

Report to the SCA on archaeological survey and excavation undertaken at Medinet el-Gurob, 4-15 April 2010

Abstract: This article presents our three-month preliminary report on the 2010 season of survey and excavation undertaken by the University of Liverpool at the site of Medinet el-Gurob in the Faiyum region. The principal tasks accomplished were surface collection and analysis of pottery, field-walking for small finds, as well as auger boring and magnetometry survey in order to gain a better understanding of the subsurface remains. The project also excavated (1) a mud-brick kiln possibly used for working glass during the New Kingdom, and (2) a 6 x 6 metre square in the area presumed to be the northern half of the palace.



Figure 1. Auger boring in excavation square H14Aa at Gurob.

Introduction

The Gurob Project is a preliminary study of the urban and funerary remains at the 'harim town' of Mi-wer (Gurob) in the Faiyum region. The principal aims of the project are (1) to produce an accurate 1:1000 map of the site as a whole, combining GIS so as to allow our growing databases of ceramics, small finds and lithics to be mapped onto the visible surface features (2) to create more detailed plans of the main points of archaeological interest in the settlement and cemeteries, (3) to produce a basic modern corpus of pottery at the site, (4) to use satellite photographs, geophysical methods, core-drilling and surface examination to gain a better understanding of the original architecture and ancient activities, as well as the relationship between the site of Gurob and its landscape and environment and (5) to excavate selected areas in order to 'ground-proof' the geophysical survey and to supplement and clarify the information available from the survey.¹

The 2010 team consisted of ten members: Dr Ian Shaw (University of Liverpool, UK), Jan Picton (University College London), Ivor Pridden (University College London), Virpi Perunka (University of Helsinki), Daniel Boatright (University of Liverpool), Anna Hodgkinson (University of Liverpool), Anna Garnett (University of Liverpool), Judith Bunbury (University of Cambridge), Ashraf el-Senussi (Curator of the Kom Aushim Museum, SCA), Omar Faroukh, and our SCA inspector Nahela Mohammed Ahmed.

I would like to thank Dr Zahi Hawass and the Permanent Committee, Dr Ahmed Abd-el Aal (the director of the Faiyum branch of the SCA), Dr Mohammed Ismail in the SCA Documentation Centre, Cairo, and our inspector Nahela Mohammed Ahmed for their generous assistance and advice in our work at Gurob in 2010.

Our principal aims in the 2010 season of survey and excavation at Gurob are not only to seek confirmation of the overall layout and chronology of the settlement area of the site but also to understand the nature of Gurob as a whole. We are also aiming to gain a better understanding of the duration and nature of settlement at the site, and its relationship with the surrounding funerary remains and landscape. The six basic strands of work at the site in 2010, described below, were therefore topographical and architectural survey, excavation, pottery surface collection, small finds collection, auger boring, and magnetometry survey.

The pottery (Virpi Perunka, Ashraf el-Senussi and Anna Garnett)

During the 2010 season at Gurob we obtained pottery from two areas of excavation:

¹ Preliminary reports on the 2005, 2006, 2007, 2008 and 2009 seasons have been published in the following articles: I. Shaw, 'Gurob: the key to unlocking an Egyptian harem?', *Current World Archaeology* 23 (June/July 2007), 12-19; I. Shaw, 'A royal harem town of the New Kingdom: new fieldwork at Medinet el-Gurob', *Queens of Egypt*, ed. C. Ziegler (Paris: Somogy Art Publishers, 2008), 104-115; I. Shaw, 'Seeking the Ramesside royal harem: new fieldwork at Medinet el-Gurob', *Ramesside Studies in Honour of Kenneth Kitchen*, ed. M. Collier and S. Snape (Bolton: Rutherford Press, 2009), 207-17; I. Shaw et al. 'Preliminary report on the 2009 season at Gurob', *ASAE* in press.

H14Aa and Kiln 1. See Appendix for the statistics on H14Aa.

H14Aa pottery

This report uses the Vienna System in fabric classification.

The total amount of pottery from the area was about 3000 sherds, which is a great amount considering the size of the trench (3 x 6m). The excavators have suggested that the area might have been a rubbish dump left by earlier excavator at the site.

Due to the large amount of pottery as well as the fact that it does not come from a safe, clean archaeological context, the methodology for studying for pottery was chosen to be the following: only diagnostic sherds will be kept, sorted according to their shape and fabric.

