EXCAVATING THE CURTAIN WALL IN BANGANARTI IN 2007

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Clearing work in 2007 covered sectors IV to VII of the curtain wall, as well as spot trenches down to bedrock in altogether 11 places in sectors IV, VI, VII and VIII. The trenches were from 1.30 to 4.30 m deep.[1] Each sector was divided into sections and the material was collected by sections, the number of sections and their individual length being determined by the abundance of material. Instead of identifying concentrations of material, as in the previous season, sections were subdivided when more finds appeared. Archaeological material from the test trenches was collected by arbitrary levels, each about one meter thick (hence four arbitrary layers in the deepest trenches). Material from the baulks was collected separately and in the case of the pottery only distinctive sherds were selected. The organic remains were sampled for ^{14}C dating, including six charcoal samples.

SECTOR IV

Sector IV encompasses about 38 m of the curtain wall starting west of Sector III and ending on the western edge of the excavation area [*Fig. 1*]. The north gate is located in the eastern end of this sector. The wall is covered by loose yellow sand with little archaeological material and the further west the excavation proceeded, the deeper the wall remains were concealed. By the western edge of the excavation area they had reached about 2 m below ground level. The mud-brick walls evince intensive digging and the inside face

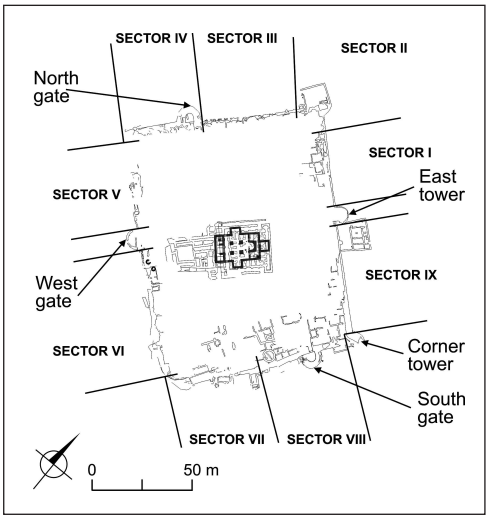

Fig. 1. Banganarti curtain wall, general plan with location of sectors, 2007 (Mapping R. Łopaciuk, M. Drzewiecki)

1 The season's works have been discussed in detail in the author's MA thesis, *The defenses of Banganarti seen in the light of the fortifications of the Kingdom of Makuria*, submitted and defended at the Adam Mickiewicz University in Poznań in 2008. For the previous season of work on the fortifications of Banganarti, cf. Drzewiecki 2008.

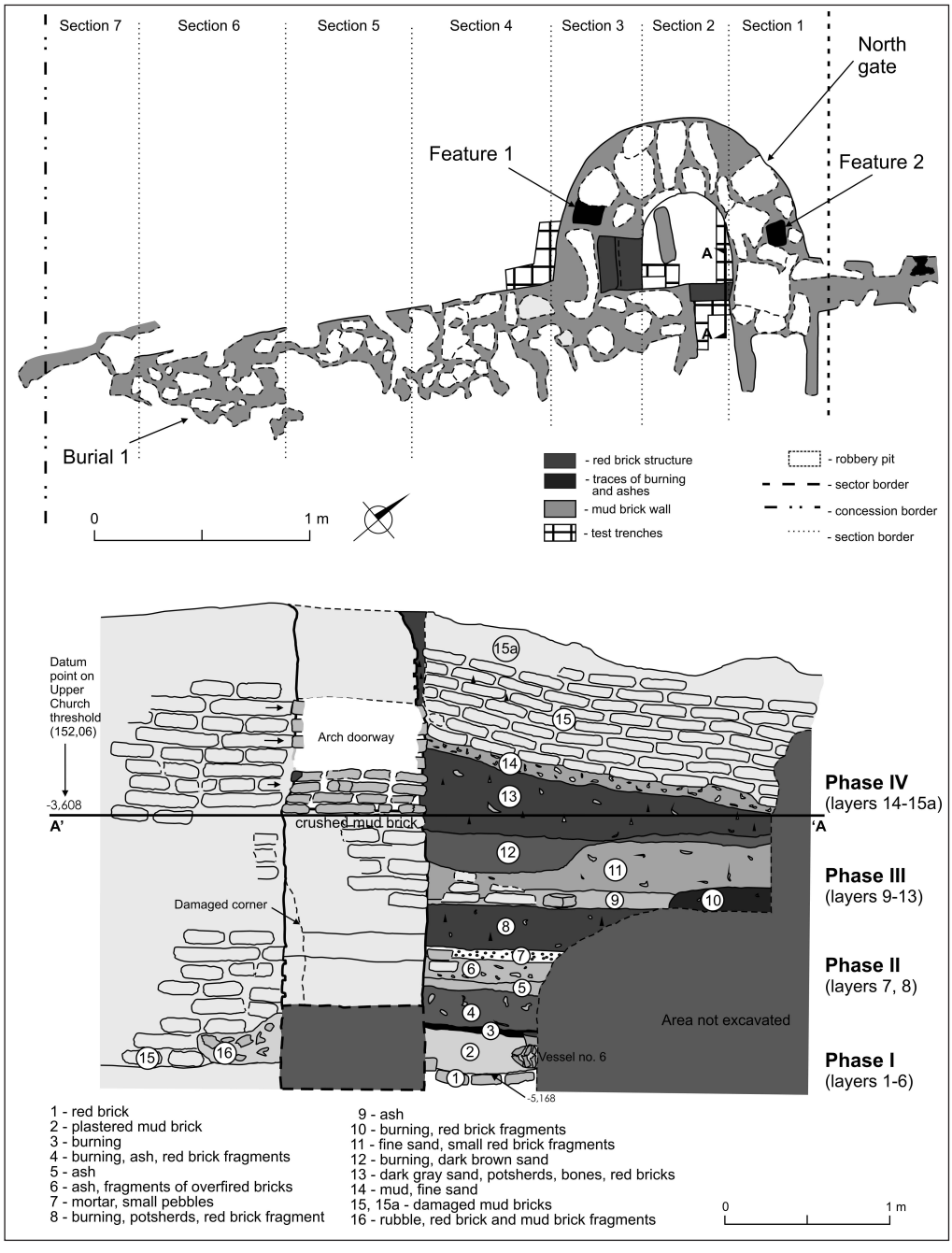

Fig. 2. Sector IV of the curtain wall, North gate, plan and section through right-hand side of inner gate entrance looking north. February 2007
(Drawing M. Drzewiecki; plan R. Łopaciuk, M. Drzewiecki)

cannot be easily determined because of the dense domestic architecture that had once stood adjacent to the wall and had also suffered extensively at the hands of those salvaging building material. The outside face of the wall is, on the other hand, evident and in good condition. It follows a slight curve, bulging toward the north.

