERTATIONES ARCHAEOLOGICAE

ex Instituto Archaeologico Universitatis de Rolando Eötvös nominatae



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Another barrel-lined well a road section and late Roman graves from Brigetio

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Abstract: As in 1929 and 2007, an excavation was conducted in the close south-eastern neighbourhood of the legionary fortress of Brigetio unearthing similar archaeological features, graves of the late Roman cemetery and a barrel-lined well. The trial excavation also uncovered a pair of ditches, most likely belonging to a dirt road.

Keywords: archaeological topography; military town; Brigetio; Roman well

Circumstances of the excavation

The expansion of the Rossi Biofuel Zrt. plant required a trial excavation in the area of Komárom-Szőny in February and March 2020 in order to prepare the Preliminary Archaeological Documentation (ERD). The excavation was carried out by the Institute of Archaeological Sciences of the Eötvös Loránd University on behalf of the Várkapitányság Integrált Területfejlesztési Központ Nonprofit Zrt.

The trial trenches were laid out southeast of the legionary fortress of Brigetio in the territory of the military town (Site ID: 52725) in two areas, one in the north in the area of the so-called RepCat and one in the south in the area of the G-Phase (*Fig. 1*). Archaeological excavations have already been carried out in this part of the military town in 1929 and 2007. In 1929, I. Paulovics excavated an area of approximately 1000 m²,¹ during which he unearthed a segment of the mainly late Roman cemetery around the military fortress – a robbed sarcophagus, a stone-built grave, several brick caskets and unbuilt graves came to light.² Based on the drawings and manuscript of I. Paulovics and with the help of archival aerial imagery, the site of the excavation can be determined and located within a few metres of error (*Fig. 1: red*).³ In 2007, the Klapka György Museum of Komárom and the Department of Classical and Roman Archaeology of the Eötvös Loránd University carried out the preliminary excavation of the currently used main building of the plant (*Fig. 1: yellow*). The investigation revealed a trench system which deviated 45 degrees east from north, a stone building, and a well in the southwestern part of the area lined with a barrel presumably made of silver fir (*Abies alba*, Mill.).⁴ After the barrel was excavated, it was transferred to the Klapka György Museum of Komárom, where it is still on display for visitors but has not yet been published. The barrel-staves bear the stamp of the *legio I Adiutrix*, the legion which was stationed in the military fortress.⁵

1 PAULOVICS 1941, 163.

2 The findings of the cemetery were published in: BARKÓCZI 1961.

3 Inventory number of the Hungarian National Museum: 104.Sz.II; RUPNIK et al. 2018, Fig. 3.

4 SZÁMADÓ – BORHY 2008.

5 A barrel with the same stamp inscription was published from Győr-Ménfőcsanak, Szeles archaeological site (SZŐNYI 2003, 145).

