



PRELIMINARY REPORT ON THE FIFTEENTH EXCAVATION SEASON OF THE ARCHAEOLOGICAL EXPEDITION TO WAD BEN NAGA

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ABSTRACT: The fifteenth excavation season of the Archaeological Expedition to Wad Ben Naga focused on the archaeological exploration of the Palace of Queen Amanishakheto (WBN 100) and rescue excavation of a kom located in the exclave of the archaeological site west of the railway (WBN 1000 and WBN C220).

KEY WORDS: Nubia – Meroe – Wad Ben Naga – Meroitic culture – Meroitic architecture

Introduction

The fifteenth excavation season of the Archaeological Expedition to Wad Ben Naga took place between 1 November and 10 December 2017. The archaeological and conservation works were launched on 6 November and were concluded on 8 December 2017. The season was carried out under the guidelines of the “archaeological excavations” as defined by the Antiquities Protection Ordinance of 1999. Between 6 and 8 December, a geophysical survey of Central Wad Ben Naga was carried out by the contracted company Eastern Atlas.

The mission was headed by Pavel Onderka (field director), Vlastimil Vrtal (chief archaeologist), Alexander Gatzsche (chief conservator) and Nazeer Tirab (inspector of the National Corporation for Antiquities and Museums). It further consisted of Jiří Honzl (ceramicist), Gabriela Jungová (physical anthropologist), Irene Pamer

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(conservator) and Eric Spindler (archaeologist). The geophysical survey of the site was carried out by Burkart Ullrich, Nicolaas Petrus and Rudolf Knieß.

The works of the season focused on [1] rescue excavation of the kom located west of the rail track, [2] continued excavations of the Palace of Queen Amanishakheto (WBN 100), [3] excavation of the tumulus WBN C102, [4] conservation of the front part of the so-called Typhonium (WBN 203–204) and [5] geophysical survey of Central Wad Ben Naga. During the first days of the works at Wad Ben Naga a general inspection of the archaeological protected land was carried out.

[1] Rescue excavations behind the rail track

Following the last rainy season, an extremely deep khor appeared between the railway embankment and the kom marked in Hinkel's Archaeological Map of the Sudan as the "remains of a settlement" ("Siedlungsreste", WBN^H 1000). The excavations within the railway buffer zone – i.e. 20 m distance from the rail track – proceeded in cooperation with the Sudanese Railway National Corporation.

Four squares (T48, T50, T51 and T54) plus two graves (T52 and T53) in the eastern third of the kom were excavated [Fig. 1; Pl. 1]. A complex archaeological situation was uncovered with several phases of occupation and use. Despite the fact that the whole kom has been badly damaged, three phases in the location's development could be distinguished. During the first phase, the area of the present day kom was built up by a monumental building.

T50 (5 x 10 m) and T51 (5 x 10 m) revealed remains of a monumental building, or more precisely of its foundations and the lowermost courses of masonry. The walls were built directly on the local bedrock *sāra*. Based on the material used (mud bricks with a specifically high proportion of sand) a direct relation to the structure WBN 700 could have been established. The segments of structure WBN 700 had been discovered under the Typhonium and under the kom H (both located to the east of the rail track embankment). Alterations (phase 2) of the original construction plan are apparent especially between the two main walls intersecting the squares.

T48 (5 x 10 m) revealed remains of a badly damaged tumulus (phase 3) constructed mainly of mud brick fragments. Local stones were used for the protection of the burial and for the anticipated cultic place located to the east of the tumulus. The tumulus contained a burial of an adult individual.

The only feature in T54 (5 x 5 m) worth mentioning was a jar inserted into the bedrock. Otherwise, the square was empty.

The third phase of occupation at the kom is the cemetery labelled as WBN C220 to which the above-mentioned grave in T48 belonged. Altogether four graves (WBN C221–224) were identified in T48, T51, T52 and T53). The Classical Meroitic structures of the earlier phases (1–2) of occupation must have by that time fallen into ruins, and the kom was used as a cemetery. The burial chambers were hollowed into the bedrock, while material gained through the excavation of the descending shafts was likely used to build their superstructures.

