

# SOME REMARKS ON THE STRATIGRAPHY AND ARCHITECTURAL VESTIGES IN SECTOR 1 AT TELL FARAMA (PELUSIUM) SEASON 2005

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Having set themselves the objective of clearing structures already partly visible on the surface in the northern part of the concession area, the excavators opened a trench 18 by 18 m<sup>1</sup> on the western slope of a small artificial rise about 180 m north of the theatre (Sector 1), slightly to the southwest of some collapsed granite

columns.<sup>2</sup> Structures appeared immediately upon removal of the topsoil. They were mostly in poor condition, yet they furnished new information regarding the methods and materials used in Pelusiac building construction to counter the constantly destructive impact, both in the past and present, of a humid and salty environment.

## STRATIGRAPHY

Test pits were dug in three corners of the main trench in order to shed light on the local stratigraphy.<sup>3</sup> The northeastern pit measured approximately 1.50 by 2.50 m and descended 2.60 m, counting from the present ground surface. A fragmentary floor (no. 3 in the section drawing in *Fig. 1*) was found directly under the topsoil with fragments extending further to the northwest. The sequence under this floor consisted of mostly soil layers containing rubbish and sherds, animal bones, crushed baked brick, lime, ashes, etc. The bottom two (nos 18 and 19) were practically sterile (few sherds) and were deposited more or

less horizontally. The next and all subsequent layers fall away to the north, thus apparently kick-starting the process of dump accumulation.

Distinctive layers included no. 10, which corresponded perhaps to the upper part of the foundation of a lost wall, and certainly formed the walking level of a courtyard or at least a deposit accumulated on such a level. Layer no. 16 consisted mostly of tightly packed chunks of baked-brick rubble, originating from the dismantling of a nearby wall, or else transported to the dump from a more distant place. This refuse function was only

1 See the report on Tell Farama by K. Jakubiak in this volume and especially the plan in Fig. 5 on p. 130.

2 These columns are believed to be the same as those indicated on a plan attached to Clédat's description of the site, see J. Clédat, "Le temple de Zeus Cassios à Peluse", *ASAE* 13 (1914), 80, Fig. 1.

3 A surprisingly high water table in the excavated area limited the depth of the testing; coupled with safety reasons, this resulted in all the pits narrowing toward the bottom.

occasionally interrupted by limited building activity.

The northwestern test pit (approx. 2 by 5 m, 2.60 m deep) presented the same stratigraphical sequence as described for the northeastern one, hence, this part of the sector was also interpreted as a rubbish dump.

The most complex stratigraphy was presented by the pit in the southeastern corner of the main trench (approx. 2.50 by 3.50 m and 2 m deep). Underlying the topsoil was a number of thin layers of

tamped earth, lime or powdered baked brick with 'ghost' foundations of lost walls cutting through them. The lower soil deposits were characterized by considerable thickness and a general sloping toward the west. This pit contained much more baked-brick rubble, either as the main component or a major inclusion. Two of the bottom layers proved to be floor levels. The southeastern pit should be considered therefore as indicative of continuous building activity in the area, probably for commercial or household purposes.

