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Front cover. Block 1000.0049 from Naga (photograph courtesy Karla Kroper).

Above. Pottery jar with decoration of sorghum heads from BMC 60, Berber (photograph courtesy Mahmoud Suliman Bashir).

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A fortified site to defend the Kerma basin before the Egyptian conquest

Matthieu Honegger and Jérôme Dubosson

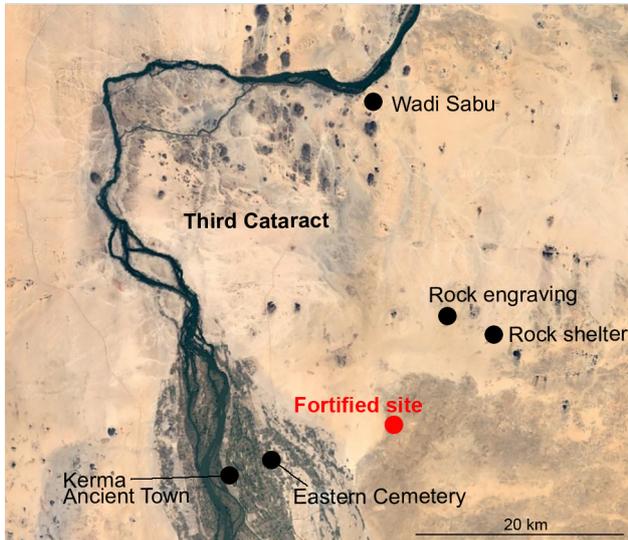


Figure 1. Location of the fortified site south of the 3rd Cataract with the two main Kerma sites (ancient town and Eastern Cemetery) and other sites mentioned in the text.



Figure 2. Kite aerial view of the enclosure taken in 2004. The eroded walls are all visible on the surface.

A fortified site of the Classic Kerma period was identified three decades ago on the edge of the alluvial plain south of the 3rd Cataract, c. 15km from the actual course of the Nile (Bonnet and Reinold 1993). It lies on the edge of the Nubian sandstone plateau that borders the alluvial plain and rises a few dozen metres above it (Figure 1). On leaving the plateau the channels radiate westwards as shallow distributary channels on gently sloping alluvial fans and vanish on reaching the eastern edge of the Nile alluvial plain. The stepped margin of the plateau has been eroded to form pediment surfaces (Honegger and Williams 2015). In 2004, when we began excavations on the edge of the desert, we took an aerial photo of the structure, the stone walls of which were all visible on the surface (Figure 2; Honegger 2005).

This site was probably a post controlling the route coming from the north via Wadi Sabu and possibly the route towards the gold mines to the East, in the centre of the Nubian desert (Davies 2014). Its proximity to the town of Kerma underlines its strategic function at the end of the Kerma period, when tensions with Egypt increased. In January 2020, we decided to undertake some test excavations over a period of three weeks in order to evaluate the state of preservation of the remains, especially the enclosure wall. Some sandy holes were present in parts of the walls and in some of the quadrangular buildings, dating from long ago, which are probably traces of digging. The gold rush that started ten years ago has led to greater exploitation of desert regions, and one of our older digs has already been destroyed. Against this backdrop, we wanted to gather as much information as possible about this as-yet

unstudied structure. All the excavations we undertook were carefully covered with sand before we left and were not visible on the surface. After a two-year absence due to covid, in January 2023 we undertook a new excavation campaign lasting two weeks. During our absence, a lorry with a mechanical excavator came to the site and destroyed some areas excavating pits deep into the natural sandstone layer. It would

