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Edited by

Eric C. De Sena
Halina Dobrzanska



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THE ROMAN-AGE SETTLEMENT AT CSENGERSIMA–PETEA AND POTTERY WORKSHOPS FROM THE UPPER TISZA BASIN

Robert Gindele (Satu Mare Museum of History and Art, Romania) and
Eszter Istvánovits (Jósa András Múzeum, Nyíregyháza, Hungary)

Abstract. This paper demonstrates evidence of pottery production zones in four areas of *Barbaricum* during the period when Rome controlled Dacia (2nd and 3rd c. AD): in the Upper Tisza Basin next to the *limes* of Dacia Porolissensis, in the micro-region of the Middle Someş river, on the Bereg plain and on the valleys of the Hernad and Torysa rivers in eastern Slovakia. Two varieties of kilns were common (one with a central post and one with a median wall) in addition to a few irregular types. A key question focuses upon the notion of Roman influence on pottery production, both in terms of the configuration of the two common kiln types and the varieties of pottery manufactured at the native centers. The authors conclude that the Romans had a strong technological and stylistic influence that extended deep into *Barbaricum*.

I. The settlement at Csengersima–Petea. The archaeological site of Csengersima–Petea is situated in a plain traversed by the traces of the former meanders of the Erge brook. A good idea of how the ancient landscape looked can be made on the basis of military maps from 1783-1785.¹ Before the bonification of the plain between the rivers Someş and Tisa, this was crossed by many brooks creating meanders between areas with higher terrain and forming lower, more flattened areas which were flooded repeatedly by the two main rivers. According to the map of 1783-85, the Erge brook crossed a higher area on an East-West direction, at a distance of about 8 km to the North of the winding course of the Someş River. The inhabitants of the Roman age settlement dug their houses, fountains and house annexes into the clayey earth of the higher terrain on both banks of the brook in antiquity, which probably had a swampy valley about 30-40 m wide.

It is probable that an important road traversed the area of the settlement, crossing the plain north of the Someş River. The 18th century maps show the existence of a lower area between the Someş River and the micro-area of the settlement, the only road west of the area of the modern city of Satu Mare traversing in the proximity of the investigated area. The route of the medieval road overlaps with the one we suggested.²

During the salvage archaeological excavations undertaken when the crossing point of the Romanian-Hungarian frontier at Csengersima–Petea was being rebuilt in 1998-1999, more than 1000 Roman period complexes were uncovered, including several pottery workshops.

Five workshops were identified, four of which had one kiln and one with two pottery kilns. These workshops are located in the western part of the excavated area, forming two groups. The first group (southern group) is made up of workshops 704 and 1697-1700, each with one kiln with a support post. The distance between the two workshops is just 1-2 m. At about 50 m from the first group of workshops are three others (northern group), in an arch-shaped arrangement. These workshops are at a distance of 20-25 m from each other. Two have one kiln apiece with a support wall and one has a kiln with a post and a kiln with a support wall. It is hard to discern if there are chronological differences between the two workshop groups. A difference is noted by their construction: the southern group has kilns with support posts and among the northern group three out of four have support walls.

It is difficult to assess if the pottery discovered in the fill of the workshops after their abandonment offers any information about pottery production. It is very likely that these constructions sunken into the earth were filled in shortly after use. This is also indicated by pottery fragments discovered in these complexes. In the pottery workshops at Csengersima–Petea wheel-made pottery clearly predominates. Only a few pottery fragments discovered were coarse and hand-made; fine, black, hand-made pottery was not found. Wheel-made stamped pottery was found in the fill of each of the five workshops in varying numbers. In workshops 704 and 1065 there is less stamped pottery and a higher proportion of smooth pottery; in workshop 1300 there is more stamped pottery. At present we cannot state that this represents chronological differences among the workshops. Rough pottery is present in large quantities in every pottery workshop.

In the micro-area of the Csengersima–Petea customs zone, several Roman age settlements have been

¹ Szatmár Vármegye, map XXIX, col. 13, sect.

² Maksai 1940, 9, Skizz 2.

investigated on the Romanian side. At Lazuri–Lubi Tag a 1378 m² surface area was researched,³ at Satu Mare–Pădurea Noroieni survey excavations were carried out in 1972.⁴ The intensity of habitation in the Roman age is reflected in the results of the surface research in the outskirts of the village of Császóló in Hungary, at a distance of about 10 km from the site at Csengersima–Petea, where in 18 out of 40 discovery spots, Roman age traces are present.⁵ At Satu Mare–Farms 2.4 two kilns have been investigated, each having a kiln with a median wall, fuelled by the same service pit.⁶ At Lazuri–Râțul lui Bela ten kilns with median walls have been uncovered, but we do not have information about the service pits.⁷

II. Pottery workshops from the Plain of the river Someș. In the settlement at Petea–Csengersima the first phase of habitation is characterized by the great quantity of archaic Dacian and Germanic pottery and the absence of stamped pottery. The phase without stamped pottery at Csengersima–Petea is datable to the first half of the 2nd century, based upon a strongly molded, bronze fibula, whose body is ornamented with lines in a zigzag pattern.⁸

During the Marcomannic wars and at the end of the 2nd century (B2–C1) the archaic aspect of the pottery is maintained. The date may be indicated by a gold pendant.⁹ At present we do not have any information about pottery made on the potter's wheel in the 2nd century from the micro-area of the settlement at Csengersima–Petea. Medieșu Aurit–Șuculeu is the only production center we know of to the north of the Someș River that produced pottery on a potter's wheel. Thirteen kilns have been studied with the dimension of the diaphragm varying between 160 cm and 260 cm. These dimensions may be explained by the character of the products. The number of storage jars is much greater than that found in the other pottery workshops; the workshops at Medieșu Aurit probably specialized in the production of storage jars. The kilns at Șuculeu have double fire channels and median walls.

The character of their construction shows a continuation in tradition from the La Tene period. A service pit probably fuelled only one kiln, but we are not certain that this is the only case because not all of the kilns were systematically researched. The chronological limits of pottery production are difficult to determine. A date of between 2nd and 4th–5th centuries has been proposed.¹⁰ Pottery with stamped decoration was not produced in these kilns and the examples of stamped pottery uncovered at the site are probably Roman imports. The lack in the production of stamped pottery may indicate a different chronological date than the one suggested by the

author of the research. The closest gray stamped pottery finds were uncovered during field walking in the area of Apa,¹¹ from the northern terrace of the Someș river meadow, about 10 km south of the settlement in Medieșu Aurit–Șuculeu. Bearing in mind the small distance and the same geographical micro-region, it is difficult to suppose that these products did not make their way to Medieșu Aurit–Șuculeu. We currently assume that either the pottery production stopped during the large scale production of stamped pottery or there was a hiatus in production for this period. It is a difficult problem, but we cannot simply exclude the non-assimilation of Roman technology.

It is very likely that the concept of mass production and spread of stamped pottery was introduced into the Upper Tisza Basin in phases C1b–C2. The exact date of the use of these kilns is not clear. In complex no. 635 at Petea–Csengersima, a bronze bolt fibula (type Almgren 158), made from a single piece, was found in association with stamped pottery. In the micro-region of Satu Mare–farms 2–4, stamped pottery was not produced in the kilns with a median wall. Clues about the date of production in this place are offered by a fibula similar to the Almgren 158 fibula from complex no. 635 of Petea–Csengersima.¹² The date range of this type is too broadly defined: in the western region of the Przeworsk culture it dates between the 2nd and the middle of the 5th century,¹³ while in Pannonia its introduction is attested to the 3rd century.¹⁴

In the micro-area of the settlement at Csengersima–Petea, at Lazuri–Râțul lui Bela stamped pottery was no longer being produced in the kilns with median walls, its place being taken by pottery with smoothed decoration in a net pattern and some forms that have analogies in Sântana de Mureș Cerneahov. A date of phase D1 was recently proposed for the pottery production at Lazuri–Râțul lui Bela.¹⁵

III. Pottery workshops near the Province of Dacia. At present, it is unanimously accepted that the origins of the production of stamped pottery in the Basin of the Upper Tisza are to be found in Dacia, probably at Porolissum. At Porolissum “the number of stamped pottery is impressive;”¹⁶ however, we still do not have clear information concerning this production group. Stamped pottery can be dated to the time immediately following the Roman conquest with large scale production starting from the middle of the 2nd century. The great majority of stamped pottery is datable to the end of the 2nd and the 3rd centuries.¹⁷

³ Matei- Stanciu 2000, 53.

⁴ Bader 1975, 33–35.

⁵ Pintye 2008, fig. 1.

⁶ Lazin 1980; Lazin 1981–82 nr.7. 128.

⁷ No detailed information.

⁸ Timoc- Gindele 2006–2007, 186.

⁹ Istvánovits 2004, 220.

¹⁰ Dumitrașcu 1997, 358.

¹¹ Apa- Grădina Școlii, Apa- Herbeneaga. Settlements researched through field walking.

¹² Lazin 1980, pl. LXXXI, 4.

¹³ Szydlowski 1979, 27.

¹⁴ Vaday 1988–89, 87.

¹⁵ Stanciu 2008, 151.

¹⁶ Gudea- Filip 1997, 70.

¹⁷ Gudea 1980, 111; Gudea- Filip 1997, 72.