NORTH GATE

The North gate is Banganarti's biggest and earliest [*Fig. 2*]. It is a semicircular structure measuring approximately 12 m in diameter, projecting about 8 m from the outer face of the curtain wall. The plan, which is repeated by all of the recorded gates at Banganarti, is a bent-axis one with two independent passages at right angles to one another and connected by a courtyard area that takes on the shape of a half-ellipse. Walls are up to 4 m thick and have been preserved to a height of 2.60 m.

No other entrance dating to the beginning of the Banganarti complex has been recorded and it can be assumed that the North gate dates to this period. At 5.45 m below the threshold of the Upper Church, the foundations of the curtain wall constituting the south wall of the gate are the deepest. The remaining gate foundations are 5.11–5.28 m below this threshold. The gate appears to have been altered and modified on a number of occasions, as indicated by the four phases that have been distinguished [cf. *Fig. 2*, bottom].

Phase I. Gate construction

The semicircular wall was about 2 m thick at this time and the courtyard measured 4.30 x 4.20 m. Big mud bricks (approx. 48 x 22 x 8 cm in size) were used and the structure plastered with mud containing insignificant amounts of plant temper. The vaults of the passages were of red brick. The external one was about 1.80 m wide between walls and may have been closed with a single-wing doorway mounted on a pivot behind the south wall of the arch. The inner passage was narrower, 1.45 m between walls. A threshold from this phase was observed, composed of a 6 cm high step made of red brick [no. 1 in *Fig. 2*, bottom]. The height of this passage was approximately 2.20 m at the time. The lowest layers connected with this phase preserve both mud bricks and red bricks, making it difficult to ascertain with any measure of certainty what the floor in the gateway was like. It should be noted that today the prevailing winds in the southern Dongola Reach are from the north; it means that sand must have quickly accumulated against the face of the North gate and the curtain wall here.

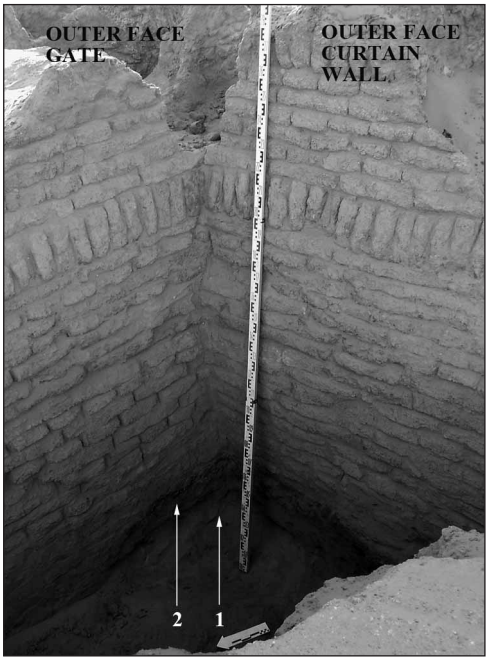

Fig. 3. Layers of burning and ash from Phase 1, recorded at the foot of the curtain wall in Sector IV; 1– dark brown sand, potsherds, small red brick fragments; 2 – burning, charcoal, mud, argillaceous sand, potsherds, small rocks (Photo M. Drzewiecki)

Shortly after its construction the outer gateway was blocked with mud brick and red brick. This action seems to have been followed by violent events, which have left evidence in the form of layers of burning and ashes, recorded in all of the test trenches excavated in the area of the North Gate [*Fig. 3*].

Phase II

Defensiveness was at the root of the intensive building works, which took place soon after these events. Both the gate and the curtain wall were thickened, up to 4 m in the gate structure. A new walking level in the inner passage was paved with pebbles bonded in white mortar [no. 7 in *Fig. 2*, bottom]. At this point the passage seems to have been approximately 1.40 m high.

Two unusual features appear to have been introduced at this stage. These are vertical shafts reaching down to the gate foundations, built into the wall of phase II but using the outer face of the wall from phase I as one of its sides [for feature no. 2, see *Fig. 4*]. According to the excavator, Bogdan Żurawski, these shafts were used to mount trebuchets (Żurawski 2007). The settlement layers connected with this stage are composed largely of ashes and burning. The device, whatever it was, appears to have been destroyed and the shafts were filled with burning and ashes of two distinctive colors: ash gray and orange.

Fig. 4. Shaft for mounting a trebuchet (feature no. 2) in the North gate in Sector IV (Photo M. Drzewiecki)

Phase III

Burning layers still occur in this phase, but are much less frequent. The inner passage is no more than 0.90 m in height at the beginning of this phase and by its end only the top of the vault can still be seen from under the engulfing sand [*Fig. 2*, bottom]. The courtyard was used for domestic purposes. Some handmade pots were recorded *in situ* on the remains of a fireplace. By the end of the phase this not easily accessible area seems to have been used as a refuse dump. At the same time, intensified activity was noted on the road leading up to the gate. There are apparently two levels of use marked by broken red bricks forming layers approximately 5 cm thick.

Phase IV

Robbers' pits have largely destroyed the structures and archaeological layers corresponding to this phase. The recorded building activity includes one wall which was raised in the courtyard cutting it into two uneven parts with a doorway at the southern end [cf. *Fig. 2*]. The other structure is difficult to interpret; perhaps it was part of the new curtain wall or a room that was created here. The wall runs into the southern baulk of the trench and was not fully explored. The foundation is slightly askew, running at 3.10–3.50 m below the datum point set on the threshold of the Upper Church. A corresponding level was recorded on the road leading up to the gate; the surface of the road appears to have been formed of a layer of compacted mud about 7 cm thick.

Burial

An inhumation burial was noted in section 6. It was located inside the curtain wall, about

0.60 m below the preserved top of the wall. The burial pit was not distinguished in any way. Inside it, the skeleton lay on its right side, head to the east and facing the wall to the north (for an anthropological appraisal, see above, Appendix A on 336). The body seems to have been wrapped in a mat and tied with rope (cordage and mat sample 2/07). One red bead (Reg. no. 19/07), 0.6 cm in diameter, accompanied the burial, together with a round metal ring, either a finger ring or an earring (Reg. no. 20/07). Some pottery sherds were found in the vicinity (Reg. no. 115/07).

SECTOR V

The sector includes the west curtain wall between the West gate and the northwestern corner of the fortifications. Clearing work carried out in 2007 uncovered a section 31 m long of the wall. This can be divided into three parts [*Figs 5, 6*].

