CERAMIC KILN FROM THE MEDIEVAL SETTLEMENT AT THE PETROVA NIVA LOCALITY, SBORYANOVO ARCHAEOLOGICAL RESERVE

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ABSTRACT

This article examines a single-chamber kiln from the medieval settlement at the Petrova Niva locality, Sboryanovo Archaeological Reserve (northeastern Bulgaria, Isperih municipality). The kiln was dug into the ground and has a circular plan with a channel open to the southwest and leading to a two-level oval stoking pit. Pottery sherds that can be unequivocally defined as waster were not recorded in its backfill. Similar medieval facilities and arguments for the proposed identification of the structure discussed here as a pottery production facility are reviewed. Both stratigraphic observations and the characteristics of the ceramic assemblage from the kiln's backfill and the stoking pit have been used as arguments for the kiln's date. Based on them the kiln is dated to the mid-9th c.

Keywords: Middle Ages, 9th c., single-chamber pottery kiln, settlement, Sboryanovo Archaeological Reserve, Petrova Niva locality

The topic of the present paper is the remains of a kiln at the Petrova Niva locality, Sboryanovo Archaeological Reserve. Sboryanovo is an archaeological reserve in northeastern Bulgaria that is located about 10 km northwest of the town of Isperih in the area of the villages of Sveshtari and Malak Porovets. The settlement at the Petrova Niva locality is located on a part of the non-flooding terrace of the Krapinets (Tsaratsar) river, at one of its bends, on a terrace with a gentle slope and southwest exposure. The kiln examined here was discovered in the northern part of the studied estate and completely falls under its northern enclosure wall (fig. 1 – 2). It should be connected to the medieval settlement that previously existed on the site. The evidence for its purpose will be analyzed below.

After dismantling the stones from the enclosure wall (fig. 3) and scraping the surface to outline the dug-in structures in Grid sq. 34/15 at an elevation of 233.63 m (fig. 4), we started exploring them. At the presumed northern corner of dwelling No. 8 (at an elevation of 233.31 m), we noticed a large amount of pottery sherds in a layer of highly fired, deep red plaster and medium-sized stones fired to a temperature at which they turn to powder. The remains, as our observations have shown, belong to another dug-in structure associated with high-thermic processes. As a result of its function, the relatively smoothly plastered interior surfaces of the structure's floor and walls were well-fired and turned a gray-white color. The soil of the ground immediately surrounding the structure

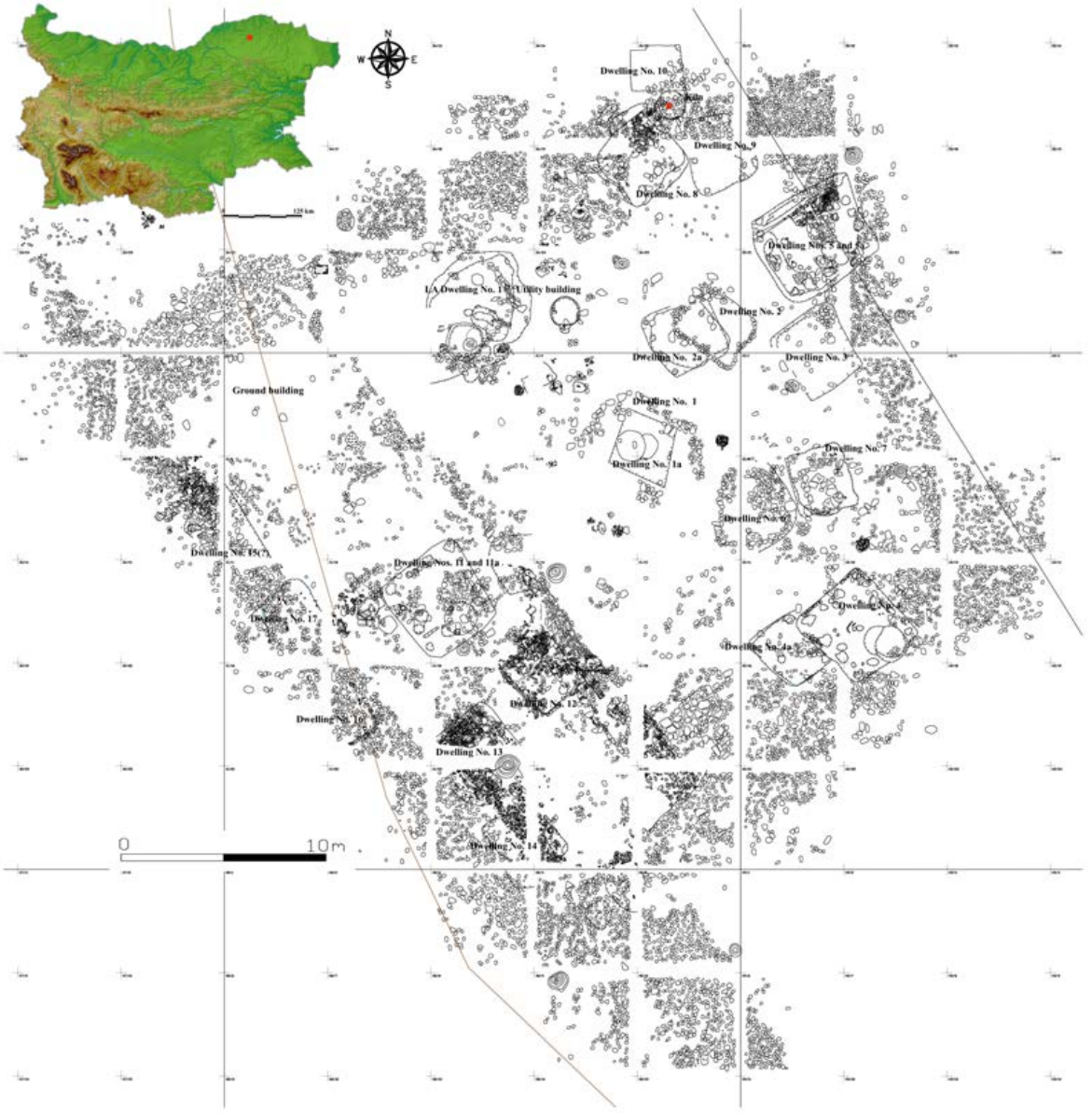

Fig. 1. Location and general plan of the medieval settlement in Petrova Niva locality, Sboryanovo Archaeological Reserve
Обр. 1. Местоположение и общ план на средновековното селище в м. Петрова нива, АР „Сборяново“

was fired to a tile red color and in more distant sections to orange-yellow. After excavating the structure, it became obvious that it was a kiln in which high temperatures were maintained, resulting in the firing of the surrounding ground. The aforementioned remains belonged to its backfill (fig. 5).