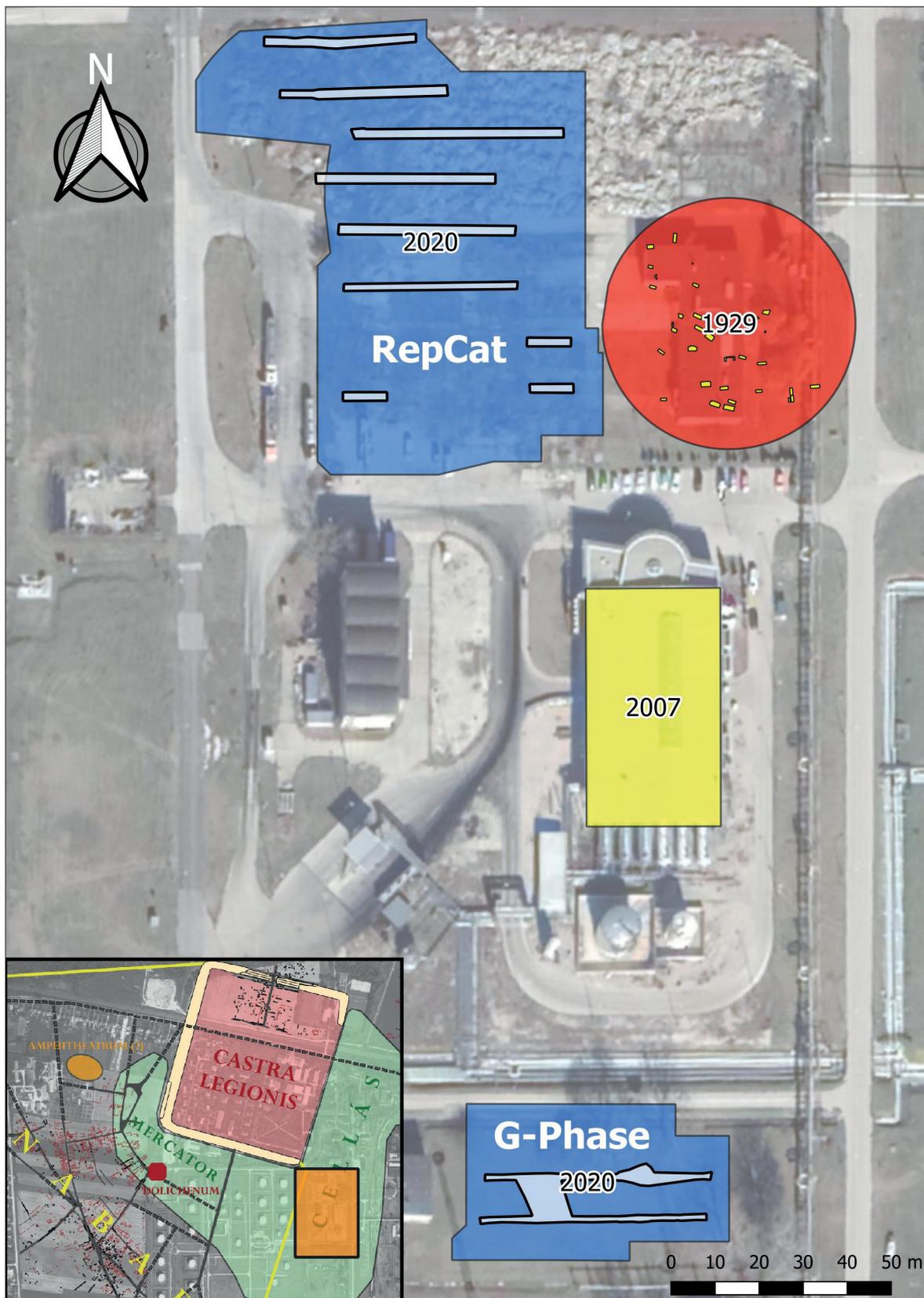


Fig. 1. Excavations in the southeastern neighbourhood of the military fortress (Authors' own work; overview map made by László Rupnik).



Fig. 2. Excavation circumstances at the RepCat area (Photo: Bence Simon).