Curiously, the wall at the southern end of the sector was apparent on the ground surface, but disappeared under sand the farther north the explorations proceeded. At the northern end, the remains were recorded 1.50 m below the modern surface. The

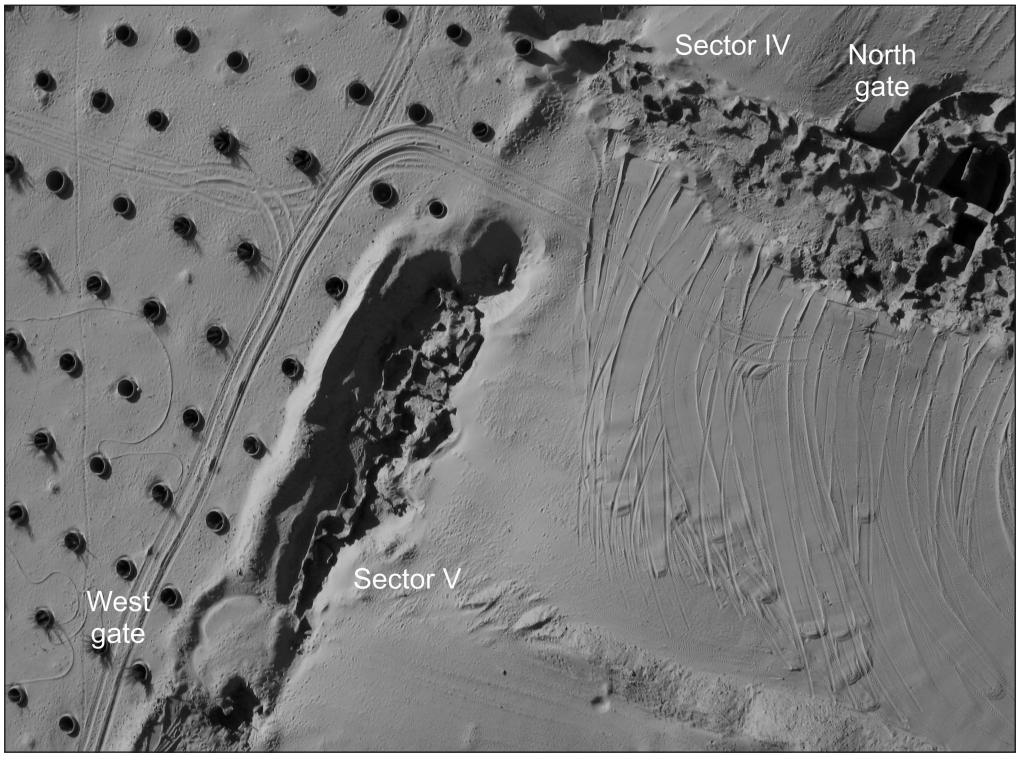

Fig. 5. Sector V of the curtain wall. February 2007 (Aerial photo B. Żurawski)

northern end of the wall is already outside the archaeological concession investigated by the Polish team.

Robbers' pits have done much to obliterate the line of the defense wall, as well as the plans of the structures that had stood against the inside face of the wall [*Fig. 6*]. The thickness of the curtain wall could not be established with certainty. At the southern end, it seems to have been 2.85 m wide [*Fig. 6,* left – A]; apparently bulging to 6 m in the central part of the sector [*Fig. 6*, left – B]. Nowhere else on the site does the curtain wall attain 6 m in thickness. By comparison with the remains found in other sectors, this thickening of the curtain wall can be interpreted as one or more structures built against a much thinner curtain wall.

The damage to the wall has also made it impossible to ascertain the dimensions and the arrangement of the mud bricks of which it was made.

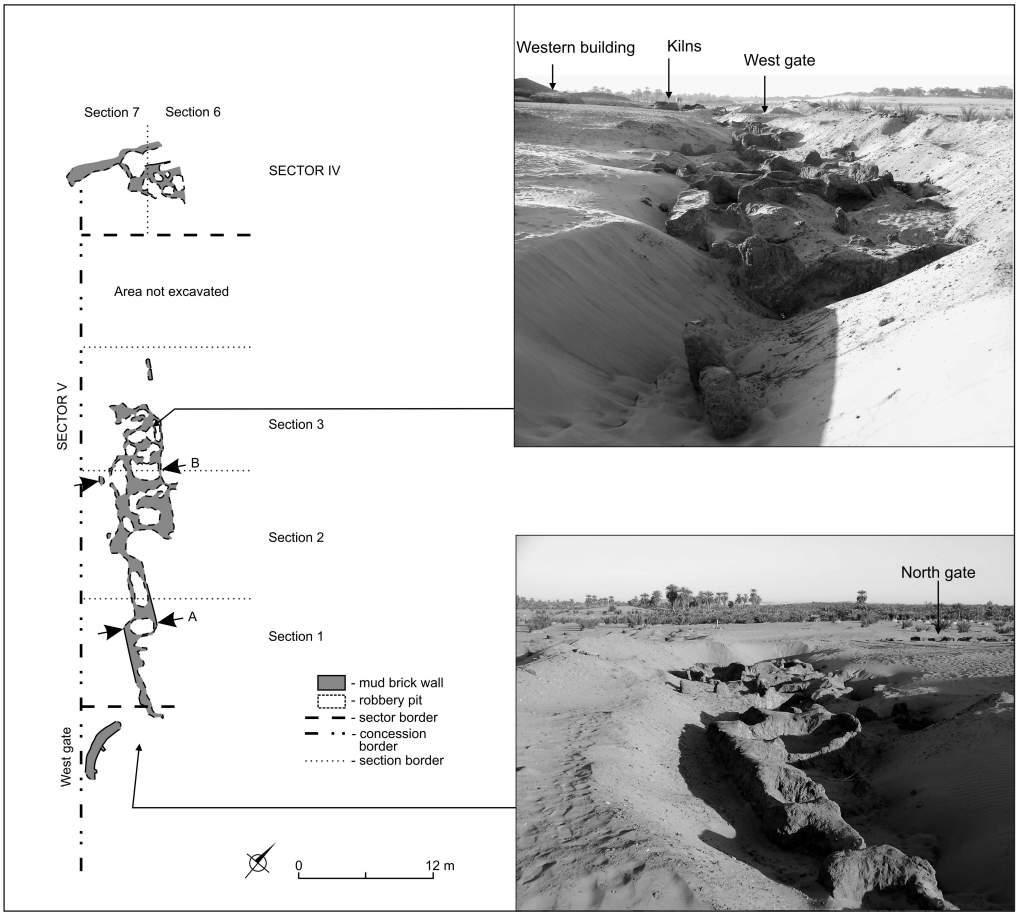

Fig. 6. Sector V of the curtain wall: plan (left); view of section 3 from the northwest (top right); view of section 1 from the southeast (bottom left)
(Photos M. Drzewiecki; plan R. Łopaciuk, M. Drzewiecki)

SECTOR VI

The sector includes about 60 m of the curtain wall from the southwestern corner of the fortifications to the southern edge of the West gate [*Fig. 7*]. A similar situation but in reverse was noted with the preserved remains of the southwestern corner of the fortifications being found at depths of 4 m below the ground surface, while the first section from the north was actually visible a few centimeters above the modern walking level. The superimposed deposit of pure sand contained no apparent evidence of human activity except for a few stray pieces of pottery.

