

Romuald Schild, Halina Królik, Fred Wendorf and Angela E. Close

## Architecture of Early Neolithic huts at Nabta Playa

---

### Introduction

In the 1974-1977 and 1990-1992 seasons the Combined Prehistoric Expedition conducted extensive archaeological excavations in the South-Western Desert of Egypt. Several Early and Middle Neolithic sites were excavated or tested in the Nabta Playa and other playa basins in the area (compare Wendorf & Schild 1980; Banks 1984).

Nabta Playa is a very large deflation basin measuring around 100 square km with a catchment area of over 1000 square km. Site E-75-6, located in the very centre of the Nabta Playa, is one of the most interesting in the area<sup>1</sup>.

The site is stratified. It contains at least two archaeological levels of which the lower one is buried in the upper part of a phytogenic, fossil dune. The upper level is located on the dune and is partially covered by playa silts. The features of the upper level cut through a stabilisation zone, a thin hardened surface that formed as a combination of pedo- and anthropogenic phenomena. The upper level is the most interesting. It contains three rows of hut foundations with accompanying bell-shaped pits and two shaft wells (Fig. 1).

The site yielded rich archaeological materials. Over fifteen radiocarbon age estimates placed the upper occupations of Site E-75-6 around 8000 conventional radiocarbon years B.P. (Haas & Haynes 1980). Location in the centre of Nabta Playa as well as the presence of the shaft wells indicated that the site was occupied during the dry season, in the winter.

The site contained a rich fauna assemblage, composed mostly of hare and a small gazelle. Remains of a large bovid, probable cattle, were also indicated. Rare, well-fired pottery with herring-bone design was found embedded in the features. Because of several individual attributes, the lithic assemblage in the upper level was classified as the Early Neolithic of el Nabta type (Wendorf & Schild 1984: 413).

Site E-75-6 also produced extremely well preserved macro-floral remains. The cultural features yielded exceptionally rich charcoal samples suggesting presence of

---

<sup>1</sup> The excavations in the early seasons were directed by Michał Kobusiewicz, Herbert Mosca, Thomas Ryan and Hanna Więckowska.

carbonised seeds and fruits. Indeed, various plant remains as well as two well-preserved grains of barley were reported from Site 6 at Nabta Playa (Hadidi 1980: 347). Because of the unique conservation of the botanical material, the Combined Prehistoric Expedition returned to the site in the 1990-1992 seasons (compare Wendorf et al. 1992; Wasylkova et al. 1993; this volume).

### Excavations in the 1990-1992 seasons

The work during the three consecutive field seasons at Site E-75-6 concentrated in the south-eastern part of the locality where four cuts and eight test trenches have been opened (Fig. 1). It is the area where the main Neolithic level is covered by a relatively thin playa seal. There was a large (100 square m) cut placed in the southern part of the site, where the playa cover is relatively thick, but it did not yield any archaeological material. The work concentrated on two cuts (I/90 and I/91) which produced the most interesting results.

Removal of the thin playa silts in the two cuts disclosed a very complex picture rich in various archaeological features (Fig. 2). Among them were four huts and a part of a hut excavated in the 1975 season, 12 pits, one deep water well and at least two open air hearths. The general stratigraphy of the cuts was similar to that known from previous excavations. A much better preservation of the features permitted construction of a local, relative stratigraphy.

Two types of huts are evident: the elongated structures and the round ones. The former measure around 7 meters along the longer, west-east axis. The round huts, on the other hand, are ca. 4 m in diameter (Fig. 2). The relative stratigraphy suggests that the round huts are most probably slightly younger in each pair; however, no stratigraphic relationship has been established between the two long huts. The radiocarbon age estimates, on macro-floral remains, place both types of huts in the same time span, almost exactly at 8000 conventional radiocarbon years B.P. (Fig. 3, 4). It is suggested that the estimates run on individual seeds and fruits (*Oxa*) better reflect the age than conventional dates measured on charcoal samples (Gd). Frequent use of fossil wood in the Neolithic, as well as today, must have resulted in greater ages of certain samples

After removal of playa silts and patches of rewashed, grey laminated cultural layer, the huts appear as grey to dark grey features. In the cross-section they have the form of shallow basins cut into the stabilisation zone and the topmost part of the dune. They have a maximal depth of 30 cm and show several regular, small pits hanging from the bottom (Fig. 5). All the huts are sealed with a thin (up to 1 cm) lens of playa sandy silt with snails (*Bulinus truncatus*).

### Details of architecture and use

The basins are filled with grey and dark grey sand of the cultural layer. The colour of the sand is controlled by the amount of charcoal powder included in the sediment. There are also patches of a reddish brown silt rich in charcoal pieces, flecks and powder that are deposited at various levels of the fill. The patches of the reddish brown silt that are close to the floor of a house, always show deep red oxidised, a result of

intensive, but spatially limited fire zones placed on the sand floor. These red zones indicate that the patches of the reddish brown silt are in fact hearths. The placement of hearths is not always the same. In Feature 1/90 there are roughly aligned along the long axis. In Features 2/90 and 1/91, in the round houses, they are placed near the south edge. In the elongated house of 3/90 the hearths are in the centre and near the south eastern edge (Fig. 6, 7).