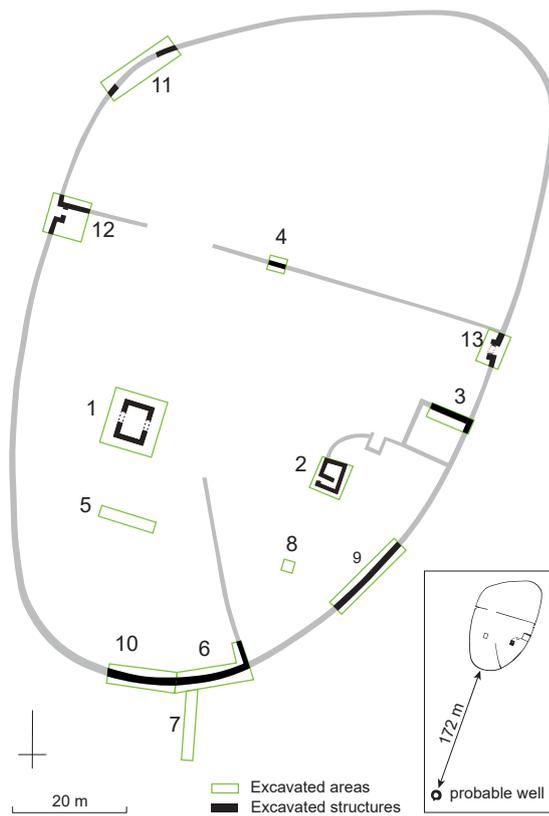


Figure 3. Plan of the Classic Kerma enclosure with the location of excavations areas. The small plan at bottom right shows the location of the supposed well in relation to the site.

seem that they came from the Delgo area where various gold mining companies operate. It is possible to observe the traces of destruction on Google Earth and to date this destruction to between the end of 2020 and the end of 2022.

Characteristics of the site and its buildings

In 2020, a first plan of the enclosure was drawn up and some areas were opened in order to establish the state of the walls and their dimensions (Figure 3). The enclosed area is oval in shape, 134m long by 84m wide. From its southern edge, 172m to the south-west, was a circular stone structure 14m in diameter, which could be a well (Figure 4). We selected eight areas for surface cleanings or test excavations. Areas 1, 2, 3, 4 and 6 provided information on the state of preservation of the stone walls, their dimensions, and the presence of artefacts, while Areas 5, 7 and 8 were partially excavated to identify archaeological layers or destruction levels. After clearing the surface layer of sand and stones, the structure of the walls appeared clearly (Figure 5). Made with yellow or black Nubian sandstone blocks quarried in the vicinity, with mortar composed of silt mixed with small sandstone gravel, they were built very regularly. The width of the enclosure wall is between 1.1 and 1.3m and its elevation is preserved to a height of 1.5m in the less eroded areas

(Figure 6). These walls were built of stone and silty mortar, since we did not observe the presence of any mud or red brick. Most of the enclosures built in the desert were of drystone construction without any mortar. Here, access to water must have been easier, thanks to the structure that was probably a well, located to the south. The initial height of the external walls would have been more than two metres. The



Figure. 4. Probable well located 172m south of the enclosure.

other walls identified inside the enclosure are generally constructed differently, with smaller and less regular sandstone blocks, as is the case with the three rectangular buildings (Areas 1, 2, 3). Two walls were erected inside the enclosure; one crossing the site from east to west divided it into two parts. Bonnet suggested that it belonged to the enclosure of an earlier fort, later enlarged by the addition of a semi-circular area to the north (Bonnet and Reinold 1993). Based on our observations in Area 4, we cannot confirm this interpretation since the general oval shape of the enclosure is not consistent with the idea of a building in two phases. In addition, our cleaning work has shown that the inner wall dividing the site in two was built against, and after, the enclosure wall.

We opened trenches or cleared small square areas to look for archaeological layers or destruction levels (Areas 5, 7, 8) but did not find any remains other than a few pottery sherds. It suggests that a large part of the archaeological deposits are not preserved, other than inside the three square structures or close to some walls, particularly in the southeastern part. In one of the buildings (Area 3), a trench was dug to its original floor. Some artefacts were found in small quantities, which suggest domestic use, but the evidence is at present too limited to propose a function. Inside the enclosure, there are few buildings and large areas appear to be without any preserved architectural structures. As suggested by Bonnet, the garrisons probably lived in huts made of wood and mud, the remains of which have generally not withstood wind erosion.



Figure 5. Portion of the wall of the enclosure after surface cleaning (Area 6).



Figure 6. Elevation of the enclosure wall on the right and of an inner structure wall on the left (Area 3). The foundations of the enclosure wall appear to be only 0.2m deep.

In January 2023, we found that the most significant destruction caused by the mechanical shovel was concentrated on Building 1, which was cut by an east-west trench. The supposed well located 172m south of the enclosure was also partially destroyed. Under these conditions, excavations have become a rescue operation rather than planned. Given the time available, we managed to excavate two stone buildings, looked for the entrances as well as for areas where the archaeological layers might still be preserved.

