

## Forts of North Omdurman: First season of fieldwork in Hosh el-Kab and Abu Nafisa

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In January 2018, a team of Polish and Sudanese researchers began fieldwork as part of a new research project launched by the Institute of Mediterranean and Oriental Cultures, Polish Academy of Sciences. The aim of the project is to understand who constructed a number of forts of regular plan in Upper Nubia and why. Three sites were selected for field research, all located in the North Omdurman district (Figure 1).

The presence of numerous fortified sites in the Middle Nile Valley raises the following question: why focus on forts in North Omdurman? The explanation requires a few general remarks relating to the history of defensive architecture in Upper Nubia which began in the Kerma period, developed during the New Kingdom and continued in Kushite times. However, in the time following the fall of the Kushite Kingdom, defences started to be used much more frequently. Hundreds of fortified sites were built throughout the medieval and post-medieval periods. Most of the ruined fortifications that one can see in the region today are dated to those latter periods. It seems that the large-scale phenomenon of fortification construction started with the Nubian kingdoms in early medieval times. The three North Omdurman fortified sites have been provisionally dated to this early period (Welsby 2014, 188-190). They are similar in shape and size, resembling the small Roman forts of Late Antiquity. Interestingly, they are located on the same bank of the river, at a short distance from each other. The fort on top of Jebel Umm Marrahi is approximately 3km south of Hosh el-Kab, and Abu Nafisa is approx. 500m north of Hosh el-Kab (Plate 1). This would be an unusual concentration of defensive structures if dated to a single period.

It would be surprising if they were built and used simultaneously for a long time. Sometimes, smaller forts

can be built during long sieges of well-defended towns or as a satellite defence of the main centre. However, in the case of the North Omdurman forts, the enclosures are of approximately the same size. Hosh el-Kab is slightly bigger than the others but not significantly so.

It is more probable that they functioned in different circumstances which could have been the result of rapid political change. If all of those forts were built in the early medieval period, there were many important events that might have led people to erect not one, but three, defensive sites. It is difficult to answer why succeeding architects did not use the earlier, already standing forts. Why bother to erect a new one? Had the previous defences been destroyed? The forts today are in various states of preservation, but this could be the result of centuries of human activities and natural events, and that is why these questions remain open.

Alternatively, what if the forts were constructed in different periods? O. G. S. Crawford (1953a, 18-19; 1953b, 25-26) suggested that the Umm Marrahi fort should be dated to the Meroitic time. He based this conclusion on surface pottery noted on the site which were later lost and never studied in detail, as well as on similarities with another fort located on Jebel Nakharu. In the 1970s, Jebel Umm Marrahi was the

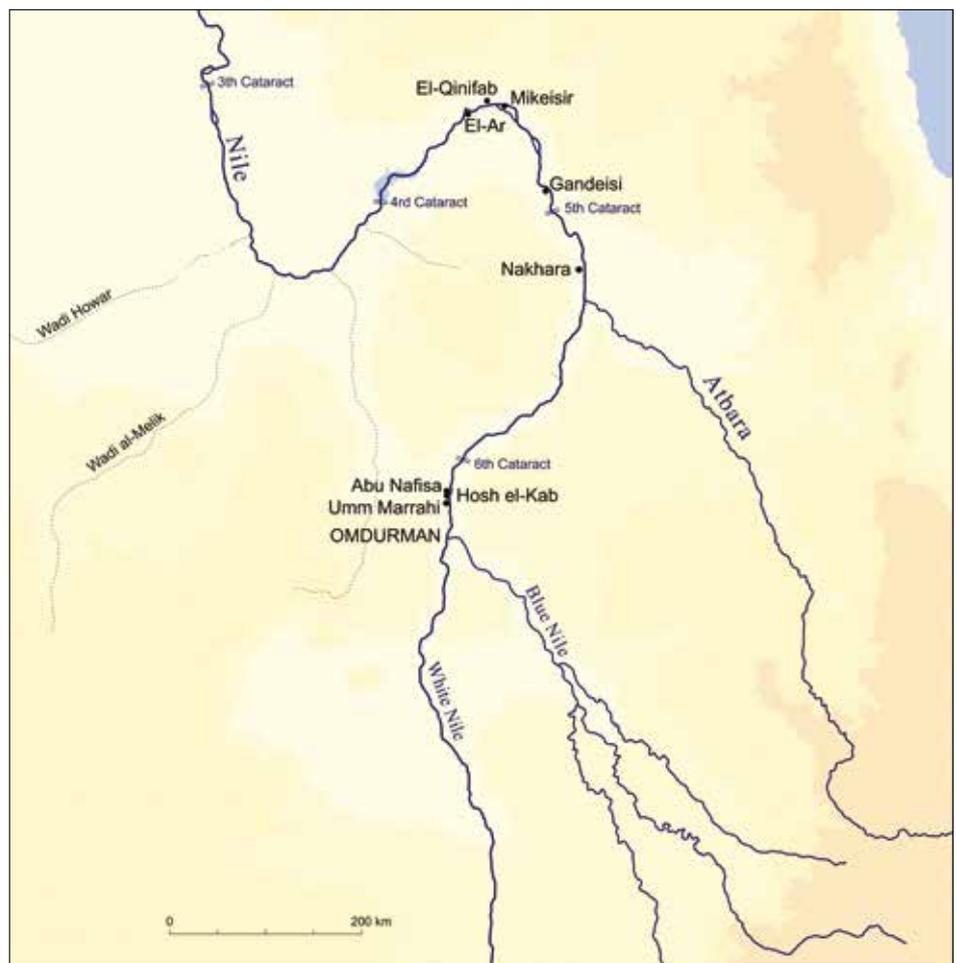


Figure 1. Map displaying location of places mentioned in the text (drawing: M. Drzewiecki and A. Cedro).



Plate 1. Location of the research concession area (prepared by M. Drzewiecki, background image Google Earth).

focus of more-systematic fieldwork. Researchers from the University of Khartoum carried out excavations at the fort and on a tumuli cemetery at the foot of the hill (El Hassan 1979, 52-76; 1986, 46-7; 2006). Based on similarities between the pottery from both sites and on one radiocarbon date from the cemetery, they stated that the fort was built in the late-Meroitic or Post-Meroitic period. Prior to the current project Hosh el-Kab and Abu Nafisa had only been surveyed, and their chronology was based on surface material and similarities to the Umm Marrahi fort (Drzewiecki and Polkowski 2016, 80-82). Significant in this context is the very different location of these sites. Umm Marrahi was built on top of the hill. It had the most defensible position and enjoyed extensive views. Hosh el-Kab was located on the slightly elevated edge of the flood plain. Abu Nafisa was placed in a flat area, close to the river bank. It had the least defensible position and suffered the most from high floods.

In this context, the main aim of our fieldwork was to obtain data which would help establish more precisely when each fort was constructed. We started excavations to obtain samples and small finds from different contexts, including occupation layers in the fort, occupation layers pre-dating the construction of the fort (where possible) and samples of organic material and pottery from the defensive architecture

itself. Organic samples for dating were sent to the Poznań Radiocarbon Laboratory. Results will be available in the second half of 2018, too late to be included in this article. However, the stratigraphy and other methods of investigation have provided an interesting insight into the subject.

In the first season, Mariusz Drzewiecki studied the architecture and stratigraphy at Hosh el-Kab and Abu Nafisa. Elmontaser Dafaalla began to document oral traditions related to the history of Hosh el-Kab. Robert Ryndziewicz conducted a geophysical survey to identify buildings and other features at Hosh el-Kab as well as details of the defensive wall. Aneta Cedro studied the pottery and small finds. Włodzimierz Rączkowski supervised an archaeological survey around Hosh el-Kab and Abu Nafisa. The team also included Selma Khogli Ali Ahmed, Modather Abdalla Jadain, Mokhtar Maali Alden Mokhtar Hassan, and Mohammed Rageb Nolwata Island. Below, a brief summary of the results from the application of each of these activities is presented.