All of the houses contain dozens of potholes which are small, shallow circular pits with rounded bases. The pits are obviously designed to hold containers, e.g., gourds, sacks, baskets and pots. Often, the potholes intersect each other. They are placed at various levels of the fill, but the most numerous are cut into the sandy floor (Fig. 6-7). Some of the potholes are touching the hearths or are placed inside them. These are also filled with the reddish brown fill that is rich in charcoal. The fill of these pits is always the richest in charred macro-remains of eatable plants indicating that cooking containers were placed in the holes associated with hearths.

The association of rich in plant macro-remains potholes with reddish brown stains define the latter as cooking hearths. The small fire in these hearths was build around container. A very similar method of cooking is practised today by the Bedouins (Fig. 8).

Of the four huts the best preserved is the long hut of feature 1/90 (Fig. 6). Beside the grey fill, reddish brown cooking hearths and potholes it also shows some other structures. The central part is occupied by a deeper sub-basin in which all of the cooking hearths are deposited as well as most of the potholes. The fill of the sub-basin is darker than the surrounding one and contains more charcoal. The central sub-basin is almost 4.5 m. long. Its floor is irregular showing three niches placed alongside. The general deep is to the central axis. It is likely that the niches represent sleeping units. The fill of the shallow part of the house is lighter in colour than that in the sub-basin. Also, the floor of this part shows a few potholes; however, it is in this area that most of the postholes are located. Some of the postholes intersect each other. A few other postholes occur within the deeper sub-basin, although very close to its edge.

### **Reconstruction of the huts**

Details of the architecture and use of the huts permit a fairly probable reconstruction (Fig 9, 10). It appears that the huts were roofed most, possibly by sticking Tamarisk branches into the sand around the slightly sunk house basin. The top parts of the branches were probably tied together and covered by animal skins. Sand piling on the outside walls of the construction is probable, but not evident. The area immediately adjacent to the walls is only a few centimetres below the floor of the site.

Intersection of potholes and postholes as well as the placement of the holes and hearths at various levels of the same hut, all indicate that the huts were repetitively repaired and inhabited. The length of the use is unknown and beyond radiocarbon method. Also, it cannot be excluded that the form of a hut reflects the number of its inhabitants rather than cultural and/or chronological differences.

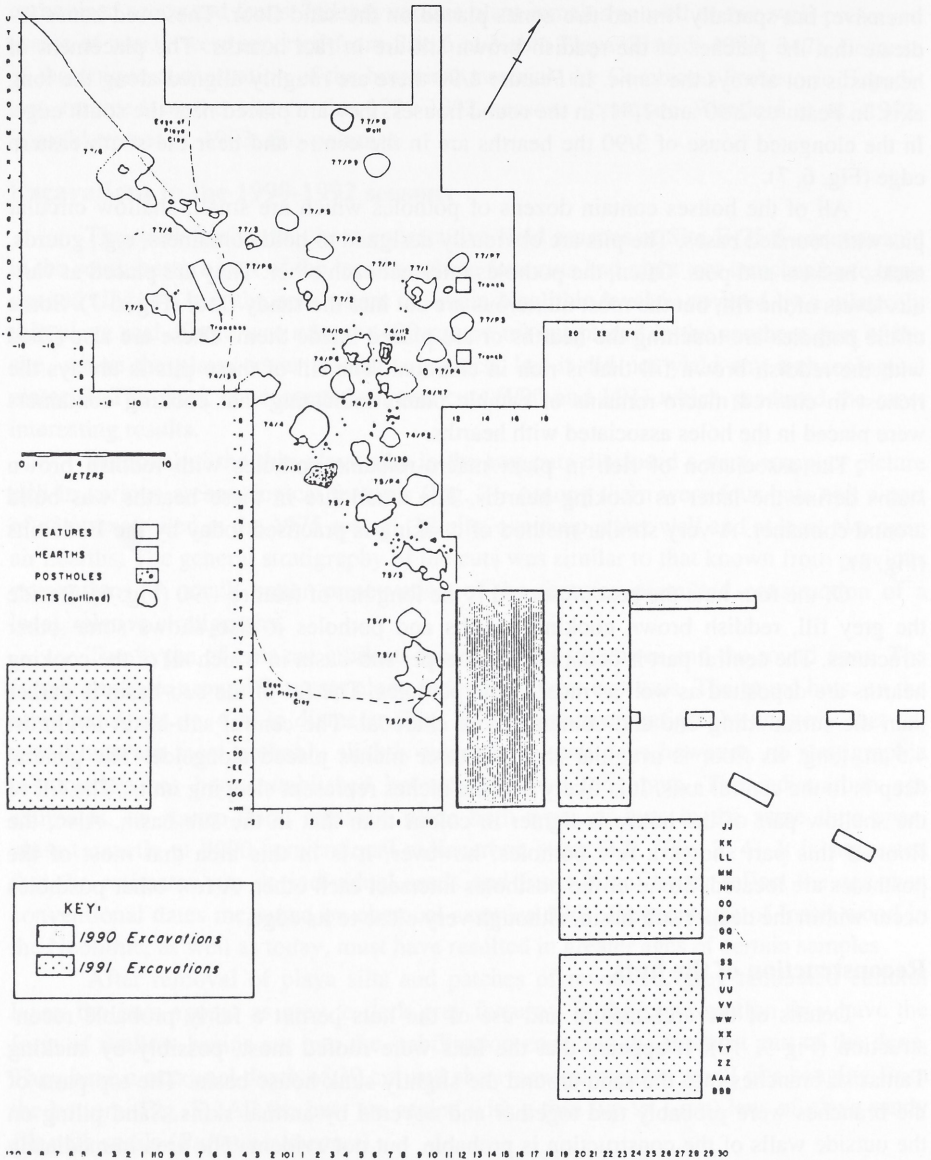


Fig. 1. General map of Site E-75-6.