The western two-thirds of the kom which remained unexcavated were surveyed as a part of the geophysical survey (cf. below). An unpaved road mostly frequented by tractors and trucks crossed the western part of the kom. It was relocated to the vicinity of the rail track.

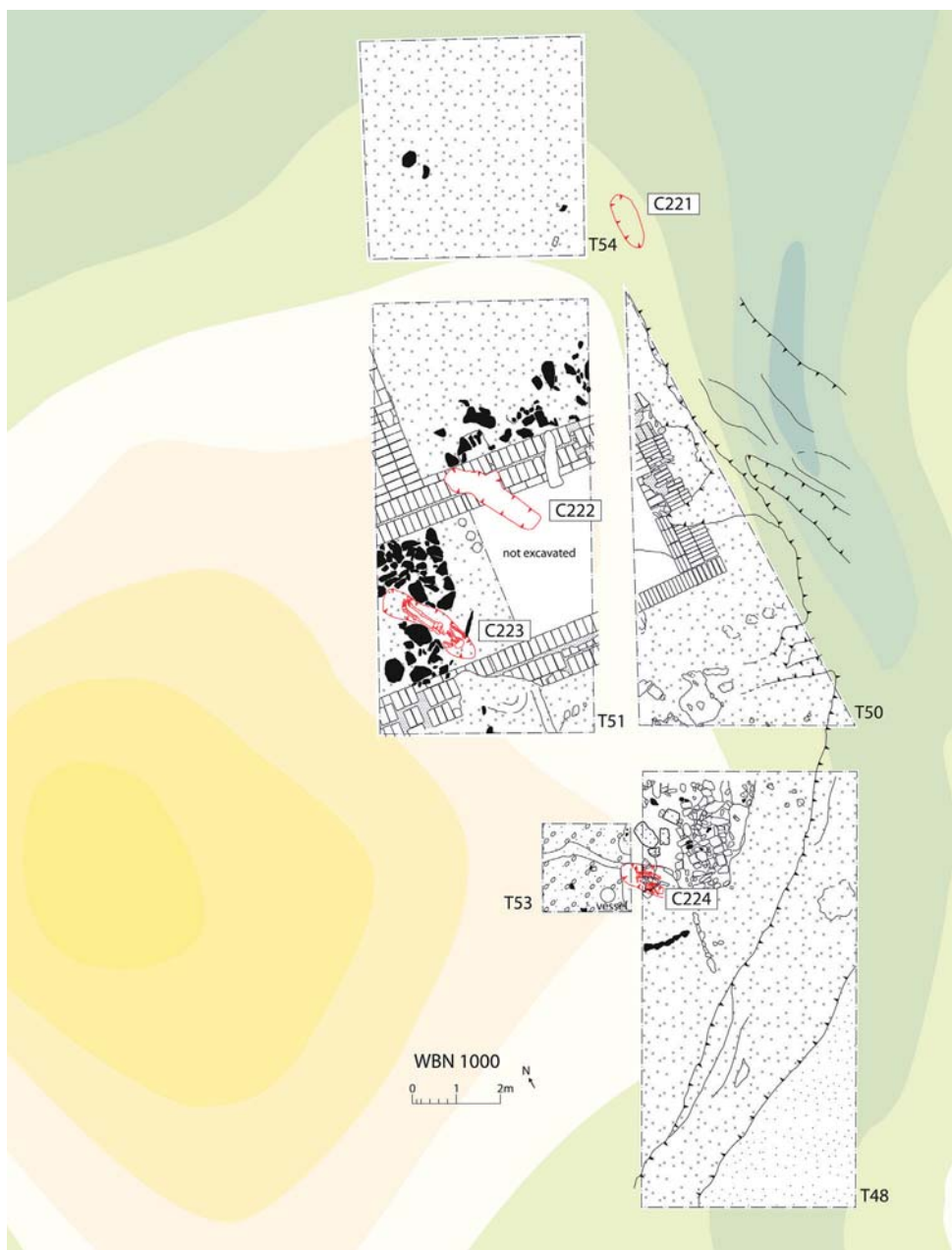


Fig. 1 Top plan of trenches T48, T50–51, and T53–54; after excavation (Drawing: Pavel Onderka).