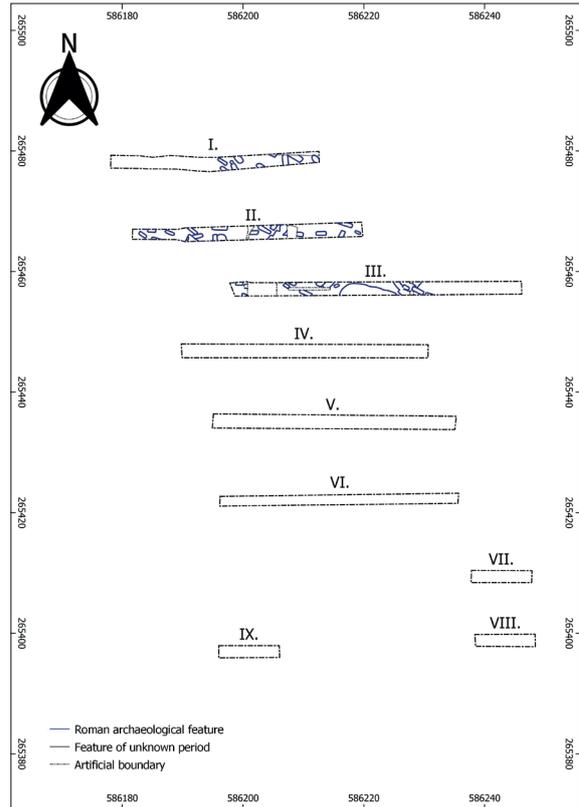


Fig. 3. Excavation map of the RepCat area (Authors' own work).



Fig. 4. First level (-70–120 cm) of Roman graves in Trench I after topsoil removal (Photo: Bence Simon).



Fig. 5. Second level (-170–190 cm) of Roman graves in Trench II after topsoil removal (Photo: Bence Simon).

Prior to the trial excavation, a ground-penetrating radar (GPR) survey was carried out in the area of the G-Phase, which indicated intersecting pipelines or other linear structures and several anomalies on the west side, but in the RepCat area severe disturbance was suspected in connection with previous construction works at the oil factory, which made non-destructive exploration impossible and pointless.

Observation conditions were made extremely difficult and dangerous by the presence of hydrocarbon compounds leaching into the soil from the previous oil factory, which was bombed during the Second World War, and which had a nauseating effect when mixed with the air during the topsoil stripping process (Fig. 2). As a consequence, the trial excavation in the RepCat area was limited to the opening of trenches, and due to the soil contamination and insufficient data on health risks, no other archaeological work could be carried out in this part of the site.⁶



Fig. 6. Remains of a child uncovered in the excavator bucket (Photo: Bence Simon).