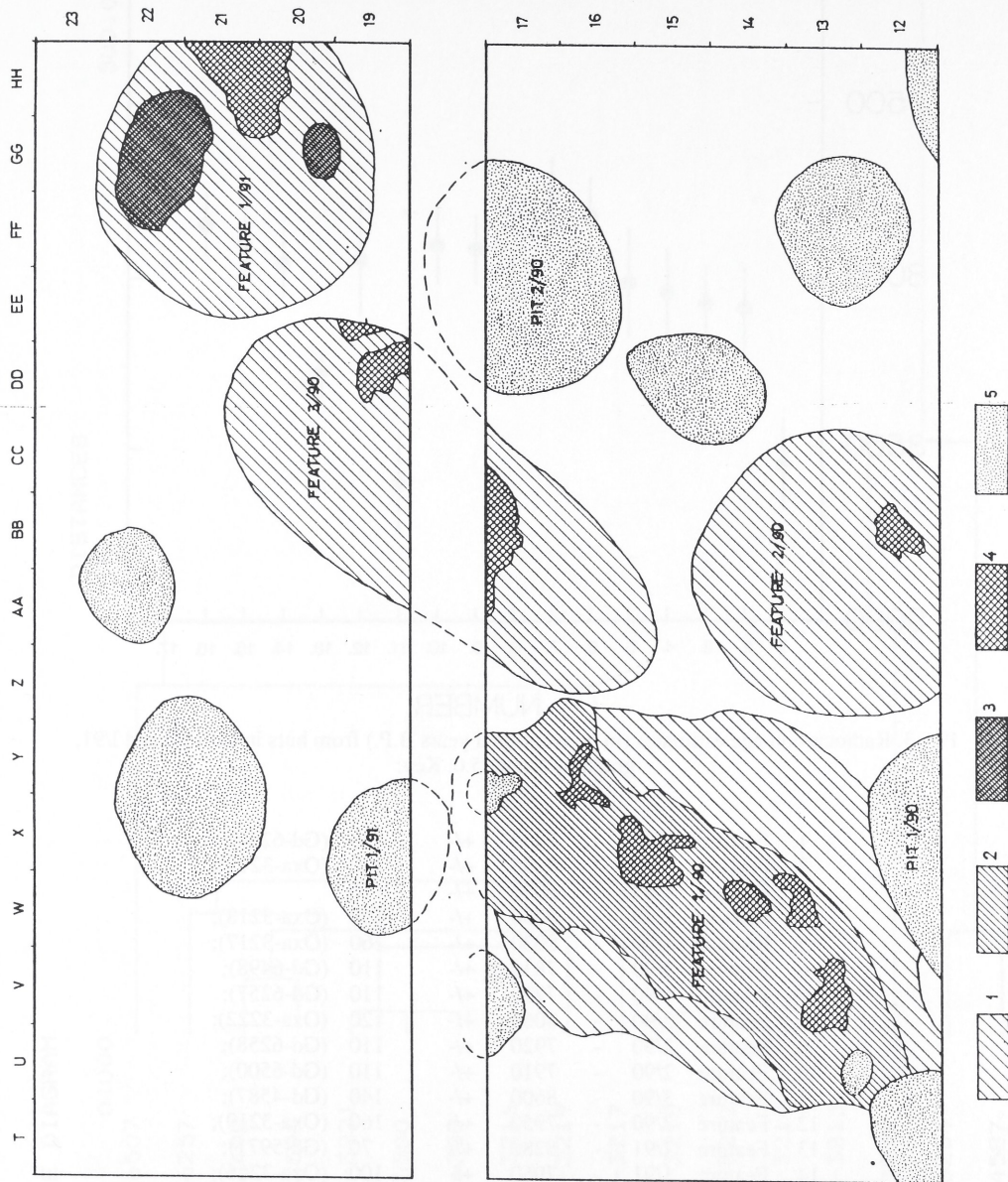


Fig. 2. Map of cut I/90 and I/91. Key: 1. Grey sand; 2. Dark grey silt; 3. Dark grey silt; 4. Reddish brown silt; cooking hearths.