In a test trench dug down to bedrock by the West gate, the wall attained a preserved height of approximately 2.60 m. However, extensive evidence of robbers' pits indicates poor preservation overall, unlike the central part of the sector where robbers' pits are few and do not seem to disturb the wall structure. At the southern end, where the remains appear 4 m below the modern surface, it is difficult to differentiate between the mud-brick wall and the compact accumulation layers deposited against its faces. The inner face of the wall was traced in sections 1, 2 and 5; the

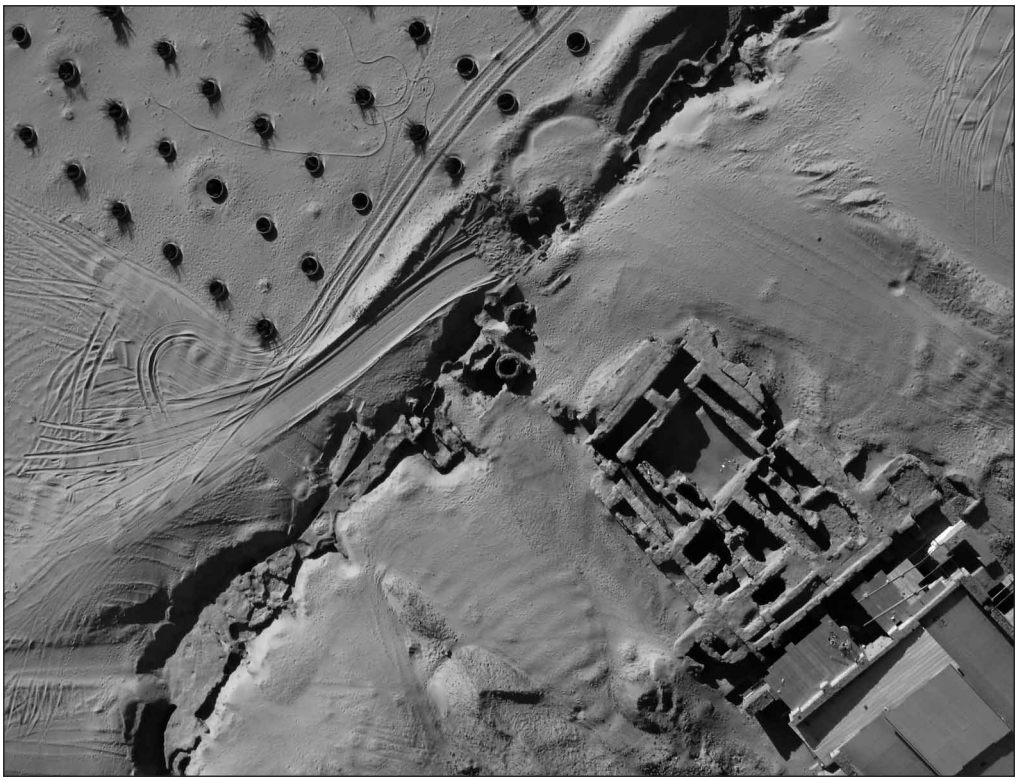

Fig. 7. Sector VI of the curtain wall and the West gate (West Building at bottom right). February 2007 (Aerial photo B. Żurawski)

