



The Gurob Harem Palace Project

Report to the SCA on archaeological survey undertaken at Gurob (31 March-7 April 2005)

Introduction

This project is a preliminary study of the urban and funerary remains at the well-known 'harim town' of Mi-wer (Gurob) in the Faiyum region. This is the first opportunity in modern times to assess the current state of the site, after its long period of military use. Our primary aim is to allow better sense to be made of the various late 19th- and early 20th-century excavations at the site by producing the first ever complete 1:1000 plan of the entire area (in a similar way to the survey of el-Amarna undertaken by Kemp in the 1970s and 1980s). The principal aims of the project are therefore to produce (1) a 1:1000 map of the site as a whole, (2) more detailed plans of the main points of archaeological interest in the settlement and cemeteries, (3) a basic modern corpus of pottery at the site.

The 2005 team consisted of three members: Dr Ian Shaw (University of Liverpool, UK), Mr Amir Kamal (University of Liverpool, UK) and Mr Ashraf el-Senussi (Curator of the Kom Aushim Museum, SCA). I would like to thank Dr el-Aidy, the director of the Faiyum branch of the SCA, and our inspector Mr Mohammed Ibrahim Mohammed for their generous assistance and advice in our work at Gurob.

The nature of the site

Gurob (or, to give it its full name, Medinet el-Gurob) primarily comprises a New Kingdom settlement and cemetery site at the south-eastern end of the Faiyum region, which was occupied from at least the early 18th Dynasty until the late Ramessid period. It was first excavated by Flinders Petrie in 1888-9. Gurob has been identified with the town of Mer-wer ('great channel/canal'), which was established by Thutmose III (1479-1425 BC) as a royal 'harim', and appears to have flourished during the reign of Amenhotep III (1391-1353 BC). During the Ramessid period, the presence of house remains above the palace enclosures suggests that the Tuthmosid harim palace phase was succeeded by a later phase of settlement during which the community may have been of a somewhat different character. Peter Lacovara's stratigraphic section drawing made in the southern part of the site in 1984, appears to confirm that there were two distinct phases of settlement at Gurob: (1) early/mid-18th Dynasty and (2) Ramessid.

Petrie excavated part of the New Kingdom town, as well as a building that he identified

as a temple, and cemeteries dating to the New Kingdom and the Ptolemaic period (332-30 BC). The work of subsequent British archaeologists concentrated primarily on the cemeteries, which ranged in date from the protodynastic to the Ptolemaic period. W.L.S. Loat mentions the remains of a small 18th-Dynasty village close to a fortified building, which may have been an early New Kingdom settlement similar to that beside the South Palace at Deir el-Ballas. In 1905 the town was investigated briefly by the German archaeologist Ludwig Borchardt, who suggested that the main enclosure-wall, contained not a temple - as Petrie had suggested - but a late 18th-Dynasty palace and harim as well as the town itself. In 1978 Barry Kemp synthesized the results of the various excavations to construct an impression of the New Kingdom harim-town which might have superseded the earlier village, but was itself eventually transformed into a small Ramessid town. Our principal aims in the 2005 season of survey at Gurob were to seek confirmation of the overall layout and chronology of the settlement area of the site.

We began work at the site on March 31 2005. We first established the location of the Gisir el-Bahlawan (on which the modern tarmac road has now been placed). We then examined the basic visible features of the site as a whole, our initial aim being to collect and identify representative samples of pottery from various areas, and to relocate the following features:

1. The town enclosure walls
2. The enclosure walls of the two 'palaces'
3. The 'expedition house' of Brunton & Engelbach
4. The tomb of Paramessu-neb-weben

In addition, we took measurements of mud bricks in a number of different parts of the site (see Appendix 2).

The town enclosure walls

Our initial attempts to find the town enclosure wall resulted in the discovery of a new mud-brick feature (G0012, see list of survey points in Appendix 3) located to the south of the town. Our first assumption was that this might be the southeastern corner of the town wall, but the measurements via GPS to the expedition house and the end of the Gisir el-Bahlawan didn't seem to be right. On consulting the satellite image it transpired that this feature was located about 50 metres to the south of the town. We do not yet know what this feature is, but have collected a small sample of surface pottery from it (see Appendix 1).

We eventually succeeded in relocating all three of the town-wall corners that were mapped by Petrie in 1888-9, and we also relocated virtually the whole of the local southern and eastern walls. We took several GPS points at these locations and they are listed below:

- *The southeast corner* (G0011: N 29° 11.963' E 30° 57.015'). Part of the outer enclosure wall of the town. It is an unusual section with four semi-circular buttresses. Distance to the expedition house is 210m. The wall curves round to the east, then north, from this point, stretching all the way along the east side of the town. We later found that the wall also continued westwards from this point

towards the southwestern corner of the town, and we were able to identify that this G0011 feature was probably the eastern one of a pair of towers flanking the southeast entrance to the town enclosure, the other 'tower' being much more eroded and visible only as a slight rise a few metres to the west. We collected a sample of pottery here. Photos G05/9-11 & 33-4

- *The northwest corner* (G0079: N 29° 12.104' E 30° 56.971'). This point appears to be the NW corner of the town. At the very corner some bricks are visible, but broadly speaking the top of the wall is v. eroded therefore not v. clearly visible. We located this NW corner by noting that it came v. close to wall G0061-63 at about a third of the way along the latter's length. It was also possible to detect the presence of the northern town wall heading eastwards from the NW corner along the non-entrance end of a bunker (G0052). This corner also aligns well with our previously discovered section of curved wall to the south. Photos: G05/38-39.
- *The northeast corner* (G0083: N 29° 12.064' E 30° 57.114'). This location is a thick and fairly well-made section of wall which could be the northeastern corner of the town enclosure, since it is well aligned with the northwestern corner and the back of the army bunker to the east of the latter. Photo: G05/42

The enclosure walls of the two palaces (P1 and P2)

On April 6 we relocated the northeastern corner of the P2 palace (the northernmost of the two palace enclosures) at a distance of about 30m to the south of the modern taftish hut. We walked along the line of this eastern wall of P2, most of which is fairly visible on the surface either as bricks or dark earth, and we feel that we can detect the entrance, just to the south-west of a small army bunker, and also the southeastern corner of P2, about 50m away from the northeast corner.