Skeletal elements retrieved from the graves were fragmentary and very fragile, compressed by their own weight and the weight of soil. The extension and character of their damages suggest that they were repeatedly exposed to water. Age and sex estimates were notably impeded by poor condition of the bones. Sex estimate, if possible

at all, could only be based on one or two preserved traits of the skull or (preferably) pelvis. The suggested diagnoses are hence very tentative. All individuals were interred in shallow pits (5–6 cm), flexed or extended. No grave goods were identified. Position of two individuals (C223, C224) was suggestive of sleeping.

Individual C221 is heavily fragmented, not allowing for age or sex diagnosis. On the retrieved fragments, no traumas or pathologies were observed. The individual was interred in a flexed position, head towards south.

Individual C222 has been identified, but not retrieved yet.

Individual C223 was in supine position, head towards south, facing east, with right arm flexed, hand under the face. Unfused S1–S2 elements suggest the age at death of 20–40. The right sciatic notch is wide and symmetrical, possibly indicating female sex of the individual.

Individual C224 was flexed, head towards south, facing east, with right arm also flexed, and head resting on the hand. Unfused metatarsal and metacarpal bones and the iliac crest allow for the age-at-death estimate of 15–17. The pelvis was crushed, but the skull is indicative of female sex. Teeth were in a good condition, but mild gingivitis was probably present.

Table 1. Summary of the individuals retrieved from the cemetery C220.

Individual	Sex	Age	Position	Orientation	Burial pit (cm)
C221	I	Adult	Flexed	Head to S	N/A
C222	–	–	Unexcavated	–	–
C223	F (?)	20–40	Supine, R arm flexed, hand under head	Head to S, face to E	140 x 33 x 6
C224	F (?)	15–17	Flexed on R side, R arm flexed, hand under head, L arm on lower limbs	Head to S, face to E	90 x 50 x 5

[2] Palace of Queen Amanishakheto

In the Palace of Queen Amanishakheto (WBN 100), works focused on two problems in the area of the eastern exterior wall. (1) The exterior wall was cleaned and documented in the vicinity of entrances to rooms WBN 142 and WBN 143, and in room WBN 161, which represented the support of a ramp in the eastern axis of the building. The excavations aimed at establishing the actual character of a decorative torus moulding in the eastern façade (Hinkel’s “Detail B”; Hinkel – Sievertsen 2002: Pl. IX.75) and the constructional relation of the ramp to the main body of the building. (2) Works were further carried out further to the north, in the exterior of the palace. In this area, a destruction of the building’s exterior wall was preserved in a manner which allowed reconstruction of the building’s approximate height, as well as elements used for its decoration.

The exterior wall WBN 142/143/161

Prior to excavations, measurements were carried out, in order to validate the figures stated by Hinkel (Hinkel – Sievertsen 2002: Pl. IX.75). Only the torus mouldings to the south of the entrance to WBN 142 could be directly examined (247 cm from the entrance), as the northerly one was buried in the wind-blown sand and post-excavation debris. The exterior wall was thus cleaned down to its foundations in the area between entrances WBN 142 and WBN 143, and further 5 metres to the north. Seven fragments of special brick types used for double torus moulding were found detached from the wall in the debris. In the lowermost courses of brickwork, the bricks were found *in situ*, though heavily weathered [Pl. 2]; indicating the symmetrical disposition of the architectural element in question and thus correcting Hinkel's asymmetrical reconstruction. The moulding was situated 246 cm from the entrance. Faint traces of red, blue and yellow paint on the partially preserved plaster from the special type-bricks allowed hypothetical reconstruction of the original visual form of this decorative element.

The wall itself was built with a combination of a fired bricks for casing and clay and sand mudbricks for the core. On the interior, the fired brick casing was extant only in room WBN 143. This may be explained by the position under the presumed hypostyle hall (cf. Vercoutter 1962: 280); chips from sandstone column drums could still be found in the vicinity. The wall rested on foundations consisting of three courses of brickwork, protruding ca 12 cm outwards and thus forming a solid base.