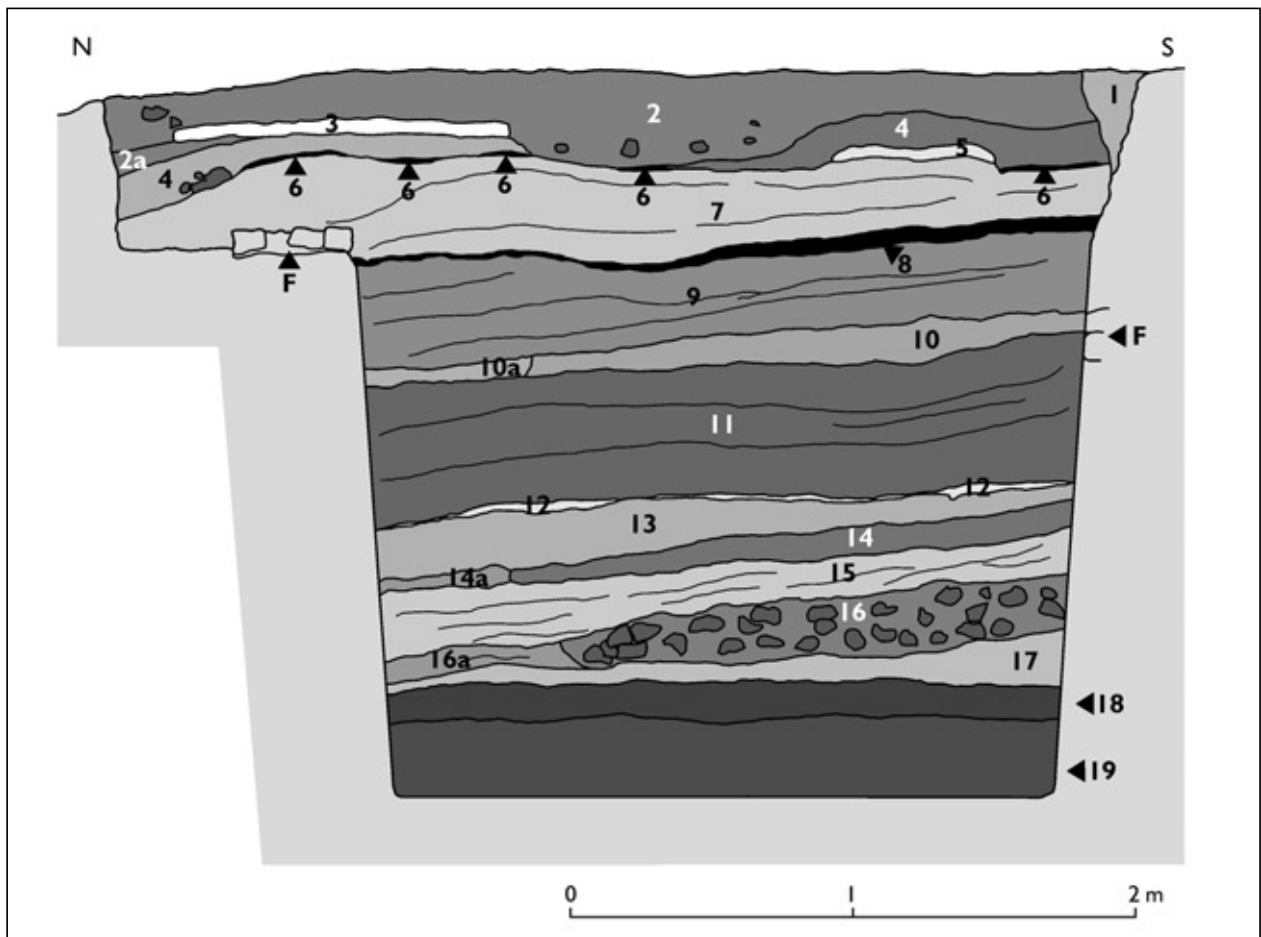


Fig. 1. East trench wall section in the northeastern test pit in Sector 1: 1 - ghost wall; 2, 2a - soil with sherds and building debris; 3 - floor; 4 - brown soil; 5, 6, 8 - concentrations of ashes; 7, 9, 11, 13 - soil with animal bones, sherds, building debris; 10 - animal bones and sherds on a layer of lime (10a); 12, 14a - large animal bones; 14 - potsherds and crushed burnt brick; 15, 16a, 17 - soil with sherds (varying amounts), burnt brick, bones; 18 - soil with few sherds; 19 - sterile soil; F - bedding for a wall foundation (Drawing S. Mašlak)

## WALLS

Few sections of the baked-brick walls found in this sector are more than a few courses high. Most of them are in the southern part of the trench. These relatively thin walls (approx. 0.40-0.50 m) follow a roughly north-south and east-west orientation and they are founded either on tamped earth mixed with lime or on a thin layer of pure lime, level with the floor or just below it in the given rooms. Most bricks observed in wall faces were full-sized (25-26 x 11.5-12 x 6.5-7 cm, 23 x 11-12 x 4-5 cm, 19.5 x 10 x 4 cm, etc.). They were laid in horizontal courses of headers and stretchers but without any pretence at regular bondwork. Conspicuously varied brick size and the use of broken bricks in the construction suggest that the material was reused. Following local building tradition, the bricks were bonded in common clay<sup>4</sup> mixed with lime (and/or gypsum).

Local humidity conditions do not favor the preservation of walls of sun-dried

bricks.<sup>5</sup> When used, they were laid flat (25-25.5 x 11.5-12 x 5.5 cm), alternating headers and stretchers. The fabric is unique, for it contains gray mud from the Pelusiatic branch of the Nile, tempered with crushed potsherds, but also shells (probably of sea-side origin).