Both excavated buildings are quadrangular and contain all the typical remains of habitation structures: fragments of jars and pots, grinding material, lithic tools, fireplaces and faunal remains. Building 1 is rectangular and its dimensions range from 5.3m east-west to 6.9m north-south, and its entrance must probably was on the east or west side, but the trench made by the looters destroyed it (Figure 7). The width of its walls is about 0.8m and they are preserved to a height of more than 0.5m. The trench made by the plunderers provided the opportunity to clean two stratigraphic profiles to obtain a better understanding of the building techniques as well as the history of the occupations of this building (Figure 8). The enclosure walls were built of stone in both structures. The same mortar as for the enclosure walls, composed of silt and black gravels resulting in the alteration of the sandstone, was used between the stones and on the inner surface of the walls. It is relatively thick for a plaster, approximatively 100mm in some places. It appears that the plaster was all applied to the wall at the same time. The floor of the building was also covered by a fine layer of mortar in two separate occupation levels, which means that the floor was renewed (Figure 8, layers 3 and 5). In these occupation levels we found Kerma artefacts and faunal remains, accompanied by a fireplace and a grinding stone still in place in the north-west corner of the room, set into the mortar floor. Other remains of hearths were present at the base of the sandy superficial level and probably correspond to recent occasional activities at the site. The remains of a tin plate and very coarse, poorly fired pottery confirm these recent occupations, which probably date back to the last century.



Figure 7. View of Building 1 taken from the south-west. The trench made by the looters cut the building in two parts and. In the northern part, a grinding stone still in place is visible in the north-western angle.

Building 2 is slightly smaller, and its dimensions range from 4.1m east-west to 5m north-south (Figure 9); its walls are thinner (0.5m) and its layout is more complex. The entrance is on the west side and leads through an antechamber to the main room in the northern part of the building. The north-west corner of this room was looted long ago (Figure 10), but despite this, a fireplace was preserved, consisting of a combustion area surrounded by two rows of stones used to support the cooking pot.

The general plan of the site shows that there is a third larger structure with stone walls (Area 3), which is not much compared to the size of the enclosure, which was built to accommodate more people than three small stone buildings could hold. The work of Reisner in the Classic Kerma part of the Eastern Cemetery indicated that Kerma society was highly stratified during this period (Reisner 1923). For this reason, we surmise that the three stone structures were occupied by the most important people of the garrison and that the rest likely lived in wooden huts.

Finally, we looked for the entrances of the enclosure. On our first excavation campaign, we searched southwards without success (Areas 6, 9 and 10). Another attempt was undertaken in 2023 to the north-west (Area 11), where an opening had been present for a long time allowing cars to enter the enclosed area, but it did not supply any evidence of a gateway from the Kerma period. In fact, it was in the extension of the east-west dividing wall that the entrances were identified (Areas 12 and 13).

The western entrance is not very well preserved. Many of the stones from the walls had collapsed and it was difficult to determine its boundaries. It is 1.3m wide and consists of a re-entrant wall to the south, while to the north it backs onto the east-west dividing wall of the site. The entrance to the east is the best preserved; it is 1.7m wide and consists of two re-entrant walls (Figure 11). Nearby, two very distinct depressions in the floor must be related to a door system. Otherwise, this eastern section, protected from erosion by the east-west wall, has yielded *in situ* levels and a relatively well-preserved floor. Post holes and cattle tracks were found. Several fragmented beakers were also found in this sector. These discoveries show that the internal surfaces of the enclosure are preserved in places and that we should be able, particularly in the eastern part, which is the less eroded, to carry out more extensive excavations to find the architecture in wood and earth, which cannot be detected on the ground surface as it is the case with the stone walls.

Generally speaking, the artefacts and faunal remains were mainly concentrated in the levels of destruction of the two buildings excavated. They bear witness to daily life in a dwelling and do not reveal any particular elements, such as weapons, that could have been linked to the site's defensive function. The material found includes jars, pots and bowls, beakers, knapped lithic artefacts in quartzite or flint, grinding material with one grindstone found *in situ* in Building 1, and faunal remains composed mainly of caprine or bovine bones (Figure 12). It should be noted that a complete vase was found whole, turned upside down, in the SE external corner of Building 1. In the same building, a complete polished sandstone disc was probably used as a jar or pot stopper, and at the top of its fill, a tin plate attests to modern occupation.