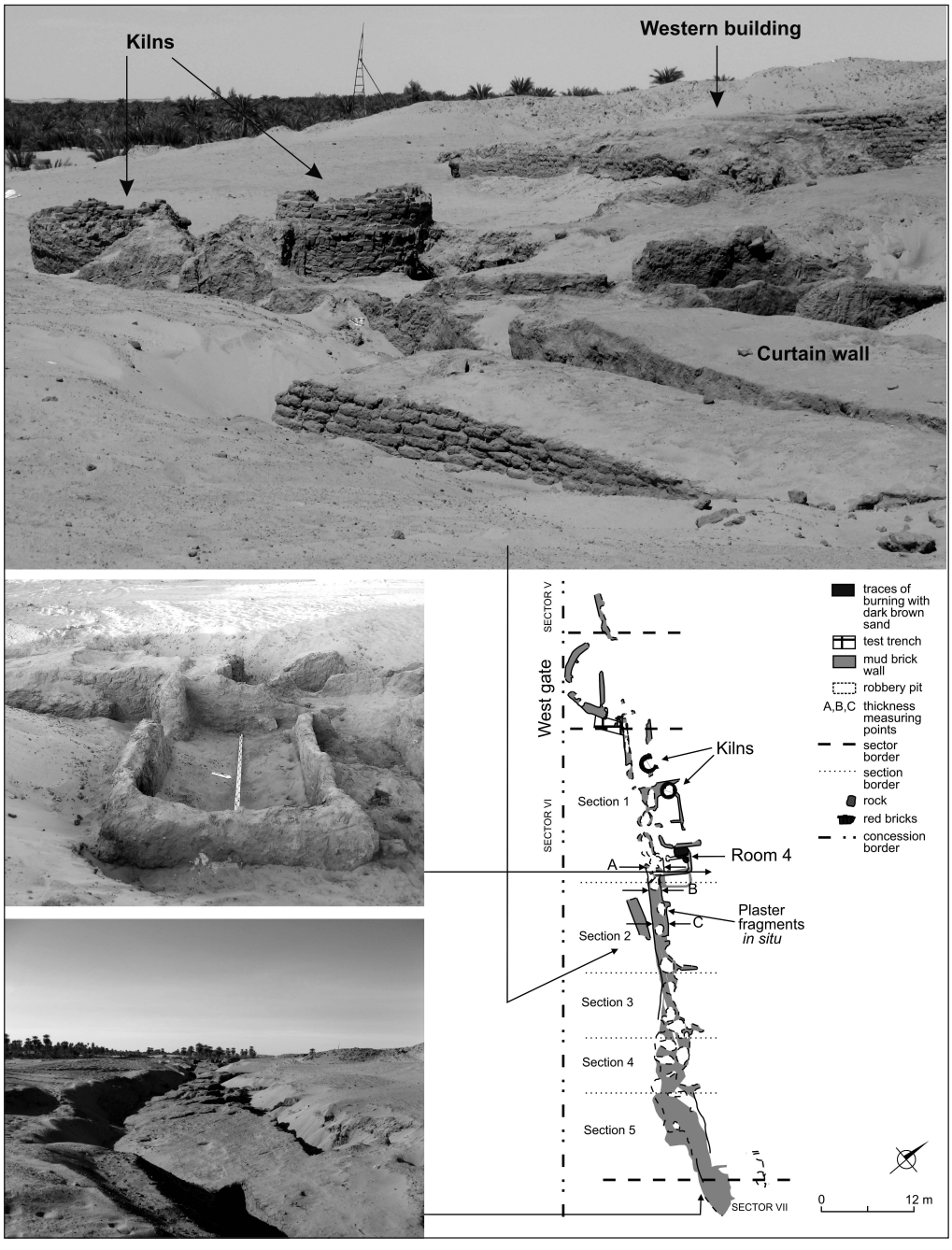

Fig. 8. Sector VI of the curtain wall: plan; general view of Section 2 from the south (top); view of unit 4 from the north (center left); view of the sector from the southeast (bottom left) (Photos B. Żurawski, M. Drzewiecki; plans R. Łopaciuk, M. Drzewiecki)

thickness, where it could be measured, was about 2.25 m (A), 2.00 m (B) and 2.15 m (C) [*Fig. 8*, bottom right]. The outer face, which was generally not straight with bulging sections in the area of the kilns and in the southern part of section 2, could no longer be followed from the middle of section 3 going south. Only the stratigraphic position suggests that we are dealing indeed with the remains of the curtain wall.

A network of walls, including unit 4 [*Fig. 8*, center left], which was excavated, could be traced just south of two round kilns of red brick that had been investigated in previous seasons. Remains of a coating of white lime plaster was noted on one of three walls recorded as running off from the curtain wall to the south of unit 4. This architecture is believed to be connected with the kilns and must have formed some kind of production area.

A structure of unrecognized function was noted on the outside of the wall in section 2 of the sector. A single wall about 6 m long and 1.20–1.40 m wide was noted, preserved to a height of 0.40 m. Its chronology is uncertain [*Fig. 8*].

WEST GATE

The West gate, which is Banganarti's smallest, measures 11.50 m in width and projects approximately 6.50 m from the curtain face to which it was attached. The remains are just 0.80 m high. Extensive robbing, especially on the inside of the structure has obliterated all evidence of the interior plan, although a bent-axis design is to be presupposed. The outer passage is about 1.40 m wide. The walls ranged in thickness from 1.15 m to just 0.56 m.

Despite many similarities to the other gates, it features some architectural differences: a different bond of the lowest brick course, the design of the outer passage, the presence of an additional wall in the courtyard. It was the only gate found not blocked.

SECTOR VII

The sector covering the curtain wall from the southwestern corner of the fortifications to room 18 included the remains of a number of structures inside and outside the wall, as well as one raised on top of the ruins of the defenses [*Fig. 9*, top]. Seven sections were distinguished and in two places trenches were dug to bedrock: inside room 18 and by the outer face of the curtain wall in the western end of section 4.

The curtain wall is clearly a continuation of the wall uncovered in Sector VIII of the fortifications, but the present investigations have traced two phases of construction [*Fig. 10*]. In the first phase, the wall was approximately 2.20 m thick. About 1.30 m of the height was cleared without reaching the foundations; the faces are damaged extensively making it impossible to ascertain brick size and the character of the bondwork. Remains of the second phase have been recorded on top of the first, in the form of four incomplete brick courses. The bricks are 33–37 x 17 x 7–8 cm in size, laid header–stretcher alternately, similarly as in Sector VIII (Wiewióra 2005: 265). Traces of this second phase can be seen only in section 1 of this sector.

A series of rooms including a kiln (no. 2) was built against the outer face of the curtain wall during phase I [*Fig. 9*, top]. Further west, there is kiln no. 1 and instead of the curtain wall, a monolithic structure more than 4 m wide. Testing to the foundations of