The kiln's single firing chamber has a near-circular shape in plan and an internal lower diameter of 1.40 – 1.50 m (fig. 6). The chamber's partially preserved walls are arched and probably in the past formed a kind of "domed" cover, which was preserved at the edge of the chamber to a height of about 0.30 m. The preserved part of the chamber is completely dug-in and falls below the level of what was then the ground surface. The kiln was filled with earth mixed with a large amount of powdered plaster and charcoal (fig. 7). Its floor (at an elevation of 233.06 – 232.96 m) was covered with a thin layer of ash. Due to the high temperatures to which this floor was subjected, it was cracked in places and fell apart and crumbled when it was cleaned.



Fig. 2. A view of the enclosure wall in the northern part of the excavated estate

Обр. 2. Поглед към оградния зид в северната част на проучваното стопанство

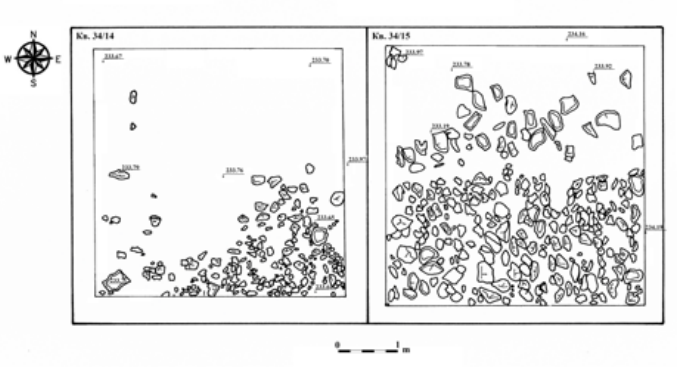

Fig. 3. Graphic documentation of the parts of the enclosure wall in Grid sq. 34/14 and 34/15, belonging to the estate that arose on the remains of the medieval settlement

Обр. 3. Графично заснемане на частите от оградния зид в кв. 34/14 и 34/15, принадлежащи на възникналото върху останките от средновековното селище стопанство



Fig. 4. Grid sq. 34/15 with the outline of the negative structures in the grid square

Обр. 4. Кв. 34/15 с очертанията на негативните структури в квадрата



Fig. 5. The kiln in Grid sq. 34/15. Study stage

Обр. 5. Пещта в кв. 34/15. Етап от проучването

Approximately at the center of the structure, possibly in connection with an opening through which the kiln was loaded and fired products removed, two medium-sized stones (at an elevation of 233.15 m) were found above the layer of ash (fig. 5). Around these stones, large pieces of plaster with a thickness of about 0.10 m were found. They were fired to a tile red color and have a friable texture. Step-by-step uncovering and cleaning showed that in the immediate vicinity of the above-mentioned stones, pottery sherds were found on the floor level of the kiln.

Toward the edge of the kiln, sherds lie higher than the floor on a layer with a dark color that contained large amount of charcoals. Apparently over time after the initial filling of the chamber,



Fig. 6. Fully excavated chamber of the kiln
Обр. 6. Изцяло разкритата камера на пещта



Fig. 7. The kiln in Grid sq. 34/15. Study stage
Обр. 7. Пещта в кв. 34/15. Етап от проучването



Fig. 8. Section of the kiln's backfill
Обр. 8. Разрез на запълнителя на пещта

parts of its edge became loose and fell both on its already partially soil-covered floor and on the previously loosened parts of the vault (fig. 7). Precisely because of this, the backfill at the edge of the kiln consisted of successively alternating layers of dark soil and pieces of plaster with a friable texture (fig. 8). From the center of the firing chamber to its periphery, then, plaster fragments were thus found higher and higher from the floor until they reached the well-preserved parts of the chamber's domed cover. Here the kiln's backfill consisted of dark soil without admixtures of fragmented and powdered plasters. It should also be explicitly emphasized that pieces of plaster with shaped holes were not found in the backfill. Based on these observations, we corrected our original assumption that the kiln had two chambers, which was based on mistaking the fallen pieces of the firing chamber's interior plastering for parts of its grate. The preserved *in situ* parts of the construction unequivocally indicate that this was a single-chamber kiln.

The cross-section we made after the firing chamber was completely exposed (fig. 9, fig. 16) allowed some additional observations about how it had been built. Remains of a wooden support 0.10 m in diameter, which was probably used as part of a temporary wooden structure for the kiln's construction, were revealed under the chamber floor's lining (fig. 16). The floor was plastered in two stages; the earlier plaster covered the kiln channel and the lowest western portion of the firing chamber (fig. 9). The first firing of the kiln was probably related to shaping the structure of the kiln, during which the supporting elements such as the above-mentioned wooden support were burned away. On the partially plastered and fired floor that was now covered with a thin layer of ash, a second lining was installed that covered the entire interior of the chamber. In the previously plastered and fired portion of the chamber, the new lining is fine, a few millimeters thick, and in the rest of the chamber it is 4 – 6 cm thick, forming an uneven floor with a slight depression (3 – 4 cm deep) at the chamber's center (fig. 10, fig. 16).

Shapeless lumps of vitrified clay and a large amount of charcoal were also found in the backfill of the firing chamber. Archaeobotanical analysis identified a large amount of wood remains, among which charred beech *(Fagus sylvatica L.)*[1] predominated. Archaeobotany also revealed a variety of mostly broad-leaved tree species (beech, oak *(Quercus sp.)*, alder *(Alnus glutinosa Gaertn. L.)*, and

[1] The archaeobotanical analysis was the work of Hanna Alexandrova (a doctoral student in the Department for Interdisciplinary Studies and Archaeological Map of Bulgaria at NAIM – BAS), to whom we express our sincere gratitude.