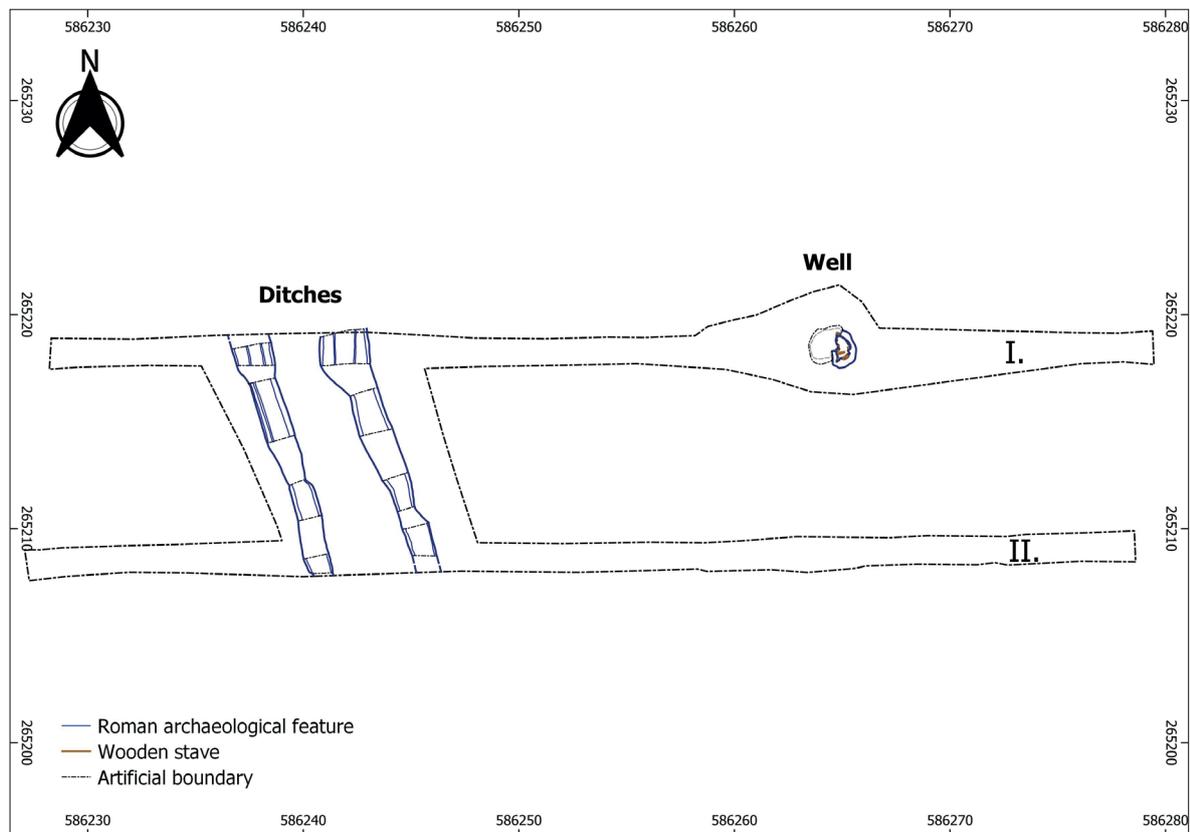


Fig. 7. Excavation map of the G-Phase area (Authors' own work).

6 Zita Hrabák's (Várkapitányság Zrt.) closing remarks on the trial excavation.

RepCat area

Nine trial trenches, 2 meters wide, and 50, 40 and 8 meters long were previously laid out in the Rep-Cat area. The nine trenches were numbered with Roman numerals from north to south from I to IX and they were stripped between 24 February and 3 March. The work involved breaking concrete up to 30–40 cm thick on several occasions. This was the situation for trial Trenches V–IX where no archaeological cultural deposits were observed. In addition, the observation was made more difficult by the fact that modern linear structures (pipelines, conduits) often crossed the trenches and moreover their walls were life threatening due to the earthworks of the 20th century factory construction. In contrast, archaeological features were found in trial Trenches I–IV, which the pottery material dated to the Roman period (*Fig. 3*).

The unearthed features were mostly graves from the cemetery of the legionary base, as the orientation of the patches was northwest-southeast, perpendicular to the eastern wall of the fortress, or northeast-southwest, parallel to it. In some cases, the mechanical stripping has also reached the human skeletal remains. Human bones were observed in Trenches I–II and IV. The graves appeared in three levels, at depths of 70–120 cm (*Fig. 4*), 170–190 cm (*Fig. 5*) and 250–280 cm. The latter depth was reached only in Trench IV, but the unfavourable observation conditions made it difficult to determine the outline of the graves. In one unfortunate case, a poorly preserved child skeleton was recovered from a depth of -290 cm and could only be observed in the excavator bucket (*Fig. 6*). From the surface of the stripped trenches, a Drag. 37-type *terra sigillata* bowl-rim and other domestic grey pottery were recovered.

G-Phase area

In the G-Phase area, two east-west oriented trenches, 2 by 50 m, were laid out – numbered I and II from the north. They were stripped between 24 and 27 February, during which three archaeological features were discovered. In the eastern part of Trench I, the geological sectioning revealed animal bones and Roman pottery from a depth of 310 cm, as well as fragments of wooden staves, which led to the identification of a barrel-lined well dated to the Roman period. From the well to the west, patches of two northwest-southeast oriented ditches were unearthed in both Trench I and II at a depth of 170 cm. The investor then agreed to extend the area of the excavation from 200 m² to 247 m² in order to unearth the discovered features (*Fig. 7*).

Road section

The ditches stripped during the extension were observed along a stretch of 11 meters. The ditches were spaced approximately 3–3.3 m apart, and their grey clay infill was easily distinguishable from the yellow clay subsoil (*Fig. 8*). They were excavated only in sections and their fill has yielded Roman domestic pottery. The ditches were ‘U’ shaped (*Fig. 9*) and were on average 1–1.4 m wide and 20–50 cm deep. Their central axes were 4.4 meters and their outer edges 5.5–6.1 meters apart.