A group of workshops has been identified at Zalău in close proximity to the Province of Dacia.¹⁸ This group of workshops produced stamped pottery of a type almost identical to Roman wares. The kilns at Zalău–Valea Mâji–Bazinele Peco and Zalău–Bd. Mihai Viteazu 104-106 were built with a central pylon with a diameter of about 1 m. Recently a pottery kiln with median wall was found at Zalău–ISCIP Teodor property.

A separate analysis of the “micro region of contact” between *Barbaricum* and the Province is necessary.¹⁹ In our opinion this region may have been of flexible dimensions in accordance with the importance of the communication routes that crossed it as well as the commercial and political importance of the Roman cities found at the border. In the case of the Upper Tisza Basin, a difference in the density of settlements is notable along the communication routes in the valleys of the rivers Zalău, Crasna, Barcău and Someș. The greatest concentration of habitations is found along the Zalău River, which was probably the main communication route between the Province and *Barbaricum*. The regularity of contact with the Province is reflected in the vast number of imports (e.g., fragments of glass cups and provincial pottery for everyday use) at Zalău–Bd. Mihai Viteazu 104-106, and the intensive use of Roman construction materials such as spikes and bricks. The situation is similar in the settlement at Zalău ISCIP, where Roman construction materials have been found in association with stamped pottery with forms, motives and combinations of motives identical to those found at Porolissum.

At Zalău–Bd. Mihai Viteazu 104-106, the chronological horizon in which stamped pottery is present corresponds to the period of the Marcomannic Wars or somewhat before. The horizon has been dated by a type of iron spur that frequently appears in the first horizon of the graves with weapons of the Przeworsk culture, but which also appear sporadically in the second horizon (B2-C1a phase, with emphasis in the B2 phase).²⁰ The spur was found inside a surface dwelling with a rectangular plan, 8x4 m, and delimited by darker colored soil. Contemporary with the dwelling or of a previous period, a building composed of Roman construction materials was discovered in the context of dwelling no. 4. An intense use of pottery of provincial character is shown by the great percentage of stamped pottery (34% of the fine pottery) and of the coarse pottery (8% of the entire pottery material).

Coarse pottery is also present in the context, hand-made (3%) and fine, black, hand-made pottery (2%), which is characteristic of the Przeworsk culture. In this chronological phase of the settlement the forms of stamped pottery are identical with the pottery from Porolissum (variants STSP 1, STSP 2, STSP 3 1.3.1.9., STSP 10, STSP 13, STSP 15, STSP 16 2.2.3.1.).²¹ It

should also be stressed that besides the identical forms, the ornamental motives and the arrangements are almost identical with the provincial pottery. The motives consist of wavy lines type V.10, curved lines type II.18-30, circles type III.29, vertical lines type I.9, and stylized plants type VI, 17, 18. There are very few forms that are not part of the repertory of the ones found at Porolissum (i.e., stamped brick-colored bowl that imitates a biconical German pot), but even these are decorated with motives and typical provincial combinations. These are local forms, characteristic of the settlement at Bd. Mihai Viteazu and without analogies at other sites. It is very likely that the stamped pottery was produced earlier in the vicinity of the province, along the main commercial route, rather than in the more distant *Barbaricum*.

Very close to the settlement at Zalău–Bd. Mihai Viteazu 104-106 are the ones of Panic–Uroikert and Hereclean–Dâmbul Iazului. The type and character of the complexes of these settlements are different from those of Bd. Mihai Viteazu. In the area of research at these settlements, we assume that there is one chronological level for each settlement based upon the unitary character of the archaeological material. An iron fibula Almgren VI.162 was used to date the finds from Hereclean; the fibula has analogies in the Upper Basin of the Vistula (Przeworsk culture), in grave no. 3 at Chmielów Piaskowy dated to phase C1,²² and in grave no. 75 at Lubowidz in Eastern Poland (Wielbark culture), dated to phase C1a.²³ On the basis of this fibula and a strap-end Raddatz J V, Stanciu presumes the finds date to the C1a phase, which ends at the end of the 2nd or early 3rd century.²⁴ At Panic–Uroikert we do not have finds that are precisely datable, but on the basis of the pottery types discovered, it is probable that the two investigated areas of the settlements are chronologically contemporaneous.

In neither of these settlements is there stamped or coarse pottery. At Panic, the quantity of wheel-made pottery is relatively low and is probably of provincial character. At Hereclean, the situation is similar, but we also have a fragment from a coarse pot and a fragment from a massive storage jar made on the potter’s wheel. The beginning of the settlements with finds almost exclusively characteristic of the Przeworsk culture can be linked without doubt with the population movement in the period of the Marcomannic wars, when German populations are mentioned in written sources next to the *limes* at Porolissum.²⁵ Bearing in mind the vicinity of these settlements with the one at Zalău–Bd. Mihai Viteazu 104-106, we may assume that in phase C1a stamped pottery was not produced in the northwestern vicinity of Dacia and that the production was only taken up again in phases C1b-C2.

¹⁸ Matei 1997, Matei–Stanciu 2000, 94, 106.

¹⁹ Editor’s note: see Weiss in this volume and De Sena 2010.

²⁰ Godlowski 1970, pl. XXII.15.

²¹ For the comparison we used the typology of Gudea-Filip 1997.

²² Godlowski–Wichman 1998, 16, pl. III.

²³ Wolagiewicz 1995, 40, pl. XIII.

²⁴ Stanciu–Matei 2004, 762.

²⁵ More precisely Vandals and Viktovalians (Dio 71, 12, Vita Marci 17, 3).

IV. Pottery workshops in the Bereg area. The largest known pottery production center in the Upper Tisza Basin is in the Bereg area. Research at Beregsurány-Barátságkert offers information about the number of kilns grouped in a workshop area. In fact, 52 kilns were discovered here,²⁶ while another 50 kilns have been identified with the aid of geophysical techniques.²⁷ At Beregsurány there are kilns with central post,²⁸ while kilns with median wall may simply not have been excavated. The great number of kilns is remarkable, but this is not an isolated case in *Barbaricum*. At Igolomia on the Upper Vistula, the region of the Przeworsk culture, more than 150 kilns have been unearthed.²⁹

In the neighborhood of Beregsurány, in Ukraine, two kiln groups have been studied: two workshops each with two kilns at Beregovo and six workshops with one, two or three kilns at Luzanka.³⁰ In this region kilns with central post represent the great majority. These kilns were used in the production of stamped pottery and are always present in published contexts. The lower chronological limit of pottery production in the micro-region of Beregsurány-Beregovo-Luzanka³¹ can be established by comparison with the settlement of Beregsurány-Custom, about 150 m from the area of the kilns. This has been dated to the middle of the 3rd century. In this settlement stamped pottery was uncovered, leading to the presumption that the production of stamped pottery in the micro-region of Beregsurány-Beregovo-Luzanka started after the middle of the 3rd century.³² It is likely that there are chronological differences between these workshops, indicated by the difference in the percentage of stamped pottery: 96% at Beregovo and 10.9% at Luzanka.³³

The pottery kilns from Luzanka were built in two manners: either with a central post that supports a diaphragm or with a median wall. The ones from Beregovo VI have a central post. From a chronological perspective there is no clear evidence regarding a simultaneous use of kilns with median wall and the ones with a central post; however, considering that there is no clear chronological difference between these two types of construction and no notable difference between the fills of the kilns, we may assume that the two types of kilns were used simultaneously.

V. Pottery workshops from the East of Slovakia. An area of workshops has been studied on the river Hernád,

in the region of the city of Košice, at Blazice-Bohdanovce, where three workshops were uncovered. Pottery production at Blazice-Bohdanovce has been dated by the authors to the late Roman period, 4th-6th centuries.³⁴ The number and type of kilns is difficult to determine because many were partially destroyed by agricultural work and, in several cases, it was impossible to establish whether these were simple or pottery kilns. Jurecko describes 23 kilns with a single chamber and 4 with median wall.³⁵ At present, a detailed analysis of the archaeological material is not possible. The shape of the published bowls is similar to the ones from Csengersima-Petea, but pots with polished decorations are more numerous. The pottery production center at Blazice-Bohdanovce can be dated between the 3rd and 5th centuries. A workshop with two pottery kilns attached to the same service pit was investigated in the area of Košice, at Sebastovce-Barca. The diaphragm of one kiln is supported by a central post, while that of the other kilns is supported by wheel-made pottery prefabricates. They have been dated to the first phase of the settlement, in the 1st and 2nd centuries. The fills within the kilns contained hand-made Dacian and Przeworsk pottery as well as brick-colored pottery sherds, and wheel-made with lips having complex profiles;³⁶ there was no stamped pottery. Near the city of Košice, at Trstené pri Hornáde, a complex was unearthed which the author considered to be a pottery kiln with a single chamber. It has been dated on the basis of hand-made pottery sherds to the 2nd century.³⁷ The complex did not contain stamped pottery.

In the valley of the Toryssa River two settlements with pottery kilns have been explored. At Ostrovany two pottery kilns were studied, having different chronological dates.³⁸ Kiln no. 1 has a median wall, a diameter of about 1 m, and was used for the production of stamped pottery. It appears to date to the late 2nd or early 3rd century. Kiln no. 2 is an irregular construction, with a prolonged fire channel and two side channels, which practically forms the firing chamber. There is a round chamber above with a diameter of 2 m where the pots were fired and a service pit with post holes. Polished pottery was produced in this kiln, characteristic of the first age of migrations.