Fig. 9. Section of the kiln's lining. View from the west
Обр. 9. Разрез на замазките на пещта. Поглед от запад



Fig. 10. Section of the kiln's lining. View from the west. Detail
Обр. 10. Разрез на замазките на пещта. Поглед от запад. Детайл

hornbeam *(Carpinus betulus L.)*).[2] Two insignificant ceramic sherds were found at the bottom of the firing chamber (cat. Nos. 3 and 4). The sherds found in the upper levels of the backfill belong to one vessel (cat. No. 1) that was already broken when deposited so it is not fully reconstructed. The entire pottery found in the kiln's backfill bears traces of secondary firing.

The kiln channel opens to the southwest and was shaped using several medium-sized stones. As a result of the heat to which these stones were subjected, they became fragile and crumbly. The width of the channel is 0.30 m, and its preserved length is also 0.30 m. It was disrupted from the west by digging in the northern corner of dwelling No. 8 (fig. 1, fig. 11, fig. 15). The same dug-in context also disturbed the kiln's stoking pit, of which only the northern edge is partially preserved.

The stoking pit was also dug into the ground (fig. 12 – 13), and its periphery probably reached what was then the ground level. As readily became visible in the eastern and southern profile of the Grid sq. 34/14 (fig. 14), it was dug-in to an elevation of 233.52 m. The lowest point at which the stoking pit was preserved is at the northwestern edge of dwelling No. 8's recession into the ground, an elevation of 232.72 m.

At the center of the stoking pit, the platform was dug in deeper, forming something like a recess compared to the surrounding area (fig. 15 – 16). The stoking pit thus appears to have been placed lower than the firing chamber. As is common for kilns of similar construction, it should be taken into account that the ground on which the kiln was built slopes toward the southwest, so the site for its construction was specially selected to optimize the kiln's construction and use.

The stoking pit's length is approximately 2 m and its preserved width is about 0.70 m, but assuming a symmetrical arrangement with respect to the channel, we can assume that the pit was originally a minimum of 1.50 m wide. This does not exclude the possibility that it was originally circular in plan and about 2 m in diameter (fig. 15 – 16). Several wooden post holes were documented to the west of the stoking pit, which were probably once connected with a canopy of non-durable material (fig. 13). The backfill of the stoking pit contains several pottery sherds (fig. 17) and a large amount of charcoal.[3]

The above observations reveal a partially buried kiln intended for high-temperature firing and with a significant internal volume, a channel exceeding 0.30 m in length, and a stoking pit arranged on several levels and possibly covered with a temporary canopy, as evidenced by the preserved post holes on the kiln's western side. The way such kilns functioned has been described in the scholarly literature (Акрабова-Жандова 1959, 227 – 228; Рашев 2008, 185) but not in great detail. We therefore here propose a more detailed breakdown of how the kiln was used.

Dried vessels prepared for firing would have been arranged in the chamber first. The kiln's partially dug-in construction allowed for the accumulation and maintenance of a high temperature. It should not be excluded that the stones found in the chamber with traces of exposure to high temperatures were placed specifically to support the process.[4] As evidenced by the amount

[2] Ethnographic descriptions of the process of firing ceramic vessels show a preference for beech wood as fuel (Пунтев 1983, 122). Similar evidence (for the use of hazel, alder and beech, according to their distribution in different regions) is also available for other high-temperature processes (Георгиев 1978, 40).

[3] Results of the archaeobotanical studies show almost the same content of wood species, with the remains of beech *(Fagus sylvatica L.)* again being predominant but also joined by pieces of charred oak *(Quercus sp.)*, ash *(Fraxinus excelsior L.)*, hornbeam *(Carpinus betulus L.),* and lentils *(Lens culinaris Medik.)*.

[4] The situation is similar to that of one of the ceramic kilns discovered at Lyubimets, Haskovo district in which, according to the researcher, stones discovered at the floor level of the firing chamber were placed to retain and give off heat for a long time. I would like to express my sincere gratitude to Dr. Rumyana Koleva from Sofia University "St. Kliment Ohridski" for sharing these observations. The stones discovered under similar circumstances near the kilns from Kovanlaka locality near the village of Topola, Dobrich district, have been interpreted as possible "plugs" for the vents used at a certain stage of the firing process (Бобчева 1977, 173).



Fig. 11. The kiln and part of the stoking pit, cut by the later excavation of the northern corner of dwelling No. 8

Обр. 11. Пещта и част от предпещната площадка, пресечени от по-късното вкопаване на северния ъгъл на жилище № 8



Fig. 12. Southern half of Grid sq. 34/14 with the outlines of the stocking pit

Обр. 12. Южната половина на кв. 34/14 с очертанията на предпещната яма



Fig. 13. The south part of Grid sq. 34/14 and the excavated stocking pit

Обр. 13. Южната половина на кв. 34/14 с изчерпания запълнител на предпещната яма

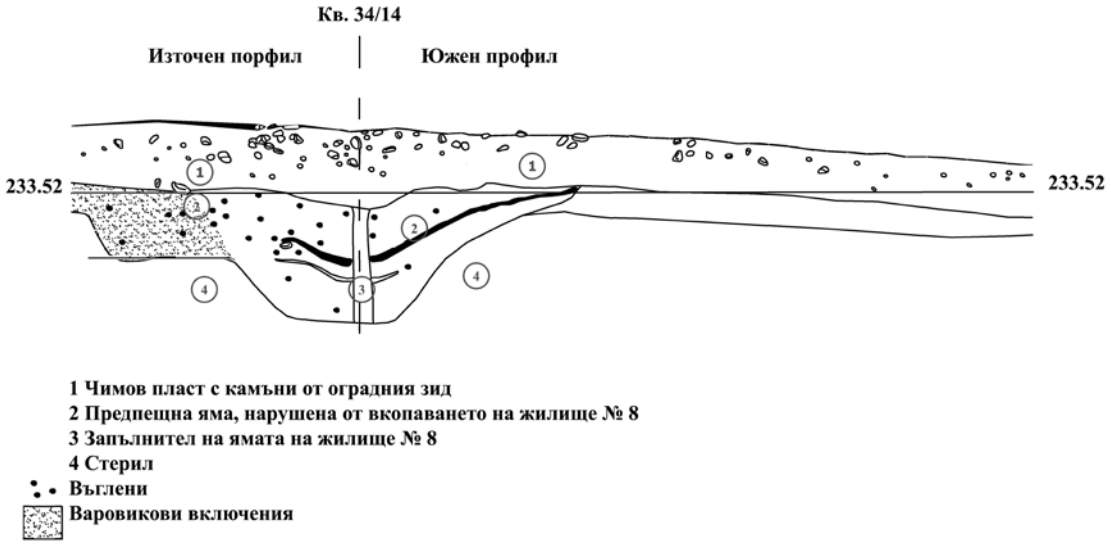

Fig. 14. Section of the stocking pit's backfill. In the corner of the grid square, its cutting from dwelling No. 8 is documented