We next took several GPS survey points at the corners of palace enclosures P1 and P2. These are as follows:

- G0086 (N 29° 12.019' E 30° 57.058'). This is the northeastern corner of the P2 palace, as discussed above. It was easily located because the satellite image shows that it lies almost due south of the modern taftish hut, just to the west of a pair of bunkers (one large, one small), and at about the same distance from the taftish hut as the latter is from the eastern town enclosure wall (i.e. G0011-G0083). A fair number of actual bricks are clearly visible here, but too weathered to measure properly. *Photos: G05/47-48.*
- G0087 (N 29° 11.995' E 30° 57.045'). This is almost certainly the southeastern corner of the P2 palace, since it is 50m to the south of G0086 (the NE corner), and there are also traces of the beginning of the south wall of the P2 palace heading westwards from here. *Photos: G05/49-50.*

- G0088 (N 29° 12.011' E 30° 56.967'). This location is an arbitrarily chosen 10x5m area within the P1 palace enclosure (close to its western wall) for pottery collection.
- G0090 (N 29° 12.042' E 30° 56.975'). By having two people stand at the NE corner and along the N wall of the palace P2 enclosure it was possible to establish this point as the likely location of the northwestern corner of the P2 enclosure, c.140m west of the NE corner (G0086). It is noticeable that at this point the ground surface changes colour, with the decrease in sherds and mud brick, both to the north and west, suggesting that this is the edge of the enclosure, even though no brick walling is visible on the surface here.
- G0091 (N 29° 11.970' E 30° 57.035'). As with G0090, this is the notional location of the SE corner of the P1 palace. We gained this point by walking for 25m from the southern town enclosure wall (G0011-71), at which point the GPS indicates that this point is about 50-55m from the northeast corner of the P2 palace, with which it's clearly aligned. Nothing specific is visible at the surface here, neither changes in the colour of the ground surface nor any sign of bricks.
- G0092 (N 29° 11.998' E 30° 56.948'). This is the notional location of the southwest corner of the P1 palace enclosure, about 20m from the outer town wall. The distance to the southeastern corner of P1 (G0091) is about 140m, and the distance to the northwestern corner of the P2 palace (G0090) is about 90m.

Pottery surface collection

During the archaeological work in Gurab site (Fayoum) in 2005 many pottery sherds were collected particularly rims and bases, moreover few of handles, all date to the New kingdom, particularly from late dynasty 18 to dynasty 19, showing a variety of types and fabrics. See Appendix 1 for a detailed summary of the data from the pottery survey.

The early 20th-century expedition house

We have almost certainly found the expedition house, which lies at the junction of the two wadis to the south of the site, about 30 metres from the southwestern corner of the ancient town enclosure wall. The house now consists of only a few walls (incorporating some red brick), some with painted plaster.

The tomb of Paramessu-nebweben

We were able to identify with reasonable certainty the location of the tomb of Paramessu-nebweben, by comparing the satellite image with the various previous maps indicating the position of the 19th-Dynasty cemetery in the north-eastern part of the site. We photographed and measured the shaft of Paramessu-nebweben's tomb and took GPS readings. Our measurements appeared to confirm that this shaft is the one recorded by Brunton and Engelbach in 1920.

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Figure 1. General view of the site of Medinet el-Gurob.



Figure 2. Southeast gateway of the town enclosure wall at Gurob.



Figure 3. Tomb of a Ramessid élite individual, Paramessu-nebweben, in the New Kingdom cemetery at the northern end of Gurob.



Figure 4. A disc bead and fragment of blue faience vessel from the area to the north of the town.



Figure 5. Mycenaean sherd (GU05/31) from the western side of the town enclosure.

Appendix 1: The Gurob pottery surface survey (2005)

1. *South-east corner of town enclosure wall* (G011; N 29° 11.963' E 30° 57.015'): This is an unusual section of wall, with at least four semi-circular buttresses. The wall curves round to the east, then north, from this point, stretching all the way along the east side of the town. Photos: G05/9-11 & 33-4

No	Description	Fabric	Surface treatment
1	Rim sherd of meat jar. ¹	Hard Nile D in reddish brown fracture with gray core.	The outer surface is slipped by pale yellow color of 2.5Y7/4; the inner is plain in brown color of 7.5YR7/2.
2	Rim sherd of meat jar.	Marl A1 in reddish brown fracture with gray core.	The outer surface is slipped by pale yellow color of 2.5Y7/3; the inner is plain in dark gray color of 7.5YR3/1.
3	Rim sherd of Amphora.	Marl A4 in very pale brown fracture.	Both surfaces are plain in pale yellow color of 5Y7/3.
4	Rim sherd of Amphora.	Marl A4 in pink fracture.	Both surfaces are plain, out is in pale yellow color of 5Y7/3, the inner is in light reddish brown color of 5YR6/4.
5	Rim sherd of meat jar.	Marl A1 in reddish brown fracture with gray core.	Both surfaces are plain, out in pale yellow color of 5Y7/3; the inner is in dark reddish gray color of 2.5YR5/4.
6	Rim sherd of round bottomed, storage jar with short neck and out rolled rim.	Sandy Nile B2 in reddish brown fracture with black core.	The outer surface is slipped by white color; the inner is plain in reddish brown color of 2.5YR5/4.
7	Rim sherd of round bottomed, storage jar with short neck and out rolled rim.	Sandy Nile B2 in red fracture.	Both surfaces are slipped by red color of 10R5/6.
8	Rim sherd of round bottomed, storage jar with short neck and out rolled rim. ²	Sandy Nile B2 in red fracture.	Both surfaces are plain in reddish brown color of 5YR5/4.
9	Ring base of probably	Marl A4 in very pale	Both surfaces are plain in

¹ The 1st appearance of the meat jar was in late dynasty 18 and became pulpier from late 18 dynasty to dynasty 21 (Aston, 1999, P. 20) see for comparada Amarna, late dynasty 18 (Peet and Woolly, 1923, Pl. LXII,) – dynasty 19 from Elephantine (Aston, 1999, Pl. 2 No. 33 and P. 20)

² Date to late 18 and 19 dynasty from Gurob (Brunton and Engelbach, 1927, Pl. XXXVI No. 37 R).