All three forts are endangered by modern activities and development. The biggest threat is observed at Hosh el-Kab (Plate 2). Two years ago, a large-scale irrigation project was launched and a 10-metre-wide channel was dug parallel to the Nile. It cuts the remains of the fort, destroying part of the northern curtain and a large area inside the fort. It was



Plate 2. Aerial photograph of Hosh el-Kab from north taken in January 2018 (photo: M. Drzewiecki).

stopped upon reaching the southern perimeter of the fortification. The entire area from Wadi Abu La'ot to the village of Shaheinab, including Hosh el-Kab, is scheduled to be transformed into agricultural land in the next few years. The situation at Hosh el-Kab is much to be regretted as it is one of the largest forts of regular plan in Upper Nubia, and has never been a focus of systematic archaeological research. The site is important for the history of the region and we, as yet, know little about it.

## Hosh el-Kab

### Excavations

For these reasons, our team focused its efforts on archaeological research of this particular site. At the beginning of the fieldwork, a series of 627 aerial photographs were made using a drone to record the state of preservation of the site before excavation. The photographs, supplemented by total station measurements, were used to create a 3D model of the site (Plate 3). Samples of ceramics and other material were collected from the surface, marking the find spots on the site plan. The western profile of the irrigation channel was cleaned in the area where it cut the northern curtain (designated as Area 1). There it was possible to observe that the fort curtain is 2.9m thick and preserved up to approx. 500-700mm in height (Plate 4). The faces of the wall are made from large irregular stones and the core from stones of various sizes bonded with a strong mud mortar. Under the wall a layer of gravel, with a thickness of approximately 50mm, was recorded. Alluvial deposits were visible below the gravel. An occupation layer was recorded next to the lowest parts of the outer face of the wall, and was c. 200mm thick next to



Plate 3. Hosh el-Kab, orthomosaic of the fort with location of investigated areas (prepared by M. Drzewiecki).

the curtain diminishing in thickness steadily away from the wall. Occupation layers located above that were heavily damaged by digging. The fill of these excavations was compacted and hard, hardened as if the result of long natural processes, suggesting that these activities are not recent.

Charcoal samples were collected from the lowest occupation layer preserved (Plate 4 – layer 4). Provided that it is not material deposited by the wind, it will set a *terminus ante quem* for the construction of the fort. It might be the layer which was the first phase of settlement in the fort, i.e. it can provide us with information when the fort was already in use. We observed the materials used for wall construction. No pottery or bone fragments were recorded in the construction; however, mud-mortar samples were collected from the core of the wall. Agata Bebel (a specialist in macro-organic remains) analysed one of the samples in search of organic inclusions which could have been added during the mixing of the mortar. Unfortunately, no organic remains were identified. This does not mean that the mortar was originally devoid of organic inclusions as the organic components may simply not have survived. Other mortar samples will be sent for

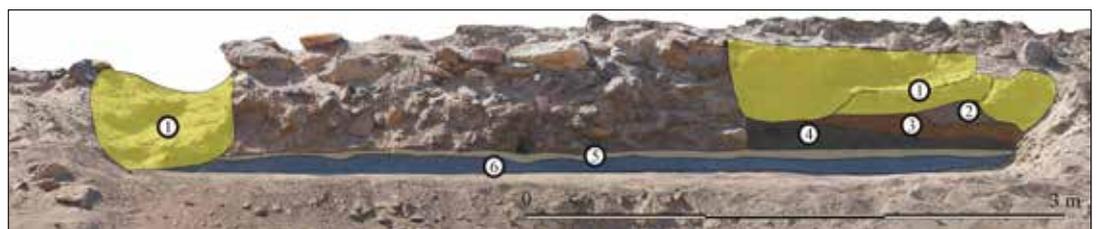


Plate 4. Hosh el-Kab, Area 1, cross section through the northern curtain wall: 1 – modern digs, 2, 3, 4 – occupation layers, 5 – gravel and sand, 6 – alluvial deposits (prepared by M. Drzewiecki).



analysis to the GADAM Laboratory in Gliwice (Poland), and, if possible, the OSL dating method will be applied to them.

The second area for excavations in Hosh el-Kab was in the desert gate of the fort (see Plate 3). Gates are usually areas where many construction changes take place. They are the places which suffer the most during hostile actions. They can be narrowed or reinforced with additional defences or even blocked during sieges. In times of peace, gates can be repaired and widened to facilitate transport. In conclusion, many activities actually found in gates may not have affected other sections of the fortifications. With this general observation in mind, it was decided to choose one of the gates for Area 2 of the research. The desert gate was selected as it was considered that the river gate might have been damaged or even completely washed away during Nile floods and later rebuilt. In the case of the desert gate, there should be more chance of locating the oldest remains. Unfortunately, the state of preservation was very poor. Initially the excavation uncovered the entire space between the angled gate passage (an area of 6 x 5m), but it was soon realised that the area was much damaged by various digs and only short sections of walls, consisting of a few stones forming lines up to 500mm long, were preserved. The wall was better preserved on the northern side of the inner passage.

It was decided to focus on this area, i.e. the inner passage of the gate and here excavations were continued to a lower level. The trench was decreased in size to 2.5 x 2m. There the remains of the mud threshold reinforced with stones in the corners were located (Plate 5). The inner passage of the gate was 1.7m wide. On the southern side, between the stones, traces of wood were noted, presumably remains of the beam forming the lower door-frame. A few organic samples were collected for radiocarbon analysis. Unfortunately, the entire area was much disturbed by previous digging, and it was thus decided not to enlarge the trench after reaching the natural alluvial deposits just below the mud threshold in the inner passage. The stone face of the curtain was preserved



Plate 5. Hosh el-Kab, Area 2 with mud threshold at the bottom of the trench (photo: M. Drzewiecki).

to a height of 500mm and was founded directly on the Nile alluvial deposits.

The final trench in Hosh el-Kab for this season (Area 3) was placed next to the inner, north-west corner of the fort (see Plate 3). Again, this area is far from the river and should not have suffered much from floods. The angles of the fort are places where stratigraphic layers might survive as they are protected from erosion by the walls. A corner is also a place where phases of the construction of the fort might be visible at the junction of the two adjacent curtain walls. The Area 3 excavation revealed short sections of the inner faces of the northern and western walls preserved to a maximum height of 600mm. The junction of the walls was heavily damaged by earlier digging; however, the preserved parts of the walls are built in the same way and founded on the same level, suggesting that they originate from a single phase of construction. Next to the inner face of the western wall, remains of a mud-brick construction were recorded. Initially the trench was 3.5 x 2m in size, but was enlarged by 1.8 x 1.9m along the western curtain to allow documentation of the entire plan of the mud-brick structure (Plate 6).



Plate 6. Hosh el-Kab, Area 3, contour lines are made every 10mm (prepared by M. Drzewiecki).