Of the total amount of diagnostic potsherds examined, around 3000 sherds, a very high proportion (in total about 2300 sherds) were rim sherds made of Nile silt fabrics. Even though, in general, at most sites in Egypt throughout the pharaonic period, Nile silt fabrics (especially Nile B2) dominate in pottery production, the overwhelming share of Nile rim sherds at H14Aa is surprising. One possible explanation could be that the area of excavation is where the living quarters of the palace would have been located – hence the large quantities of Nile silt fabrics would derive from vessel types used in daily, household life – thus including many rims from table ware such as cups, bowls and plates. Additionally there were large amounts of sherds deriving from jars (especially beer jars). The high numbers of Nile silt fabrics beer jar bases were discovered might well result from the fact that these bases are thick and therefore survive well in the archaeological record.

A marker of New Kingdom royal cities is the high amount of blue-painted pottery, in total 70 sherds from square H14Aa. The blue-painted pottery is all made of Nile silt fabrics, as is the case in general. Most of the blue-painted sherds seem to be from small vessels, i.e. tableware.

Less than 10% of all diagnostic sherds are rims made of marl fabrics and very much of this material derives from storage jars, especially amphorae. A relatively high number of amphora handles (41) also testifies to this. Additionally 30 base sherds of marl fabrics were counted.

Foreign pottery in the contexts included 13 Canaanite sherds of which 10 were handles, thus indicating that almost all of the Canaanite pottery at the site derives from amphorae. The Mycenaean sherds are from fine walled vessels, small stirrup jars.



Figure 2. Some of the blue-painted pottery from square H14Aa at Gurob.

Small finds (Jan Picton)

In the 2010 season, small finds were either collected from the surface or excavated from the two excavation squares described below (H14Aa and Kiln 1). The surface finds had their provenances recorded in three dimensions using the total station, while those from the excavations were recorded primarily in terms of context (since many were found through sieving). In total 105 small finds were recorded.

A restricted season and a concentration on excavation limited us to one field walk in an area that was previously walked in 2006, immediately to the south of square H14Aa, in an attempt to understand how wind activity on the site reveals new features and material. As a result our finds were restricted to 13 objects, ranging from worked stone to faience fragments and one pre-fired potmark on a sherd.

The majority of other finds were small broken pieces of faience, especially ring shanks and sherds of vessels, and unidentifiable pieces of worked stone.

The two areas of excavation revealed different ranges of finds. The area H14Aa (17 small finds), probably largely a spoil heap from previous excavations in the palace area, yielded a particularly fine Thoth baboon amulet, an ear stud, and a comb fragment – unsurprising in a palace context. Support for identifying the Gurob palace as a centre for

textile production was provided by the discovery (in H14 and close by) of three fragments of 'spinning bowls', with thread-wear notches, and a loom weight.

The kiln at the junction of Grid N8/9, Kiln 1, produced a number of objects that may be associated with kiln working, and further study is required. A number of faience and glass fragments were recovered including a fragment of a glass vessel handle and a fine yellow glass bead. From this area a number of clay figurines were recovered, at least four (possibly five) fragmentary 'woman on a bed' figures, two suckling babies, and one fragmentary figure that may fall into the category of Petrie's 'crude Mycenaean figures' although so little remains of the object that it is difficult to be certain.

Other objects from this area that will require future study include a possible weight (a conical shaped piece of worked limestone weighing 74g) and a hieratic docket on a Canaanite amphora sherd.



Figure 3. Amulet of a seated Thoth baboon, carved from anorthosite gneiss (from square H14Aa at Gurob).

Among the more unusual finds this season were:

- A gneiss amulet of a seated Thoth baboon with sun disk and crescent moon on its head, very finely carved.
- At least four fragments of 'woman on a bed' pottery figurines, in two of which the women hold a baby to suckle at the left breast.

- An intact *Taweret* amulet of calcite.
- A hieratic docket on a sherd of a Canaanite amphora
- A possible weight, a shaped piece of worked limestone of 74g



Figure 4. Large fragment of a 'woman on a bed' pottery figurine, in which the woman holds a baby to suckle at the left breast (from Kiln 1 at Gurob).

Among the stone fragments collected were granite, quartzite, basalt and granodiorite and a small fragment of porphyry – none of which appear naturally at the site and indicate architectural or sculptural features that no longer survive.