Обр. 14. Разрез на запълнителя на предпещната яма. В ъгъла на квадрата е документирано прерязването ѝ от жилище № 8

of charcoal found, combustion was carried out mostly in the space in front of the kiln, which was also partially dug-in. The incompletely preserved structure of the kiln does not allow the flue hole to be reconstructed,[5] but it is most likely that the loading opening was used for this purpose. The coloring of the firing chamber's interior plaster coating and the remains of ashes and coals on its floor indicate that when it was in use, the kiln was heated not only by hot air but also by embers (possibly in the final phase of the firing process). The charcoal in the kiln's backfill was mainly concentrated in the space at the entrance and in the stoking pit, indicating that combustion took place there. It is possible that there was also some temporary covering here to direct the combustion gases to the chamber and prevent energy loss. Arguments in favor of such a hypothesis are offered by the "two-level" design of the stoking pit, which is deeper in the center and has a shallower, step-shaped periphery (fig. 13, fig. 15 – 16).

[5] The clearly visible indentation in the eastern part of the firing chamber (fig. 9 – 10) is an animal burrow.

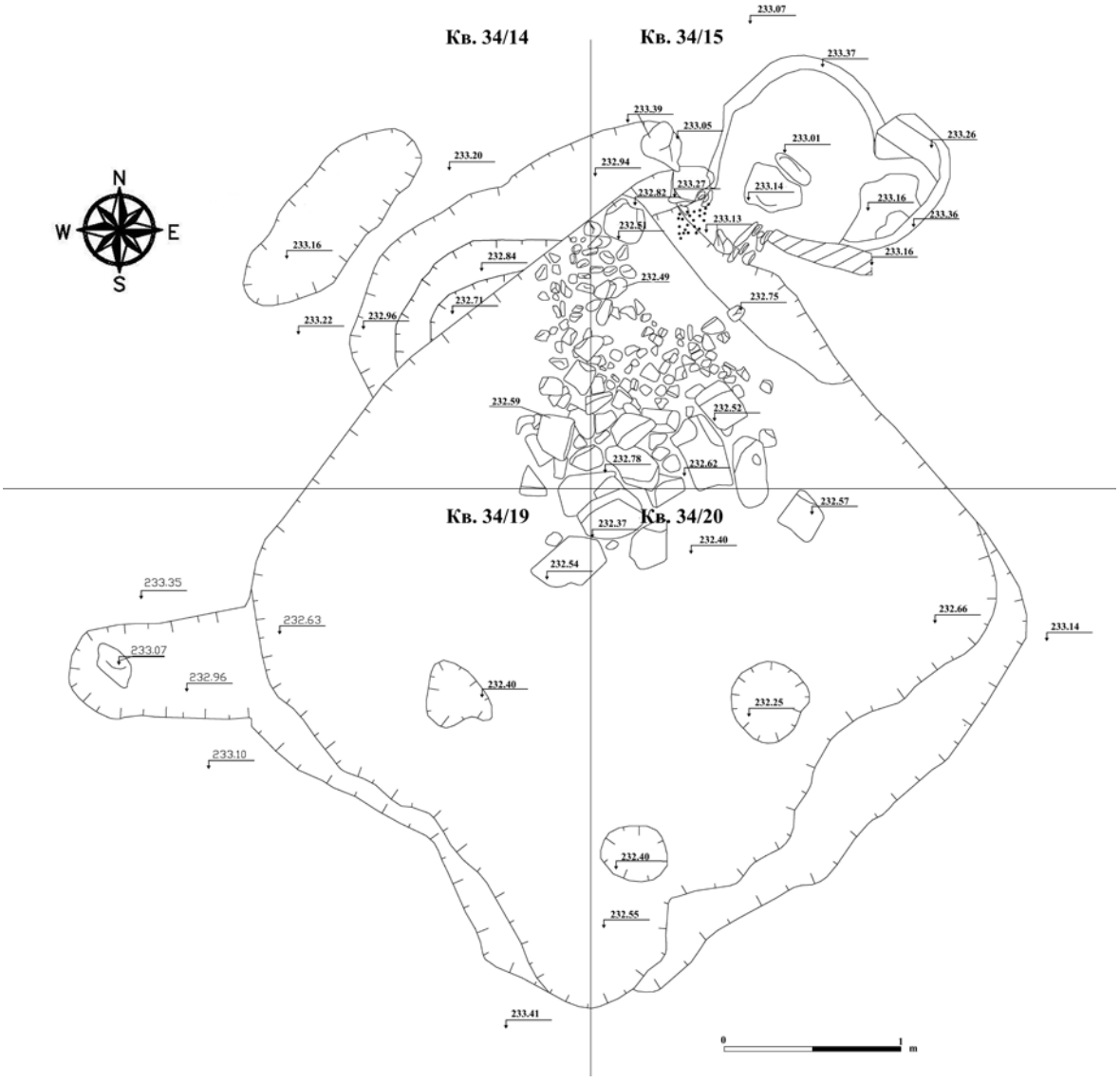

Fig. 15. Graphic documentation of the kiln and dwelling No. 8
Обр. 15. Графично заснемане на пещта и жилище № 8

The insignificant pottery sherds on the floor of the firing chamber (cat. Nos. 3 – 4, fig. 20: 2, 3) indicate that the kiln was emptied of finished products before it was demolished. Multiple sherds of the same vessel that could not be completely reconstructed (cat. No. 1, fig. 19) were found in the chamber's backfill, showing that the vessel was already in a broken state when deposited. It can be assumed that these pottery remains were in the immediate vicinity of the kiln and fell together with surrounding soil when the firing chamber was first filled. The reconstruction of a significant part of the vessel's shape is a further argument in favor of the fact that not much time passed between when it broke and when its remains fell into the kiln. There are no clear signs of deformation on the vessel's fragments that would allow it to be identified as a waster. Traces of secondary firing can be explained both by it staying in close proximity to the kiln and by domestic use.