The mud-brick structure was 2.5 x 1.5m in size and preserved up to a height of 300mm, a maximum of four courses of bricks. It was built with bricks of various sizes (approx. 470 x 260 x 80mm; 470 x 230 x 70mm; 370 x 180 x 60-70mm), and despite the regular shape, the structure was of more than one phase, having been modified at least once. The primary phase remains consisted of the walls built against the western curtain (northern and southern mud-brick walls). The foundation level of the walls in question is the same as that of the stone wall of the fort. The later phase is represented by the eastern mud-brick wall. The foundation level of the aforementioned mud-brick wall is located approx. 100mm

higher than the rest of the structure. The mud bricks in the southern section of the structure form two steps and have characteristic traces of wear indicating that they might be remains of stairs. How long the stairs were in use, and how high they reached remain unknown. If it was a staircase, then the eastern mud-brick wall was built to block approach to it. In the last preserved phase, this structure was used for storage: remains of grain were found inside. The sample is being analysed.

In the lowest occupation level in Area 3, traces of fire were recorded, a layer 70-120mm thick of charcoal and ash. The layer was on a level with the base of the fort's stone wall and the oldest phase of the mud-brick structure. Early medieval pottery was identified on this level. Samples of charcoal were collected for radiocarbon dating. The layer was the first phase of the fort's use. It provides a *terminus ante quem* for the construction of the fort and a *terminus post quem* for the second phase of the mud-brick structure.

#### *A summary of the oral narratives*

Residents coming to visit the excavations were engaged in informal conversations on the history of the fort and of the region (Plate 7). Five people were interviewed and a summary of these talks is given below. Our main interviewee was Salah Fathrahman Mohammed, a 63-year-old local resident.



Plate 7. Hosh el-Kab, Elmontaser Dafaalla interviewing local residents (photo: A. Cedro).

Hosh el-Kab is known to nearby residents also under the name of Kerara. Locally, the word means small trees or a host of wild flora (a valley). Kerara, Zaqlouneh, Disheinab Middle and Shaheinab are names of small villages in the vicinity of the Hosh el-Kab fort.

Residents consider the fort to be the 'remains of the palace of Sultan Hmaidan bin Sobh Abu Merkeh bin Mesmar, the grandfather of the Ja'alín tribe in this region'. According to interviewees, this association has a long tradition having been inherited from previous generations. Notably, the area nearby is known as the Hmaidan valley (marked on the Sudan Survey Maps as Wadi Abu La'ot). Furthermore, some locals tell a story in which Sultan Hmaidan was also known as the person who met the Sultan of Kush and expelled him to the southern regions by threatening him with death, had he not complied. The Sultan of Kush surrendered and left the region. Sultan Hmaidan was based in El-Metemma and was known for a long time for his influence and power. Similarly,

he was known for his physical abilities: strength and bravery, as he used to lead the front line troops of his own army into battle. The tribes of El-Jemea, El-Jmieab, El-Jemoaia, Ja'alín, Shaigiya and Jawamah trace their lineage back to Sultan Abu Mrikh, a son of Sultan Hmaidan.

The tribe of El-Jmieab is dispersed in the following villages in the region: Abu Marikh, Sheikh El-Tayeb, Middle, North and South Disheinab, Kerara, Zaqlouneh, Tis'eena, El-Salhab, El-Sanaheir, Hillat El-Be'r and Umm Ketti. Some of the inhabitants of Shaheinab are descendants of the tribe of El-Jmieab. There are also stories that some tribes, known as El-Anaj, were displaced from the Blue Nile valley to the area.

The region is famous for its Sufi brotherhoods. The most widely known is based in the Sheikh el-Tayeb area where Imam el-Mahdi<sup>1</sup> was educated by Sheikh el-Tayeb. He helped El-Mahdi to convince some of his people to join the army. The history of Sheikh el-Tayeb is intimately connected with Umm Marrahi, where the last of the forts, which will be studied in the next season, is located on top of the hill.

Older Sufi traditions in the region are connected with the person of Sheikh Osman Wad Munir, the founder of another Sufism brotherhood named Tis'eena, as well as Sheikh Fadl el-Sayyid Abu Qaradah and Abu Nafisa, one of the elder Sheikh of El-Anaj. The name of one of the forts comes from the latter individual.

In addition, some Nuba tribes originating from the south

Table 1. Toponyms, tribal and personal names with transliterations.

Abu Marikh	أبو مريخ
Abu Nafisa	أبو نفيسة
Disheinab Middle, North and South	الديشيناب وسط، شمال، جنوب
El-Anaj	العنج
El-Jemea	الجمع
El-Jemoaia	الجموئية
El-Jmieab	الجميعاب
El-Salhab	الصالحاب
El-Sanaheir	السناهير
Hillat El-Be'r	حلة البئر
Ja'alín	الجعلين
Jawamah	الجوامعة
Kerara	الكريرة - كرية
Shaigiya	الشايقية
Shaheinab	الشهيناب
Sheikh Fadl el-Sayyid Abu Qaradah	الشيخ فضل السيد أبو قراده
Sheikh el-Tayeb	الشيخ الطيب
Sultan Abu Mrikh	السلطان أبو مريخ
Tis'eena	التسعين
Umm Ketti	أم كيتي
Umm Marrahi	أم مرخي
Zaqlouneh	زقلونه

<sup>1</sup> Muhammad Ahmad bin Abd Allah (Imam el-Mahdi) (12<sup>th</sup> August 1844 – 22<sup>nd</sup> June, 1885) was a religious leader of the Samaniyya order in Sudan. On 29<sup>th</sup> June 1881, he proclaimed himself the El-Mahdi, the messianic redeemer of the Islamic faith.



migrated through this part of the Nile Valley to the north. Some locals stated that the Nile tribes are a fusion between the Nuba tribes that travelled from south to north and the Arab tribes that migrated from north to south.

In conclusion, the remains of the archaeological site located in Kerara are considered by the locals as a palace or castle of Sultan Hmaidan. Many believe that the ruins are guarded by a djinn, which appear at night in the form of a one-eyed dog. This has been a common theme which researchers hear in various regions of Sudan. It has had a significant impact on maintaining the archaeological sites so far, i.e. by keeping the locals away from visiting and damaging the remains. However, as we can see in the example of Hosh el-Kab, this is changing.

### *The geophysical survey*

In the last week of fieldwork, a geophysical survey was undertaken using the magnetic method. This, based on measurements of local changes in the intensity of the Earth's magnetic field, allows for the non-invasive registration of archaeological structures over large areas in a relatively short time (Schmidt *et al.* 2015). Due to the high magnetic susceptibility of the alluvial deposits of the Nile, the method is widely used to examine archaeological sites of Nubia and Egypt.

The main purpose of the geophysical research was to

obtain information on the layout of the fort interior, and to establish details on the construction of the curtain walls. No less important was the attempt to assess the state of preservation of the site. Before the magnetic survey was carried out, the magnetic susceptibility of the substrate and the building materials forming the fort curtains were measured. A pocket-sized magnetic susceptibility meter (ZH SM30) was used to determine that the alluvial substrate mixed with aeolian sand, on which the fort was based, is characterised by magnetic susceptibility in the range of  $2.0 - 2.5 \times 10^{-3}$  SI units (Plate 8A). The magnetic susceptibility of the stones forming the fort curtains (a local sandstone) was also measured. The material from which the fort was built is characterised by a much lower magnetic susceptibility, ranging from  $0.1 - 0.4 \times 10^{-3}$  SI units (Plate 8B). For comparison, the magnetic susceptibility of alluvial sediments located directly on the bank of the Nile, about 500m east of the site, was also measured. In this case, the recorded value amounted to almost  $7 \times 10^{-3}$  SI units (Plate 8C). The noticeable difference between the background and the stone construction material suggested that the magnetic method should reveal the archaeological remains of the fort in the form of anomalies of lower values.