Magnetometry survey (Dan Boatright and Ian Shaw)

The magnetometry survey was conducted between 11th and 13th April, using a Geoscan FM256 Fluxgate Gradiometer by Dan Boatright and Ian Shaw. The area surveyed was immediately north of the palace area, a part of the site that has yet to be excavated and may indicate the extent of the site beyond the royal and industrial areas. In early excavations of this site (Brunton and Engelbach 1927) the area is within the overall enclosure walls of the settlement, just beyond the palace area (then wrongly designated 'Temple of Tuthmosis III'). The 6800 sq m have been severely disturbed by recent activity and while every measure has been taken to limit this by removing surface anomalies prior to each grid survey, some subsurface material has clearly affected the results. The raw data revealed severe anomalies in the eastern sector of the traverse

area, and this progressively lessened towards the west. This corresponds with the previous magnetometry analysis of the site, though it was the first time the 20th-century military bunkers at Gurob were actively surveyed to determine the differences in readings. The bunkers themselves revealed useful background data from which to extrapolate and remove modern interferences.



Figure 5. Dan Boatright conducting magnetometry survey in the area to the north of the palace at Gurob.

The processed data revealed several distinct anomalies consistent with previous suggestions and conclusions about the site. Much of this area is relatively free of serious anomalies, though in the west two distinct linear bands of activity are revealed, possibly modern but in line with the ancient structures and possibly indicators of previous foundations. There are several further potential walls within the centre of this area, with vague linear patterns crossing the area. This could suggest features that are deeper, or less visible, due to the modern road way compacting the sand in this region of the site. Along the immediate north of the surveyed region is a clear linear band suggesting a prominent feature. This is consistent with a three-walled structure described by Brunton and Engelbach (1927) and is well placed to be part of this structure. Excavations in this area would be advantageous to determine the extent of these features and how they interact with the currently known archaeology.

Auger boring (Judith Bunbury and Omar Faroukh)

Geological Report

Two augers were sunk in the Gurob area. The first GU10/AS10 was to test the substructure of the excavation at H14Aa, while the second was to try to elucidate the structure of the floodplain and was placed near the Sheikh's Tombs (see map XXXX) at a distance of c.xx km to the east of the site.

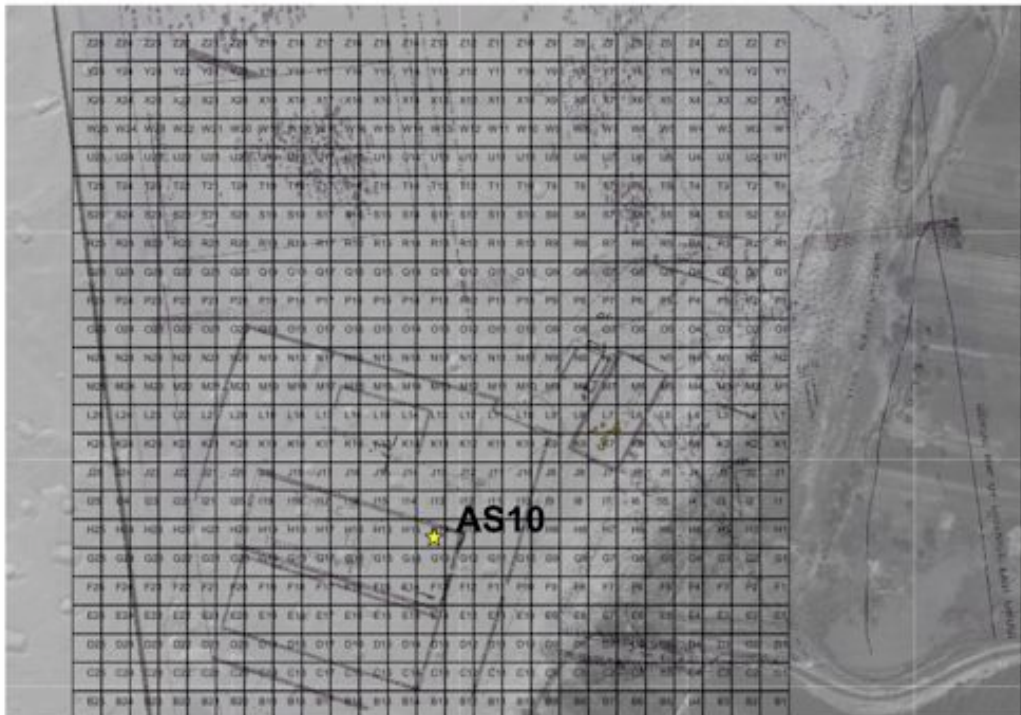


Figure 6. Map of site showing the approximate location of AS10, in the excavation in square H14Aa.