Although the edges of the ditches were not regular, their orientation and shape were the same, so they were interpreted to be drainage ditches of a road (*sulci*), even though no road structure or wheel tracks were observed in the area between them. A parallel can be drawn with the 3.8 m wide ‘A road’ of the civil town,⁷ and also with the unstructured road excavated at the Szombathely-Olad site,

7 DOBOSI 2020, 24.

which had a wider road surface, but the outer sides of the drainage ditches were at a similar distance from each other.⁸ The interpretation seems to be supported by the topographical position of the features documented during excavation, which we will discuss later.

Barrel-lined well

One of the most spectacular and important archaeological features of the trial excavation, a Roman well lined with a wooden barrel, was found in Trench I (Fig. 10). As we mentioned above, such a find is not unique in the area of the military town, as one was also excavated some 10 meters to the north in 2007. Its barrel was secondarily used by knocking out its top and bottom. The wood of the barrel was found at a depth of more than 3 meters, and it was clear from the moment it was excavated that the well was put out of use not by simple filling but by the collapse of the western side.

We started digging the well from the west side, outside the staves, to take the weight off the structure and determine the height of the barrel, but after 30 cm of deepening, groundwater started to flow in, making it difficult to excavate further. Subsequently, we started excavating the infill of the well and successfully reached the bottom of the staves, but were unable to complete the work due to sludge flowing in through the



Fig. 8. Pair of ditches after topsoil removal (Photo: Bence Simon).



Fig. 9. Cross-section of the western ditch (Photo: Ferenc Barna).



Fig. 10. The excavated well (Photo: Bence Simon).

8 MÁTYÁS 2006, 164–165.

gaps. Fortunately, we were able to take the wood structure out, roughly clean it on site and transport it for further cleaning and restoration. The documentation of the barrel was aided by the production of orthomosaics and 3D models from photographs (*Fig. 11*).

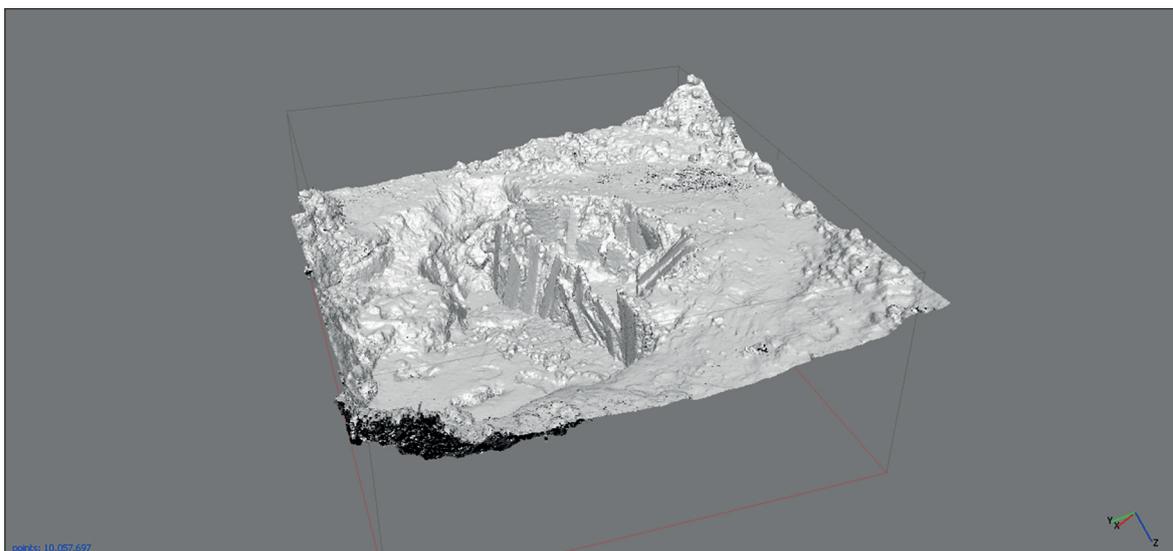


Fig. 11. Dense point cloud generated from the photos of the well (Authors' own work).