No	Description	Fabric	Surface treatment
	pitcher.	brown fracture.	pale yellow color of 5Y7/3.
10	Handle of Amphora or jar.	Marl D in reddish brown fracture.	The outer surface is slipped by pale olive color of 5Y6/3; the inner is slipped by reddish brown.

2. *Large rectangular mud-brick feature to the southeast of the main town enclosure (G0012: N 29° 11.900' E 30° 56.992').* This building, not marked on previous maps of the site, is situated opposite a small spur of desert to the east of the tarmac road. Not much surface pottery is visible; we collected three sherds (three rims and a body-sherd with potmark). Photo: G05/60).

No	Description	Fabric	Surface treatment
28	Rim sherd of round bottomed dish with direct rim. ³	Nile B2 with some organic material.	Both surfaces are slipped by red color of 10R5/6.
29	Rim sherd of basin with out flared rim.	Sandy Nile B2 in reddish brown fracture with gray core.	Both surfaces are slipped in red color of 10R5/6.
30	Body sherd of probably storage jar incised with decorated element.	Marl D in reddish gray fracture.	The outer surface is slipped by red color of 10R5/6; the inner is plain in reddish brown color of 2.5YR5/4.

3. *First Intermediate Period cemetery area (G0026-27; N 29° 12.008' E 30° 57.123' & N 29° 11.990' E 30° 57.141')* Location close to point E-3 on Brunton and Engelbach's map. Between points G0026 and G0027 we made a surface collection of pottery, comprising about a dozen diagnostic sherds, most of which were rims and bases. They are all New Kingdom in date, therefore, as with G0085 below, the surface pottery is unable to confirm the nature of the subsurface remains. Photos: G05/68-70.

No	Description	Fabric	Surface treatment
18	Complete profile of ring based bowl with direct rim. ⁴	Sandy Nile B2 in red fracture.	Both surfaces are slipped by red color of 10R5/6 with black band around the rim.
19	Rim sherd of dish with	Sandy Nile B2 in reddish	Both surfaces are plain in

³ These type concorders one of the common type in the 19 dynasty and distributed in many sites in Egypt such as Qantir, Saqqara, Gurab, Balabish and Der El Madina. (Aston, 1999, Pl. 1 No. 19)

⁴ The exactly bowl with black band vary in date between mid 18 dynasty to late New kingdom (Aston, A&L VI, Tafel 10, No. 15 and P. 182) also observed from Karnak which date by Aston to late 18 dynasty.

No	Description	Fabric	Surface treatment
	molded rim ⁵ .	brown fracture with black core.	reddish yellow color of 5YR6/6.
20	Rim sherd of globular jar. ⁶	Sandy Nile B2 in brown fracture.	The outer surface is slipped by reddish yellow color of 5YR6/6; the inner is plain in brown color of 7.5YR4/2.
21	Rim sherd of carinated bowl. ⁷	Sandy Nile B2 in brown fracture with black core.	The outer surface is plain in light brown color of 7.5YR6/4; the inner is slipped by red color of 10R5/6.
22	Rim sherd of probably lid. ⁸	Mixed clay in reddish gray fracture with lots of sand.	The surface is weathered.
23	Hollowed base of rough made beer jar. ⁹	Sandy Nile B2 in reddish brown fracture with black core.	Both surfaces are plain in light red color of 2.5YR6/6.
24	Base of ring bottomed bowl with direct rim.	Sandy Nile B2 in reddish brown fracture with black core.	Both surfaces are slipped by red color of 10R5/6.
25	Round base of jar.	Nile C in dark gray fracture.	Both surfaces are plain in reddish brown color of 5YR5/4.
26	Handle of Amphora.	Marl D in red fracture with pale yellow core.	Surface is plain in light red color of 10R6/6.

4. *Main town entrance midway along eastern enclosure wall* (G0075: N 29° 11.984' E 30° 57.067'). Possible highly eroded buttressed 'tower' similar to G0011. This is in the correct position to be part of the main town gateway in the eastern town wall. Also, the area immediately to the northwest is slightly lower-lying, and no bricks are visible, suggesting that this is the entrance itself. The pottery included a bodysherd of blue-painted pottery. Photo: G05/71.

⁵ Date to dynasty 19 (Aston, 1999, Pl. 1 No. 16 and P. 18).

⁶ Date to late New Kingdom, (Aston, 1999, Pl. 4, No. 63, P. 27).

⁷ Date to late 18 dynasty from Amarna (Peet and Woolly, 1923, Pl. LIII), date to late 18 and 19 dynasty from Reqqa (Engelbach, 1915, Pl. XXXIV)

⁸ Could be lid and date to dynasty 19 (Aston, 1999, Pl. 1 No. 22 and P. 18), could be also rim of round bottomed dish with direct rim and date to late New kingdom (Aston, 1999, Pl. 4 No. 80 and P.28).

⁹ Date to dynasty 19 from Elephantine (Aston, 1999, Pl. 1 No. 4 P.15, 16), late 18 and dynasty 19 from Gurab, (Petrie, 1890, Pl. XX, No. 21) also could be date according to the narrower base to the late New Kingdom, (Aston, 1999, Pl. 3 No. 60 and P. 27), also could be a base of flower pot date to 18-19 dynasty from Gurob (Brunton and Engelbach, 1927, Pl. XXXIV No. 13W).