Results from Augering

AS10

The auger encountered the following units:

Depth	Units encountered	Preliminary interpretation
0 – 25 cm	Sherd rich sands	Remains of sieving by sebakhin
25 – 60 cm	Coarse desert sand containing fragments of sherd.	Post occupation fill of ruins
60 – 120 cm	Very coarse pebbly sand with no sherd fragments	Pre-construction aeolian sands

Further processing of clasts in the sediment may reveal further information.

AS11

The auger encountered the following units:

Depth	Units encountered	Preliminary interpretation
0 - 76 cm	Stiff Sherd bearing mud	Agricultural layer
76 – 300 cm	Silts without sherds	Floodplain deposits
300 – 335 cm	Very fine grained mud	Still water deposits
335 – 460 cm	Very fine grained mud with some rhizcretions, charcoal, a very small piece of sherd and anoxic lenses	Very shallow still water with some human intervention.
460 – 550 cm	Silts	Floodplain deposits
550 – 610 cm	Silt with coarser sand granules	Possible contact with desert edge

Further processing of clasts in the sediment may reveal further information.



Figure 7. GoogleEarth image of the area, showing some important features in the floodplain. These include the old Gisir (or basin divide) and an earlier limb of this Gisir.

now not visible but identified by Brunton and Engelbach. The location of the two auger bores of this season is also shown with AS11.

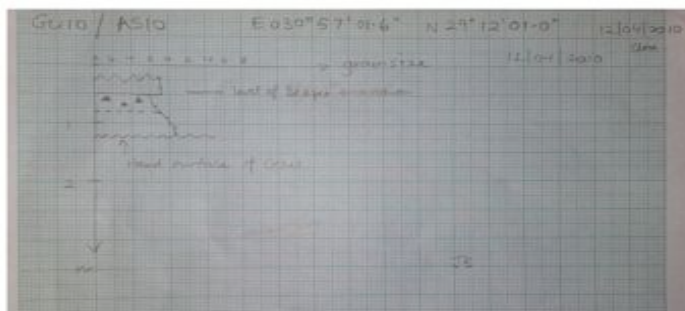


Figure 8. Draft log of AS10 showing the sherd-bearing sands (marked with triangles) overlying aeolian sands.

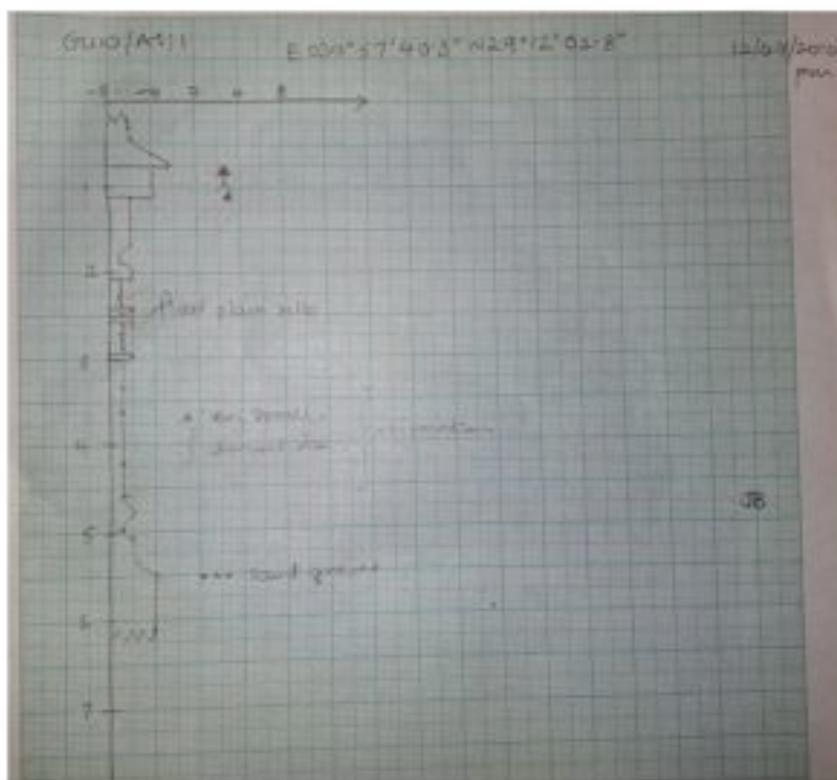


Figure 9. Draft log of AS11 showing the upper sherd-bearing deposits and a period of apparent lacustrine deposition sandwiched between floodplain deposits.