As the main argument for identifying the kiln as one used for large-scale production, we need to point out that the dug-in firing chamber and the stoking pit in front of it bear unmistakable signs

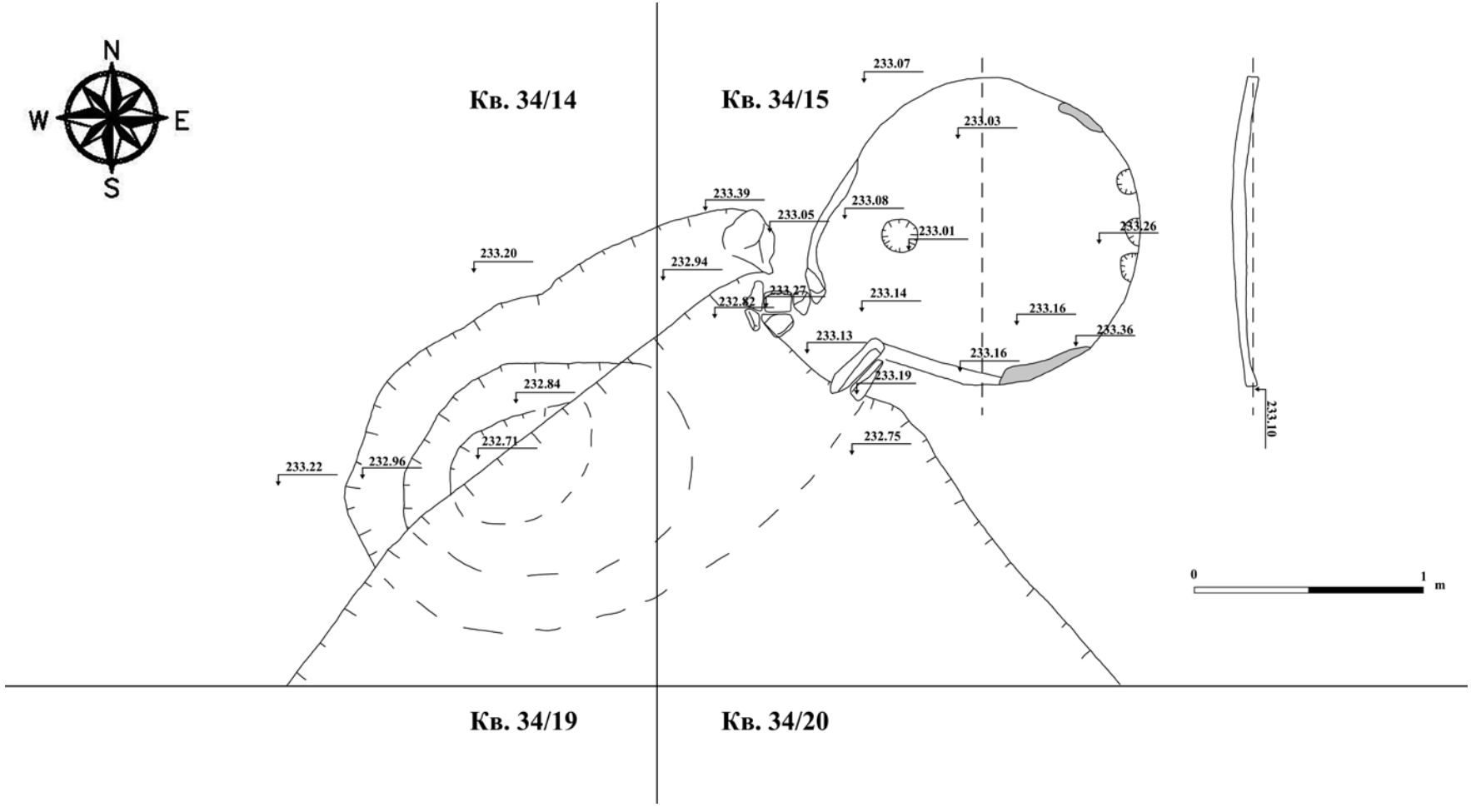

Fig. 16. Graphic documentation of the kiln in the final stage of the survey and the preserved part of the stocking pit with hypothetical outlines of its original boundaries. The line of the cross-section is marked, as well as the remains of a wooden support approximately in the center of the chamber

Обр. 16. Графично заснемане на пещта във финалния етап от проучването и запазената част от предпещната яма с хипотетични очертания на първоначалните ѝ граници. Отбелязана е линията на разрез, както и останките от дървена подпора приблизително в центъра на камерата

of the prolonged maintenance of high temperatures, which led to the firing of the ground around the kiln. It is also important to highlight the elongated channel (more than 0.30 m) that connected the firing chamber to the stoking pit. Domestic ovens with a similar construction that were used in the preparation of food for everyday life are known to us both from medieval settlements (Ваклинов, Станилов 1981, 35; Георгиева 1961, 13; Димитров 1984, 39 – 41; Тотев 1996, 44, табл. XL: 2) and ethnographic descriptions (Маринов 1901, 46 – 47). Usually, however, these ovens are built next to dwellings (dug-outs), and in front of them is a space shaped in the living area that is plastered in the same way as the kiln's interior (Димитров 1975, 221 – 222; Димова 1993, 65, 67). The temperatures reached in these domestic ovens lead to a slight firing of the oven itself and insignificant firing of the surrounding ground (Димитров 2020, 188, обр. 3; Топалилов 2020, 438, обр. 4). Domestic ovens also lack a channel for supplying heat (Димитров 2020, 188, обр. 3; Петрова 2020, 170 – 172). Unfortunately, we are unable to point to cases of such ovens in which their construction and the material from their backfills have both been analyzed. These ovens often have been studied outside a settlement context, which leaves many questions as to their function.