Two blocks of brickwork representing supports for an exterior ramp abutting the main wall on the east (WBN 162) were examined. As indicated already in Hinkel's plan, the supports are not directly bound with the main wall. The supports lacked proper foundations, only the south face of the northern one rested on one course of protruding bricks. The state of preservation of the exterior plaster allowed to relate the supports and the exterior wall chronologically, albeit only indirectly; nothing indicated, however, that they would pertain to a different building phase.

The exterior wall between the entrances to WBN 142 and WBN 143 was conserved and partly reconstructed. The remaining uncovered parts of the wall were conserved and prepared for reconstruction in the following season.

T55

Trench T55 (dimensions 12.0 x 5.0 metres) was set further to the north in the area of well-preserved courses of the exterior wall's destruction, which is apparent on the surface. Cleaning of the surface layer of wind-blown sand revealed a badly-preserved section of the exterior wall and a compact mass of fallen brickwork, interrupted from the wall by a 1.3–2.4 m wide ditch filled with wind-blown sand; this ditch represented the limit of the 1958–1959 excavations (cf. Vrtal 2017). The exterior wall was preserved only up to a few courses of bricks and rested on slightly protruding foundations formed by three courses of bricks, the lowermost lain on their narrow side. The foundations were laid in a ditch cut into a relatively solid levelling layer of mortar and pebbles (FEA 184), which continued well to the east. In the fill of the ditch, a faience bead (SM17/159) and a large fragment of a conical deep bowl were found. Bowls of the same type were previously retrieved from the podium fill in trench T22, and provide useful evidence for dating the construction of the structure (cf. Onderka – Vrtal – Gatzsche 2015: 103, fig. 6).



Fig. 2 Top plan of trench T55, and sections south and north, showing the compact mass of brickwork from the fallen exterior wall of the palace before removing (Drawing: Vlastimil Vrtal).

The compact mass of brickwork was documented [Fig. 2; Pl. 3] and removed brick by brick along individual courses (if applicable), or sectors. Altogether, the compact mass was formed by more than sixty courses of brickwork, as estimated from the evidence. Added to the preserved height of the exterior wall and the estimated section of the debris removed during previous excavations, the original height of the wall, and thus also of the whole structure in this area, could be calculated to ca 7.5 m, i.e. the equivalent of two to three storeys.

The wall was built of fired brick casing, and clay and sand mudbricks. The change of mudbrick type was clearly identifiable in the debris. Lime plaster covering the face of the wall was well preserved and allowed to some extent reconstruction of the decoration and surface modulation. At a certain height, a regular recess was identified, 6 cm deep and ca 1.5 m wide. The recess may represent a decorative element or in fact a window, although the evidence for the latter is not clear. Higher still, the wall was crowned with a torus moulding and a cavetto cornice. For both, special brick types were employed. Traces of blue, red and yellow paint in the area of the crown and the recess provided a basis for the reconstruction of the decoration of both architectural elements.

The debris from the wall rested on a thin layer of loose soil, sand and charcoal (FEA 185), which contained numerous fragments of various artefacts, documenting economic activity in this area. The stratum overlaid the levelling layer of mortar and pebbles, and was particularly rich in pottery; mainly plain bowls and cups. Unusually high amount of both painted and stamped fine-ware is notable in the corpus (1.6 per cent, weight count; 8.3 per cent, sherd count). Since these artefacts directly pre-date the destruction of the exterior wall, they have the potential to contribute to the discussion on the palace's later history of occupation and subsequent destruction.