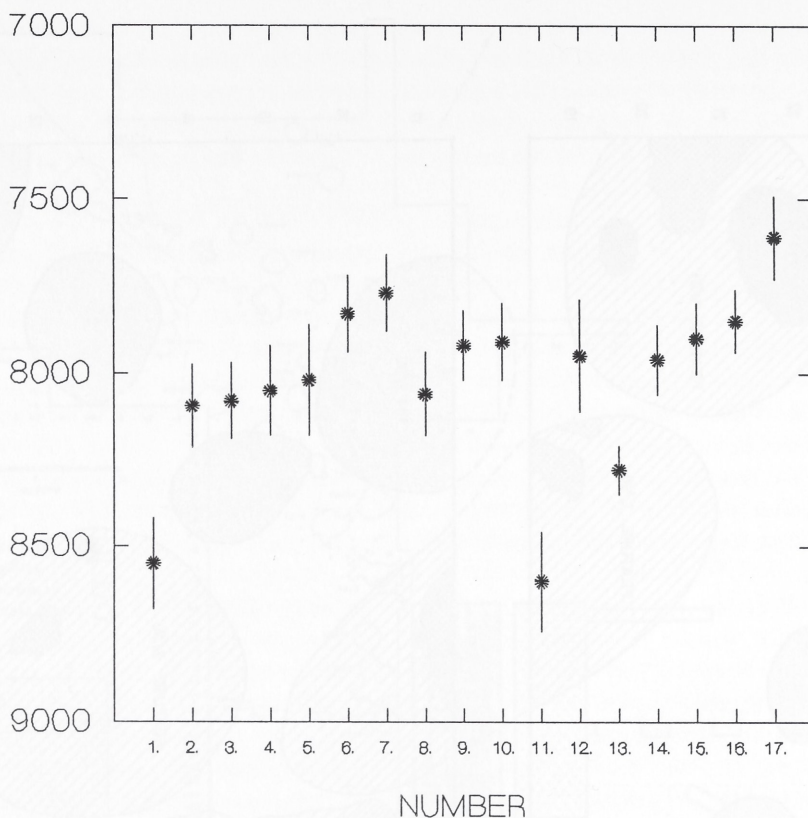


Fig. 3. Radiocarbon age estimates (in conventional years B.P.) from huts in cut I/90 and I/91, graph by Systat 5.0. Key:

1.	Feature	1/90	-	8550	+/-	130	(Gd-6254);
2.	Feature	1/90	-	8095	+/-	120	(Oxa-3215);
3.	Feature	1/90	-	8080	+/-	110	
4.	Feature	1/90	-	8050	+/-	130	(Oxa-3218);
5.	Feature	1/90	-	8020	+/-	160	(Oxa-3217);
6.	Feature	1/90	-	7830	+/-	110	(Gd-6498);
7.	Feature	1/90	-	7770	+/-	110	(Gd-6257);
8.	Feature	2/90	-	8060	+/-	120	(Oxa-3222);
9.	Feature	2/90	-	7920	+/-	110	(Gd-6258);
10.	Feature	2/90	-	7910	+/-	110	(Gd-6500);
11.	Feature	3/90	-	8600	+/-	140	(Gd-4587);
12.	Feature	3/90	-	7950	+/-	160	(Oxa-3219);
13.	Feature	1/91	-	8280	+/-	70	(Gd-5971);
14.	Feature	1/91	-	7960	+/-	100	(Oxa-3216);
15.	Feature	1/91	-	7900	+/-	100	(Oxa-3221);
16.	Feature	1/91	-	7850	+/-	90	(Gd-6506);
17.	Feature	1/91	-	7610	+/-	120	(Gd-6507).