The research at the Hosh el-Kab fort was carried out using a Geoscan Research FM256 fluxgate gradiometer with a resolution of 0.1 nT, and a sampling density of  $0.5 \times 0.25$ m (8 measurements per m<sup>2</sup>). The direction of the measurement profiles is located at an angle of approx. 45° to the fort curtains in order to minimise the impact of possible measurement errors on the readability of the results obtained. The research covered an area of 1.33ha and extended over almost the entire area of the site (Plate 9A) (the area destroyed as a result of earthworks related to the construction of the channel was omitted). The measurement results were processed using dedicated Geoscan Research Geoplot 3.0 software to obtain a grayscale plot (Plate 9B). The interpretation of the results of the geophysical investigations was carried out in two stages – first the classification of particular types of anomalies (Plate 9C) was made, and then their distribution and nature were compared with the distribution of the remains preserved on the surface and juxtaposed with other categories of data, such as a numerical terrain model, an orthophotomap and satellite imaging, which allowed us to distinguish potential archaeological structures (Plate 9D).

The gradiometer survey provided a high-resolution image that revealed information about the spatial organisation of the site. The recorded anomalies fit into the spatial layout of the settlements, determined on the basis of the topographic studies in 2011 (Drzewiecki and Polkowski 2016, 87) and the orthophotomap made in 2018. The structures still visible on the surface, forming a rectangle oriented according to the cardinal points, with dimensions of *c.* 96 x 89m, are reflected on the map of the distribution of magnetic anomalies. The analysis of the results revealed that some of the stones used in the construction of the fort curtains were recorded as point anomalies of high amplitude, which may be associated with a



*Plate 8. Hosh el-Kab, magnetic susceptibility of surface features: A – soil inside the fort, B – stone from western curtain wall, C – alluvial soil at the bank of the river, approx. 500m from the fort (photos: R. Ryndziejewicz).*

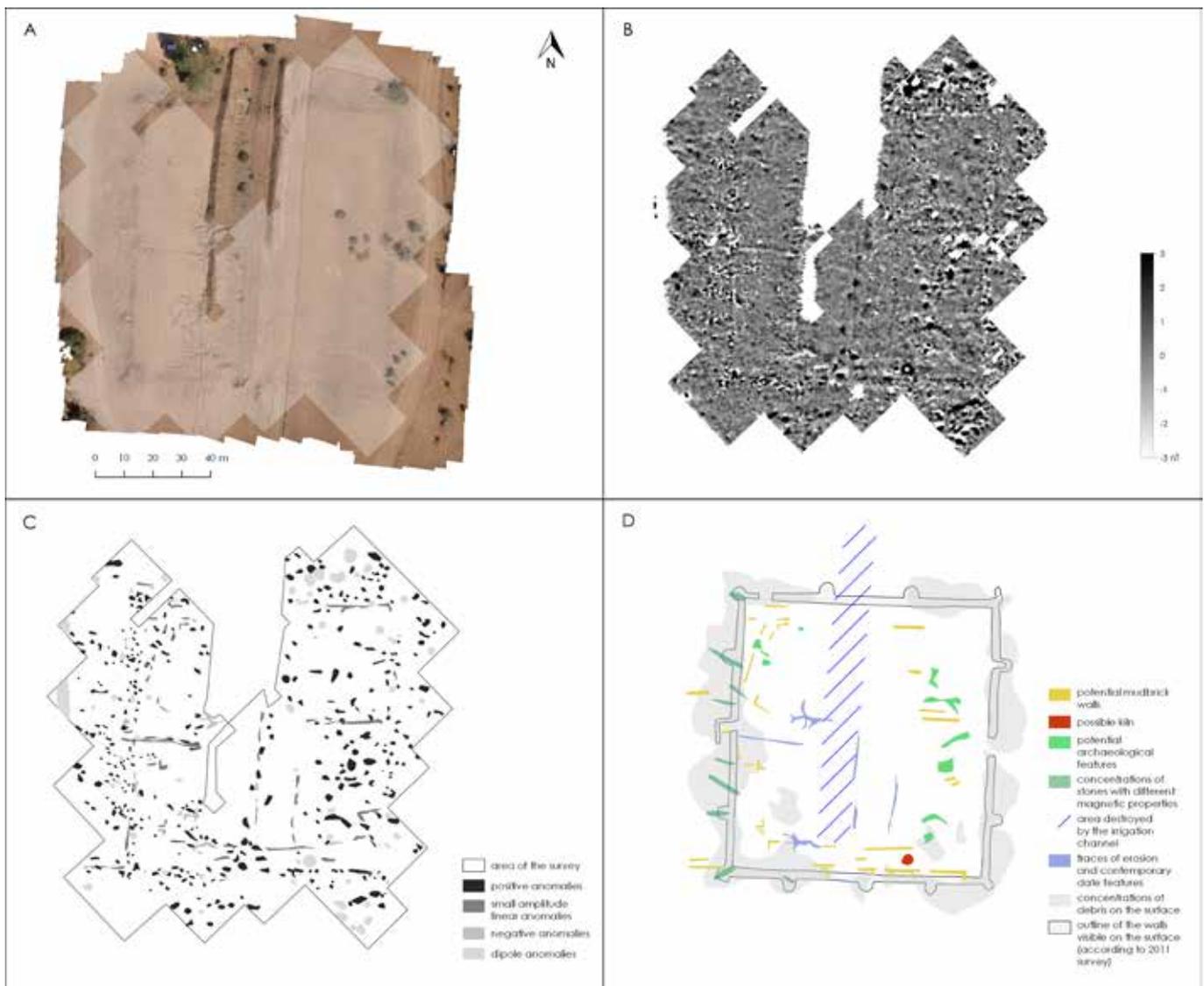


Plate 9. Hosh el-Kab, geophysical survey: A – area of the survey (prepared by M. Drzewiecki and R. Ryndziejewicz), B – grayscale plot of the FM265 data,  $r$ , dynamics:  $-3/+3$  nT (prepared by R. Ryndziejewicz), C – classification of geophysical anomalies (prepared by R. Ryndziejewicz), D – archaeological interpretation of the magnetometer data (prepared by R. Ryndziejewicz).

high content of iron oxides. The spatial distribution of stone with different magnetic properties varies within the site and reveals the segmental structure of the curtains characteristic for this type of building (Wiewióra 2005, 168-171). It is particularly visible along the western wall, where concentrations of point anomalies are visible not only within the bastions, but also on the sections of the wall between them.

Geophysical survey provided also valuable information about the structures lying below the surface of the ground. Along the southern curtain, there are weak, linear anomalies with a predominance of positive values, which can be interpreted as mud-brick structures adjacent to the inner face of the wall. Similar anomalies can be seen inside the north-western corner of the fort, and also along part of its northern curtain. The origin of analogous anomalies recorded perpendicular to the western curtain, outside the fort, is unclear. The linear anomalies of this type, concentrated inside

the north-western part of the fort, have a different orientation from the fort curtains. Perhaps they are associated with a different chronological phase of occupation.

In the south-eastern part of the fort, a single anomaly of unusually high amplitude, with a diameter of  $c.$  4.5m, was recorded. Anomalies of this type might be caused by the presence of a furnace or other heavily-burnt structure of significant mass. On the surface of the site, this place is visible as a circular concentration of stone (diameter  $c.$  2m) with a small, stone-free pit in the middle (Plate 10). However, no ash or other residues of burnt material have been observed, so the final interpretation of this anomaly remains open. The survey also revealed a number of anomalies with a predominance of positive values, located inside the fort and concentrated along the eastern curtain and in its north-western corner. They may be archaeological features or are associated with minor changes in the geological substrate.



Plate 10. Hosh el-Kab, concentration of stones corresponding to high amplitude anomaly. View from south (photo: R. Ryndziewicz).