No	Description	Fabric	Surface treatment
11	Rim sherd of pointed based Amphora or jar.	Fine marl A4 in thin gray fracture with few of fine straw.	Both surfaces are plain in pale yellow color of 5Y7/3.
12	Rim sherd of pointed based Amphora. ¹⁰	Marl D in thin red fracture.	Both surfaces are plain in pale yellow color of 5Y7/3.
13	Rim sherd of meat jar.	Marl D in reddish brown fracture.	The outer surface is slipped by pale yellow color of 5Y7/3; the inner is plain in dark gray color.
14	Rim sherd of ring bottomed bowl with direct rim.	Nile B2 with some organic material in red fracture.	Both surfaces are plain reddish brown color of 2.5Y5/4.
15	Body sherd of blue painted ware.	Nile B2 in reddish brown fracture.	The outer surface is painted by blue and black color, the inner is plain reddish brown color of 2.5YR5/3.
16	Handle of Amphora.	Marl D in red fracture.	The outer surface is slipped by pale yellow color of 5Y7/3; the inner is plain weak red color of 10R5/4.
17	Handle of probably small tall Amphora.	Mixed clay in reddish brown fracture with lots of sand.	The outer surface is slipped by reddish yellow color of 7.5YR6/6; the inner is plain in reddish brown color of 5YR5/4.

5. *Point in northernmost part of eastern town wall* (G0076: N 29° 12.050' E 30° 57.111'). This point is 150m north of the possible entrance (G0075), and 230m north of G0011 (the buttressed SE gateway of the town encl. wall). This is the findspot of a Mycenaean bodysherd. Photo: G05/46.

No	Description	Fabric	Surface treatment
31	Body sherd decorated by red and brown lines.	Mycenaean, hard, dense ware in pale yellow fracture.	The outer surface is decorated by red and brown lines; the inner is plain in very pale brown color of 10YR7/3.

6. *Likely location of protodynastic Cemetery O* (G0085: N 29° 12.253' E 30° 57.252'). This is an area of low-lying land just to the south of the 'low salty land'
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(G0006) indicated on Brunton and Engelbach's map. It may possibly be the location of their Cemetery O, but the pottery collected here is New Kingdom, so we have no artefacts on the surface to confirm this identification. Photos: G05/58-9.

No	Description	Fabric	Surface treatment
32	Rim sherd of round bottomed storage jar with concave neck and rolled rim. ¹¹	Mixed clay with limestone and few of grog and sand.	The outer surface is slipped by pale yellow color of 5Y7/3; the inner is plain in reddish brown color of 5YR5/4.
33	Rim sherd of 2 handles ovoid, less neck jar. ¹²	Sandy Nile B2 in reddish brown fracture with gray core.	The outer surface is slipped by pale yellow color of 5Y7/3; the inner is plain in reddish brown color of 5YR5/4.
34	Rim sherd of open mouth, round bottomed, storage jar with out rolled rim. ¹³	Marl D in black fracture.	The outer surface is slipped by pale yellow color of 5Y7/3; the inner is plain in dark gray color of 5Yr4/1.
35	Base of ring bottomed bowl with direct rim.	Nile B2 in reddish brown fracture with black core.	The outer surface is slipped by red color of 10R5/6; the inner is plain in light reddish brown color of 5YR6/3.

7. *Area (10x5m rectangle) within the P1 palace enclosure, close to its western wall (G0088: N 29° 12.011' E 30° 56.967').* This area was arbitrarily chosen in order to provide a sample of pottery from within the palace enclosure rather than from the edges of the town. Photos: G05/63-7.

No	Description	Fabric	Surface treatment
36	Rim sherd of open mouth, round bottomed, storage jar with out rolled rim.	Nile B2 in red fracture.	The outer surface is slipped by reddish yellow color of 5YR6/6; the inner is plain in reddish brown color of 2.YR5/4.
37	Rim sherd of open mouth jar.	Marl ware in dark reddish gray fracture with lots of decomposed limestone.	Both surfaces are slipped by pale yellow color of 5Y7/3.

¹¹ Date to the late 18 dynasty from Amarna (Peet and Woolly, 1923, Pl. XLIX), from Reqqa (Engelbach, 1915, Pl. XXXVI No. 26m).

¹² Date to late New Kingdom from Elephantine, (Aston, 1999, Pl. 4 No.70 and P. 27).

¹³ Date to the late 18 dynasty from Amarna (Peet and Woolly, 1923, Pl. XLIX).

No	Description	Fabric	Surface treatment
38	Rim sherd of open mouth, round bottomed jar.	Nile B2 in red fracture.	The outer surface till the inner rim is slipped by white color; the rest is plain in reddish brown color of 2.5YR5/3.
39	Rim sherd of ring bottomed bowl with direct rim.	Sandy Nile B2 in brown fracture with thin red core.	Both surfaces are slipped by weak red color of 10R5/4.
40	Rim sherd of carinated bowl.	Marl D in red fracture with gray core.	Both surfaces are slipped by light red color of 2.5YR6/6.
41	Rim sherd of round bottomed, storage jar with short neck and out rolled rim.	Sandy Nile B2 in red fracture.	The outer surface is slipped by red color of 10R4/6; the inner is plain in reddish brown color of 2.5YR5/3.
42	Rim sherd of 2 handles ovoid, less neck jar.	Sandy Nile B2 in red fracture.	Both surfaces are slipped by red color of 10R4/6.
43	Rim sherd of open mouth, round bottomed jar with inner molded rim. ¹⁴	Nile B2 in reddish brown fracture with black core.	Both surfaces are plain in reddish brown color of 2.5YR5/4.
44	Rim sherd of probably lid.	Nile B2 with some organic material.	Both surfaces are plain in reddish brown color of 2.5YR5/4.
45	Rim sherd of ring bottomed dish with ledges below direct rim. ¹⁵	Nile C in red brown fracture with black core.	Slipped by reddish yellow color of 5Y6/6.
46, 47	Rim sherd of dish with molded rim and round or flat base.	Nile C in red fracture with gray core.	Both surfaces are plain in, light brown color of 7.5YR6/4.
48	Rim sherd of round bottomed bowl with out rolled rim.	Nile C in reddish brown fracture with black core.	Both surfaces are plain in red color of 10R5+6/6.
49	Rim sherd of small tall Amphora. ¹⁶	Fine marl D in thin gray fracture.	Both surfaces are plain in very pale brown color of 10YR7/4.
50	Rim sherd of carinated bowl with round base. ¹⁷	Sandy Nile B2 in reddish brown fracture with black core.	Both surfaces are plain in reddish brown color of 5YR5/4.