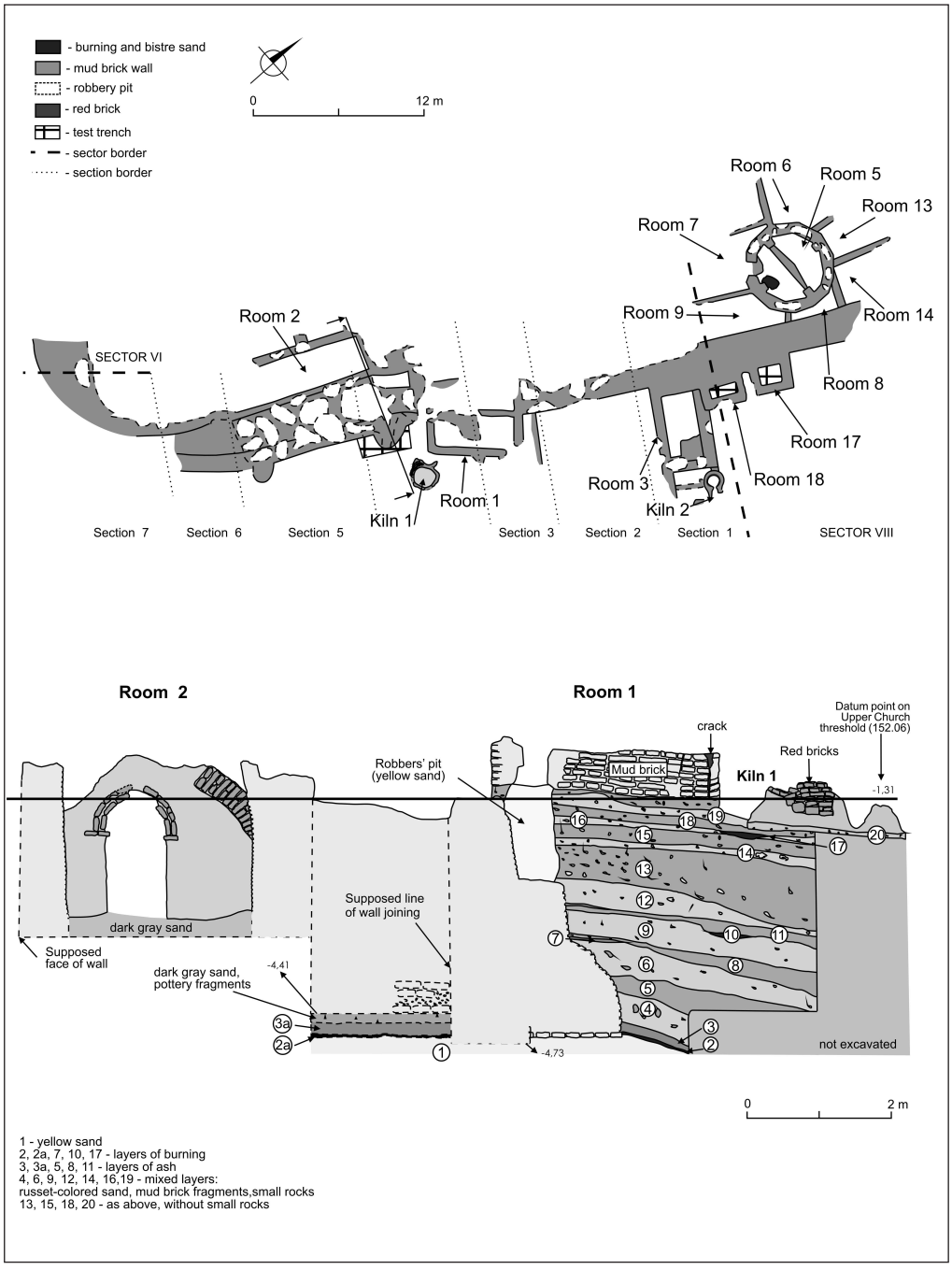

Fig. 9. Sector VII of the curtain wall. February 2007
(Plan R. Łopaciuk, M. Drzewiecki, drawing Magdalena Woźniak, A. Pląskowska)

the curtain wall removed 4.50 m of accumulations in four arbitrary layers. Two phases of the curtain wall were distinguished. The first one was 1.10 m thick at the bottom and 0.85 m at the top, the preserved part of the wall being here 3.40m high. A semi-circular buttress stood to a height of 2.20 m, projecting about one meter from the outer face. The wall was founded on yellow, culturally sterile sand appearing 4.73 m below the datum point on the threshold of the Upper Church. The first course of bricks of the buttress are just 10 cm higher and the two structures are interlinked, proving their simultaneous construction. The mud bricks used for this phase are approx. 36 x 17–21 x 6–7 cm. The bondwork features alternately headers and stretchers.

Fig. 10. Two phases of the curtain wall in Sector VII. February 2007 (Photo M. Drzewiecki)

Three layers of a combined thickness of 0.32 m correspond to the first phase of the wall and constitute evidence of a conflagration of unknown proportions. The lowest is a layer of burning approx. 3–4 cm thick (charcoal sample 9/07 was taken for ^{14}C dating), followed by a layer of ashes about 17 cm thick and a layer of gray-brown sand with potsherds (Reg. no. 226/07).

The wall of the second phase was approximately 1.90 m thick and is preserved to a height of 2.80 m. It is distinguished by the brick size, three different kinds of bricks having been used here: approx. 36 x 24 x 9 cm, approx. 48 x 24 x 9 cm and approx. 30 x 25 x 9 cm. The first size was noted in the outer face of the wall explored in section 4, while the other two were observed in section 6, where it also proved possible to distinguish some of the bricks forming the core of the wall. Header–stretcher bondwork was discerned. The top of the wall in sections 4 and 5 was heavily damaged by robbers' pits which achieved diameters of close to 1.80 m .

A correspondence between the phasing of the curtain wall in this part of the sector and in sections 1–2 cannot be established for lack of data concerning the wall in section 3 and the eastern end of section 4.

Archaeological layers accumulated against the face of the second-phase wall comprise gray sand with fragmented mud bricks intercalated with brown sand also containing fragments of mud brick. More mud-brick fragments are accumulated nearer to the wall. All layers contained ceramic vessels. Red bricks occur sporadically and only in the gray sand layers. Lenses or small concentrations of burning can be found occasionally. This kind of stratigraphy is characteristic of a slow accumulation of refuse and debris outside the fortifications, which is characteristic of medieval fortified settlements and forts.

SECTOR VIII

The sector covers approximately 42 m of the curtain wall extending east from room 18 to the tower in the southeastern corner. The wall does not run in a straight line, bulging outward especially in the vicinity of room 5 located on the inside of the defenses [*Figs 11, 12*]. Just beyond this to the east is the South gate. On the inside there is an unbroken series of structures built against the wall face, on the outside the structures are more spaced. Four test trenches were dug in this sector in 2007.

One of the test trenches was excavated by the outside passage of the South gate. The passage proved to be in use in unaltered form until its final blocking. Only the northern part has been preserved [*Fig. 13*], leaving the excavators to conjecture that it was approximately 1.20 m wide. It was vaulted with red bricks. The northern end of the arch was found in the sand of the courtyard, while the southern end was still partly set in the semicircular wall of the gate. The face of the wall is marked by stones resting in a straight line in the lowest parts of the wall.

The threshold consists of a double row of stones showing polished parts that are proof of intensive use. This threshold is located 0.80 m below the datum point on the threshold of the Upper Church. The threshold of the inner passage in this gate is just three centimeters higher. Fragments of wood (sample 3/07) found in a section 10 by 25 cm big below the stones projecting from the bottom parts of the outer face of the curtain wall can be interpreted as a beam from the bottom of the door frame. This door appears to have opened to the inside.

Below the threshold of the outer passage a feature resembling a channel was discovered running almost perpendicular to the threshold. The channel is rectangular, 30–35 cm wide and 15 cm deep, extending 6–7 cm into the gate courtyard and 1.24 m to the outside. The sides were made of red brick (32–35 x 15–18 x 6–7 cm) and the bottom was also lined with the same kind of red bricks. It was covered with long irregular stone slabs measuring approx. 70 x 30 x 15 cm. The upper parts of the channel are set in a layer of compact mud with bits of very hard mortar and burned bricks seen from the direction of the inside face; the rubble must have come from elsewhere and was used to reinforce the foundation of the passage. The bottom parts of the channel are sunk already in culturally sterile sand. The fill of the channel consisted of gray-brown sand with few chunks of mortar. A mud brick (34 x ? x 6 cm) was observed blocking the opening of the channel at the outside end.

Considering the material used in its construction, the channel may have been used to discharge water from the courtyard. The reinforced foundation on the inside end of the channel could also be looked on as a clue to its function. Were it made of mud brick, it could have been washed away more easily, if indeed it was used for removing water.

Another trench was located by the inner passage of the South gate, the objective here being to search for possible earlier phases of curtain wall construction. No earlier structures were found despite removing more than a meter of sand below the extant foundations. Thus, the curtain wall in this part is preserved to a height of approximately 1.30 m and was founded on culturally sterile sand.