The kiln at Prešov was accidentally discovered. We know only of its existence and do not have data for a more detailed analysis. The authors date it, however, to the late Roman age³⁹ based upon a published plan of the kiln. It has a unique construction for the Upper Tisza Basin with 8 small posts adhering to the wall of the firing chamber that supported the muffle.⁴⁰

²⁶ Csallány 1966 only mentioned, later published in Istvánovits 1993, 137-140, pl. III-VI pottery, fibulas, beads, fragments of combs, spur, pottery stamps. We do not have information about the kilns, although Csallány notes that several kilns were fueled from a single service pit. Service pits with only one kiln were also discovered.

²⁷ Kotigorosko 1995, 118 and personal communication with I. Erdelyi.

²⁸ Istvánovits 1993, 131.

²⁹ Dobrzanska 1990.

³⁰ Kotigorosko 1995, 119. It is very probable that the settlement at Luzanka is actually the same with the one at Beregsurány-Barátságkert.

³¹ See the position map of the micro-region in Kotigorosko 1995, fig. 74.

³² Istvánovits 1997, 730.

³³ Kotigorosko 1997, 810.

³⁴ Pastor 1961, 107. Pastor mentions a Commodus (180-192) coin and a bronze fibula from the late Roman age from Blazice: Pastor 1965, 95.

³⁵ Jurecko 1981, 169.

³⁶ Lamiova-Schmiedlova 1963, 74.

³⁷ Jurecko 1983, 383.

³⁸ Lamiova-Schmiedlova-Tomasova 1988, 95, Lamiova-Schmiedlova-Tomasova 1995, Lamiova-Schmiedlova-Tomasova 1999.

³⁹ Lamiova-Schmiedlova 1969, 430.

⁴⁰ Lamiova-Schmiedlova-Tomasova 1995, Abb. 3.

VI. The construction of the kilns. An extensive study of pottery production in the Upper Tisza Basin was made in the 1990's by Kotigorosko,⁴¹ who developed a typology on the basis of the construction of the kilns and the support of the diaphragm. Two principal types are distinguishable: with a single firing chamber and with two firing chambers. For the type with two firing chambers the following variants have been established: A) with a central post, B) with a median wall, C) with no support for the diaphragm.

Pottery kilns with a single chamber have been discovered at Blazice and Trstene pri Hornade. The 22 kilns with a single chamber at Blazice, according to the authors, were used simultaneously with those with a median wall.⁴² The kiln at Trstene pri Hornade is the only one discovered inside the settlement and its fill contained utilitarian hand-made pottery.⁴³ At Blazice the settlement was partially destroyed, in some instances down to the level of the firing platform of the kilns.⁴⁴ The kilns may have been for household use. Evidence of their use for firing pottery (wasters) is missing at Trstene pri Hornade. In the province of Dacia kilns with a single firing chamber have been uncovered at Napoca (Cluj-Bd. 21 decembrie 1989),⁴⁵ although some researchers suggest they may have served other purposes.⁴⁶

Pottery kilns with central posts are present in the vicinity of the Dacian *limes* at Zalău-Valea Mâții-Bazinele PECO and at Zalău-Bd. Mihai Viteazu 104-106. Each one is attached to a service pit and were used for the production of stamped pottery. At a distance of about 100 km from the Dacian *limes*, kilns with central posts have been uncovered at Csengersima-Petea alongside kilns with median walls. These workshops are associated with the production of stamped pottery. At a distance of about 140-150 km from the Dacian *limes*, in the area of stamped pottery production at Beregsurány-Beregovo-Luzanka, the potters built kilns with central posts, but also used two with a median wall.

At Mala Ratkovce there is a kiln with a central post, an isolated case, indicating the production of stamped pottery. At Sebastovce-Barca two kilns with central posts were attached to the same service pit. The second kiln is composed of wheel-made pottery prefabricates. A similarly built kiln in Dacia, at Tibiscum, dated to the middle of the 3rd century, has its central post made up of tiles and shingles.⁴⁷ According to the authors, these kilns were used for the firing of stamped pottery. Although this type of find is inside the settlement, it was attributed to the second phase of the settlement. Bearing in mind that the type of kiln with a central post in the Upper Tisza Basin is associated with stamped pottery production, we may assume a later date for the kilns at Sebastovce-Barca

and their association with the second phase of the settlement.

Although this type of kiln is present in the area of Dacia,⁴⁸ we cannot assume that this construction technique continued in the barbarian area of the Upper Tisza Basin in the Roman age. It is likely that the kiln type with a central post in the Upper Tisza Basin has its origin in Roman Dacia, where it is attested at Porolissum,⁴⁹ Tibiscum,⁵⁰ Ilișua⁵¹ and Micia.⁵²

Kilns with a median wall have been discovered in the Upper Tisza Basin alongside those with central posts. It is likely that pottery production at Medieșu Aurit-Șuculeu used only kilns with a support wall and can be dated prior to the spread of the Roman influenced kilns with a support post. Bearing in mind the predominance of archaeological finds with the characteristics of Dacian material culture, in the case of the settlement of Medieșu Aurit-Șuculeu we may assume a continuation of pottery production from the previous period. In the 1st century BC and the 1st century AD kilns with a median wall clearly dominated in the territory of Dacia.⁵³

The presence of kilns with a median wall alongside those with a central post is noted in two settlements: Csengersima-Petea and Luzanka. The chronological relationship between these two construction types is difficult to define due to the lack of datable objects. At Csengersima-Petea kilns with a support wall form a separate group within the settlement. One of the workshops has a kiln with a support post next to one with a support wall. At Luzanka two kilns with a support wall are found next to one with a support post within the same workshop.⁵⁴

Although stamped pottery production can be linked to the use of kilns with central posts, this pottery type was also produced in workshops where the kilns were only of the type with a median wall. Such workshops have been uncovered in the eastern part of Slovakia at Blazice-Bohdanovce and Ostrovany. The archaeological material discovered in these complexes does not offer sufficient elements for a clear date, so we cannot state that these are of a later date than those with a support post or that there are differences in its distribution. A pottery kiln with a median wall was recently discovered at Zalău-ISCIP proprietate Teodor.⁵⁵ This kiln is near the one found at Zalău-Bd. Mihai Viteazu 102-104 and was also used for the production of stamped pottery. Until the archaeological material is published, however, we cannot assume possible chronological differences. We can only state that in the vicinity of the Dacian province stamped pottery was even produced in kilns with a median wall.

⁴¹ Kotigorosko 1993, Kotigorosko 1995, 120.

⁴² Pastor 1961, 106.

⁴³ Budinsky-Kricka 1963, 41.

⁴⁴ Information due to the kindness of Maria Lamiova Schmiedlova.

⁴⁵ Ardevan 2001.

⁴⁶ Rusu- Bolindeț 2004, 331-332.

⁴⁷ Benea 1982, 26-34.

⁴⁸ Marinescu 2002, 97.

⁴⁹ Matei 2001 (2002), 173.

⁵⁰ Benea 1982.

⁵¹ Gaiu 2002.

⁵² Floca- Ferenczi- Mărghită 1970, 38- 46.

⁵³ Comșa 1985, 172.

⁵⁴ See general plan in Kotigorosko 1995, 294, fig.75.

⁵⁵ Băcuț-Crișan-Matei-Ardelean 2007.

It is likely that subsequent to the use of the kilns at Csengersima–Petea are the kilns with a support wall found at Lazuri–Râtul lui Bela and Satu Mare–Fermele 2–4. These workshops did not produce stamped pottery; thus, we speculate that the kiln with a median wall at Bolda can be dated later than the stamped pottery production horizon.

The use of kilns with a median wall only became widespread in the 4th century. In the territory of the former Dacian Province only this type can be found.⁵⁶ In the vicinity of the Upper Tisza Basin, in the Sarmatian region, such kilns were discovered at Tiszavasvári–Városhődje–Jegyző tag⁵⁷ and at Oradea–Salca.⁵⁸

Pottery kilns with unusual features are found in eastern Slovakia. At Presov the diaphragm is supported by small posts stuck to the wall of the lower firing chamber. A kiln with similar construction was uncovered in the region of Pannonia, at Brigetio, where the diaphragm was supported by 8 small posts “made of clay stuck to the wall of the lower firing chamber and two other (posts) that supported the center of the muffle.”⁵⁹ These clay posts may have had some role in the firing process. A similar role can be associated with the clay cones with a radial placement on the diaphragm of a kiln with a central post at Ilișua in Dacia.⁶⁰ At Ostrovany, kiln no.2 had the fire channel extended under the kiln, with two smaller side channels forming the heating space. So it is likely that the diaphragm only covered this channel.