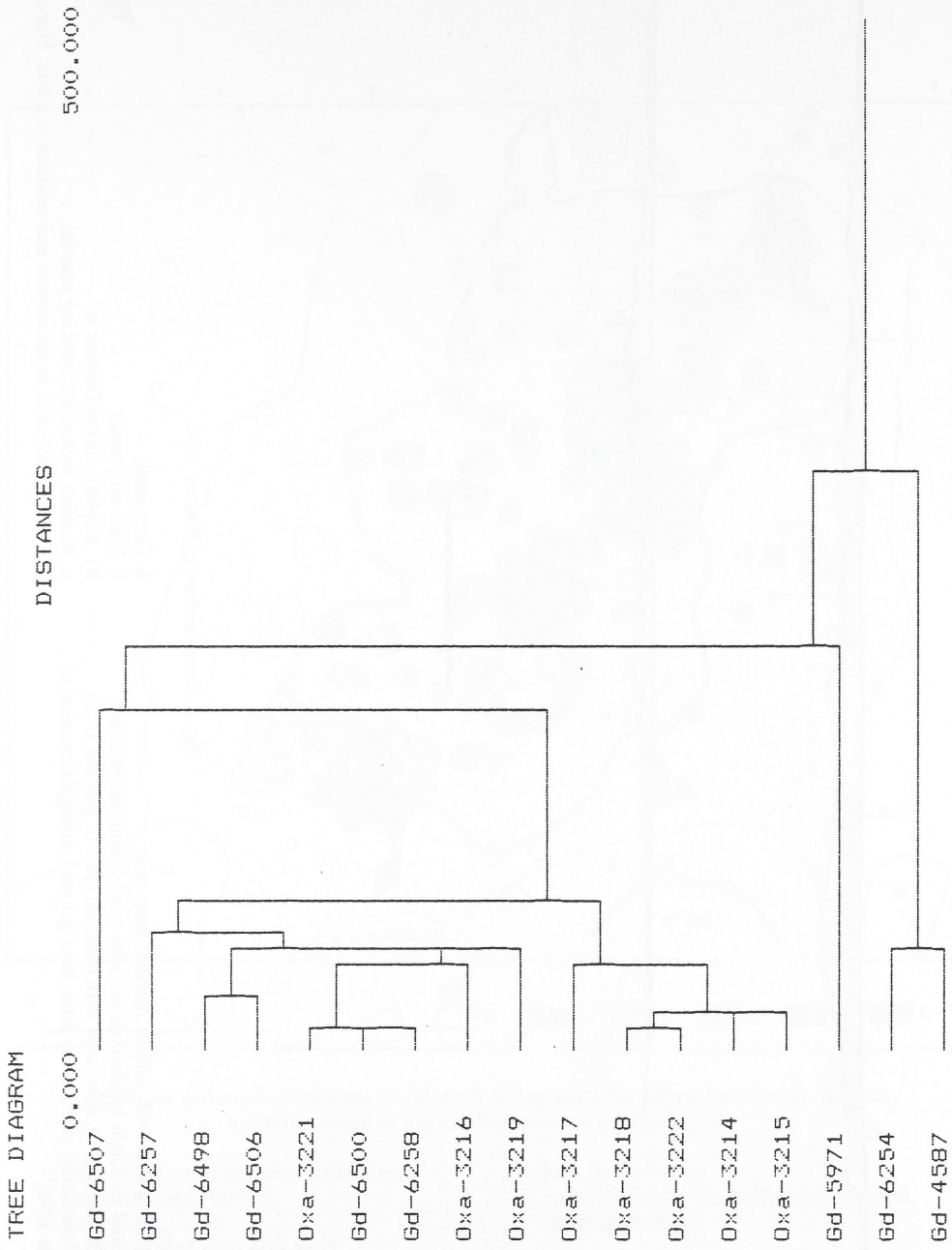


Fig. 4. Nearest neighbour clustering of radiocarbon age estimates from the huts in cuts I/90 and I/91 (Euclidean distance, single linkage); Systat 5.0.

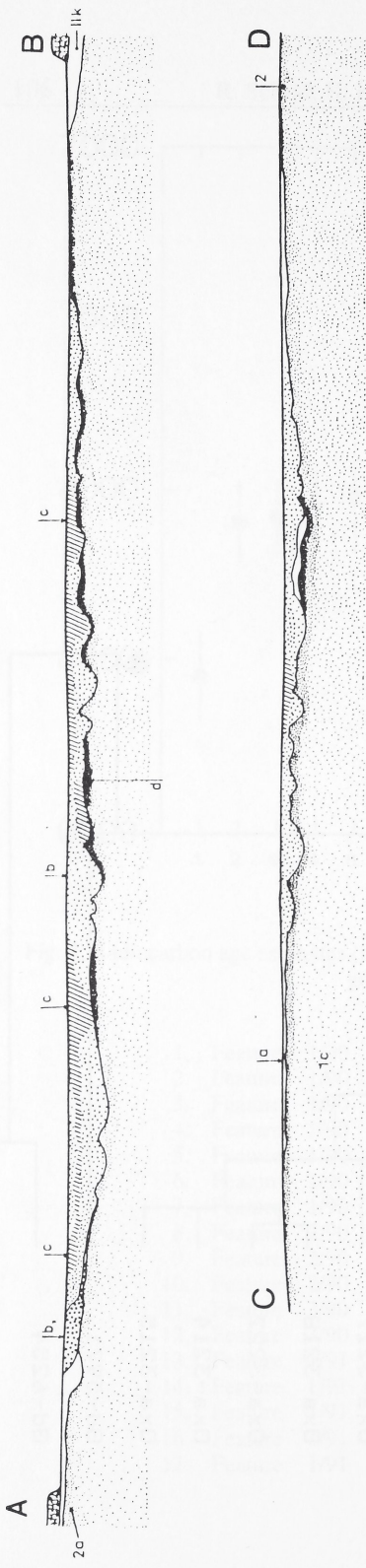


Fig. 5. Cross-section of Feature 1/90.

Key:

- 1c. Non stratified, yellow, mottled dune sand;
- 2 and 2a. Light reddish brown, silty sand, Stabilisation Zone;
- 11k. Light grey, ashy sand with charcoal (part of Feature 1/75), immediately overlain by dune sand dumped during excavation of Pit 1/90;
- a. Grey sand;
- b. Dark grey sand;
- b1. Slightly darker Deposit b;
- c. Reddish brown silt, cooking hearths;
- d. Red, burned sand; in the eastern end remnant of a thin, blue silt sill.