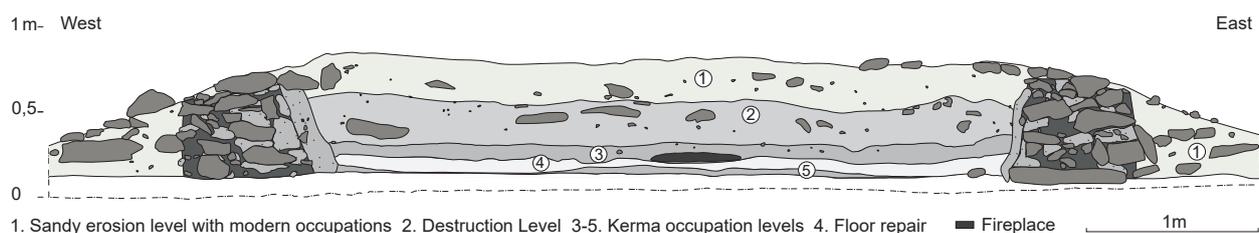


Figure 8. Northern stratigraphy of Structure 1 with levels of occupation and destruction. Two levels of Kerma occupation have been identified, separated by a reconstruction of the floor.



Figure 9. View of Building 2 taken from the west. The entrance of Structure 2 is located to the west and a dividing wall inside the building defines a kind of antechamber or corridor. In the north-eastern angle is installed a fireplace with a stone structure.

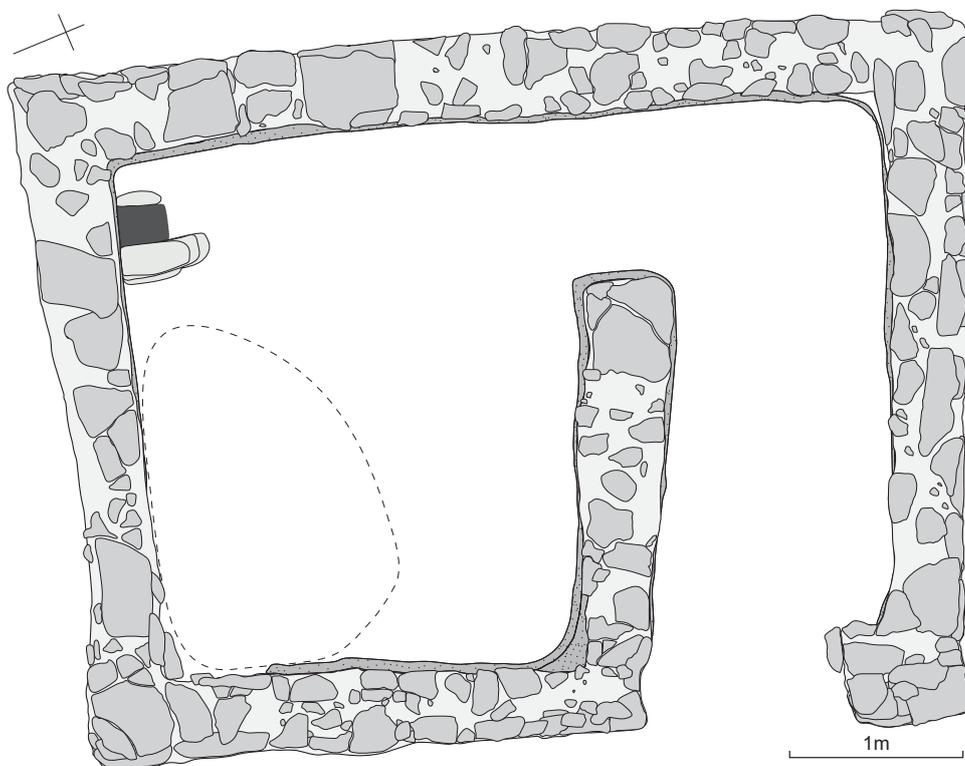


Figure 10. Plan of Building 2 with its fireplace of two rows of stones; the robber pit is its north-western angle, and mortar still covering some walls.