VII. The location of the workshops within the settlements. In the Upper Tisza Basin the pottery workshops were placed on the outskirts of the settlements close to water, akin to the situation observed in the province of Pannonia. At Savaria, Brigetio and Aquincum pottery kilns were built in the extramural area, close to water.⁶¹ A similar situation was observed in Dacia at Ilișua, whereby the kilns were placed next to the Roman road and some springs at a distance from the military vicus, forming a separate district.⁶² At Micia the kilns were positioned right next to the Mureș river, on the northern outskirts of the civilian settlement.⁶³

The topography of the pottery workshops within the settlement did not change even in the late 4th and first half of the 5th century, when at Bihor, at Oradea–Salca, the kilns were placed on the edge of the inhabited terrace⁶⁴ and in Transylvania, at Suceag–Oradea, they were situated at the limit of the settlement.⁶⁵

VIII. Conclusions. On the basis of the geographical spread of pottery kilns in the Upper Tisza Basin one can observe a grouping of these into four main micro-regions: next to the *limes* of Dacia Porolissensis, in the micro-region of the Middle Someș river, on the Bereg plain and in the valleys of the Hernad and Torysa rivers in eastern Slovakia. At first sight, one might think that these are production centers situated at a distance of about 80–100 km and that they supplied pottery for a geographical area with a radius of about 40–50 km. Our personal opinion is that the geographic layout of these “groups of sites with pottery workshops” actually reflects the stage of archaeological research from between 1960–90, when archaeological digs were carried out mainly in the vicinity of larger cities like Zalău, Satu Mare, Košice, Presov. The research in the Bereg plain is due to agricultural projects carried out in the 1970’s–1980’s by the Soviet Union and the planting of trees in the region of the Hungarian/Soviet customs station. The pottery kilns discovered at Bolda and Malye Ratkovce proves that pottery was produced in other micro-regions as well, not only in those mentioned above.

The pottery workshops in the Upper Tisza Basin belong to three main chronological periods. The production center at Medieșu Aurit–Șuculeu belongs to the period before the massive penetration of Roman stamped pottery technology. All the kilns uncovered so far have their firing grates supported by median walls. The fill of the kilns has yielded many fragments from storage jars, hand-made pottery, coarse and decorated with appliqué rib with impressed decoration and plastic ornaments. The chronological limits of the pottery production at Medieșu Aurit–Șuculeu are not known precisely, while it is only certain that it functioned before the penetration of stamped pottery technology.

The technological importation of stamped pottery production in *Barbaricum* to the northwest of the Dacian Province can be dated to the 2nd century in the vicinity of the province at Zalău–Bd. Mihai Viteazu. It is very likely that in the valley of the middle Someș River, at Csengersima–Petea, the production of stamped pottery started later, sometime during the middle of the 3rd century. It is certain that the construction technology of the kilns, with firing grates supported by a central post, penetrates into *Barbaricum* next to the northwest of the Dacian Province along with the production of stamped pottery (Beregovo VI, Beregsurany, Male Ratkovce). This does not imply, however, that this kind of pottery was only produced in this type of kiln. Stamped pottery fragments were also found in workshops with kilns with a median wall (Blazice, Csoma, Ostrovany, Zalău–Panic–Proprietate Teodor), in workshops with kilns with a median wall and central post (Luzanka), as well as in cases in which the same service pit was used (Csengersima–Petea). It is probable that kilns with a median wall slowly replaced those with a central post, continuing the production of stamped pottery in this type of kiln as well. Currently, it is difficult to discern the relationship between pottery production in the Upper Tisza Basin and that in the region of the Prezeworsk

⁵⁶ Flocă-Ferenczi-Mărgitan 1970, Tab. 2.

⁵⁷ Istvánovits 1999.

⁵⁸ Ilieș-Bulzan 2002.

⁵⁹ Bónis 1975, 71–77.

⁶⁰ Gaiu 2002, 163.

⁶¹ Bónis 1975, 84.

⁶² Gaiu 2002, 162.

⁶³ Flocă-Ferenczi-Mărgitan 1970, 14.

⁶⁴ Ilieș-Bulzan 2002, 200.

⁶⁵ Opreanu-Cociș 2002, 228.

culture. The earliest wheel-made pottery workshops found in the region of the Prezeworsk culture to the north of the Carpathian Mountains⁶⁶ have been dated to phase C1b, but stamped pottery was not produced there on a large scale. The kilns in the Upper Vistula Basin have median walls, whereas the few with a central post were located in the central and western region under this culture's influence.

The character of pottery production probably changed beginning with phase D1. Gradually, stamped pottery disappeared and was replaced by pottery with smoothed decoration. The kilns have median walls that support the firing grate (Lazuri-Râtul lui Bela, Bolda) and irregular constructions appear in western Slovakia (Ostrovany, Presov). After the first migration period, the population density decreased greatly in the Upper Tisza Basin. We do not have archaeological data regarding pottery production either. A lack of archaeological traces is notable until the chronological horizon that corresponds to the second half of the 6th century, reflected in the early Slav horizon "Pişcolt- Lazuri"⁶⁷ in the Upper Tisza Basin. This "hiatus" may be due to problems related to dating and the lack of research for this particular period; in our opinion it is very improbable that the area was not inhabited during this period.⁶⁸

Appendix 1. Pottery workshops in the Upper Tisa Region.

1. Beregovo VI

Settlement researched in 1986. Two pottery workshops have been excavated, each with two kilns with a central post to support the firing grate, annexes, rectangular pits with fired walls, several storage pits.

Bibliography: Котигорошко 1993, 145-147, Kotigorosko 1995, 118, fig.93.

2. Beregsurány-Barátságkert

Settlement researched 1965-1969 and 1982-83. 52 kilns were uncovered, probably all with central posts and a few dwellings. The finds consisted of wheel-made pottery, grey, brick-colored, with stamped decoration, incised decoration, smoothed, coarse grey, brick-colored, with incised motives, hand-made pottery, rough, fine black, 80 clay stamps, bronze and iron fibulae, bronze torques, iron spur, limestone bead. It is very likely the same site as Luzanka-Sad Drujby.

Bibliography: Salamon 1966, 85; Csallány 1966; Csallány 1969, 38; Bóna 1986, 67-69; Istvánovits 1993, 129-132, fig. III-VI; Istvánovits 1997, 725; Котигорошко 1993, 153; Kotigorosko 1997, fig.3

3. Blažice-Bohdanovce-Dorina

Settlement researched 1958-1969. Pottery workshops were uncovered, household kilns, surface and semi-subterranean dwellings, pits. 27 kilns were studied 4 of

which having two chambers and a median wall. Because of the state of preservation of the kilns, we cannot assess how many of the other kilns were used for firing pottery and how many were household kilns. The finds included: hand-made pottery shards: coarse, fine black colored; wheel-made pottery shards: fine, grey, incised decoration, stamped; rough, grey, incised, loom weights, hand mills, bone comb, knife, iron fibula, Commodus coin, AD 180-192.

Bibliography: Pastor 1960; Pastor 1961; Pastor 1965; Pastor 1970 a; Pastor 1970 b; Lamiova-Schmiedlova 1969, nr.4, 405; Jurecko 1981, 169, 196, fig.2, 197, fig.3; Jurecko 1982.

4. Bolda-La spini

In 1967 a pottery kiln with a median wall was discovered by chance. The finds included a wheel-made bowl and pot fragments, grey and rough.

Bibliography: Matei-Stanciu 2000, 36-37, nr. 26 (43).

5. Csengersima-Petea-Határátkelő

During salvage excavations undertaken when the Romanian-Hungarian border cross-point at Csengersima-Petea was rebuilt in 1998-1999 over 1000 complexes belonging to the Roman age were uncovered among which 5 were pottery workshops with kilns having median walls and central posts. Wheel-made pottery was found, fine grey and brick-colored, with stamped decoration, smoothed and rough pottery.

Bibliography: Istvánovits 2004.

6. Csoma

During the excavation of a 10th century cemetery, a pottery workshop was uncovered with a kiln having a median wall. The archaeological material was poor, but stamped pottery was present.

Bibliography: Прохненко 2007.

7. Lazuri-Râtul lui Bela

Researched 1974-1981. 10 pottery kilns with median walls were excavated together with several other complexes. The finds included fine pottery, grey and brick-colored, decorated with smoothed and incised motives and rough pottery and only one stamped pottery fragment.

Bibliography: Lazin 1980, n. 6, 136; Lazin 1981-82, n.8, 127; Lazin 1995; Stanciu 1995, 145, nr. 17/A; Matei-Stanciu 2000, 61, nr. 148.

8. Luzanka-Sad Drujby

Researched 1986-1991. 6 workshops were excavated with a total of 14 kilns with central posts and median walls, 11 unfinished kilns, 4 dwellings, 7 annex buildings, 2 hearths, 5 wells, 24 pits with diverse functions. The finds included wheel-made pottery, fine grey and brick-colored, with incised, smoothed and stamped decoration, several loom-weights, a bronze bracelet with bulging ends (?), an axe, several beads. It is probably the same site as Beregsurány-Barátságkert.

Bibliography: Kotigorosko 1995, 294, fig. 75.

9. Malye Ratkovce

⁶⁶ Dobrzanska 1986, 257.

⁶⁷ Stanciu 1998-99, 161.

⁶⁸ Bóna 1986, 76.

The existence of a pottery kiln with a central post was noted. The kiln was used in the production of stamped pottery.

Bibliography: Kotigorosko 1995, 120.

10. Medieșu Aurit–Șuculeu

Settlement researched in 1964-1970 and 1995-1997. 10 pottery kilns uncovered, several dwellings and household annexes. The finds included wheel-made pottery shards: fine gray and red; decorated with incised and smoothed motives; rough grey and read. Hand-made course pottery is decorated with plastic motives; fine black pottery is present only by a few fragments.

Bibliography: Dumitrașcu-Bader 1967; Matei-Stanciu 2000, nr. 89 (159), 64.