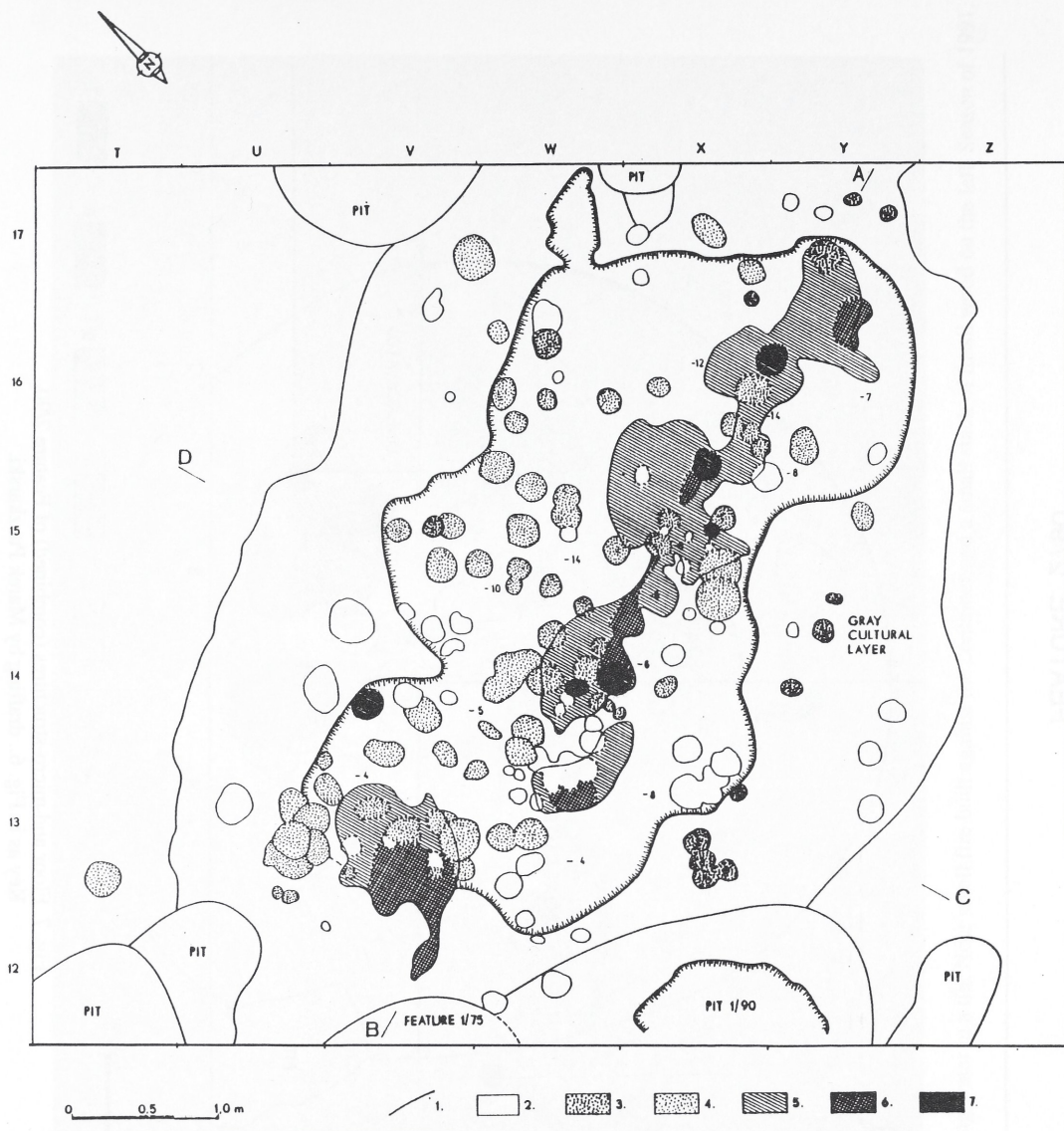


Fig. 6. Floor and micro-structures (combined) of Feature 1/90, internal sub-basin shown by hachures, depth of the sub-basin shown by digits. Key:

- |  |   |
|--|---|
| 1. Outlines of anthropogenic structures; | 6. Red, burned sand;  |
| 2. Unexcavated potholes;                 | 7. Potholes filled with reddish brown sand, cooking potholes. |
| 3. Postholes;                            |   |
| 4. Potholes filled with grey sand;       |   |
| 5. Reddish brown silt, cooking hearth;   |   |

Drafting by Marek Puzskarski.