Most of the baked-brick walls in this sector were dismantled practically down to the foundations,<sup>6</sup> leaving 'ghost' trenches filled with soil of different coloration and density, and thus discernable on the ground surface and in sections. The width of these trenches ranges from approximately 0.60 to 0.76 m, which must also be the approximate thickness of the walls proper. The footing of foundations consisted of fragments of baked brick laid in yellow sand with slightly convex faces (in view from the top).<sup>7</sup> An analysis of these footings can help in reconstructing the course of vanished walls and the depth of the founding of individual parts.

- 4 The use of clay mortar in constructions of baked brick is widely attested in Pelusium and surroundings, cf. R. El-Taher, P. Grossmann, "Excavation of the Circular Church at Farama-West", *MDAIK* 53 (1997), 260-261; P. Grossmann, M. Hafiz, "Results of the 1995/96 excavations in the North-West Church of Pelusium (Farama-West)", *MDAIK* 54 (1998), 181; M. Abdal-Maqsoud, A. Taba'i, P. Grossmann, H.-Ch. Noeske, "New discoveries in Pelusium (Tall al-Farama). Preliminary report", *BSAC* 40 (2001), 14; P. Grossmann, M. Hafiz, "Results of the 1997 excavations in the North-West Church of Pelusium (Farama-West)", *BSAC* 40 (2001), 116; R. Al-Taher, M. Abd el-Hafiz, P. Grossmann, "Excavation and restoration of the SCA-Islamic section at the Church Complex of Tall al-Makhzan (Pelusium)", *BSAC* 41 (2002), 37; P. Grossmann, "Christliche Architektur in Ägypten" (Leiden-Boston-Köln 2002), 151-152.
- 5 A structure of sun-dried bricks appears to stand between the floor of baked-brick tiles and the now lost walls to the east and south (preserved only as 'ghost' foundations). It can be identified as a kind of mastaba, but considering the foundations going down at least 0.60 m below floor level, it cannot be excluded that it was actually a wall, but constructed later, after the vestiges of earlier architecture had been demolished.
- 6 Perhaps the common clay mortar used for bonding these brick walls was also a factor in their easy reuse. Such walls were easily dismantled without damaging the precious building material and so leaving no baked brick and lime mortar rubble in the vicinity.
- 7 Foundation footing consisting of sand or sand with baked brick in any form is present also in other structures at Pelusium, cf. K. Grzymiski, J. Anderson, J. Hayes, M. Abd el-Samie, A. el-Tabai, O. Hamza, "Canadian-Egyptian excavations at Tell el-Farama (Pelusium) West. Spring 1993", *CRIPPEL* 16 (1994), 117; Grossmann, Hafiz, op. cit., *MDAIK* 54 (1998), 179; Grossmann, Hafiz, op. cit., *BSAC* 40 (2001), 113.

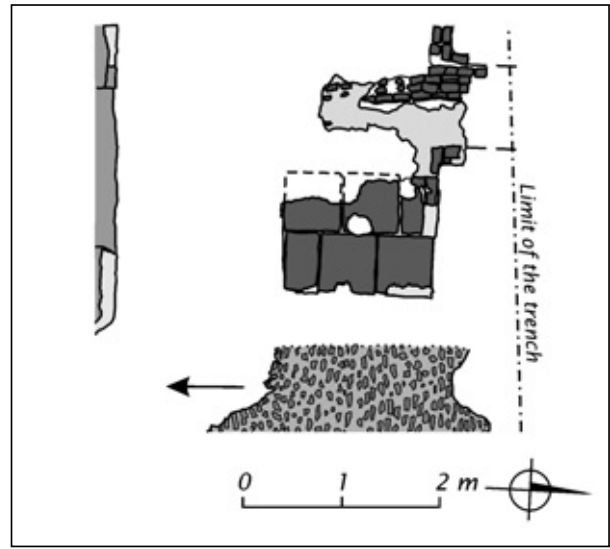
## FLOORS

The floors in Sector 1 are in the best condition, although far from satisfactory [cf. above, *Fig. 5* on p. 130]. They demonstrate considerable diversity, reflecting different room function and presumably different dating.

A floor located roughly in the center of the main trench, measuring (surviving part) approximately 5.70 m by 3.60 m, appears to be unique. It was composed of at least two layers of flatly-laid mud bricks (27 x 15-14 x unknown thickness), bonded in lime mortar. The haphazard pattern of these bricks on the surface merits note.<sup>8</sup>

A floor of baked-brick tiles came to light slightly to the north of the mud-brick one [*Fig. 2*]. It measured approximately 1.50 by 1.20 m, including the missing southwestern corner. Four tiles were square in shape (58 x 58 cm), two

others rectangular (respectively 35 x 58 cm and 23 x 58 cm), and all 5 cm thick. Lime mortar was used for bonding, mixed with powdered black charcoal making it grey in color. Another floor made only of the same