Ethnographic descriptions of such ovens, used mainly for baking bread, point to ground facilities with a simple design (Георгиева 1961, 13) located away from other buildings (Маринов 1901, 46 – 47). According to available photos and descriptions, the single oven at the Vinitsa production complex, Shumen district, was apparently built at ground level and was intended for food preparation (Тотев 1996, 44, табл. LII: 2). The situation at the Western fortress wall of Pliska is not particularly clear; here were found what have been described as household ovens that are rather dug-in[6] and are adjacent to identified but unexplored dwellings (Антонова, Витлянов 1985, 62 – 63, обр. 19). They are also significantly smaller in size than the one discussed here. They lack channels in their construction, and in some of them, the oven lining continues in front of its opening to form a relatively flat surface. Ground facilities away from residential buildings have also been documented in the village of Belogradets in the municipality of Vetrino (Александрова 2020, 412, обр. 5; Александрова 2021, 836) and in the village of Dolni Lukovit in the municipality of Iskar (Димитров 2020, 187 – 188, обр. 3). The situation of the ovens from the village of Vetrino, Varna district, which were found in a relatively differentiated part of the settlement (?), has not been clarified. The bottoms of these ovens' firing chambers were dug into the ground, but there has been no comment regarding their function (Манев и др. 2021, 1109 – 1110).

Single-chamber pottery kilns were already widely used in Antiquity as well (Henning 1977, 197, Abb. 8). Research shows that in the Middle Ages, when two-chamber kilns with a more advanced construction were widely employed (Петрова 2005, 39 – 60), the use of single-chamber kilns continued to complement larger production centers or to serve as the primary production facilities for settlements characterized by less consumption (Henning 1977, 197 – 199; Акрабова-Жандова 1959, 226 – 228; Димитров 1961, 135 – 139; Димитров 1984, 37 – 46; Аладжов, Василева 2020, 386). Despite doubts expressed in the scholarship regarding the use of these kilns as pottery production facilities (Дончева-Петкова 1977, 31), evidence of wasters support such an identification (Koleva 1997, 245 – 252). It is unclear when they were finally replaced by kilns of a more advanced design, but, their use is certainly attested from the 11th into the early 13th c. in Thrace (Шейлева 1999, 31 – 36; Borisov 1989, 317 – 318; Koleva 1997, 245 – 252). During the Bulgarian Revival period, different variants of kilns with a separate combustion chamber were used exclusively (Вакарелски 2007, 331 – 332; Пунтев 1983, 121).

[6] The graves documented at similar levels are indicative in this regard (Антонова, Витлянов 1985, 62, обр. 19).

Although the construction and use of single-chamber kilns in the territory of modern Bulgaria are therefore quite conservative, stratigraphic observations and pottery from the backfills of the firing chamber and stocking pit of the kiln considered here indicate well when it was in operation. The earliest structure at the site is dwelling No. 10 (fig. 1, fig. 18), which was uncovered in the immediate vicinity of the kiln to the north. Without disturbing the backfill of the dwelling pit, the kiln's use burned some of it due to the high temperatures to which the ground around the kiln was heated. This observation in itself is an indication that the construction and use of the kiln belongs to a time when dwelling No. 10 had fallen into disuse and had already been filled.

The next oldest structure at the site is the kiln discussed here. The disruption of its channel and stoking pit by the north corner of the later dug in dwelling No. 8 indicates that the kiln was no longer in use by the time the dwelling was built. On top of the filled pit of the same dwelling as well as the relatively leveled ground in this part of the settlement, some kind of ground structure made of non-durable material was set for some time, as evidenced by the preserved stone base for a wooden post uncovered in the southeastern corner of Grid sq. 34/14[7] (fig. 12) and by a large amount of clay plaster with traces of a wooden structure nearby. The latest structure built in this area is the northern enclosure wall (fig. 1 – 3) of an independent estate that arose here over the remains of the medieval settlement. The kiln considered here, the northern corner of dwelling No. 8, and the aforementioned stone base are set under it completely.

These stratigraphic observations assign the pottery kiln to the relatively early phases of medieval habitation at the Petrova Niva locality. Our overall observations, based on years of research of the structures that existed here, place the general chronology of the site in the 9th – 10th c. Without being able to comment on how long each structure was used, based on stratigraphic observations, we can provisionally attribute the kiln's operation to the 9th c. in general.

The pottery sherds found in the backfill of the kiln and its stoking pit offer some possibilities for refining this dating. As we have already noted, there is no reason to believe that these sherds can be connected with the final use of the kiln. It is more likely that they found their way into the backfill only after the kiln was no longer in use and when its stoking pit and the surrounding ground were leveled. The most indicative ceramic finds are the remains of the aforementioned pot (cat. No. 1, fig. 19) found in the kiln's backfill in a fragmented state with missing parts. Although the vessel's profile cannot be fully reconstructed, it is closest to type III according to the typology of Lyudmila Doncheva-Petkova (Дончева-Петкова 1977, 51 – 52) and subgroup A.III.1 according to Rasho Rashev (Рашев 2008, 177 – 180). Vessels with similar features[8] are a relatively conservative form dating from the 8th to the 10th c. They are attested in a number of closed complexes, mainly from pagan necropoleis (Дончева-Петкова 1977, 52; Рашев 2008, 178 – 179). The second relatively well-preserved vessel (cat. No. 2, fig. 20: 1) found in the backfill of the stoking pit has the same features. The only difference is in its decoration: the horizontal lines covering the body are crossed by two bands of incised wavy lines.

Since these vessels' forms cannot be completely restored, we would like to draw attention to their general features. The two sherds (cat. Nos. 3 and 4, fig. 20: 2, 3) found on the floor of the firing chamber point to a relatively early date for the facility. Their small size, however, does not allow them to be considered necessarily synchronous with the kiln's operation. They therefore cannot

[7] It has not been excluded that it is part of a significant construction and stands in connection with other similar bases discovered southwest of it in Grid sq. 34/19.

[8] They are made on a tournette and have a fabric containing a large amount of sand. The rims are truncated, conical, and rounded and are sometimes thickened. The shoulders are rounded, and the outer surface is densely covered with horizontal incised lines (Дончева-Петкова 1977, 52; Рашев 2008, 178 – 179, 562, табл. CIX).