11. Ostrovany–Nad Imunou exception+median wall (stamped)

Settlement researched 1983-1992. The finds included dwellings, storage pits, rectangular pits with fired walls, a blacksmith's workshop, a pottery kiln with a median wall, stamped pottery and one of irregular shape, without stamped pottery and a channel dug in the firing chamber.

Bibliography: Lamiova-Schmiedlova-Tomasova 1988, 95; Lamiova-Schmiedlova-Tomasova 1995; Lamiova-Schmiedlova-Tomasova 1999.

12. Prešov III-exception

In 1962 a pottery kiln was discovered. The firing grate was supported by small posts fixed to the wall of the lower firing chamber.

Bibliography: Lamiova-Schmiedlova 1969, 430; Lamiova-Schmiedlova-Tomasova 1988, 96; Lamiova-Schmiedlova-Tomasova 1995, 122, 127, fig. 3.

13. Satu Mare–Fernele 2.- 4

In 1978-1979 a pottery workshop was excavated having a service pit connected to two pottery kilns with median wall. Several storage pits were also uncovered and a semi-subterranean dwelling. Finds included hand-made pottery, coarse, undecorated; wheel-made pottery, fine grey, with incised and smoothed motives and a stamped fragment and rough grey pottery.

Bibliography: Lazin 1980; Lazin 1981-82, nr.7, 128; Stanciu 1995, nr. 23/A, 154; Matei-Stanciu 2000, 75, nr. 215.

14. Šebastovce–Barca–Zebes central post+exception

Settlement researched 1961-1962. Finds consisted of several semi-subterranean dwellings, post holes: a pottery workshop, with two pottery kilns, one with a central post

and the other with a fire grate supported by wheel-made pottery prefabricates. The settlement has two chronological horizons: in the earlier one hand-made pottery dominates, while the later one is characterized by stamped pottery. The author of the research dates the pottery workshop to the earlier phase.

Bibliography: Lamiova-Schmiedlova 1963, 64- 75; Lamiova-Schmiedlova 1969. nr.101, 437.

15. Trstene pri na Hornade–bank of Hernad river (a single firing chamber)

Settlement researched 1980-1983. The complexes were split according to two levels: between 30 and 80 cm and between 80 and 120 cm. The first level is dominated by concentrations of wattle and daub. In the second level storage pits dominate. Finds in the cultural layer consisted of iron hooks, bronze buckle pieces, a spear tip, knives, beads, an iron sickle, loom weights, a fragment from a bucket, a bronze bolt fibula, a bronze trumpet fibula, a bronze belt, several fragments of terra sigillata, a Faustina dinar 176-180. The author of the research cataloged two pits separated by a wall as being a pottery kiln with a single chamber.

Bibliography: Jurecko 1981; Jurecko 1983.

16. Zaláu–Valea Mății-Bazinele PECO

Settlement researched in 1983. One pottery kiln with a central post was uncovered. Inside the kiln and service pit the finds consisted of wheel-made pottery fragments, fine, grey, decorated with incised and stamped motives and rough pottery fragments.

Bibliography: Matei 1997; Matei-Stanciu 2000, 153 (292), 106.

17. Zaláu–Bd. Mihai Viteazu 104-106

Settlement researched 1974-1983 and 1996. Finds consisted of several dwellings, a pit and a pottery workshop with a kiln with a median wall. Inside the kiln and service pit were fragments of wheel-made pottery, fine grey and brick-colored, decorated with incised and stamped motives.

Bibliography: Matei 1980 nr. 1; Matei 1985; Matei 1993; Matei 1997; Matei-Stanciu 2000, 153 (287), 86-102.

18. Zaláu–ISCIP proprietate Teodor (median wall – stamped pottery)

Settlement researched in 2007. Finds included several pits (probably household pits) and a pottery kiln with a median wall. Fine grey pottery fragments with stamped decoration were also found.

Bibliography: Băcuț-Crișan-Matei-Ardelean 2007.

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AÉ – Archaeológiai Értesítő, Budapest
ActaAntetArch – Acta Antiqua et Archaeologica, Szeged
AMP – Acta Musei Porolissensis, Zalău
Antaeus – Communicationes ex Instituto Archaeologico Academiae Scientiarum Hungaricae, Budapest
Antik Tanulmányok – Antik Tanulmányok Studia Antiqua, Budapest
AR – Archeologické Rozhledy, Praha
Archaeologia Austriaca – Archaeologia Austriaca, Wien
CCAR – Cronica cercetărilor arheologice din România, București
EphNap – Ephemeris Napocensis, Cluj-Napoca
Folia Archaeologica – Folia Archaeologica, Budapest
Historia Carpatica – Zborník Východoslovenského Múzea v Košiciach, Košice
Materiale – Materiale și Cercetări Arheologice, București
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NyJAMÉ – A nyiregyházi Jósza András Múzeum Évkönyve
Potaissa – Potaissa. Studii și Comunicări Muzeul de Istorie, Turda
Prace Archeologiczne – Prace archeologiczne, Warszawa–Kraków
Revista Bistriței – Revista Bistriței, Muzeul Județean Bistrița, Bistrița
SlovArch – Slovenská Archeológia, Bratislava
StCom Satu Mare – Satu Mare. Studii și Comunicări, Satu Mare
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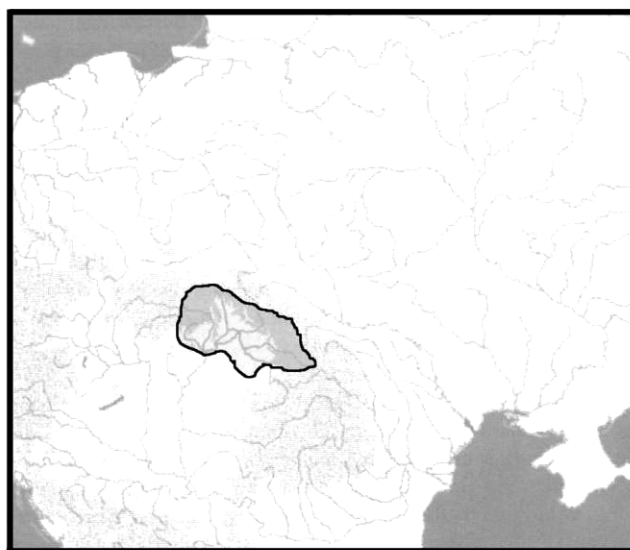
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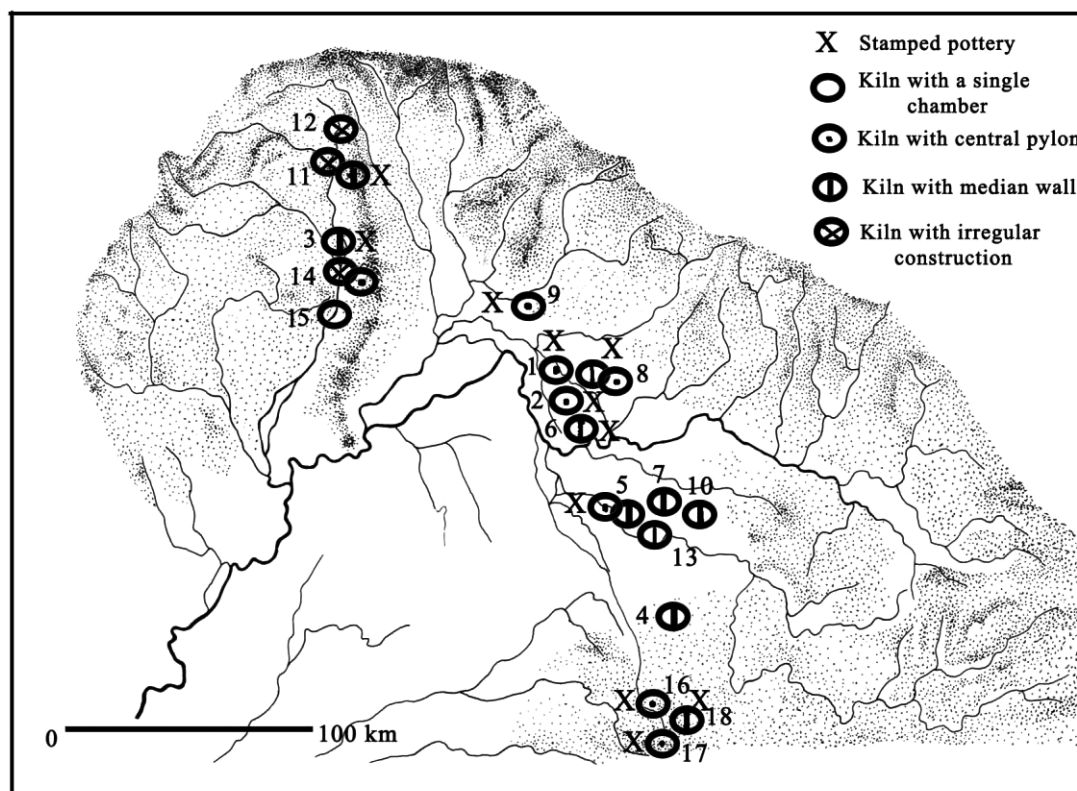
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FIGURES



Pl.1.: The Upper Tisa Region



Pl. 2.: Pottery kilns in the Upper Tisa Region

1. Beregovo VI, 2. Beregsurány- Barátságkert, 3. Blažice- Bohdanovce, 4. Bolda- La spini,
5. Csengersima-Petea- Határátkelő, 6. Csoma, 7. Lazuri- Râțul lui Bela, 8. Luzanka- Sad Druby,
9. Malye Ratkovce, 10. Medieșu Aurit- Șuculeu, 11. Ostrovany- Nad Imunou, 12. Prešov III,
13. Satu Mare- Fermele 2.4, 14. Šebastovce-Barca- Zebes, 15. Trstene pri na Hornade- bank of river Hernad,
16. Zalău-Valea Mâții-Bazinele PECO, 17. Zalău- Bd. Mihai Viteazu 104-106,
18. Zalău- ISCIP proprietate Teodor.