*Fig. 2. Floor of baked-brick tiles in Sector 1: Plan (fragment from plan in Fig. 5 on p. 130 above) and view (bottom) from the east (Photo K. Jakubiak)*

<sup>8</sup> No floor tiles (or even fragments) were discovered in the rubble deposited all around. Lacking any impressions whatsoever of baked-brick tiles or stone slabs, we are entitled to regard it as a proper floor level.

ashy-lime mortar (3 cm thick) was found directly to the west. This mortar covered some courses of broken baked bricks, set longitudinally on edge and intentionally inclined eastward to level the ground under the proper floor.<sup>9</sup>

Apart from the higher-quality floors, there were many less carefully executed floor levels all over the trench. They fell into at least three types, and doubtless all of them served household (or industrial) purposes, as proved by a number of pots sunk into them.

The white-colored floors, several centimeters thick,<sup>10</sup> seem to be the youngest, but it should be noted that floors of this kind were found in deeper pits as well. Another type, red in color, was composed of a 2-3 cm thick layer of tamped powdered baked brick. Last but not least, there were tamped earth floors with lime (and/or gypsum) mixed in. One variant of this was a floor of tamped earth, but with fragments of baked brick and white stone pressed thickly into the ground.

## OTHER FEATURES

One of the most interesting features was a virtually square (0.75 by 0.80 m) container, constructed of baked bricks (22-23 x 11-11.5 x 5-5.5 cm and 21-22 x 10.5-



*Fig. 3. Container of baked brick with amphora preserved inside it (Photo K. Jakubiak)*

11 x 5-5.5 cm) bonded in lime mortar, but of extremely poor quality [Fig. 3]. Since an amphora was found in it, the container could be interpreted as a liquid jug stand, probably with internal compartments.<sup>11</sup> Many hearths or ovens were identified in the trench.<sup>12</sup> The first group includes pots containing black ashes, found sunk into the ground and surrounded with bricks. The hearth discovered in the northwestern corner of the trench was different. It was a ring (approx. 1.40 m in external diameter) made of mostly broken baked bricks bonded in clay mortar (the only full-sized brick: 23 x 11 x 4.5 cm). Together with the black ashes deposited inside, there was also a fragment of large storage vessel (amphora) placed against one of the walls.<sup>13</sup> It cannot be excluded that the structure was the bottom of a simple bread oven.

9 Bricks in the same arrangement, but without any trace of a covering, were preserved in the southern part of the trench.

10 Due to the highly corrosive environment, affecting even very hard and durable materials, one cannot say for certain what kind of material was used here. These floors are believed to be covered mostly with poor lime mortar, probably with the addition of gypsum. However, this covering sometimes resembles a crushed (or almost powdered) white limestone.

11 Remains of bronze rods could still be seen in the joints between the bricks of the floor.

13 Similar hearths, but more deteriorated, were discovered in Farama West, see Grzymski et al., op. cit., *CRIPPEL* 16 (1994), 118-119, Fig. 5.

## CONCLUSIONS

A large concentration of different types of architectural vestiges in Sector 1 proved that this area had been a place of considerable activity, at least in some periods. Unfortunately, most of these structures were too poorly preserved to give a full idea concerning the distribution of rooms or their attachment to a particular building (or buildings). Even so, some conclusions could be drawn (see above, Jakubiak's report on the work of the season in Tell Farama), notably regarding the measures taken by builders to counteract the destructive impact of an excessively humid environment. Hence the extensive use of waterproof materials, such as lime mortar, powdered baked brick and also baked brick proper.

As said above, the place appears to have served as a rubbish dump for some time, but it seems to have been very specific rubbish – mostly various types of storage vessels and animal bones. Taking

into consideration the huge quantities of bones (cf. *Fig. 1*) and evident traces of butchering observed on them, we must be dealing with meat processing on a large scale, carried out somewhere probably in the nearest vicinity. While bones were found only in deep-down layers,<sup>14</sup> coins, which were found in abundance, were recorded both in the rubbish deposits and in connection with architectural remains. Their presence in such numbers can be explained by the nearness of the harbor and the Pelusiac branch of the Nile some meters to the north. Unfortunately, most of them were corroded beyond identification. The few that have been read date the rubbish dump and the architectural vestiges to the 4th century AD. The exact date for the abandonment of the building(s) and consequently the beginning of baked-brick robbing in this area remains vague for the moment.

14 The few bones in the topsoil could have easily been moved there unwittingly or left by workers plundering bricks as building material for reuse.