Fig. 17. Pottery from the stocking pit's backfill
Обр. 17. Керамика от запълнителя на предпещната яма

be used as convincing evidence that this is a pottery kiln in which ceramics with both incised and burnished decoration were fired.

A better view of the pottery is offered by the stoking pit's backfill (fig. 17). Apart from a small amount of Late Roman pottery, the rest of the sherds belong to pottery of sandy fabric and incised decoration made on a tournette. All of the sherds bear traces of secondary firing, and none show signs of deformation, i.e. there are no explicit indications that they belong to vessels that due to an error in the firing process became "wasters" and were therefore not used in the household. No other sherds with decoration different from that already described were recorded. The sherds point to an earlier date for the kiln because they differ from the ones regarded by Rasho Rashev (Рашев 2008, 178 – 179, 562, табл. CIX) as characteristic for the second half of the 9th – 10th c. based on a stratigraphic and statistical analysis of the pottery from several pagan necropoleis.

On the one hand, then, the pottery from the kiln's backfill can only be used as a *terminus ante quem* for its period of operation. Filling is of course a process that marks the end of the kiln's use, but it does not exclude the simultaneous deposition of materials of different dates, the latest of which are indicative of the time when this happened. The size of the sherds can also be used as a guide for dating the backfilling of the kiln without absolutely confirming this date.[9] Pottery sherds that are significant in size are more likely to be "more recent", i.e. exposed for a shorter time to various destructive factors during their stay on the surface. Bigger sherds therefore could have been discarded closer to the time when the kiln was filled. In this case, the Late Roman pottery sherds that were collected are smaller in size and fewer in number than the medieval ones. We of course should also note that since as the ceramic forms are conservative, dating based on them can only be within relatively broad time spans.

Regarding the current case study, the considerations noted here as well as the overall characteristics of the pottery sherds point to the 8th – first half of the 9th c. as the period during which the kiln

[9] One should not disregard features such as sherd thickness, vessel shape, degree of firing, etc.



Fig. 18. View to the structures in this part of the enclosed area (Drone photo: Chr. Uzunov)
Обр. 18. Поглед към структурите в тази част на дворното пространство (Снимка с дрон: Кр. Узунов)

was used. Additionally, it is important to specify that the features of the pottery from the backfill of the stratigraphically earlier dwelling No. 10 show a combination of the same diagnostic features. Based on all this, we can narrow down the most probable date for the kiln's use to the mid-9th c.

Finally, we would like to make some observations regarding the sources of raw material for such ceramic production. The presence and exploitation of deposits of clays with plastic properties in the immediate vicinity of the Petrova Niva locality is evidenced by study of the Hellenistic period pottery production center on the opposite bank of the Krapinets river (Стоянов и др. 2006, 15 – 16, обр. 18 – 20). In support of this, we can point to some experiments carried out using clays from local deposits (Александров 2003, 44 – 49). Studies of pottery making in Eastern Europe show that clay deposits were usually located no more than a few kilometers from a settlement and not infrequently on its outskirts (Бобринский 1978, 76). We ourselves had the opportunity to experiment with clay from adjacent grid squares, which allowed not only good vessel modeling but also trouble-free firing. Targeted research is of course needed to identify the specific deposits of raw materials used in the Middle Ages, but since we currently do not have clear local wasters, comparisons will for now only have uncertain results.

Catalogue

1. Pot. Made on a tournette. Fabric containing large amount of coarse sand. Reddish-brown color after firing. Conical rim with a rounded outer edge. Broad rounded shoulders. Short neck. On the outer surface is a decoration of closely-set horizontal incised lines. On the edge of the rim and the outer surface are traces of smoking and secondary firing. Large parts of the upper half of the vessel are preserved, highly fragmented.



Fig. 19. Parts of a pot from the kiln's backfill (cat. No.1)

Обр. 19. Част от гърне, произхождащо от запълнителя на пещта (кат. № 1)