The inner passage is raised of mud brick. It is 2.70 m long and about 1.80 m wide, narrowing to 1.40 m for the last 0.70 m of the length before entering the courtyard. The threshold at this end is made of three

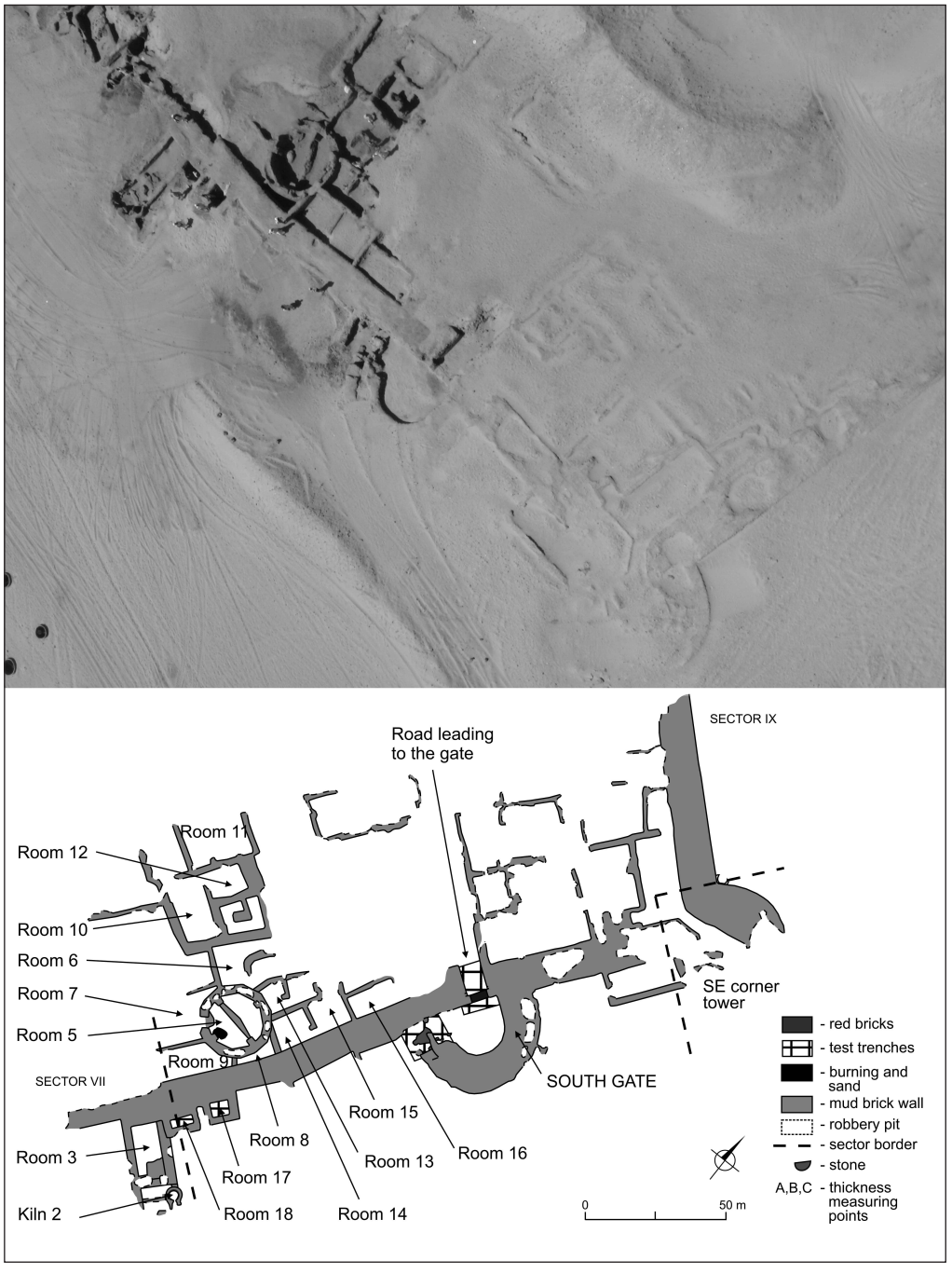

Fig. 11. Plan and aerial view of Sector VIII of the curtain wall. February 2007 (Aerial photo B. Żurawski; plan R. Łopaciuk, M. Drzewiecki)

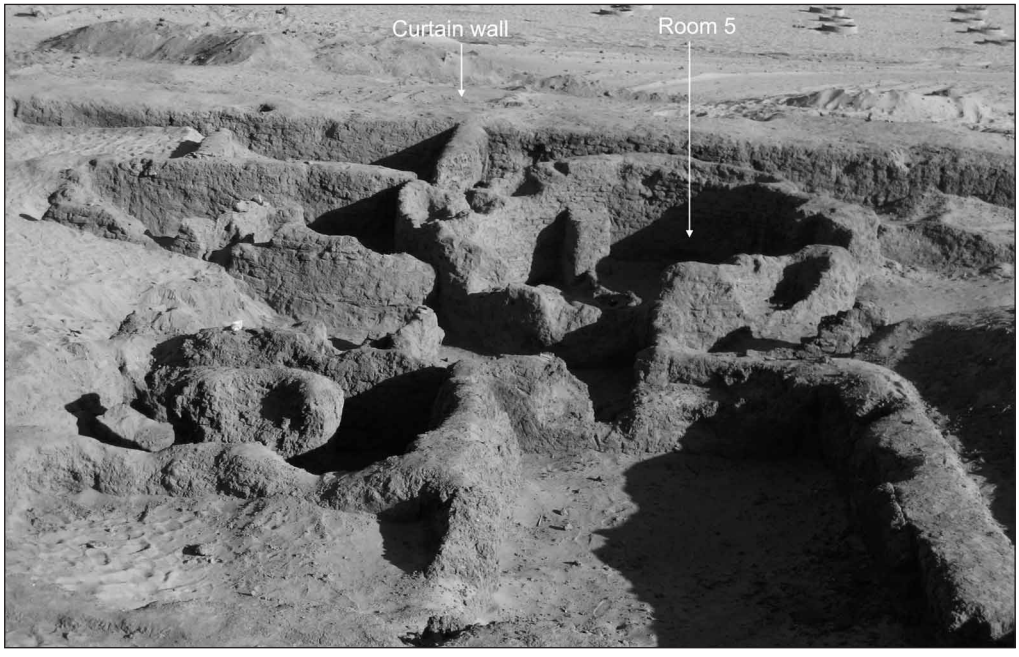

Fig. 12. Room 5 in Sector VIII and curtain wall behind it, view from the west (Photo M. Drzewiecki)

Fig. 13. View of the South gate in Sector VIII from the east (Photo M. Drzewiecki)

courses of red bricks (approx. 34 x 17 x 7 cm) and it is about 25 cm higher than the walking level inside the passage. The bricks in the topmost course are either worn or missing. One step, about 15 cm below the top of the threshold, negotiated the difference in levels between the floor in the passage and the threshold. Single holes, 20 by 12 cm big and approx. 30 cm deep, were observed in both walls on the same level as this extra step. A piece of wood in the western of the holes (sample 4/07) should be interpreted as part of the bottom door frame on which the door pivot was mounted. An analogous structure was noted already in the outer passage.