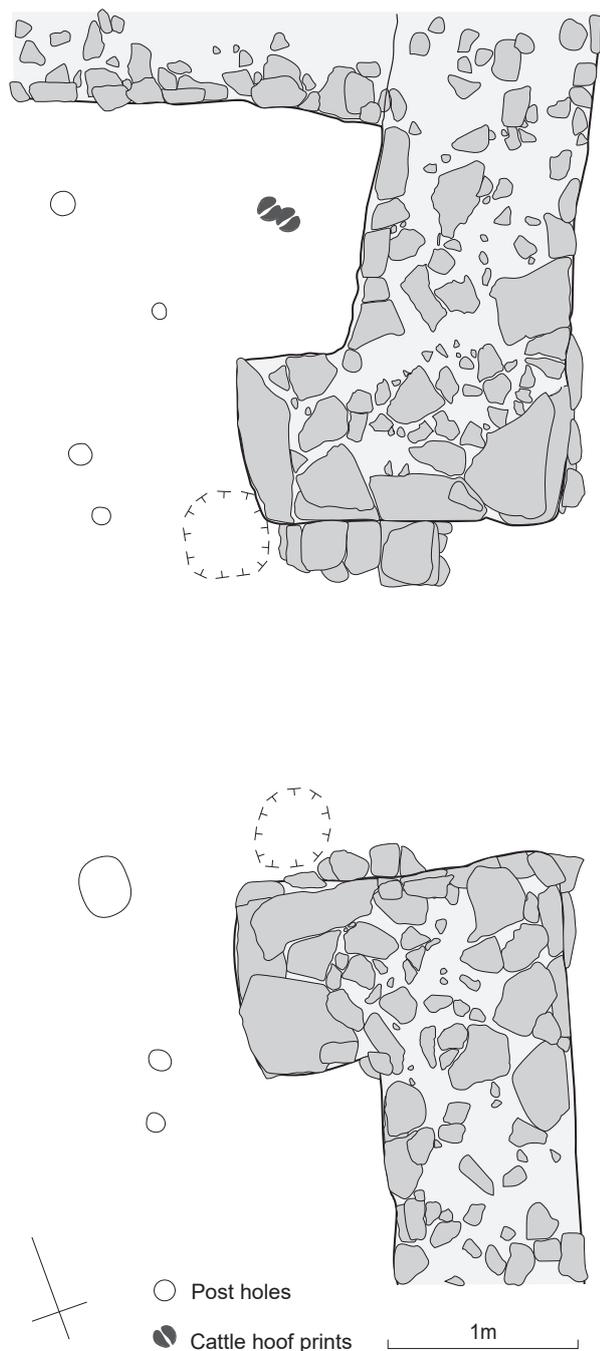


Figure 11. Plan of the eastern entrance of the enclosure.

Among the pottery, there are at least two Egyptian wares, one with an orange paste (Type EIII of Gratien 1986, 402), the other with a grey-yellow paste similar to the Qena type (Type EI of Gratien 1986, 398-400). The most characteristic elements of the Classic Kerma period are the beakers with their grey stripe (Figure 13). Reisner found numerous examples of these during excavations in the Classic Kerma part of the Eastern Cemetery (Reisner 1923). Although he proposed a very detailed typology for beakers, it is difficult to establish trends between the beginning and the end of Classic Kerma, i.e., between 1750 and 1500BC. Gratien and Privati's work on Kerma pottery also fails to identify any trends within this last phase of the Kerma Kingdom (Gratien 1978; 1986; Privati 1999). It has to be said that these typologies are all based on cemeteries, where fine wares are more abundant and coarse wares rarer. Our inventory shows the opposite: jars, pots and bowls dominate the finds in the enclosure, which is hardly surprising considering that it was a place of habitation. The typology of the jars is not well known either. Gratien (1986) points out that jars often had fairly large openings with thickened rims printed with a cross-hatched pattern. A few similar examples can be found in the fortified site, while others have a raised rim (Figure 14). On the surface, the proportion of jars is greater than in the buildings. Some were broken *in situ*, and most of the sherds of jars found were generally close to the internal enclosure walls, which may well have corresponded to their original position. Finally, the the radiocarbon analyses on charcoal from the fireplaces found in the buildings should provide sufficiently precise results to tell us whether we are closer to 1500BC than to 1750BC.