¹⁴ Date to the late 18 dynasty from Amarna (Peet and Woolly, 1923, Pl. III)

¹⁵ Date to late 18 dynasty from El Amarna, (Peet and Woolly, 1923, Pl. XLVII)

¹⁶ Date to dynast 19 (Aston, 1999, Pl. 2 No. 39 and P. 22).

¹⁷ The shard could be rim of bowl and date to late New kingdom (Aston, 1999, Pl. 5 No.96-99 and P.30) or could be a rim of open mouth jar; Aston attested the same doubt with a smeller shard from Elephantine (Aston, 1999, Pl. 8 No. 173 and P.39).

No	Description	Fabric	Surface treatment
51	Rim sherd of dish with molded rim and round or flat base. ¹⁸	Nile C in black core boarded by reddish brown.	Both surfaces are plain in reddish brown color of 5YR5/4.
52	Rim sherd of small tall Amphora.	Marl A4 in red fracture with gray core.	Both surfaces are plain in very pale brown color of 10YR7/3.
53	Slightly round base of small size jar.	Sandy Nile B2 in brown fracture.	The outer surface is slipped by red color of 10R5/6; the inner is plain in light brown color of 7.5YR6/4.
54	Rim sherd of open mouth, round bottomed, storage jar with out rolled rim.	Marl A4 in pink fracture.	Both surfaces are slipped by very pale brown color of 10YR7/3.
55	Base of Amphora. ¹⁹	Marl A4 in pink fracture with gray core.	The outer surface is plain in light red color of 2.5YR6/6 with some patches of pale yellow color.
56	Base of Amphora.	Marl D in reddish gray fracture.	The outer surface is slipped by pale yellow 5Y7/3; the inner is plain light reddish brown color of 5YR6/4.
57	Handle of Amphora.	Marl A4 in very pale brown fracture.	Slipped by reddish yellow color of 5YR6/6.

8. *Between SW corner of town wall and SW corner of P1 palace* (G0093: N 29° 11.994' E 30° 56.945'). Findspot of another Mycenaean potsherd. Photos: G05/55-56.

¹⁸ Only the rim of this type preserved so it might be with flat base as occurred in Amarna from the late 18 dynasty (Peet and Woolly, 1923, Pl. XLVII) or with round base as occurred in Elephantine from late New kingdom (Aston, 1999, Pl, 4 No. 93 and P.30) another example of round base occurred in Thebes date to dynasty 19 (Petrie, 1897, Pl. XVII No. 10)

¹⁹ It could be an imitation of the Canaanite Amphora, data to late dynasty 18 from Hebwa, North Sinai, made of Marl F (Aston, 1997, Pl. 11 No. 14 and P. 43) the contemporary shape from Palestine date to late bronze I/IIa which equal dynasties 18 and 19 of the Egyptian history (Amiran, 1969, P. 124Pl. 43).

Appendix 2: Mud brick measurements in various parts of the town enclosure area

Point on diagonal wall to west of town (G0061-63)	28 x 9 x 9 cm
Point on likely southern town wall (G0011-G0071)	28 x 12 x 8 cm
Probable SE corner of town (G0011)	28 x 12 x 8 cm
Army bunker/silo (G0049)	28 x 12 x 8 cm
Army bunker/silo (G0036)	22 x 12 x 8 cm
Army bunker/silo (G0081)	22 x 12 x 8 cm
L-shaped wall near NE town corner (G0082)	26 x 13 x ? cm*
Likely NE town corner	26 x 13 x ? cm*

NB Measurements marked with an asterisk give only two dimensions because the degradation of the wall surface made it impossible to measure the brick's depth.

Appendix 3: List of GPS survey points created in the 2005 season

G0001

N 29° 11.900'

E 30° 57.020'

The northern edge of the little spur of desert to the east of the road, at the southeastern corner of the site. We took a GPS point here so as to measure the distance between here and the western end of Gisir el-Bahlawan.

G0002

N 29° 12.007'

E 30° 57.061'

Army bunker, near the taftish-hut. We originally thought that this was part of the enclosure wall at the eastern side of one of the palace structures, probably P2, but it's now clear that it's actually a military bunker with a small internal room.

G0003

N 29° 12.057'

E 30° 56.964'

Small (5x10m) area of exposed mud-brick enclosure wall at the western side of the enclosure wall of the town. This seems to be correctly aligned with the expedition house, which is 200m away. This point is 280m away from the western end of the Gisir el-Bahlawan.

G0004

N 29° 12.049'

E 30° 56.955'

The probable remains of Brunton & Engelbach's expedition house.

G0005

N 29° 12.497'

E 30° 57.006'

Possible location of the tomb-shaft of Paramessu-nebweben. The top of the tomb-shaft is 260cm long and 140cm wide.

The distance from this tomb to the west end of Gisir el-Bahlawan is 970m and to the expedition house is 830m.

Photos G05/35-7

G0006

N 29° 12.298'

E 30° 57.196'

This point was taken roughly in the middle of a salty area marked on Brunton & Engelbach's map ('low salty land' to the north of their point O). Distance to west end of Gisir el-Bahlawan is 610m.

G0007

N 29° 12.239'

E 30° 57.200'

Location of small find of copper slag, roughly in the area of the proto-dynastic cemetery near G0006 (salty area).

Photo G05/1

G0008

N 29° 12.219'

E 30° 57.211'

Rim sherd of a black-painted blue faience plate, found on the surface, near the protodynastic cemetery.