A number of anomalies caused by modern anthropogenic factors have also been recorded. Firstly, they are related to the presence of the irrigation channel, which has destroyed a significant part of the site. Some of the high-amplitude dipole anomalies may reflect the presence of iron objects of low weight and of modern date. Around the fort, irregularly distributed changes in the magnetic field of relatively high amplitude were also observed, which are likely to be caused by factors of natural origin.

In conclusion, the geophysical survey in Hosh el-Kab has added valuable information to knowledge of the site. A spatial analysis of the anomaly distribution allowed us to identify the layout of the fort interior. Potentially there are two phases of development visible on the magnetic map. The geophysical work provided additional information on the construction and preservation of the fort curtains. From the magnetic map of the site it can be concluded that the individual parts of the fort were built stage by stage.

## Abu Nafisa

### *Excavations*

During the season we started a documentation programme for the Abu Nafisa fort. It was located nearby so we were able to conduct research on both sites simultaneously. Abu Nafisa is a fort of regular plan that is a bit smaller than Hosh el-Kab. It lies closer to the river and is surrounded by fields. The name of the place comes from a sheikh who lived there and whose grave is located on the site. The grave has an 8m long oval stone superstructure and is located in the south-eastern corner of the fort. It overlies the southern curtain, which was already in ruins at the time of burial of the sheikh. Next to the grave, there are remains of stone structures better preserved when compared to the rest of the site. They might be remains of the sheikh's house. The grave is still a place

of worship. According to people we met, valuable items left by the grave are safe and can only be taken by their owner. This might explain why many small items lie in the vicinity of the grave. Local farmers did not know how old the grave was or when Sheikh Abu Nafisa lived. They only said that 'it was a long time ago'. The surface pottery around the burial can be preliminarily dated to the Funj period.

There is a modern path crossing the site which recently has been extensively used as a road to a new red-brick production site located at the river bank in the area of Abu Nafisa. Otherwise, the site seems to be protected by local residents, and farming activities are not performed inside the fort. This might be connected with the living cult of the sheikh.

As previously stated, we prepared an aerial documentation of the site preceding excavations, and the 331 photos taken, in conjunction with total station measurements, enabled the creation of a 3D model (Plate 11). Pottery samples were collected from the surface marking the find spots on the plan. Since there are no gates visible on the surface, attention was focused on the inner corners of the enclosure. Again, the preferred locations were those away from the river; places which could have been less affected by annual floods. The first trench (Area 1) was located in the north-west corner of the fort, the second trench in the south-west corner (Area 2). Respecting local traditions, we left the remains associated with Sheikh Abu Nafisa intact.

The Area 1 excavations, limited to a 2.5 x 2.5m trench, revealed Nile alluvial deposits just beneath the surface. The enclosure wall was preserved as a single row of stones arranged vertically, approx. 200mm in height. The stones were



Plate 11. Abu Nafisa, orthomosaic with location of trenches (prepared by M. Drzewiecki).

placed on hard alluvial deposits. In the past, a tree grew in this place, which was later burned. We found pottery in the context of the charred root system of the tree. No other charcoal samples were found in the trench, and the pottery was not stratified. Excavation was terminated at a depth of 600mm. All the pottery can be preliminarily assigned to the Funj period.

Area 2 (3 x 2.2m) was much more interesting despite the fact that the curtain walls were preserved here in the same way, i.e. a single row of vertical stones with a height of approx. 200-300mm. Pottery recorded in the context of the remains of the curtain wall was preliminarily assigned to the Funj period. Other remains of human activities were recorded approx. 200mm under the foundation of the fort wall (Plate 12). There was a semi-circular (1.3m diameter) concentration of stones with a few large and flat ones. Under it were recorded traces of fire (small charcoal pieces, ash and burned lumps of mud with clearly-visible organic material embedded). In this layer, we found a relatively large quantity of pottery. The charcoal samples have been sent to the Poznań Radiocarbon Laboratory. It is expected that they will be older than the remains of the fort and the result should provide us with a *terminus post quem* for the construction of the fort.



Plate 12. Abu Nafisa, Area 2, remains of stone construction under the foundation of the fort (photos: M. Drzewiecki).

It is worth noting the construction technique of the fort curtains. In both areas investigated, the stones were placed vertically, but only the lowest row of the construction is preserved. We do not know whether vertical masonry was used in the entire elevation of the walls or only at the foundation level. In the case of the former possibility being true, it can be compared to five other regular forts in the region (El-Ar, El-Qinifab, Mikeisir, Gandeisi, Jebel Nakharu) and earlier Kushite fortifications, e.g. Gala Abu Ahmed and Fura Wells. In the case of the latter possibility being true, and if the vertical masonry was used only in the foundation of the fort wall, then the situation is much more complex. Single vertical rows at foundation level are a quite common feature used in construction techniques in Nubia at various periods.

### Small finds and pottery

The artefacts recovered in the forts of Hosh el-Kab and Abu Nafisa were very sparse and limited to small sherds of ceramic vessels, stone objects, and a few beads.

Within the Abu Nafisa fort, pottery on the surface was rare, and the majority of the collected assemblage was recovered from the sondages, mostly from Area 2. The lack of artefacts might be the result of the use of the fort area, it being directly surrounded by intensively utilised farmland.

The largest concentration of pottery on the surface was in the vicinity of the grave of Sheikh Abu Nafisa, although, this material was very recent, perhaps even modern. No fragments of wheel-made pottery were identified within the Abu Nafisa site. Most of the potsherds noted were non-distinctive body fragments of handmade coarseware. Their chronology, mostly based on the technological features (e.g. fabric, forming techniques or surface treatment) of better preserved fragments, indicate their origin in the Funj period (Figure 2). Although similarly dated, this pottery differs slightly from the Hosh el-Kab assemblage, the repertoire of forms was less varied yet many fragments were of better execution, often covered with pale-red slip.

A few potsherds recovered from the lowest layers, below the foundation of the enclosure wall in Area 2, are worth mentioning. They belong to one vessel, probably a bowl, which was also handmade but of different fabric and with a better finish on the surface as compared to the rest of the assemblage. This fragment might be from a much earlier period, but it is difficult to establish its precise dating based only on features visible macroscopically.

At Hosh el-Kab fort, 191 pottery sherds were collected, mostly from the surface. Excavations within the three areas provided 20 to 30 fragments each, mostly in a poor state of preservation and very fragmented. Ceramics of the Funj period were predominant (Figure 3), both from the sondages and surface. The biggest concentration noted was in the south-eastern part of the enclosure, near the remains of the circular stone structures. This group contained mostly fragments of handmade coarseware for storage or preparation of food. All vessels were made of alluvial clay with a significant