FEATURE 2/90

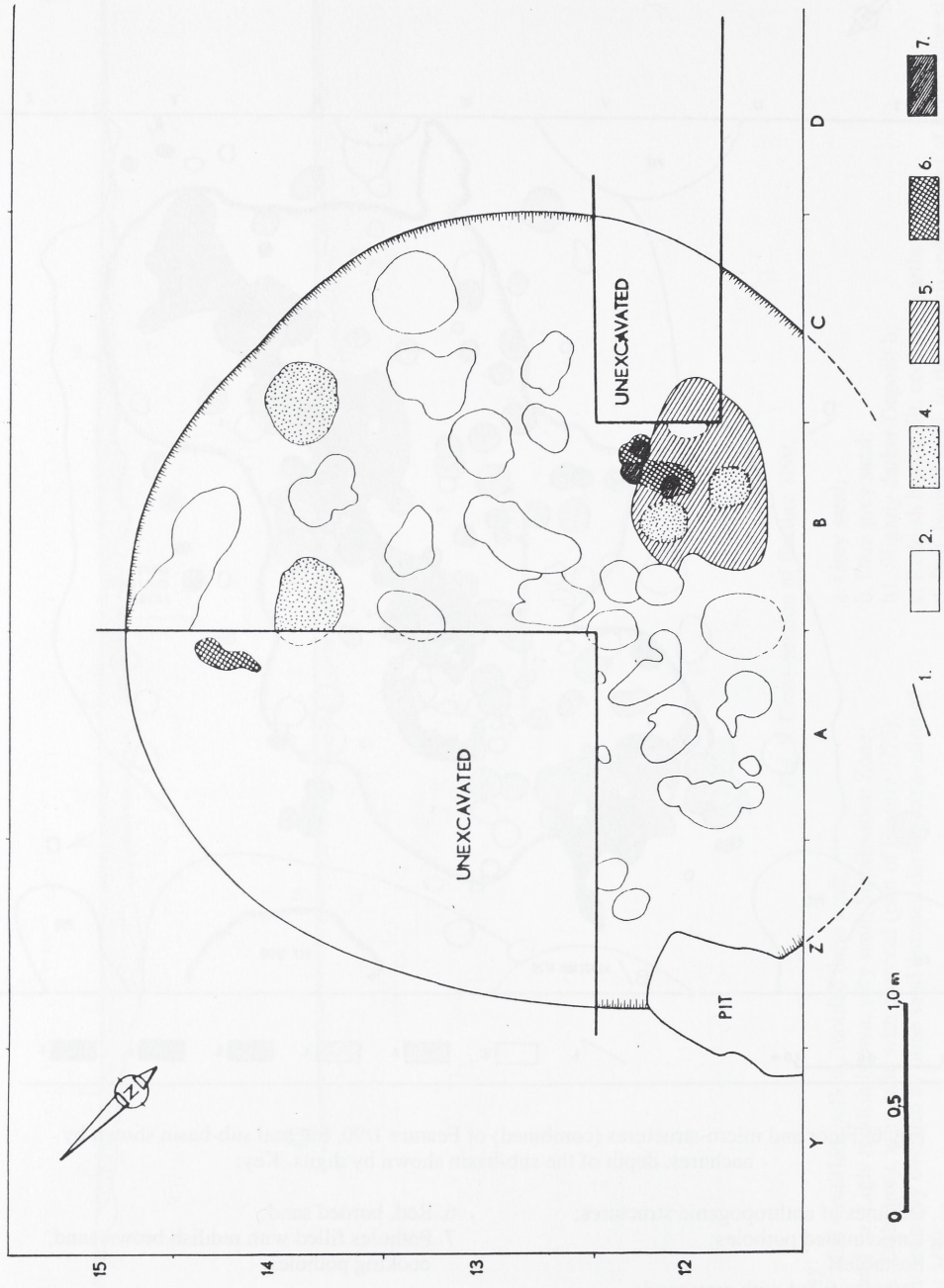


Fig. 7. Floor and micro-structures (combined) of Feature 2/90.  
Key as in Fig. 6.: drafting by Marek Puzkarski.



Fig. 8. Aid Mariif boiling water in a tin. Note small fire built against the container and a small stack of fossil wood on the left. Season of 1991.

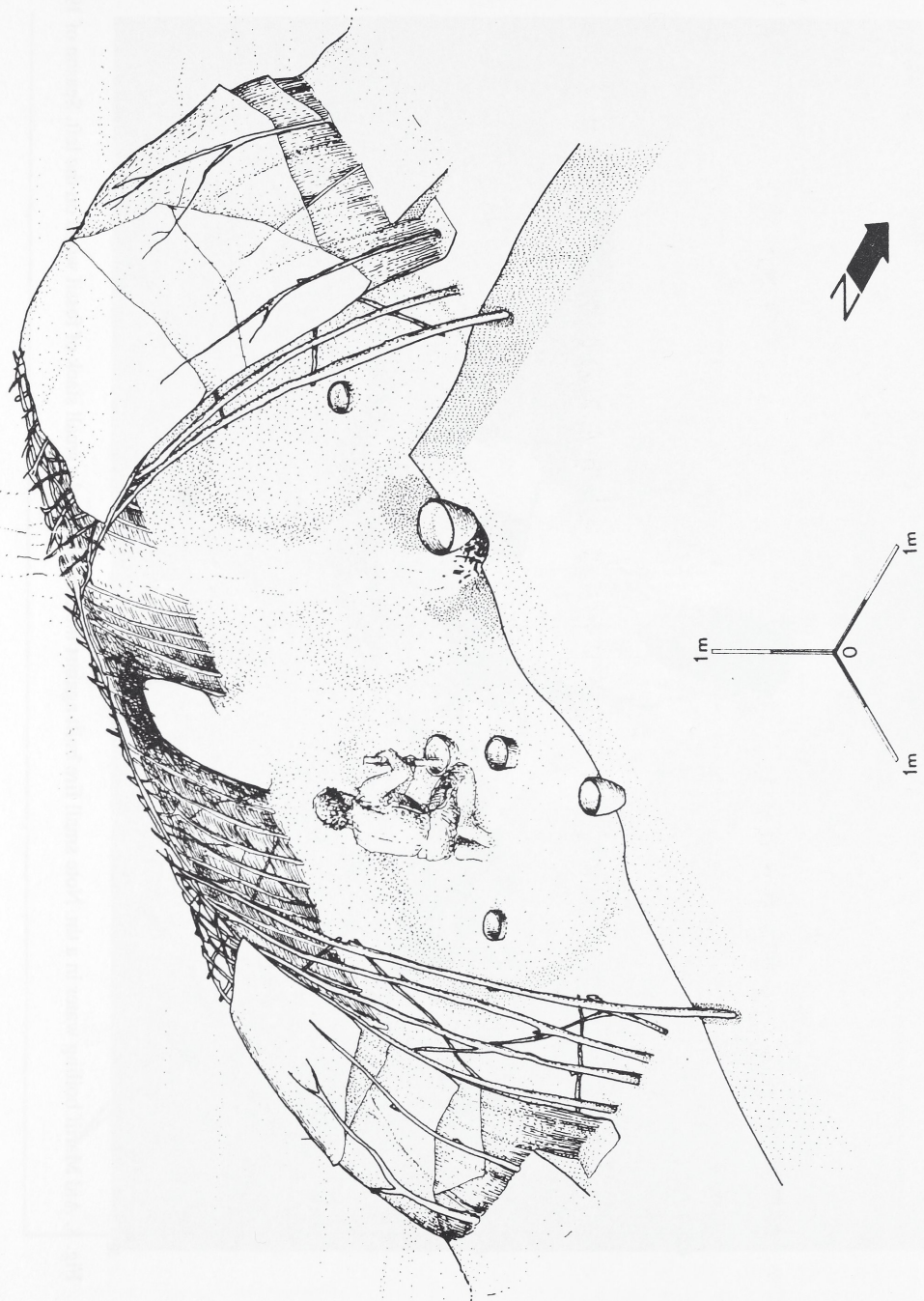


Fig. 9. Reconstruction of the long hut (artist: Marek PuszkarSKI, 1992).