G0009

N 29° 12.123'

E 30° 57.154'

Fragment of blue faience black-painted plate, and also blue faience disc bead.

Photo G05/2

G0010

N 29° 12.054'

E 30° 57.123'

Possible glass-working area, located roughly to the west of the 'fort' included on the old plans. Vitrified material (glass slag fragments?) found, as well as a base-fragment of pottery that might possibly be from a 'crucible'.

Photos G05/3-5

G0011

N 29° 11.963'

E 30° 57.015'

Probable part of the outer enclosure wall of the town. It is an unusual section with four semi-circular buttresses. Distance to the expedition house is 210m. The wall curves round to the east, then north, from this point, stretching all the way along the east side of the town. We later found that the wall also continued westwards from this point towards the southwestern corner of the town, and we were able to identify that this G0011 feature was probably the eastern one of a pair of towers flanking the southeast entrance to the town enclosure, the other 'tower' being much more eroded and visible only as a slight rise a few metres to the west. We collected a sample of pottery here.

Photos G05/9-11 & 33-4

G0012

N 29° 11.900'

E 30° 56.992'

Rectangular mud-brick built feature to the southeast of the main town enclosure, opposite a small spur of desert to the east of the tarmac road. From this site we collected three sherds (three rims and a body-sherd with potmark).

G0013

N 29° 11.986'

E 30° 57.072'

Point on the outer wall to the east side of the town, midway between the taftish hut and the western end of the Gisir el-Bahlawan.

G0014

N 29° 11.985'

E 30° 57.068'

Second point on the eastern town wall (between G0011 and G0013).

G0015

N 29° 11.981'
E 30° 57.061'
Third point on G0011-13 wall.

G0016
N 29° 11.977'
E 30° 57.055'
Fourth point on G0011-13 wall

G0017
N 29° 11.973'
E 30° 57.050'
Fifth point on G0011-13 wall

G0018
N 29° 11.970'
E 30° 57.045'
Sixth point on G0011-13 wall

G0019
N 29° 11.964'
E 30° 57.040'
Seventh point on G0011-13 wall

G0020
N 29° 11.959'
E 30° 57.036'
Eighth point on G0011-13 wall – beginning of curved corner

G0021
N 29° 11.959'
E 30° 57.032'
Ninth point on G0011-13 wall – curved corner section

G0022
N 29° 11.958'
E 30° 57.027'
Tenth point on G0011-13 wall – curved corner section

G0023
N 29° 11.958'
E 30° 57.022'
Eleventh point on G0011-13 wall – curved corner section

G0024

N 29° 12.057'

E 30° 56.966'

Possible section of W. town enclosure wall, 220m to the west of G0013

G0025

N 29° 12.035'

E 30° 57.067'

Location of modern taftish hut

G0026

N 29° 12.008'

E 30° 57.123'

Point on the northwestern edge of the First Intermediate Period cemetery (close to point E-3 on Brunton and Engelbach's map).

G0027

N 29° 11.990'

E 30° 57.141'

Southeastern edge of the First Intermediate Period cemetery (edge of modern cultivation).

G0028

N 29° 11.986'

E 30° 57.142'

Southern end of the 'old gisr' shown on Brunton and Engelbach's map, running between Gisr el-Bahlawan and the 'fort'.

G0029

N 29° 12.006'

E 30° 57.158'

A point roughly midway along the 'old gisr'

G0030

N 29° 12.020'

E 30° 57.171'

The northern end of the 'old gisr', i.e. the point closest to the 'fort'.

G0031

N 29° 12.045'

E 30° 57.026'

The southern end of a c.10m line of sherd concentrations, which may possibly be part of the east wall of the unidentified enclosure in the northern part of the town enclosure.

G0032

N 29° 12.051'

E 30° 57.030'

The northern end of the c.10m series of sherd concentrations mentioned in description of G0031 above.

G0033

N 29° 11.974'

E 30° 57.057'

Army bunker

G0034

N 29° 11.993'

E 30° 57.016'

Army bunker

G0035

N 29° 12.013'

E 30° 57.012'

The long army bunker that has compartments in it making it look like an ancient magazine block (clearly visible on satellite image, with its curved entrance way). In the vicinity of this bunker are several small circular (c.0.6m diameter) brick-lined features, which might possibly be ancient.

G0036

N 29° 12.013'

E 30° 57.039'

Possible army bunker, but the entrance is on the long side rather than in the middle of the short side (as is usually the case). Also the walls here seem to go up to ground level rather than a little below it (i.e. rather than just lining a pit). One wall is partly plastered and partly also buttressed. When we initially examined this 'bunker' we thought that it was in the correct relationship to the west end of the Gisir el-Bahlawan and the feature to the southeast of the town (i.e. G0012) to be the north wall of the P2 palace, however, by 6 April we had identified the outlines of the P2 palace, and it is clear that this bunker lies several metres to the north of the P2 palace.

Photo G05/27-28.

G0037

N 29° 12.033'

E 30° 56.991'

Army bunker

G0038

N 29° 12.050'

E 30° 56.997'

Army bunker

G0039

N 29° 12.033'
E 30° 56.989'
Army bunker

G0040
N 29° 12.015'
E 30° 56.972'
Army bunker

G0041
N 29° 11.995'
E 30° 56.986'
Army bunker. This one has a wooden peg in one corner, perhaps evidence of the army having laid out the basic rectangle for construction of bunker.

G0042
N 29° 11.978'
E 30° 56.986'
Army bunker

G0043
N 29° 12.005'
E 30° 57.069'
Army bunker

G0044
N 29° 12.030'
E 30° 57.092'
Army bunker

G0045
N 29° 12.060'
E 30° 57.069'
Army bunker which includes at least two modern red bricks, demonstrating that these bunkers are modern constructions.
Photos G05/17-20.