[3] Excavation of the tumulus WBN C102

As the exploration of the cemetery C200 has been concluded, the mission moved to the cemetery C100 located to the north of the Typhonium (WBN 200). The first of the three (or more) large tumuli belonging to this cemetery was explored in the course of the third excavation season (Onderka 2012: 132–133). The tumulus WBN C102

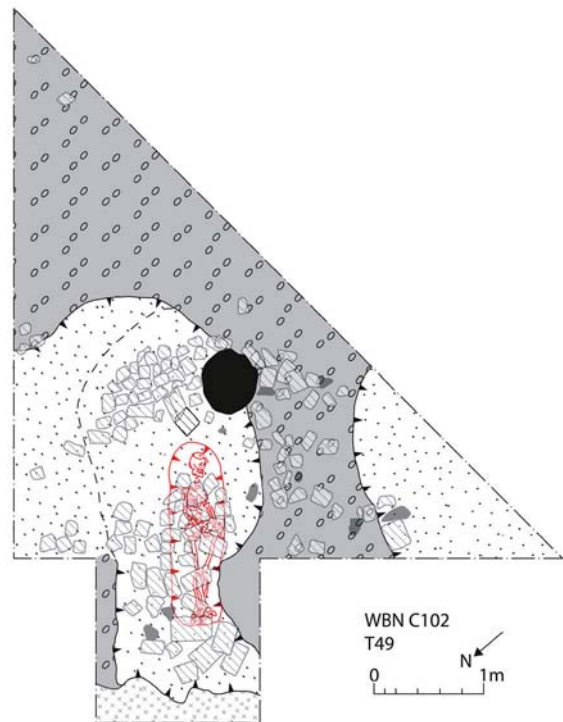


Fig. 3 Top plan of tumulus WBN C102; after excavation (Drawing: Gabriela Jungová).

contained a burial of an adult woman [Fig. 3; Pl. 4]. The superstructure of the tomb was built mainly of soil containing large amounts of pottery. The ring of the superstructure was built of fired bricks and also of sandstone block fragments.

[4] Conservation of the front part of the so-called Typhonium (WBN 203–204)

After the completion of archaeological exploration of the Typhonium, the structure received attention from conservators with the prospect of presentation of the temple to the visitors. The conservation treatment followed the standards established at the site during the previous seasons. The conservation covered the walls of the room WBN 204, the pylon and sections of walls further to the north.

[5] Geophysical survey of central Wad Ben Naga.

Central Wad Ben Naga and parts of the adjoining cemeteries were surveyed using most modern geophysical survey methods. Altogether circa 12 hectares of the archaeological protected land was surveyed. The geophysical prospection included a high-resolution magnetometer survey, covering selected areas of the archaeological site of Wad Ben Naga, namely the central area and adjacent areas in the west behind the rail track. For the magnetometer survey, a lightweight multi-channel gradiometer array LEA MAX was applied. LEA MAX is characterised by a survey cart which can be adjusted to specific survey conditions. For the positioning of the data, a GPS RTK system with two GNSS receivers (NovAtel) was used. The relative accuracy of the positioning of the magnetometer data in RTK mode is 0.02 m. Additionally, the GPS was used to measure the coordinates of fixed points in order to enhance the accuracy of the base position resulting in a sub-decimeter absolute accuracy of the positioning (cf. Preliminary Report on the Geophysical Survey of Central Wad Ben Naga by Burkart Ullrich, Pavel Onderka & Vlastimil Vrtal in this volume).

Conclusion

The rescue excavations behind the rail track revealed another cemetery in Wad Ben Naga set up onto an elevated kom covering remains of monumental structures from the Classical Meroitic Period.

In the Palace of Amanishakheto, important evidence was gained concerning the palace's architectural form and outer appearance. The height of the building in the area of the eastern exterior wall, (although not necessarily the whole building as such), could be estimated, and decorative elements of the exterior wall identified. The excavations further provided artefactual evidence for both the time of construction and destruction of the building.

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Pl. 1 Excavations of structure WBN 1000; view to the north (Photo: Pavel Onderka).



Pl. 2 Section of the exterior wall north of the entrance to WBN 143 (visible on the left); showing position of double torus moulding *in situ* (marked by arrows). The blue points mark position of special bricks detached from the wall. Protruding foundations can be noted at the foot of the wall (Photo: Vlastimil Vrtal).



Pl. 3 A compact mass of brickwork from the fallen exterior wall of the palace; its preserved section is visible behind. Fragments of cavetto cornice bricks can be noted in the foreground (Photo: Vlastimil Vrtal).



Pl. 4 Burial in tumulus WBN C102 (Photo: Gabriela Jungová).