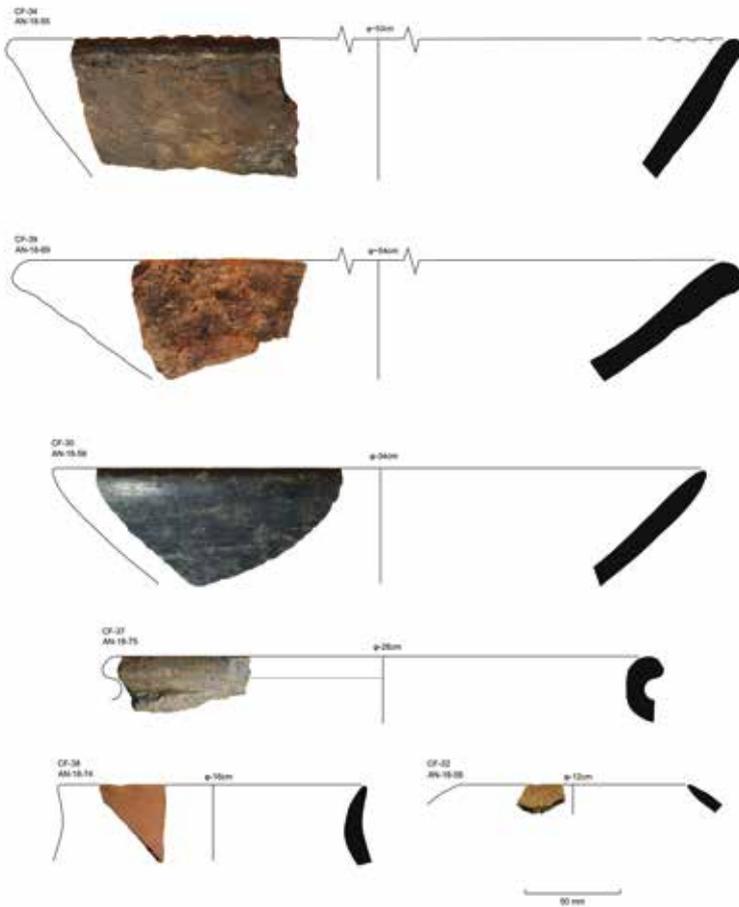


Figure 2. Funj pottery from the Abu Nafisa fort, scale 1:4 (drawings and photos: A. Cedro).

addition of organic temper. The identified forms included large bowls measuring up to 400-500mm in diameter, small to medium bowls with a burnished surface, cooking pots, and thick-walled closed jars. Decoration was very rare and mostly limited to the rim area of larger bowls, or incised on the shoulders of closed forms; in the case of one bowl a zig-zag motif was executed by comb impressions. Most of the potsherds were devoid of any diagnostic features.

The earliest pottery identified at Hosh el-Kab was attributed to the Early Christian period and this is the only wheel-made pottery in the assemblage (Figure 4). A few fragments of this were collected in the south-western quarter of the enclosure, near the place where, until recently, remains of a building were visible on the surface. The digging of the channel through the site almost completely destroyed this structure, and nowadays its location is marked only by the concentration of thick, white plaster and red-brick fragments. A small piece of a closed-form vessel, presumably a bottle, with red-polished slip and a decoration of four lines incised on the shoulder (Figure 4 bottom) was also retrieved from the 4<sup>th</sup> layer in Area 2, i.e. where the gate was located.

The bulk of the ceramics recorded at the two forts represents non-diagnostic potsherds associated with the final phases of occupation of the sites and is dated to the Funj

period or to modern times. The variety of vessels forms was not extensive, and their function was mostly associated with food processing or storage.

A dozen or so stone querns and grinders were recorded in the area of Hosh el-Kab fort. Their largest concentration was on the heaps alongside the irrigation canal that cuts across the site; it is possible that they could originate from the fill of the trench. The presence of these indicates that some household activities were conducted within the enclosure. However, determining whether this activity was modern or historical is not possible. No similar objects were found within the Abu Nafisa enclosure.

Finds of beads constituted a small group, yet of some significance (Plate 13). One eggshell bead was found on the surface of Hosh el-Kab, and four other beads were discovered during excavation. From Area 2, one barrel-shaped stone bead was retrieved from the Hosh el-Kab gate. At Abu Nafisa, half of a spherical translucent green glass bead was found in Area 1, while two faience beads were recovered from Area 2 (2<sup>nd</sup> and 4<sup>th</sup> layer). These latter two beads are of similar dimensions, 3 x 4mm, and have a very porous body covered by light turquoise-blue glaze. This last feature is characteristic for the Post-Meroitic faience products, which are well known mostly from the tumuli graves (Then-Obluska 2016, 747).

The finds from Hosh el-Kab can be assigned to the early medieval and Funj periods. At Abu Nafisa, pottery related to the Funj tradition was recorded. Pottery recorded below the foundation of the fort requires petrographic analysis before a discussion of its cultural affinities can be attempted.

During this season, Aneta Cedro made a brief visit to Umm Marrahi and collected surface material. The main pur-

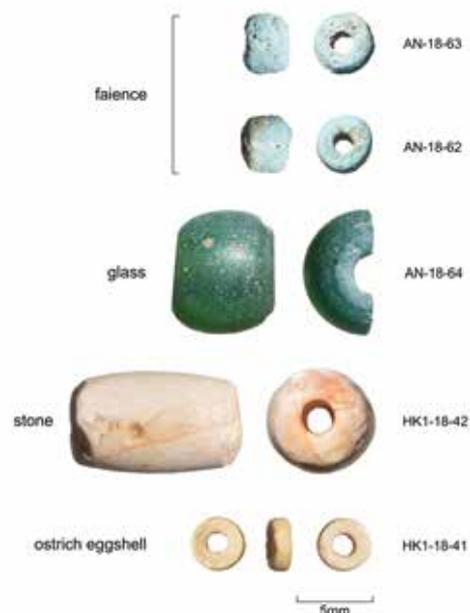


Plate 13. Beads from Abu Nafisa and Hosh el-Kab scale 2:1 (photo: A. Cedro).

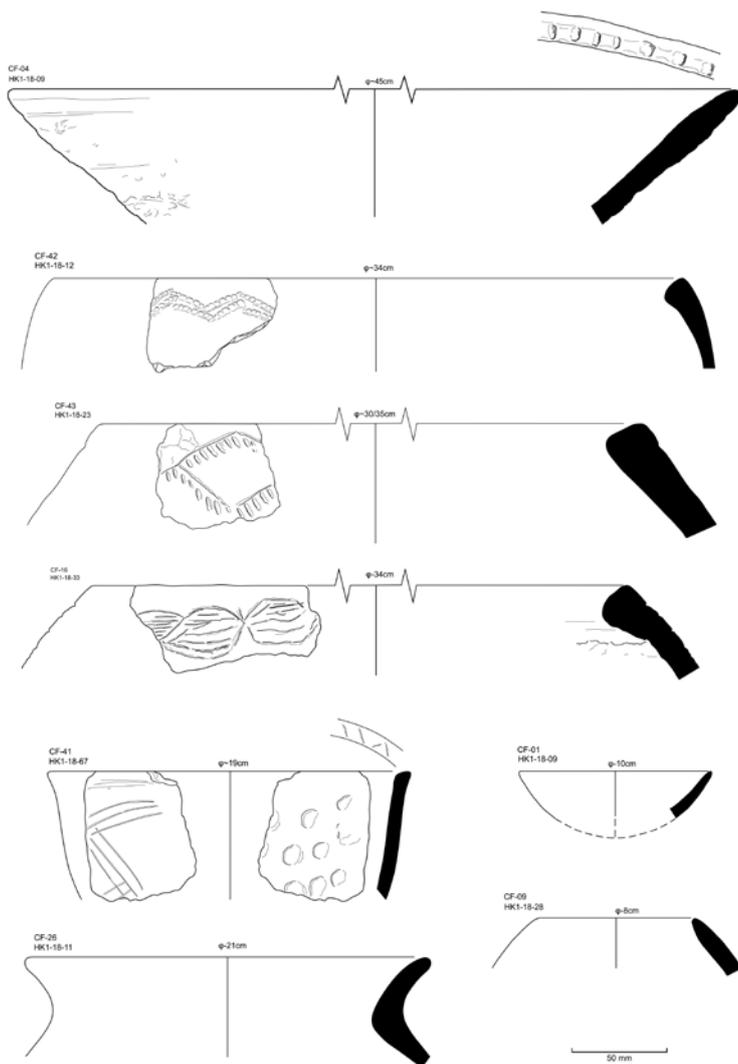


Figure 3. Funj pottery from the Hosh el-Kab fort, scale 1:4 (drawings: A. Cedro).

pose was to establish a reference for ceramics from the two other sites. An analysis of the assemblage indicated that the history of occupation at the Umm Marrahi hilltop was much longer and more intense, and can be traced back as far as the Mesolithic period. The evidence for this long occupation is easily noticed; both lithic material and potsherds are scattered on the surface of the flat hilltop. A comprehensive survey of this site will be conducted in the next stage of the project.