Conclusions

We conclude that the location of AS10 within the harem palace area suggests that the Harem was built onto sterile aeolian sands. As there is known to have been an influx of sand from the desiccating Sahara towards the end of the Old Kingdom, it seems probable that these natural sands were used as the foundation.

Further out into the floodplain, the complex pattern of field boundaries overlain by many canals is difficult to interpret. We know from the logs of Eleanor Hughes, in particular AS03 (2009), that the Nile floodplain was starved of sediment in this area during the New Kingdom. This conclusion is confirmed by the core AS11 (2010) which again suggests little sedimentation. In addition to this, core AS11 contains evidence of lake formation at some time in the past. Using the estimated rate of floodplain accumulation of 1 m / millennium, our core suggests that there was a lake associated with human activity between around 3500 and 4500 years ago.

The excavation of H14Aa (Ian Shaw and Jan Picton)

From 5 to 10 April we excavated an area of 3 x 6 m, comprising the northern half of a 6 x 6 m square situated in a gridsquare previously sampled (in 2006) as part of the pottery surface survey. Our aims in excavating here were firstly to allow us to compare surface and subsurface material, with a view to establishing the degree to which the subsurface material was predictive, and secondly to gain a clearer understanding of the northern part of the harem palace complex identified here by previous excavators.



Figure 10. Section at the western side of square H14AA at Gurob.

The initial immediately subsurface deposit encountered was very rich in potsherds, with some fragments of charcoal and occasionally small pieces of wood and bone, producing a very large number of diagnostic sherds of New Kingdom date, which are discussed above, in the section dealing with pottery. It gradually became apparent, however, that this sherd-dominated deposit (context 1001) was only around 30cm in depth, and that the deposit underlying it was much looser yellow sand (context 1002) with very few potsherds (apart from a small number that had probably percolated down from the overlying layer. We then removed context 1002 in a 2 x 3m rectangle at the western side of the square, taking it down to a depth of 65-75cm below the surface without seeing any change in nature of deposit. An auger boring taken in the square (see AS10 in the section on auger boring above) demonstrated that the gebel lay 60 cm further down below the deepest level of excavation (i.e. 120cm below the surface).