The fortified site in its cultural and political context

Research into fortresses and enclosures in Nubia has developed considerably in recent years (cf. Jesse 2019; Jesse and Vogel 2013; Żurawski 2019). Apart from the fortresses built by the Egyptians during the Middle Kingdom along the 2nd Cataract, most of the finds are more recent than the present site and are generally quadrangular in plan. In our case, it's safer to talk about a fortified site or an enclosure, rather than a fortress. The latter is usually a heavily defended site, whereas our Kerma enclosure has simple gates, its walls were most probably not topped with a parapet walk and it is located on relatively flat ground without any extra defensive features. However, a number of non-quadrangular enclosures have

Location	Jars	Pots and bowls	Beakers	Knapped lithic material	Grinding stones	Faunal remains	Objects not fragmented	Other
Surface	6	7	2	2	5			
Building 1	9	17	2	45	3	c. 40	1 complete bowl, 1 sandstone disc	
Building 2	4	6	1	71	8	c. 100		1 fragment of alabaster pot
Building 3 (trench)		5	1					
Eastern entrance			3					
Total	19	35	9	118	16	c. 140	2	1

Figure 12. List of material found in the Classic Kerma fortress. The majority is fragmented and the pots are counted according to the number of pots and not the number of fragments.

been documented, showing that this type of layout is not unknown. The fortified village of Wadi es-Sebua, dated to the end of the C-Group period c. 1800BC, seems to be slightly older than our Classic Kerma site (Adams 1977, 149). It contains about 100 houses and is located on the edge of a Nile terrace that naturally protects it on its eastern flank. To the west is a semi-circular enclosure wall built of stone 1m thick and 2 metres high in places. It has three gateways, of which the largest is further protected by spur walls. In comparison, the Kerma enclosure can hardly be considered a fortified village, as it is located in an arid region that does not allow for year-round agro-pastoral activities. Other oval enclosures relatively similar to the Classic Kerma site have been recorded in different part of Sudan, but few are well-documented and are much younger than this example (e.g., Gratien 2013, 36-40, pl. 28-29; Kröpelin 2006). Moreover, the differences in their cultural and geographical context make comparisons with the Kerma region difficult.

The construction of stone walls is not unknown in the Kerma context, even if the majority of buildings are made of mud bricks. Walls or wall bases similar to those of the fortified site are known at the town of Kerma, with a wall separating two districts of the town (Bonnet 1995). The bases of the Deffufa are also



Figure 13. Beakers found close to the eastern entrance.



Figure 14. Fragments of jars found in Building 1.

built of Nubian sandstone slabs, topped by a mudbrick mass (Bonnet 2004). However, the abundant use of this material for the Kerma enclosure can also be explained by the proximity of sandstone deposits, while silt and water are rarer.

The fortified site was built during the last period of the Kingdom of Kerma (Classic Kerma, c. 1750-1500BC), at a time when the kingdom's power was great, but the Egyptian threat was very real, at least from the New Kingdom onwards. In addition to their defensive role, these sites can fulfil multiple functions as posts to secure watering places, trade and traffic route and places of refuge (Jesse 2019, 1087). In our case however, it must have been built to control the access to the Kerma basin and to protect the region, particularly the kingdom's capital and the entire network it controlled. We know from surveys carried out in the surrounding area that Kerma occupations were numerous, even if many of them must have been destroyed by the expansion of cultivation in this basin, which has benefited from an irrigation system from the 1st half of the 20th century onwards (Osman and Edwards 2011; Reinold 1993; Welsby 2001). Its location seems coherent (Figure 1). It is at the end of the road coming from Wadi Sabu and skirts the 3rd Cataract. This is one of the natural routes into the Kerma basin from the north.

On the heights of the plateau, near the enclosure, a number of stone cairns or shelters, sometimes with a low wall, were found during a recent survey in the vicinity of the site (Figure 15). In some cases, they were markers visible from afar, probably to indicate roads or directions. Others appear to have been designed more as observation posts. They may have been used at various times and we have not been able to date them precisely. One of them, however, located on the edge of the sandstone plateau and particularly visible, is exactly in line with the two gates of the fortress, and in the desert to its south-east, a shelter, occupied at various times, yielded Classic Kerma sherds, while further to the north-west, a representation of a pharaoh was engraved on a face of a sandstone hill (Figure 16). Wearing the crown of Upper Egypt, he has a crook in one hand and a spear in the other, looking south-west towards the town of Kerma. All these clues point to the frequent use of this route and its strategic importance, which the Kingdom of Kerma decided to defend from the Classic Kerma period, at a time when tensions with Egypt were becoming a matter of concern.