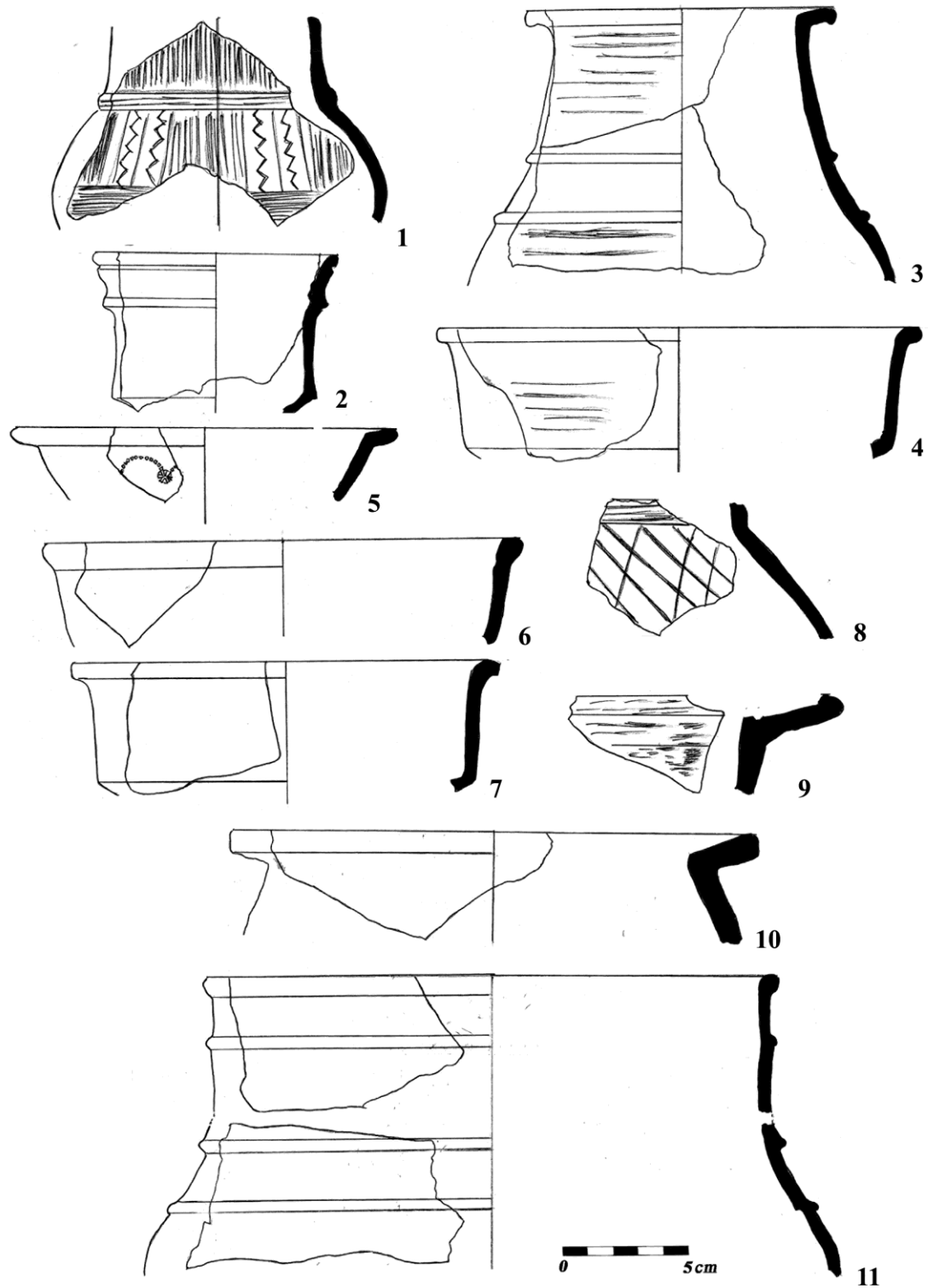


Figure 3. Csengersima. Materials from feature 704, pottery kiln.

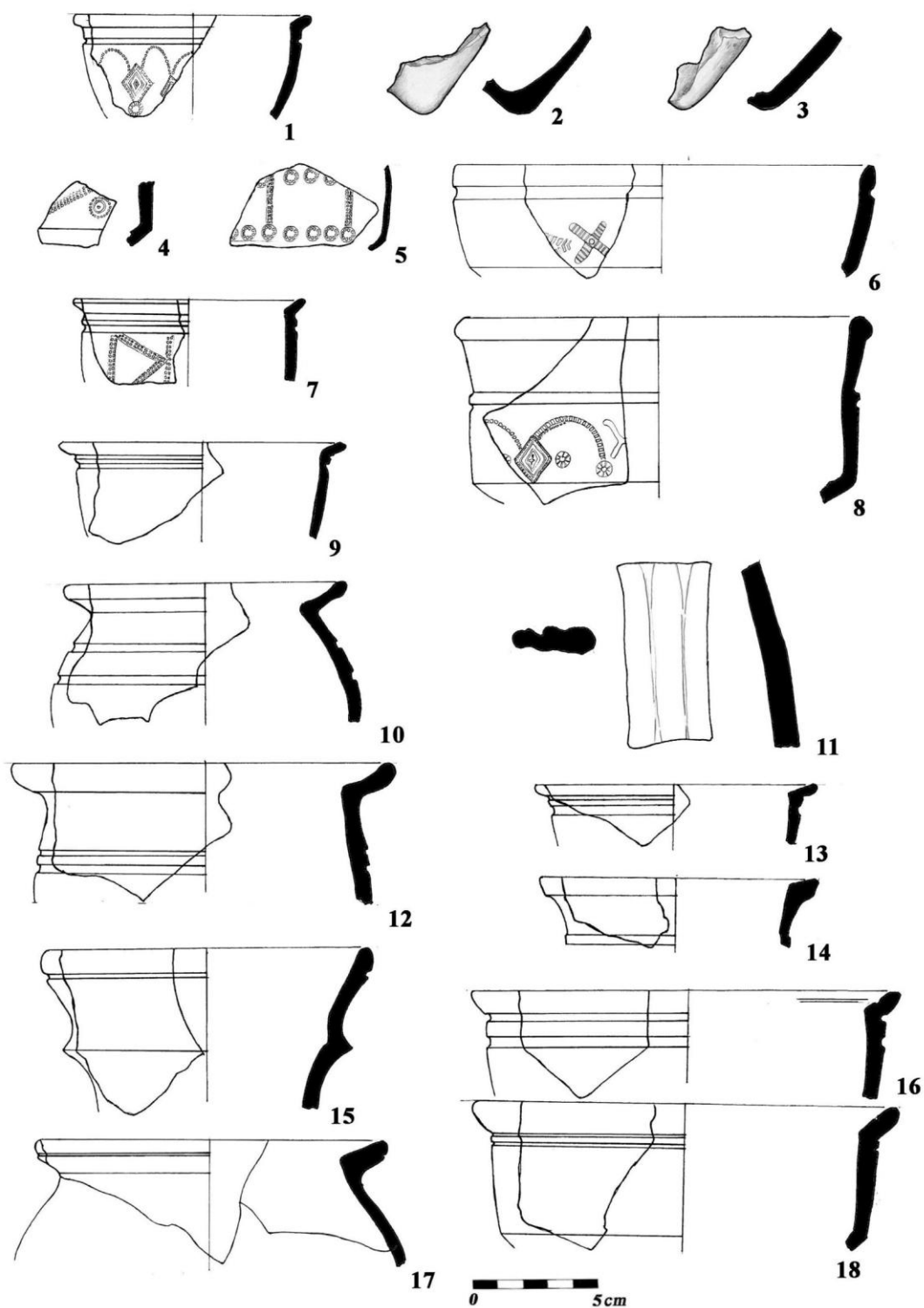


Figure 4. Csengersima. Materials from feature 1065, pottery kilns.

Feature 704.