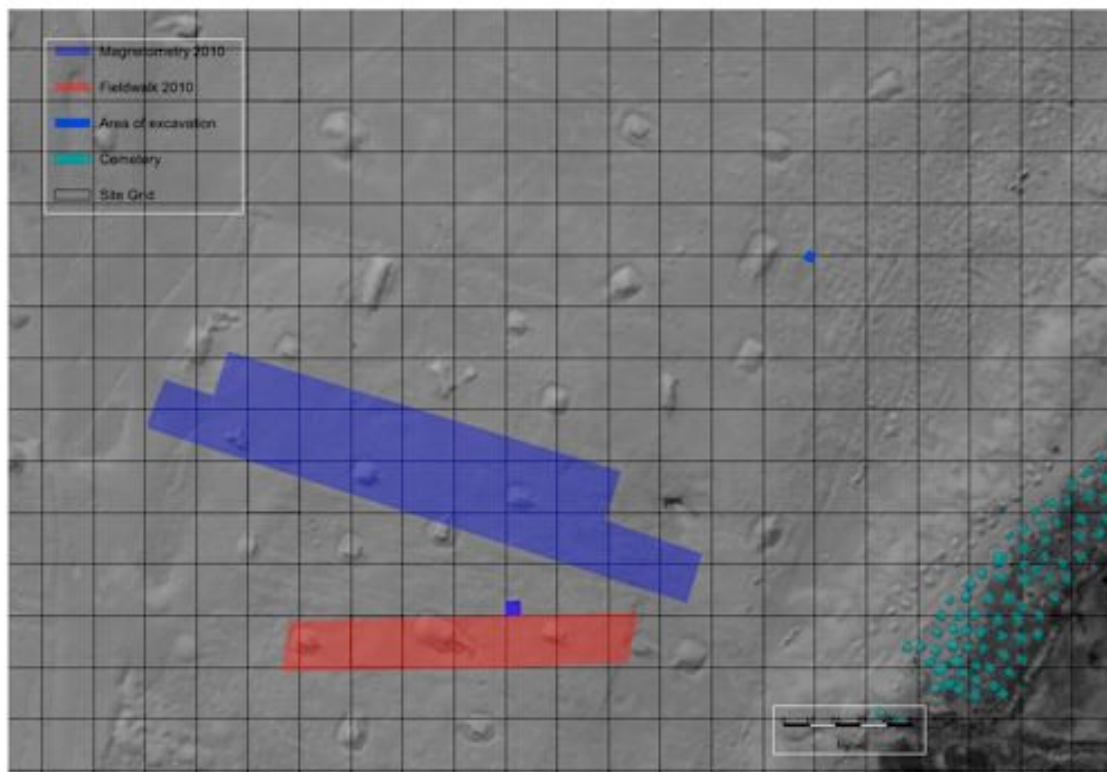


Figure 11. Satellite image of site with the main survey grid, showing the locations of excavation areas H14Aa and Kiln 1 (N8/9), as well as the areas of the fieldwalk (red) and the magnetometry survey (blue).

The overall view of this small area of excavation, within the part of the site assumed to be the northern section of the harem palace, is that it contains immediately subsurface material that may well derive from the palace and/or settlement, but that no mud-brick

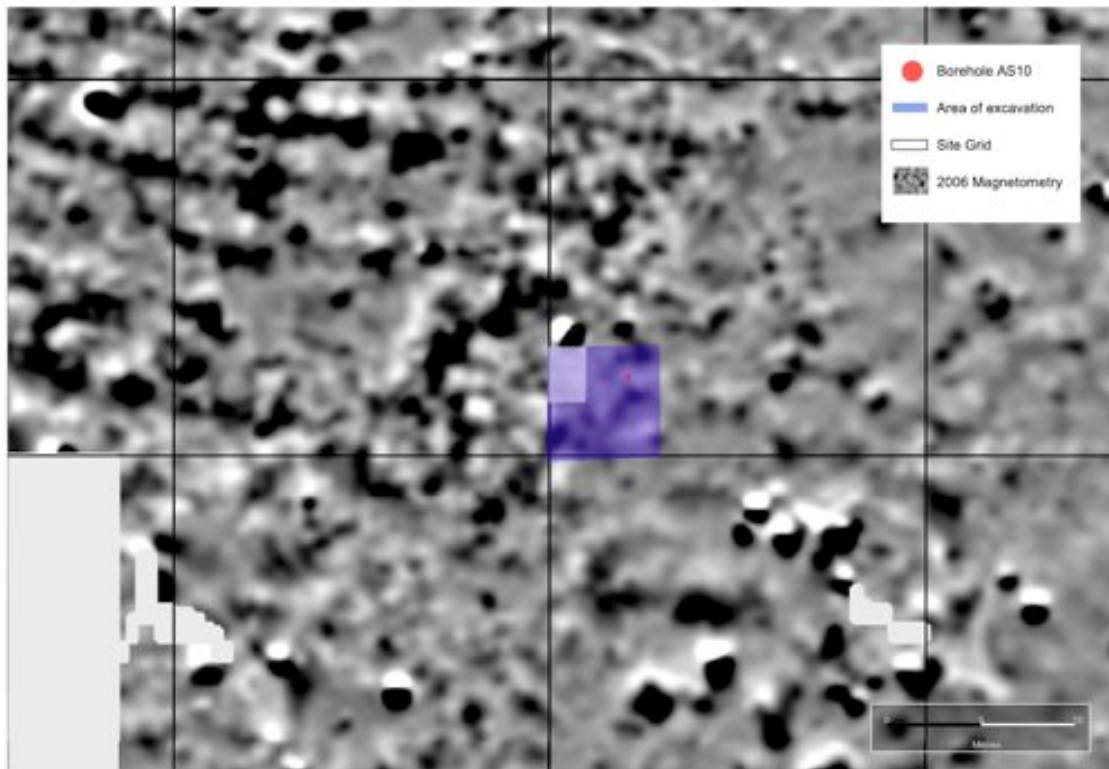


Figure 12: Magnetometry survey (2006-7) with area of H14Aa excavation square superimposed.

architecture has survived in this part of the complex. It may well also be the case that the deposit of sherds (context 1001) derives from earlier excavators' spoil. The lack of surviving brick walls would be in line with the descriptions given by Petrie and later excavators concerning the degree to which this part of the site had been destroyed by sebakhin. Better prospects for excavation of surviving mud-brick architecture may well be indicated by the anomalies revealed in the southeastern section of the palace by the 2009 GPR survey.