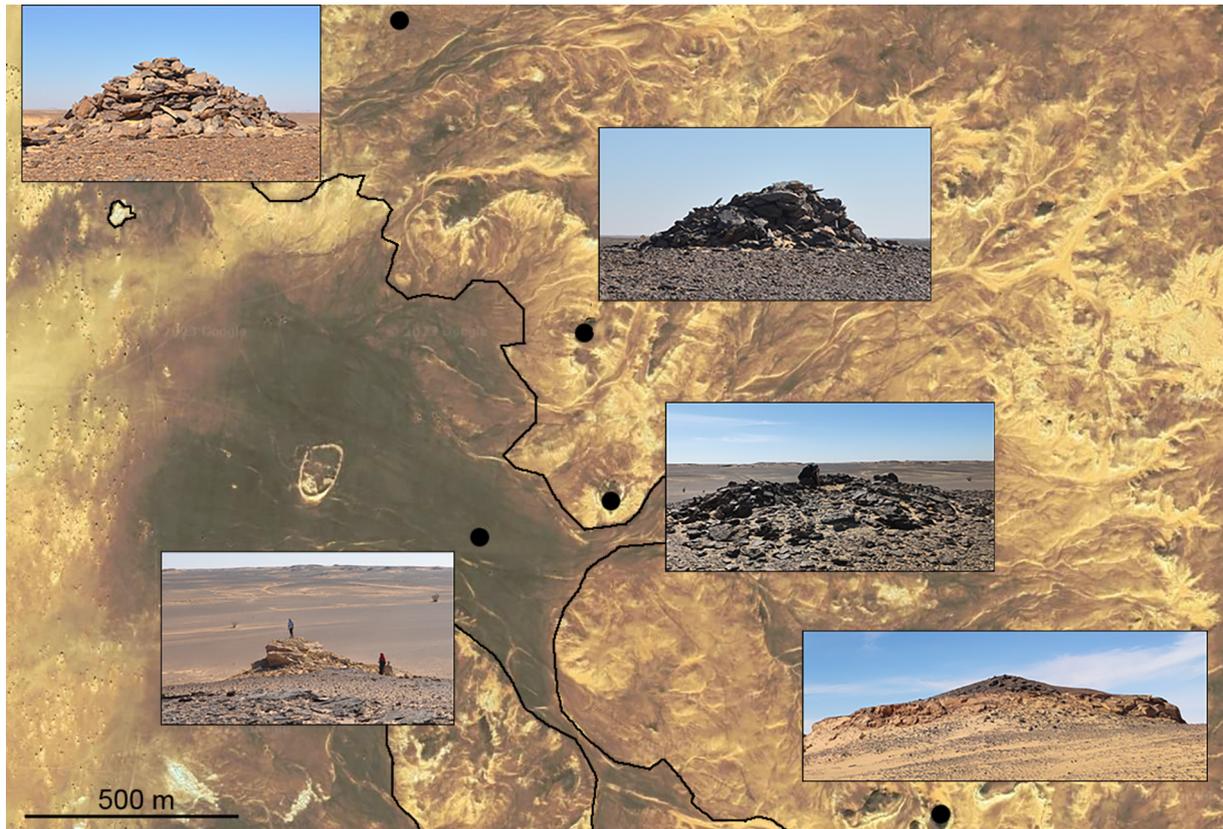


Figure 15. Location of stone cairns or shelters at the top of the plateau, in the vicinity of the enclosure. They may have been used as observation points to monitor the surrounding area.

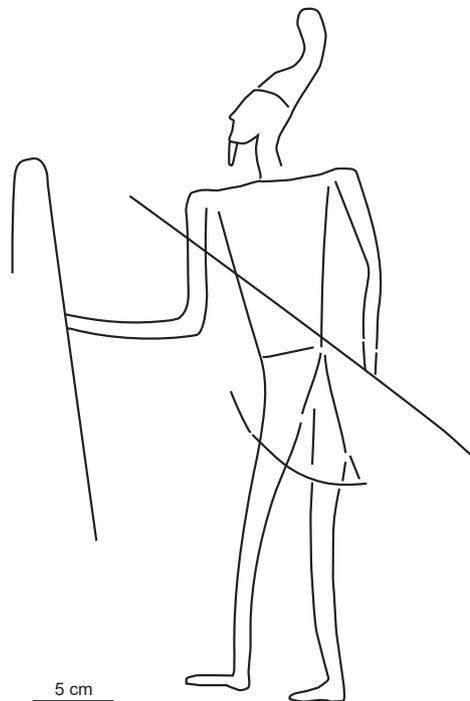


Figure 16. Engraving found in the desert on a sandstone wall (location in figure 1). Pharaoh with the crown of Upper Egypt, a false beard, a crook and a spear, looking south-west towards Kerma.

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