G0046
N 29° 12.116'
E 30° 57.069'
Army bunker

G0047
N 29° 12.083'
E 30° 57.060'
Army bunker

G0048

N 29° 12.077'

E 30° 57.036'

Army bunker

G0049

N 29° 12.059'

E 30° 57.043'

Army bunker

G0050

N 29° 12.068'

E 30° 57.023'

Army bunker

G0051

N 29° 12.070'

E 30° 57.014'

Army bunker. This one has a buttressed south wall and may possibly be on the north wall of palace P2.

G0052

N 29° 12.089'

E 30° 57.002'

Army bunker. This is another long one with magazine-like niches.

G0053

N 29° 12.075'

E 30° 56.998'

Strange star-shaped mud-brick feature (column-base?). Lies outside the P2 palace, between it and the northern town enclosure wall.

Photo G05/21-22.

G0054

N 29° 12.076'

E 30° 56.981'

Army bunker. A simple small example.

G0055

N 29° 12.022'

E 30° 57.008'

Mud-brick-lined circle with a diameter of 0.8m, perhaps modern or perhaps ancient emplacement of some kind.

G0056

N 29° 12.022'

E 30° 57.013'

Mud-brick-lined circle with a diameter of 0.86m. Like G0055, perhaps modern or perhaps ancient emplacement of some kind.

G0057

N 29° 12.018'

E 30° 57.017'

Mud-brick-lined circle with a diameter of 0.73m. Deeper than G0055 & 56 – at least five courses of bricks below surface.

G0058

N 29° 12.005'

E 30° 57.018'

Mound/heap with mud-brick-lined circle on top; diameter of 0.9m. Probably modern.

G0059

N 29° 12.001'

E 30° 57.017'

Mud-brick-lined circle with a diameter of 0.93m.

G0060

N 29° 12.120'

E 30° 56.997'

Army bunker, probably with non-entrance end up against an enclosure wall.

G0061

N 29° 12.113'

E 30° 56.997'

Point near the northern end of a narrow wall running diagonally southwestwards from a point to the north of the NW corner of the town enclosure. Square buttressing visible. Wall as a whole visible on satellite image. We initially thought this wall G0061-63 was ancient, but later came to feel that it was a modern military construction, due to poor construction and presence of modern-looking plaster.

Photos G05/23-24.

G0062

N 29° 12.093'

E 30° 56.953'

Second point on wall G0061-3, further to the SW.

Photo G05/25.

G0063

N 29° 12.061'

E 30° 56.926'

Third point on wall G0061-3, just before the wadi, which brings it to an end.

G0064

N 29° 12.062'

E 30° 56.957'

This seems to be the northern end of a short curved section of wall, which, if it's the section visible on the satellite image, forms part of the central section of the western town enclosure wall. At no point here have we actually uncovered bricks, but this does look like a wall, and it seems to be in the right location.

Photo G05/29.

G0065

N 29° 12.057'

E 30° 56.949'

Second point on the curved section of likely enclosure wall (G0064-66).

G0066

N 29° 12.047'

E 30° 56.942'

Final (southernmost) point on the curved section of likely enclosure wall (G0064-66).

G0067

N 29° 11.990'

E 30° 56.914'

South end of stretch of wall in wadi to west of town (about 50m from the Expedition House, and 180m from G0011 [buttressed SE corner/gateway of town]). We originally thought this was ancient but currently think it could be modern.

Photo: G05/30.

G0068

N 29° 12.069'

E 30° 56.895'

Far end of the G0067-8 wall.

G0069

N 29° 12.065'

E 30° 56.919'

Corner point of the wall stretching from G0067 to G0068. This is the nearest part of this wall to wall G0061-3.

G0070

N 29° 12.045'

E 30° 56.920'

Buttressed point on the G0067-69 wall.

Photo: G05/31.

G0071

N 29° 11.993'

E 30° 56.928'

Westernmost point of a 60-m stretch of wall running from a point 20m to the east of the southernmost point of the G0067-9 wall. This wall heads off to G0011, i.e. it forms a reasonably long section of the southern town enclosure wall.

G0072

N 29° 11.991'

E 30° 56.942'

Second point on the G0071-G0011 wall.

G0073

N 29° 11.986'

E 30° 56.964'

Third point on the G0071-G0011 wall. Distance from G0011 is c.100m. Total length of the G0071-G0011 wall, i.e. the surviving section of the southern town enclosure wall, is therefore around 180m,

Photo: G05/32.

G0074

N 29° 11.970'

E 30° 56.996'

Fourth point on the G0071-G0011 wall. Distance from G0011 is 40m.

G0075

N 29° 11.984'

E 30° 57.067'

Possible highly eroded buttressed 'tower' similar to G0011. This is in the correct position to be part of the main town gateway in the eastern town wall. Also, the area immediately to the northwest is slightly lower-lying, and no bricks are visible, suggesting that this is the entrance itself. This is also the findspot of a bodysherd of blue-painted pottery. We collected a sample of pottery here.

G0076

N 29° 12.050'

E 30° 57.111'

Point along the northernmost stretch of the eastern wall of the town enclosure.

This point is 150m north of the possible entrance (G0075), and 230m north of G0011 (the buttressed SE gateway of the town encl. wall). This is also the findspot of a Mycenaean bodysherd (*Photo: G05/46*).

G0077

N 29° 12.080'

E 30° 57.093'

Small patch of ancient(?) mud brick (part of a wall?)

G0078

N 29° 12.065'

E 30° 57.116'

An L-shaped section of mud-brick walls, stretching about 15m in the north-south direction and c.6m in the east-west direction. These walls are only a few metres to the west of the stretch of wall running northwards from G0011, which we assume to be the eastern enclosure wall of the town. We initially thought that it was possible that this L-shaped section was the NE corner of the town enclosure, but since it is due east of the NW corner (G0079), whereas G0082 is due southeast of the NW corner, the latter seems to be a better candidate (see below).