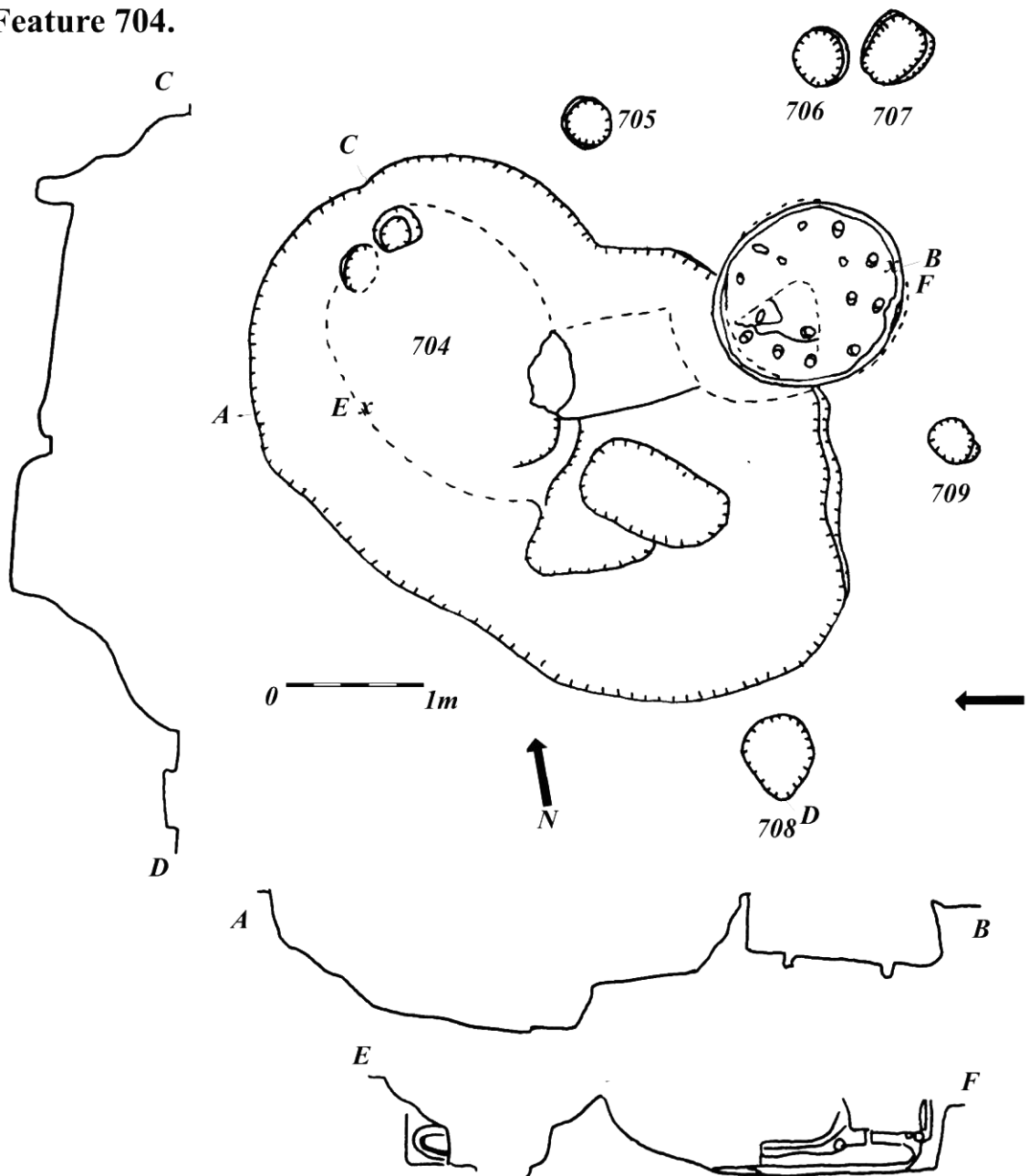


Figure 5. Csengersima. Feature 704, pottery kiln.

Feature 1065- 1066.

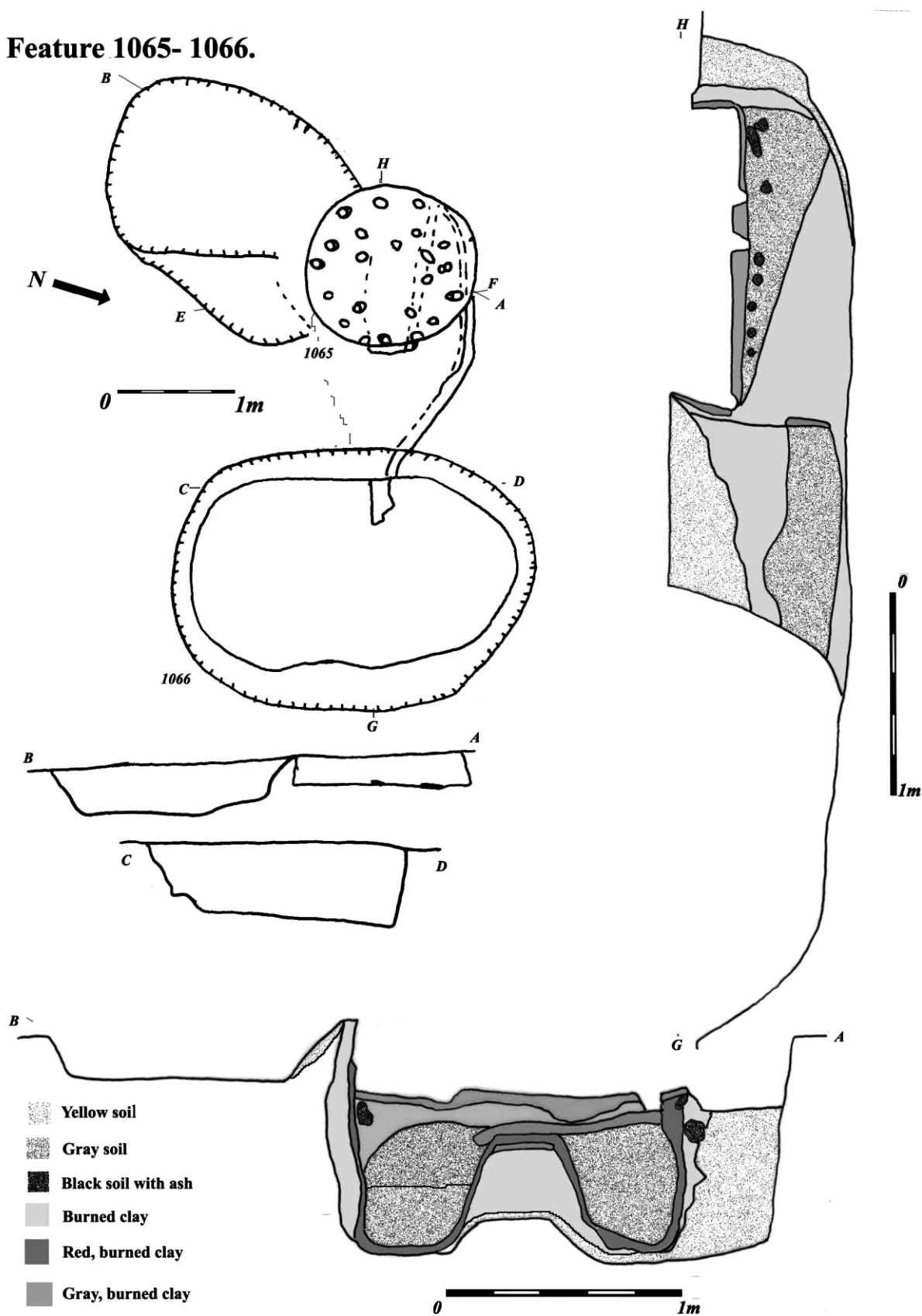


Figure 6. Csengersima. Feature 1065-1066, pottery kilns.

Feature 1300.