The kiln excavation (Anna Hodgkinson and Dan Boatright)

We commenced our work this season by cleaning up the area examined in the 2009 season. The edges of the 2009 kiln appeared less obvious, but the southwestern corner of the cleaning area revealed the remains of standing mud-brick architecture, slightly curved in plan. Therefore it was decided to continue the examination in this area, initially following the line of the mud-brick wall.

The perimeter of the kiln structure measures approximately 2.7-2.9m, which ties in with other kilns from the Egyptian New Kingdom, especially such associated with glass- and faience industries. 1

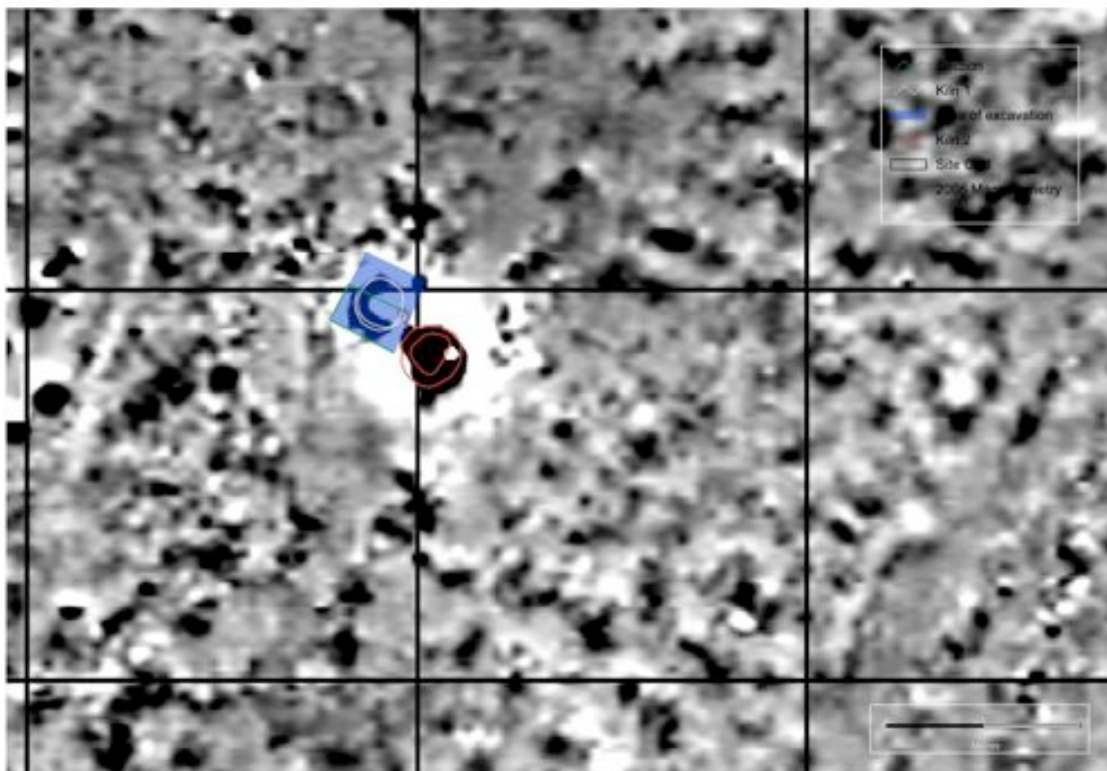


Figure 13: Magnetometry survey (2006-7) with area of Kiln 1 (N8/9) excavation area superimposed.

The layers outside the kiln wall perimeter encompass a layer, c.10cm thick, of surface sands, containing a multitude of ceramic sherds, mostly dating to the New Kingdom, slags and mud-bricks, either relating to this particular structure or to adjacent ones. This material is a mainly wind-borne deposit, overlying other sandy deposits. Most of these are virtually clean, containing only very few sherds or small pieces of mud-brick, mainly from erosion of adjacent mud-bricks. At a depth of c.0.7m below the modern surface, layers of compacted sand were found, pitted by lenses of loose sand, both of which contained charcoal. It has been proposed to sample this charcoal in future seasons and submit it for radiocarbon-dating.