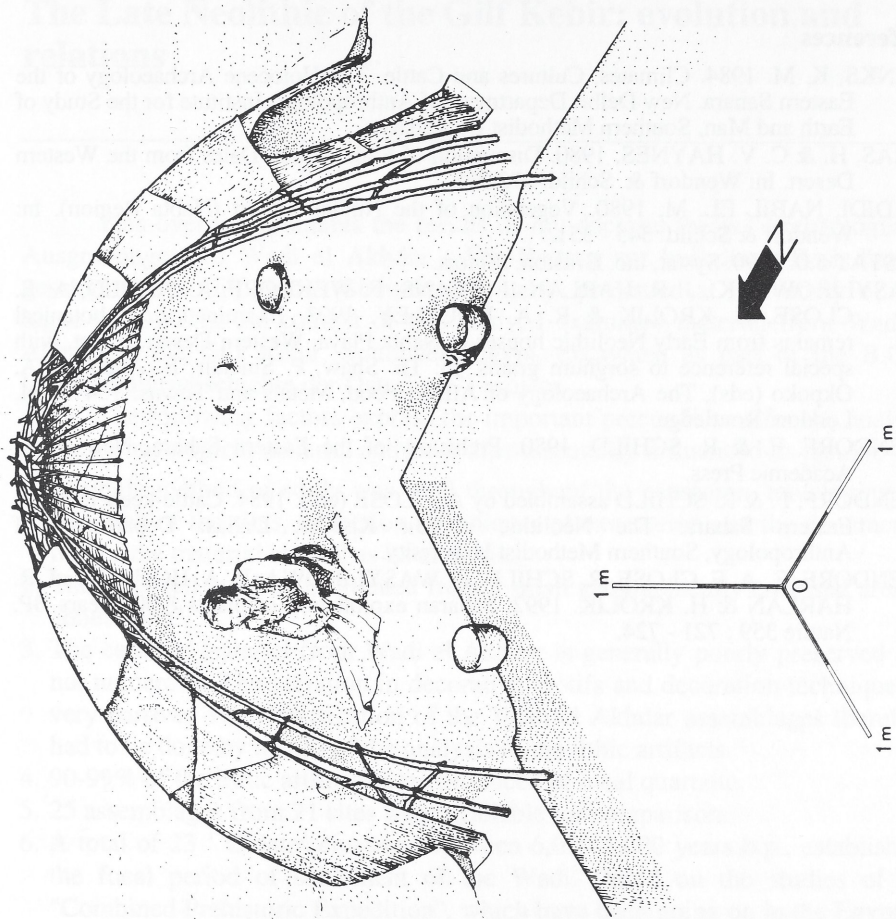


Fig. 10. Reconstruction of the round hut (artist: Marek Puzzkarski, 1992).

## Acknowledgement

Preparation of the article was supported by State Committee for Scientific Research grant (1 1264 91 02) awarded to Romuald Schild.

## References

- BANKS, K. M. 1984. *Climates, Cultures and Cattle. The Holocene Archaeology of the Eastern Sahara*. New Delhi: Department of Anthropology, Institute for the Study of Earth and Man, Southern Methodist University.
- HAAS, H. & C. V. HAYNES. 1980. Discussion of Radiocarbon Dates from the Western Desert. In: Wendorf & Schild: 373-378.
- HADIDI, NABIL EL. M. 1980. Vegetation of the Nubian Desert (Nabta Region). In: Wendorf & Schild: 345 - 351.
- SYSTAT 5.0. 1990. Systat, inc. Evaston, Illinois.
- WASYLIKOWA, K., J. R. HARLAN, J. EVANS, F. WENDORF, R. SCHILD, A. E. CLOSE, H. KRÓLIK & R. A. HOUSLEY. 1993. Examination of botanical remains from Early Neolithic houses at Nabta Playa, Western Desert, Egypt, with special reference to sorghum grains. In: Th. Shaw, P. Sinclair, B. Andah & A. Okpoko (eds), *The Archaeology of Africa. Food, Metals and Towns*: 154 - 164. London: Routledge.
- WENDORF, F. & R. SCHILD. 1980. *Prehistory of the Eastern Sahara*. New York: Academic Press.
- WENDORF, F. & R. SCHILD assembled by A. CLOSE (ed.). 1984. *Cattle-keepers of the Eastern Sahara: The Neolithic of Bir Kiseiba*. Dallas: Department of Anthropology, Southern Methodist University.
- WENDORF, F., A. E. CLOSE, R. SCHILD, K. WASYLIKOWA, R. A. HOUSLEY, J. R. HARLAN & H. KRÓLIK. 1992. Saharan exploitation of plants 8,000 years BP. *Nature* 359 : 721 - 724.