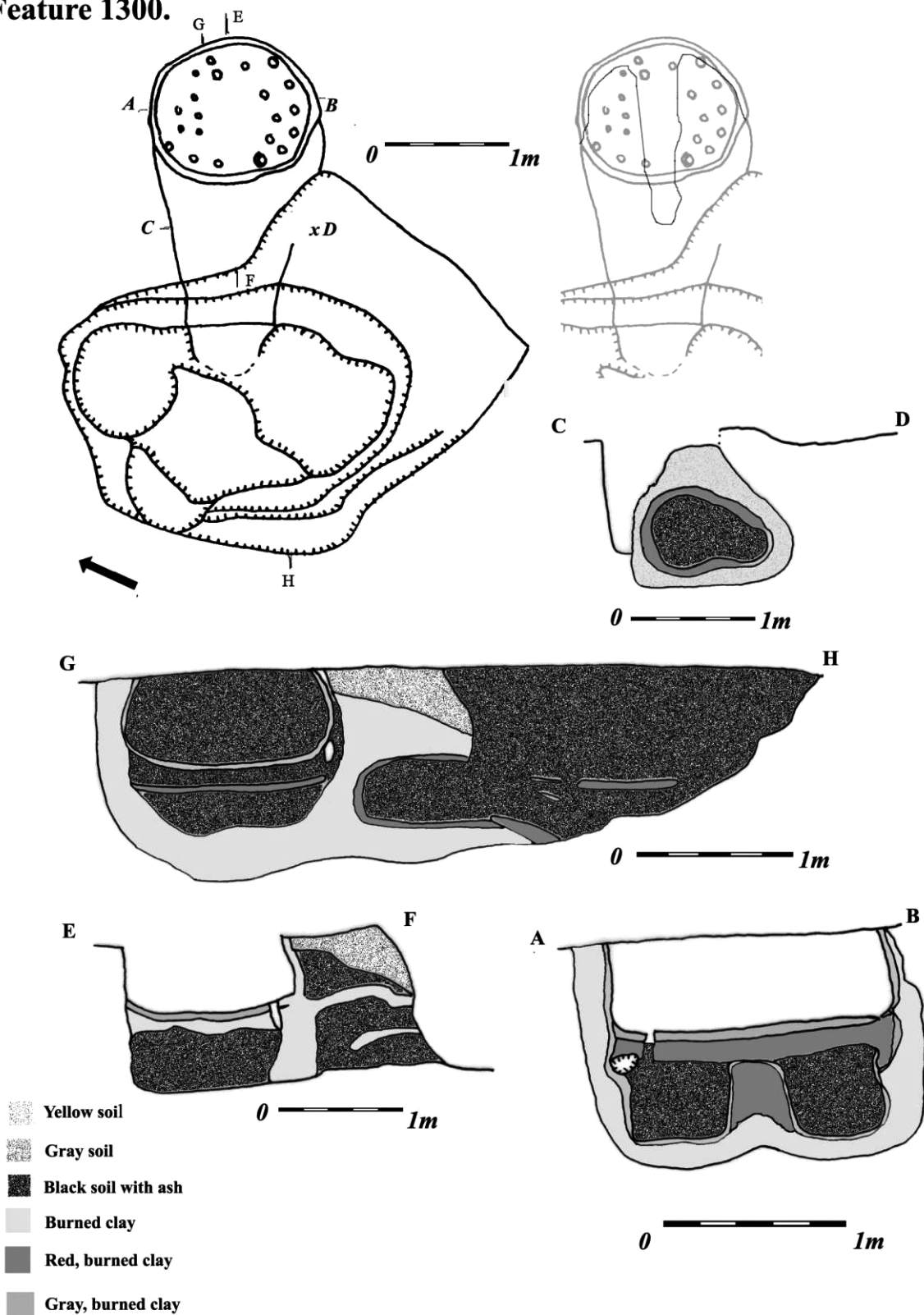


Figure 7. Csengersima. Feature 1300, pottery kiln.

Feature 1396.

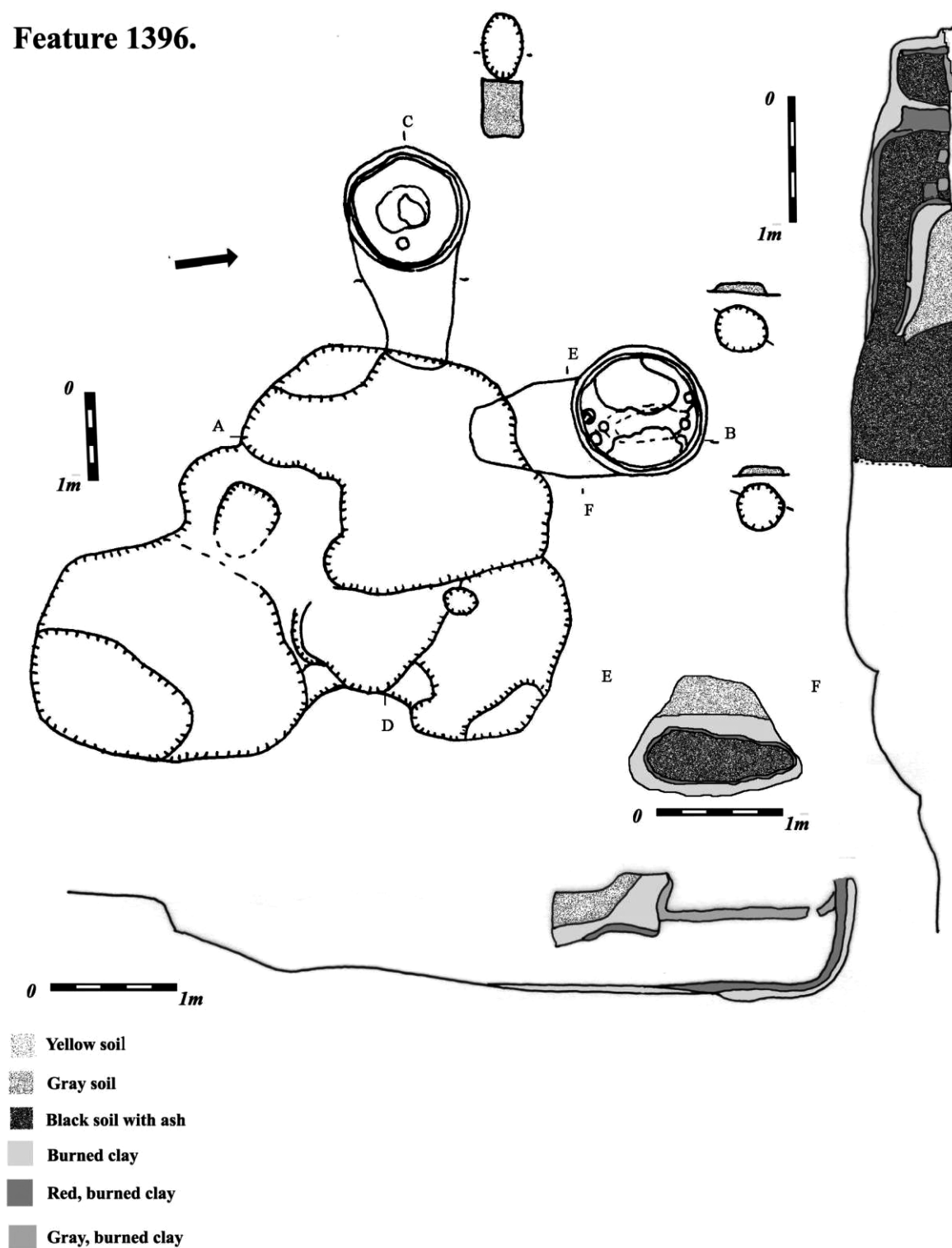


Figure 8. Csengersima. Feature 1396, pottery kiln.

Feature 1697- 1700

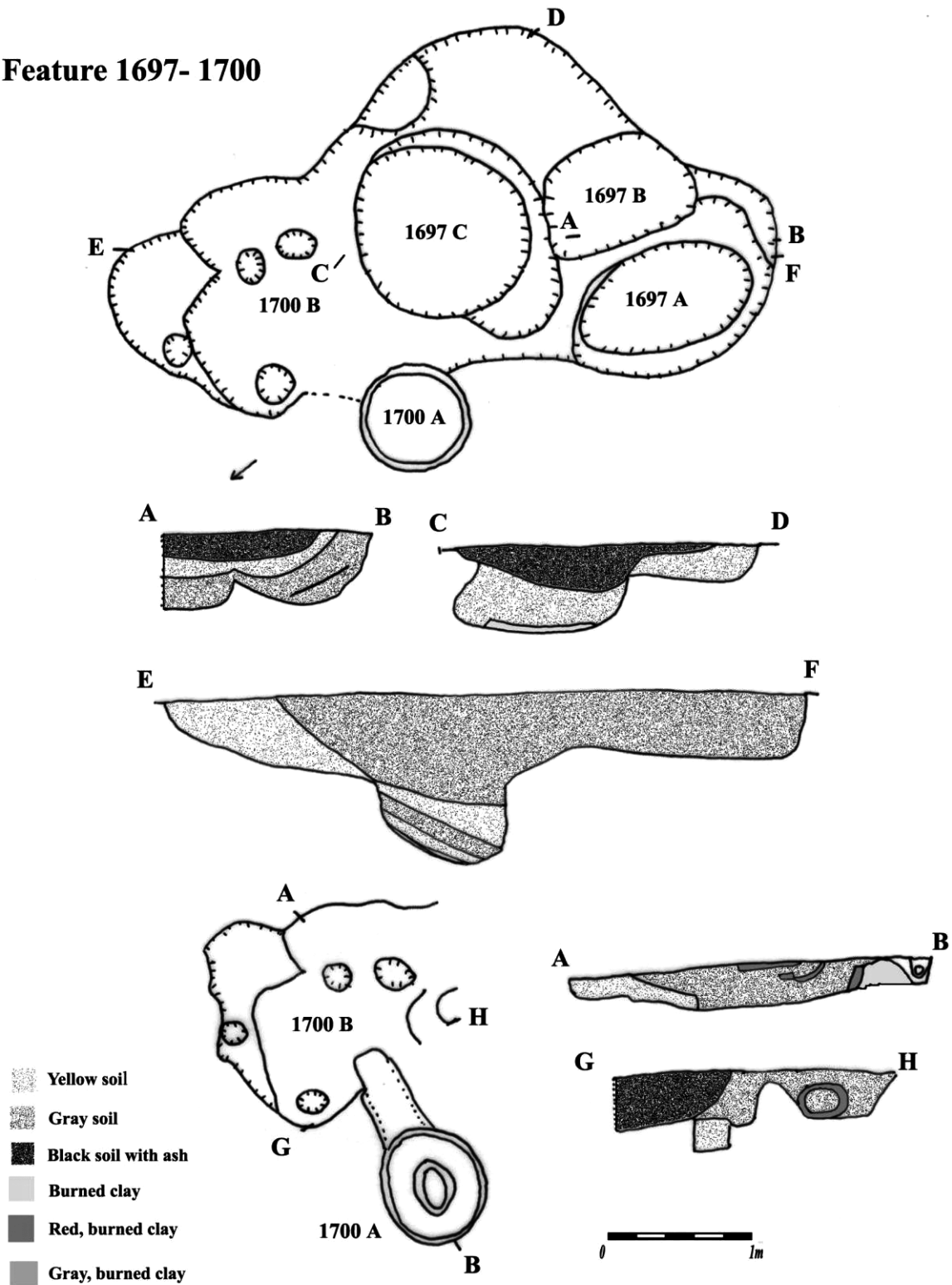


Figure 9. Csengersima. Features 1697-1700, pottery kilns.