The assemblage represents a wide chronological range. Funj period pottery was dominant amongst fragments picked up directly from the surface of the destroyed enclosure wall; however, Post-Meroitic and early medieval materials were also recognised. The earliest ceramics were collected in the area south of the fort and included fragments with wavy lines or a rocker stamp decoration characteristic of early Khartoum pottery (Figure 5: 6-8). Some potsherds with incised dotted decoration could be attributed to the Neolithic period (Figure 5: 1-5). The presence of this early material has already been recognised by some of the previous scholars who conducted research at Umm Marrahi (cf. Elamin and Mohammed Ali 2004).

#### A field-walking survey – searching for archaeological context

Surface surveys in the area, conducted in January 2018, sought to identify and document observable archaeological sites. Field-walking shed light on the intensity of settlement and exploitation of the Hosh el-Kab and Abu Nafisa areas in the past. In total, the area within a radius of about 2-3km north, west and east of the forts was investigated. Thirty-one archaeological sites were known in this area (Drzewiecki and Polkowski 2016, fig. 18; Drzewiecki 2016, 156-159) and 25 new sites were added during our research (Plate 14).

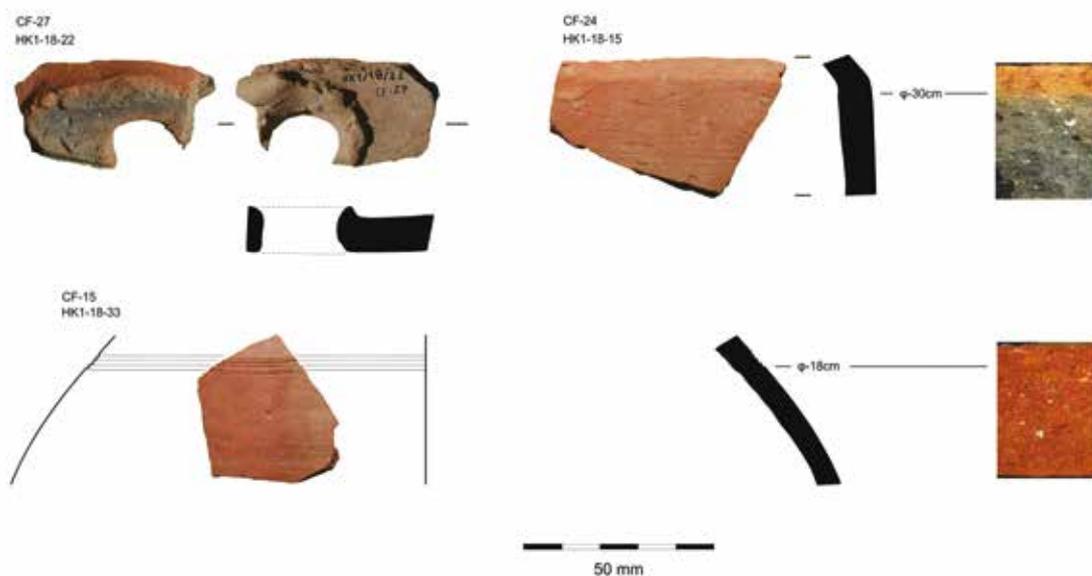


Figure 4. Pottery from the Hosh el-Kab fort attributed to Early Christian period, scale 1:2; on the right sections seen under microscopic 10 × magnification (drawings and photos: A. Cedro).

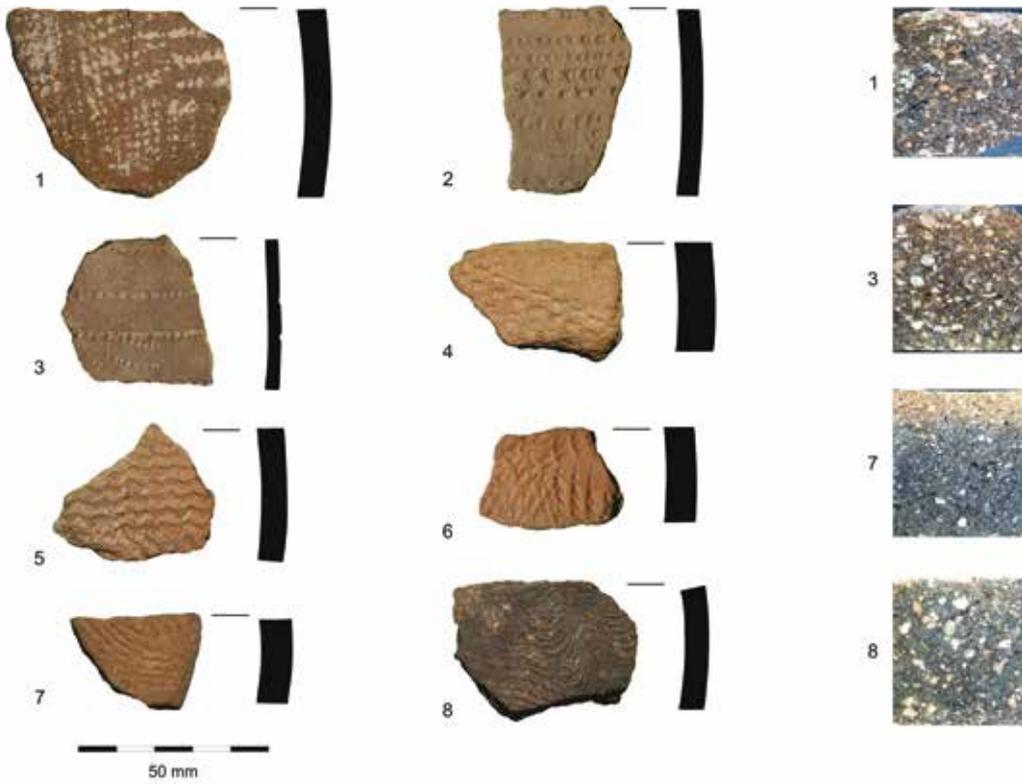


Figure 5. Fragments of pottery from Umm Marrabi hill attributed to the Early Khartoum (6-8) and Neolithic periods (1-5), scale 1:2. Right column: potsherds sections seen under microscopic 10 × magnification (drawings and photos: A. Cedro).