The inside of the mud-brick kiln wall is coated in layer of dark-green – black slags, of c.2cm thickness. These slags are by-products of the firing procedures that took place in the kiln. The inside of the eastern wall appears slightly more eroded than the western one, but this could be due to the fact that the kiln was probably cleaned out a number of times in antiquity, or through wind-erosion. The fact that the slags appear dark-green in colour indicates a metal-, in particular copper-smelting function for this particular kiln, although its actual function and nature remain uncertain. The publication from the

first half of the last century² describes the “industrial area” at Gurob very briefly, but assigns a glass-working function to the kilns discovered then -this remains to be confirmed.



Figure 14. Kiln 1 photographed from the north.

At a depth of c.0.55m a second layer of mud-bricks was discovered along the inner wall of the kiln structure, possibly forming either a shelf, part of the kiln's base, or an additional protective layer. Adjacent to this, a layer of compacted sand, just slightly thicker than the additional mud-bricks, was found. Above these two layers, a layer of ashy material appeared, which was cleaned and photographed separately. Below the additional layer of mud-bricks on the kiln's inside, a layer of clean, loosely compacted sand, rather similar to that on the outside was found. This has now been interpreted as the base of the kiln, for the following reasons: 1) a sondage dug at the southern wall of the kiln did not show any further layers at a depth of an additional 10cm, and 2) the resemblance to the sands outside the kiln resembled this material and 3) appeared to undercut the structure of the wall. Within this sand, some pieces of mud-brick were found, which could either represent the final portion of collapse, or a broken mud floor.

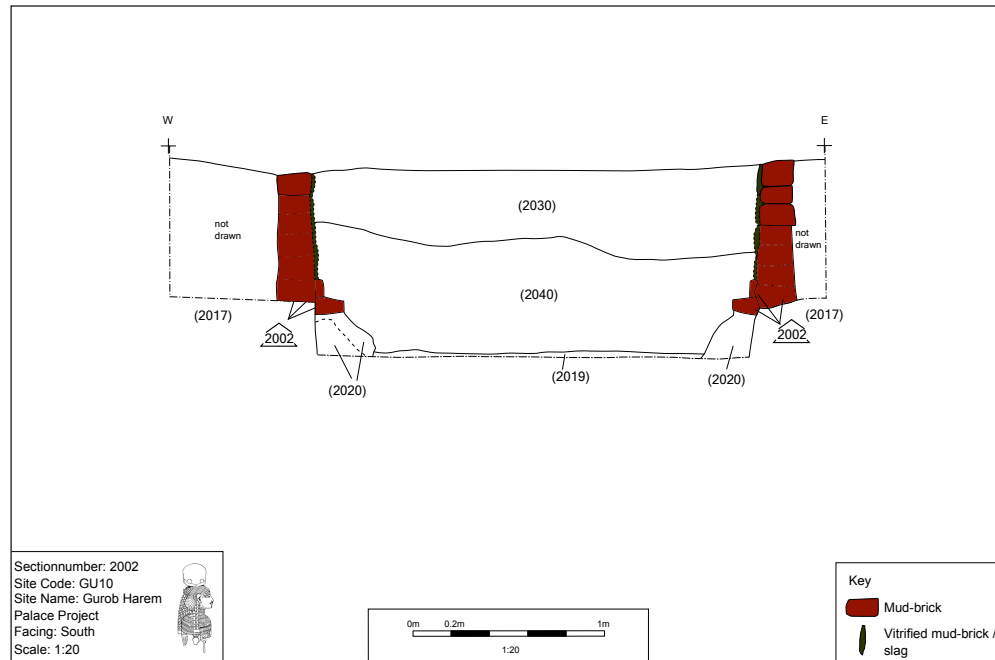


Figure 15. Profile drawing of Kiln 1.



Figure 16. Kiln 1 photographed from the south.

Summary

In the sixth season of work at Gurob we made excellent progress on several elements of our overall plan for the site: mapping, pottery surface collection, auger boring, geophysical survey, and excavation of selected features. We are now well advanced in producing a fundamental corpus of the characteristic fabrics and forms of pottery vessels at Gurob, which can then be compared with the existing New Kingdom corpora at Amarna, Memphis and other urban sites. Our excavations in the northern part of the palace and in the pyrotechnological area of the site are also beginning to clarify many issues concerning the nature and duration of the settlement at Gurob.

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