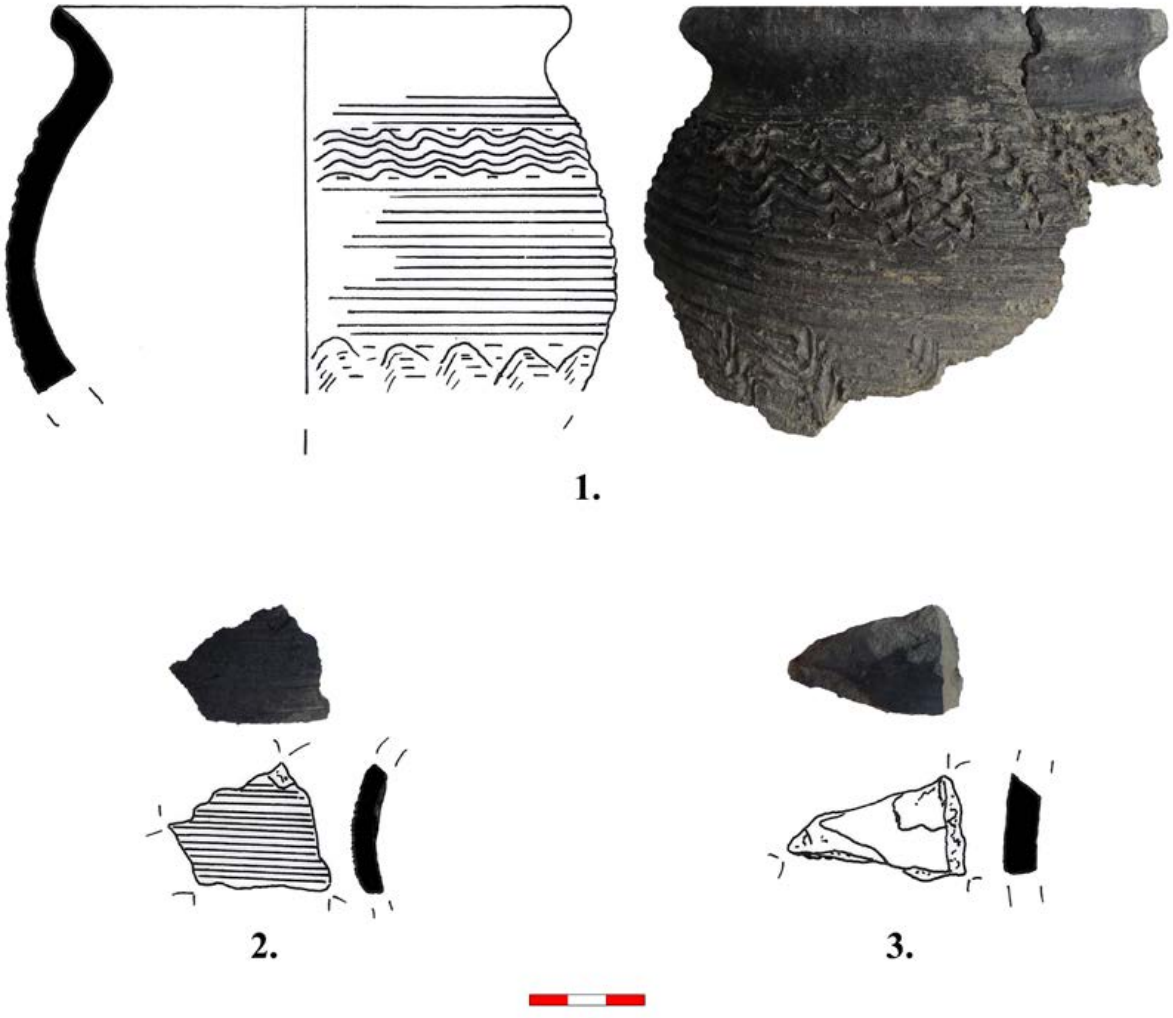

Fig. 20. Pottery from the stocking pit and the kiln (cat. Nos. 2 – 4)
Обр. 20. Керамика от предпещната яма и пещта (кат. № 2 – 4)

Size: D_1 – 180 mm; H (preserved) – 125 mm; Thickness – 7 mm
From the kiln's backfill (fig. 19).

2. Pot. Made on a tournette. Fabric containing large amount of coarse sand. Grayish-black color after firing. Obliquely cut and rounded on the outside rim. Short neck. Globular body. The preserved portion of the outer surface is covered with horizontal incised lines, intersected by two bands of wavy incised lines made with a five-toothed "comb". About ¼ of the upper part of the vessel is preserved as well as three more sherds that certainly belong to it.
Size: D_1 – 135 mm; H (preserved) – 95 mm; Thickness – 9 – 7 mm
From the stoking pit's backfill (fig. 20: 1).

3. Wall sherd. Made on a tournette. Fabric containing large amount of sand. Reddish-brown color after firing. The outer surface is densely covered with horizontal incised lines. Soot-stained.

Size: Thickness – 6 mm
From the stoking pit's backfill (fig. 20: 2).

4. Wall sherd. Made on a tournette. Fine micaceous fabric with grayish-black color after firing. Burnished outer surface.
Size: Thickness – 8 mm
From the stoking pit's backfill (fig. 20: 3).

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КЕРАМИЧНА ПЕЩ ОТ СРЕДНОВЕКОВНОТО СЕЛИЩЕ В МЕСТНОСТТА ПЕТРОВА НИВА, АР „СБОРЯНОВО"

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РЕЗЮМЕ

Статията разглежда еднокамерна пещ от средновековното селище в м. Петрова нива, АР „Сборяново" (Североизточна България, община Исперих; обр. 1). Тя е разкрита в северната част на изследваното пространство (кв. 34/14 и 34/15).

Пещта е вкопана в тогавашния терен. Тя е с кръгъл план (диаметър 1,40 – 1,50 м) и частично запазено куполовидно покритие (обр. 7 – 8, обр. 10 – 11). Каналът за обслужването ѝ е отворен на югозапад. Той е с ширина 0,30 м и входът му е оформен посредством няколко плочести камъка. Запазената дължина е 0,30 м, като западният край е пресечен от по-късната яма на жилище № 8. Отвежда до частично запазена предпещна яма. В запълнителя ѝ липсват фрагменти, които еднозначно могат да бъдат определени като производствен брак.

Направеният разрез на камерата (обр. 9 – 10, обр. 16) позволява допълнителни наблюдения относно начина и етапите на изграждането ѝ.

Разгледани са сходните средновековни съоръжения и аргументите за предложената идентификация като производствено съоръжение за керамика, а именно вкопаването на съоръжението, високата степен на изпичане на околния терен, наличието на канал за връзка с предпещната площадка, както и значителна по размер двустъпална предпещна яма. Посочено е, че подобни еднокамерни пещи в Античността и Ранното средновековие обикновено са помощни съоръжения при големите производствени комплекси или обслужват селища с по-малко потребление. Разгледани са отликите на тук анализираната пещ с еднокамерните битови пещи, познати както в археологически контекст, така и от етнографски описания.

Пещта е в ясна стратиграфска позиция спрямо останалите съоръжения, разкрити в този участък на селището. При функционирането си тя е довела до частично изпичане на запълнителя на близко разположеното жилище № 10, което явно, към времето на функциониране

на пещта, вече е било вън от употреба и ямата му е била запълнена. Каналът на пещта, както и предпещната площадка, свързани с обслужването ѝ, впоследствие са нарушени при оформянето на ямата на жилище № 8. След като жилище № 8 е излязло от употреба и ямата му е била запълнена, върху останките е изградена конструкция от нетраен материал, за което свидетелства запазената *in situ* каменна база за дървен стълб (обр. 12). Всички тези съоръжения попадат под изградения впоследствие северозападен ограден зид (обр. 1 – 3) на възникналото върху останките от селището стопанство, което е и най-късната структура, засвидетелствана на мястото.

Като аргумент за датата на съоръжението са привлечени както стратиграфските наблюдения, така и характеристиките на керамиката, произхождаща от пещта и предпещната яма (обр. 17, обр. 19 – 20). Въз основа на това, функционирането на пещта е отнесено до към средата на IX в.

Коментирани са и възможните източници на пластични глини, необходими за обслужване на керамичното производство.

Ключови думи: Средновековие, IX в., еднокамерна керамична пещ, селище, АР „Сборяново“, м. Петрова нива