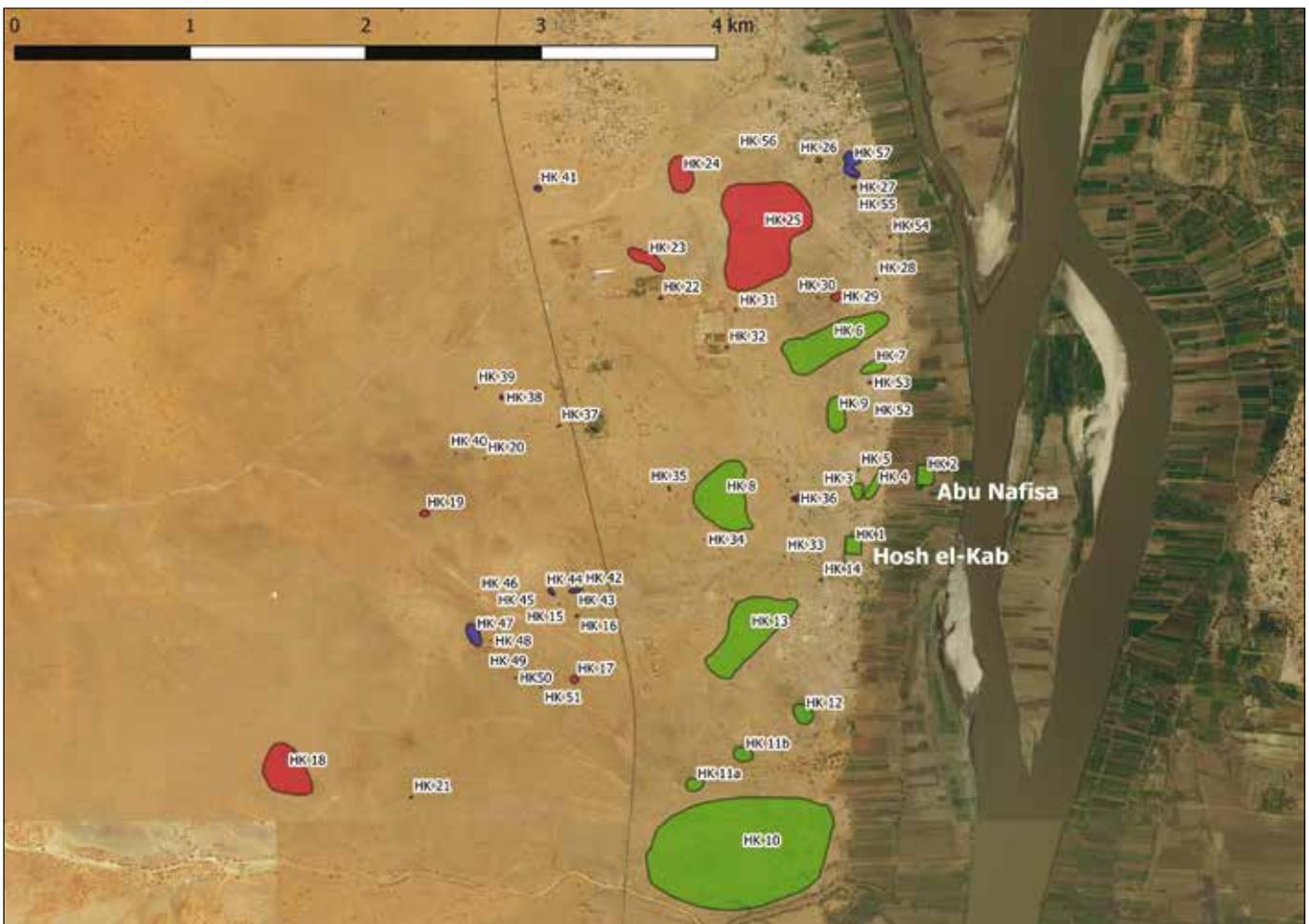


Plate 14. Archaeological sites identified during field survey in 2011 – green colour, 2012 – red colour and 2018 – blue colour (prepared by W. Rączkowski).

During fieldwork handheld GPS devices were used and short descriptions of the identified structures prepared as well as photographic documentation. GPS track recording was used, which introduces additional information to assess whether the lack of sites results from the absence of archaeologists in a given place, or is the result of no sites there in the first place. In 2018, thanks to the GeoSetter programme, it was also possible to provide geo-references for photographs that had been taken.

The vast majority of sites were identified by features visible on the surface. These are mainly cemeteries and single graves. Among the cemeteries, those with mounds with a diameter of about 20m and more (HK 3, HK 6, HK 8, HK 9, HK 10, HK 11a, HK 11b, HK 13, HK 18, HK 23, HK 25, HK 30, HK 53 – Plate 15A) are particularly noteworthy.



Plate 15. Types of archaeological sites recorded in Hosh el-Kab area: A – site HK 18 with tumuli of 20m and more in diameter, B – single small graves with stone superstructure (HK 33), C – most probably Islamic grave (HK 55), D – cup-marks cut in bedrock (HK 29), E – Neolithic polished stone axe from HK 36 (photos: W. Rączkowski).

Such tumuli create vast cemeteries in many places, but there are also single, isolated features. They were built mostly of gravel, with heights varying from 1-2m. Sometimes there are large stones on the mounds, but they do not form regular structures. These may be the remains of a blockage that was removed when the grave was robbed. Within the vast areas with such large tumuli, there are also smaller tumuli with diameters of 10-15m and heights of up to about 1m.

Many of the identified cemeteries include irregular structures made of stones (HK 4, HK 7, HK 12, HK 14, HK 15, HK 19, HK 20, HK 26, HK 28, HK 31, HK 33, HK 36, HK 37, HK 39, HK 40, HK 42, HK 43, HK 44, HK 47, HK 48, HK 50, HK 52, HK 54, HK 56 – Plate 15B). They can be placed on small mounds (diameter ranging from approx. 5-10m, height of approx. 500mm), but also form flat circular, oval and square structures with sizes ranging from

1m to approx. 5m. Their sepulchral nature is not always clear.

The form of feature in most of the recorded sites does not allow us to determine their chronology or cultural affiliation. Even the presence of ceramics on the surface of mounds does not enable us to draw a conclusion regarding their chronology. The studied area has been used so intensively in the past that the recorded ceramics do not necessarily have any connection with the recorded graves. In some cases, a basic chronology can be suggested. This applies to cemeteries and single graves where the monuments are rectangular or an elongated oval measuring about 1-1.2 x 2-2.5m with a stone structure either determining the extent of the grave or covering the grave. Such graves are assumed to belong to the Islamic period (HK 17, HK 21, HK 27, HK 34, HK 35, HK 45, HK 46, HK 51, HK 55, HK 57 – Plate 15C).

The results of fieldwork show fewer remains of settlements/individual houses. Only six such sites were identified (HK 16, HK 22, HK 24, HK 36, HK 41, HK 49), and all of them are rather recent. At one of them, a Neolithic stone axe was discovered (HK 36 – Plate 15E).

At two sites (HK 5, HK 29), places with cup-marks carved in rocks (Plate 15D) were identified, which may be evidence for regular exploitation of these places in the past.<sup>2</sup>

To sum up, we can observe a significant density of archaeological sites (on average about 4.5 sites per km<sup>2</sup>) in the area of Hosh el-Kab. It is difficult to ascertain if any of them are connected with the fort in function and chronology, but there is no doubt that it is an archaeologically rich region.

In this context, it is important to point out a very significant element. The vast majority of the recorded sites

<sup>2</sup> The carved hollows were probably gaming boards, see Davies 1925.



Plate 16. Examples of modern activities on archaeological sites around Hosh el-Kab (prepared by W. Rączkowski; background images Google Earth).

are located in the zone of intensive contemporary human impact (construction, field cultivation, horticulture, orcharding, increased mobility of residents and farmers). Some sites recorded have already disappeared, while others are subject to gradual degradation (Plate 16). This applies in particular to the most extensive tumuli cemeteries, as the gravel mounds are a source of excellent building material. It is imperative that extensive measures for the protection of this archaeological heritage are undertaken in the very near future.

### Summary

The first season of fieldwork, conducted in January 2018, was fruitful. We prepared documentation and carried out excavations in two of the three forts (Hosh el-Kab and Abu Nafisa). The surface of the third one, Umm Marrahi, was surveyed. The excavations enabled us to collect samples from various archaeological contexts; however, the state of preservation of the sites is poor. Nonetheless, we were able to obtain important data that shed light on the construction techniques, the spatial organisation of buildings inside the forts, and the phases of occupation.

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