G0079

N 29° 12.104'

E 30° 56.971'

This point appears to be the NW corner of the town. At the very corner some bricks are visible, but broadly speaking the top of the wall is v. eroded therefore not v. clearly visible. We located this NW corner by noting that it came v. close to wall G0061-63 at about a third of the way along the latter's length. It was also possible to detect the presence of the northern town wall heading eastwards from the NW corner along the non-entrance end of a bunker (G0052). This corner also aligns well with our previously discovered section of curved wall to the south.

Photos: G05/38-39.

G0080

N 29° 12.093'

E 30° 57.004'

Point along the northern town enclosure wall where it passes along the non-entrance end of bunker G0052. This is 60m to the east of the NW enclosure corner (G0079).

G0081

N 29° 12.036'

E 30° 57.012'

Army bunker where we measured some bricks. We seem to have missed this one in our earlier series of GPS readings on bunkers.

G0082

N 29° 12.041'

E 30° 57.099'

Traces of some fairly thick walls in a vague L-shape, in the right location to be close to the northeastern corner of the town enclosure wall (i.e. not G0078, as we earlier thought, since the latter is actually too far north to be correctly aligned with the NW enclosure wall). However, see below for G0083, which seems to be the actual NE corner. The bricks here are so eroded that it's very difficult to measure them properly.

Photo: G05/40-41

G0083

N 29° 12.064'

E 30° 57.114'

This location is a thick and fairly well-made section of wall which could be the northeastern corner of the town enclosure, since it is well aligned with the northwestern corner and the back of the army bunker to the east of the latter.

Photo: G05/42

G0084

N 29° 12.057'

E 30° 57.070'

This is a possible section of the north side of the three-sided enclosure shown on Petrie's map to the north of the two palace enclosures, within the town enclosure. The wall is at least 0.86m thick. Distance to G0079 (NW corner) is 180m, and distance to G0083 (NE corner) is 70m. These two distances suggest that it would only just be possible for it to be part of this three-sided enclosure.

G0085

N 29° 12.253'

E 30° 57.252'

This is an area of low-lying land just to the south of the 'low salty land' (G0006) indicated on Brunton and Engelbach's map. It may possibly be the location of their Cemetery O, but the pottery collected here is New Kingdom, so we have no artefacts on the surface to confirm this identification.

G0086

N 29° 12.019'

E 30° 57.058'

This is the northeastern corner of the P2 palace, as discussed above. It was easily located because the satellite image shows that it lies almost due south of the modern taftish hut, just to the west of a pair of bunkers (one large, one small), and at about the same distance from the taftish hut as the latter is from the eastern town enclosure wall (i.e. G0011-G0083). A fair number of actual bricks are clearly visible here, but too weathered to measure properly.

Photos: G05/47-48.

G0087

N 29° 11.995'

E 30° 57.045'

This is almost certainly the southeastern corner of the P2 palace, since it is 50m to the south of G0086 (the NE corner), and there are also traces of the beginning of the south wall of the P2 palace heading westwards from here.

Photos: G05/49-50.

G0088

N 29° 12.011'

E 30° 56.967'

This location is an arbitrarily chosen 10x5m area within the P1 palace enclosure (close to its western wall) for pottery collection.

G0089

N 29° 12.019'

E 30° 57.076'

This is a point between the taftish hut and the eastern town enclosure wall which is the findspot of a small sherd of black-painted blue faience plate.

Photo: G05/54.

G0090

N 29° 12.042'

E 30° 56.975'

By having two people stand at the NE corner and along the N wall of the palace P2 enclosure it was possible to establish this point as the likely location of the northwestern corner of the P2 enclosure, c.140m west of the NE corner (G0086). It is noticeable that at this point the ground surface changes colour, with the decrease in sherds and mud brick, both to the north and west, suggesting that this is the edge of the enclosure, even though no brick walling is visible on the surface here.

G0091

N 29° 11.970'

E 30° 57.035'

As with G0090, this is the notional location of the SE corner of the P1 palace. We gained this point by walking for 25m from the southern town enclosure wall (G0011-71), at which point the GPS indicates that we are about 50-55m from the northeast corner of the P2 palace, with which I'm clearly aligned here, because one person is standing at the NE corner of P2 and another at the SE corner of P2. Nothing specific is visible at the surface here, neither changes in the colour of the ground surface nor any sign of bricks.

G0092

N 29° 11.998'

E 30° 56.948'

This is the notional location of the southwest corner of the P1 palace enclosure, about 20m from the outer town wall. The distance to the southeastern corner of P1 (G0091) is about 140m, and the distance to the northwestern corner of the P2 palace (G0090) is about 90m.

G0093

N 29° 11.994'

E 30° 56.945'

Findspot of another Mycenaean potsherd, just between the SW corner of the town enclosure wall and the SW corner of the P1 palace.

Photos: G05/55-56.

G0094

N 29° 11.994'

E 30° 56.944'

Just a few metres to the south of the notional SW corner of the palace P1 and to the north of the SW town enclosure wall is a pair of mounds reminiscent of the topography both at the SE town corner (G0011) and the main eastern town entrance (G0075). This might possibly be the SW gateway to the town.

G0095

N 29° 11.981'

E 30° 56.974'

This is a point on the southern town enclosure wall (i.e, G0011-71), roughly midway between the SE and SW town corners. It's 80m from G0011 (the SE town corner) and 60m from G0094 (a point on the wall near the SW corner). It seems to be a quite large buttress (c.1.4x1.4m square, including the wall section) and might possibly be the base of a small square tower like those in Nubian fortress walls.

G0096

N 29° 11.961'

E 30° 57.037'

Point at eastern end of a possible wall (visible not as bricks but as dark discolorations and slightly raised areas) enclosing perhaps a large room (gate-house?) within the area of town enclosure wall to the east of the G0011 gateway. This room would be about 30x10m in area, and would have a possible entrance (where discolouration not present) roughly to the north of G0011).

G0097

N 29° 11.965'

E 30° 57.019'

Point at western end of a possible wall (visible not as bricks but as dark discolorations and slightly raised areas) enclosing perhaps a large room (gate-house?) within the area of town enclosure wall to the east of the G0011 gateway.