The barrel's maximum remaining height was 90 cm, but given parallel finds from military contexts⁹ of the western part of the empire, it may have originally been 150–165 cm high.¹⁰ The diameter observed in the field was around 100 cm. The barrel is currently under restoration, but already during the excavation it was found that it could have been made of two types of wood. The best preserved were the carefully cut and planed staves (*Fig. 12*), which held a residue on the inside. The ends of the staves were sawed at 45 degrees and the croze groove could be well documented (*Fig. 13*). Although the xylotomic analysis may still bring surprise, the barrel was most probably made of silver fir (*Abies alba*, Mill.), as were the barrels from Aquincum and Gönyü.¹¹

The hoops that held the staves together from the outside may have been made of a different species of wood, but these were not found during the excavation, which may be due to the poorer water resistance of the species. It is possible that the material weakened and decayed during the use of the well, which ultimately led to its collapse. The marks of the hoops, which appeared in four rows regularly spaced



Fig. 12. Condition of the uncovered barrel staves with traces of planing and residue (Photo: Bence Simon).

9 MARLIÈRE 2014.

10 MARLIÈRE 2001, 184, Fig. 103, Groupe 4, 186.

11 STIEBER 1976; GRYNÆUS 2009.

below each other, were observed on the outer side of the excavated staves (Fig. 14). In the top two rows, the hoops left a shallow wavy line, while in the bottom two a straight line.

After excavation and primary cleaning, four burnt-in stamps with identical inscriptions and a Latin cursive inscription were observed on the outer side of the barrel staves, which made the Roman date of the barrel and the well certain. The inscriptions are currently being processed and await publication, but the barrel stamps can be provisionally considered as belonging to a series of stamps providing exemption from customs duties for goods transported in barrels for the *legio II Adiutrix*¹² and *legio I Adiutrix*,¹³ stationed in Aquincum and Brigetio.¹⁴

Relatively small quantities of pottery, a small glass vial and the skeleton of a dog were recovered from the infill of the well, as well as intact organic remains, a hazelnut (Fig. 15) and probably a polypore gilled mushroom (Fig. 16). From the backfill, two bags of soil samples were collected for further organic material extraction, which have so far yielded exoskeletal remains of insects (Fig. 17) and small plant seeds (Fig. 18). By identifying the organic remains, it is hoped to determine the season of the well's collapse, and it will be possible to reconstruct the immediate natural environment of the legionary fortress.

The destruction of the well can be dated to the end of the 2nd century AD and the beginning of the 3rd century AD, based on the stamped barrels and the primary processing of the pottery material.



Fig. 13. End of a staff with the croze groove in perfect condition (Photo: Bence Simon).



Fig. 14. Hoop-marks in four rows on a staff (Photo: Bence Simon).

The topographical position of the excavation sites

The two excavation sites could be clearly distinguished by the type of features unearthed, as the northern trial trenches (RepCat) revealed cemetery-related features, while the southern trenches

12 AE 1976, 546; PETŐ 1976: *Expac(to) n(u)tr(imento) val(etudinarii) leg(ionis) II adi(utricis) // THR [---] I*. AE 1996, 1261: *Expac(to) n(u)tr(imento) val(etudinarii) leg(ionis) II ad(iutricis)*. AE 1996, 1260: *Immune in r(ationem) val(etudinarii) leg(ionis) II ad(iutricis)*.

13 AE 1995, 1259d; SZŐNYI 2003, 145: *Immune in r(ationem) val(etudinarii) le[g(ionis)] I ad(iutricis)*.

14 BEZECZKY 1996.



Fig. 15. Hazelnut from the Roman well (Photo: Bence Simon).