The curtain wall in the inner passage was coated with mud plaster containing a significant amount of plant temper, the coating being about 1.5 cm thick. Wherever the plaster is not preserved, the wall demonstrates header–stretcher bondwork. At the top there is a poorly preserved row of headers on end. The discernible bricks are about 34 x 15–17 x 7 cm in size. Innumerous red bricks of the same size as mud bricks can be observed in both faces, apparently positioned quite randomly; at least, no particular scheme could be discerned here, although further north, in the walls of rooms built onto the inner face of the curtain wall, certain principles of brick-laying could be distinguished with red bricks being laid in courses alternately with mud bricks. This scheme was not used in the inner passage.

The plaster in the inner passage appears to form a small arch in the lower parts. It seems that the walking level was here, comprising a thin layer of mud which joined the wall plaster at the point of the arch. Traces of a similar solution were recognized further to the north on the road leading up to the gate.

The thickness of the curtain wall by this passage on either side is different: 2.70 m to the east of the passage and 3.40 m to the west. There could have been a staircase here, giving access to the top of the curtain wall, but there is no independent archaeological proof of such a hypothesis.

APPROACH TO SOUTH GATE

The inner passage was approached from the north. The feature was recorded about 1.13–1.18 m below the datum point, which was the threshold of the Upper Church, and cleared for about 3.30 m. It consisted of a layer of compacted mud about 5 cm thick. This surface as well as the deposits accumulated above it were damaged by robbers' pits.

The eastern side of this approach is lined with a series of rooms, the western side appears to have been open. Clearing work on the approach also concerned the façade of a room attached from the inside to the curtain wall. A fragment measuring 1.05 m in height was cleaned without reaching the foundations. It was made of mud bricks in a header–stretcher bond and plastered with mud, just like the inside walls of the inner gate passage. This wall, too, was damaged by a robbers' pit.

TEST TRENCH IN ROOM 17

The room has a trapezoidal plan with inside measurements as follows: south wall approx. 1.50 m, east wall approx. 1.30 m, north wall c. 1.60 m, west wall c. 1.25 m. The thickness of the walls was from approximately 0.50 m (south and west) to approximately 0.70 m (east), preserved to a height of about 2.40 m [*Fig. 14*]. At the joining point the north wall appears to be interconnected with the curtain wall, suggesting that it was built at the same time. Red brick (35–37 x 17–24 x 7–8 cm) was used for the walls of this room up to a height of 1.10 m, beyond which there are only mud bricks (32–37 x 15–17 x 7 cm). The bondwork was irregular for the lower

sections of the wall and presumably header-stretcher for the mud-brick part, although damage due to atmospheric factors had made this part unidentifiable. The upper part reveals fragments of mud plaster reaching down to the red-brick courses.

The fill of the room consisted of uniform yellow sand with isolated pieces of pottery (Reg. no. 242/07), showing no stratigraphy. At 2.10 m below the top of the walls some disarticulated human bones were recorded (for an anthropological analysis, see above, Appendix 1 on page 336). However, there are no known structures of an identified sepulchral nature from Makuria to serve as a parallel for Room 17, the function of which must therefore remain conjectural.

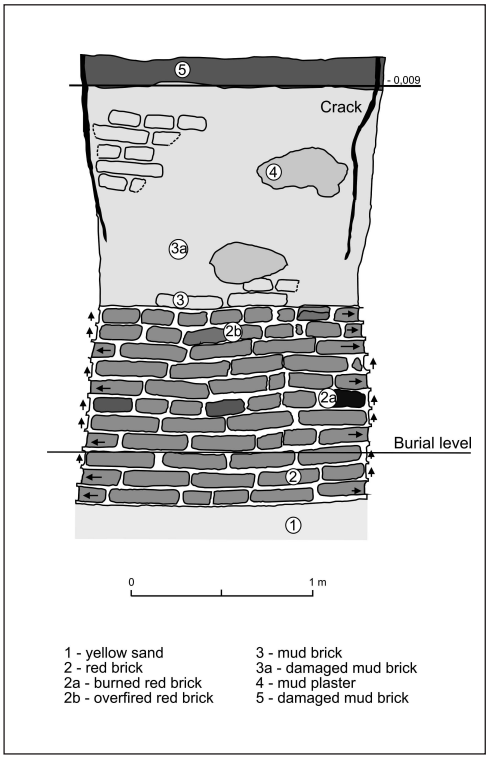

Fig. 14. Section view of inside face of north-western wall in Room 17 (Drawing M. Woźniak, A. Pląskowska)

ROOM 18

Just 0.60 m to the west of Room 17 there is another unit which is roughly rectangular (approx. 1.92 x 0.75 m) with walls from 0.70 m (south and west) to c. 0.55 m (east) thick, and preserved to a height of approximately 1.50 m.

Culturally sterile sand did not appear until about 1.10–1.30 m under the bottom of the structure. Five archaeological layers were recorded under the building, deposited in a diagonal arrangement, that is, falling away toward the west. The first above culturally sterile sand was a layer of gray-brown silty sand with small bits of both mud and red brick; this layer was approximately 25–32 cm thick. A layer of burning appeared on top (approx. 8–12 cm), followed by light brown sand with isolated pottery fragments (40–60 cm) and another layer of burning (6 cm). The last of the layers under the architecture of unit 18 was gray–brown and dark brown sand containing pottery and small bits of mud brick (approx. 20–32 cm).

The walls of room 18 were built entirely of mud brick (35–37 x 17 x 8 cm) in header-stretcher bond. No traces of mud plaster were recorded. Despite damage to the top 12 cm of the walls, a course of bricks on end seems to be discernible. The lowest course of bricks in the south wall comprised headers set on end (measuring 29 x 17 x ?).

The fill inside the unit was collected in two arbitrary layers, the first comprising brown sand that had filled the structure, and the second including all five of the archaeological layers identified below the wall foundations (Reg. nos 243/07 and 245/07).

The structure of unit 18 either cuts or incorporates fragments of the walls of the lower-lying room 3, indicating that it was built later, but at the same time as the curtain wall, as demonstrated by the interconnected bond. Taking into consideration the phasing

of the curtain wall recorded in Sector VII (see above), this makes room 18 contemporaneous with the second phase of the curtain wall.

The unit brings to mind toilet structures, a suggestion borne out by its location on the south side of the Banganarti complex, which would have been dictated by the prevalent winds in the southern Dongola Reach which are from the north and northeast. The sand in the fill would have had a sanitizing function. The contemporaneous construction of nearby unit 17 could point to a similar function for that structure.

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