Fig. 16. Polypore mushroom from the Roman well (Photo: Bence Simon).



Fig. 17. Exoskeletons of insects from the Roman well (Photo: Bence Simon).



Fig. 18. Macroscopic plant remains, seeds (Photo: Bence Simon).

(G-Phase) revealed settlement features, a road and a well. This separation is consistent with what is known about the extent of the cemeteries and the military town, namely that the cemeteries were located in the immediate foreground of the legionary fortress, while the buildings of the military town were located further away (Fig. 19).

It is not possible to determine the exact direction of the pair of ditches interpreted as belonging to a road from a section only 11 m long, but they run approximately towards the southwest corner of the legionary fortress. This coincides with the street network of the military town, which runs radially out from the direction of the fortress. The excavated road can be largely associated with the road marked with a red arrow, known from aerial photographs (Fig. 19).

Thanks to the excavation, we have gained a better understanding of the extent of the military town of Brigetio and the close neighbourhood of the fortress. A new finding is that the upper, more intensively used strata of the military town to the southeast of the legionary fortress were either the victims of 20th century factory construction, or that this area was actually characterised by less built-up areas and lower land use.¹⁵

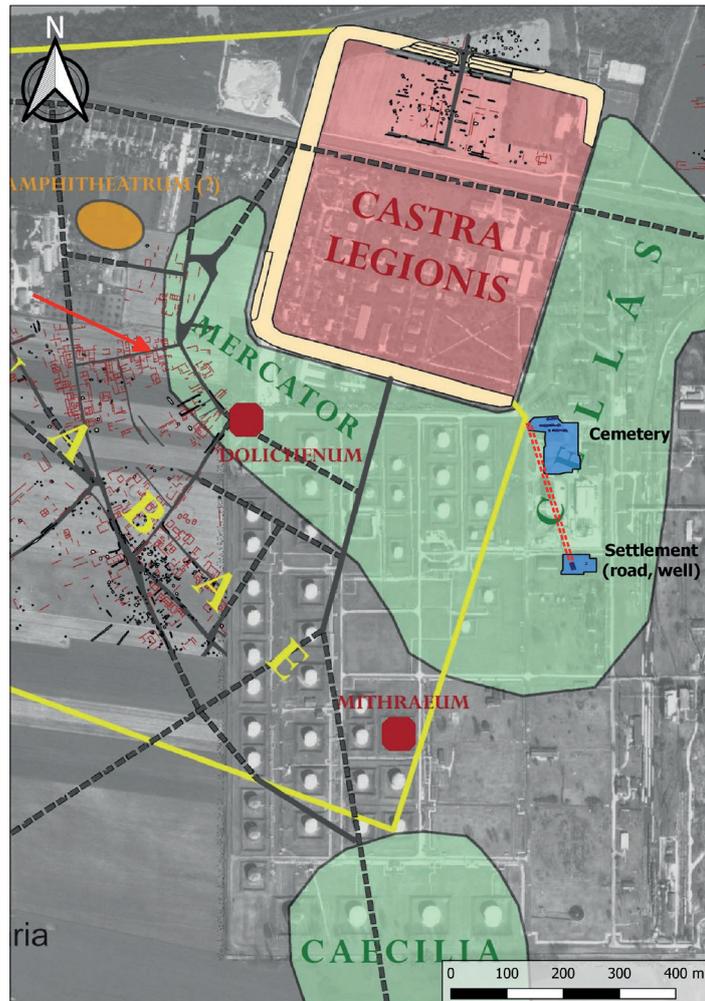


Fig. 19. Topographical position of the excavation site with the supposed direction of the dirt road (Authors' own work; topographic map made by László Rupnik).

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AE = L'Année épigraphique

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¹⁵ This paper is part of the *Comprehensive archaeological research on the northern zone of the Ripa Pannonica* research project, supported by the National Research, Development and Innovation Office – NKFIH, K-134522.

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