## CHAPTER 6

# REPORT ON THE 1983 EXCAVATIONS COMMODITY DELIVERY AREA (ZIR-AREA) 

Site eupervisor: Linda Hulin<br>(and incorporating the 1882 work of Martha Bell, Ann Bomann and Lisa Montagno Leahy)

### 6.1 Introduction [1]

The initial survey carried out in 1877 identified en area the valley floor to the south of the Walled Village distinguished by concentrations of large stones lying on a low mounding of sand (Kemp 1978: 24-25, Figure 2). Although few sherds were visible, comparison with other similar valley floor locations in the vicinity, which have relatively smooth sandy surfaces, provided the basis for designating this an ancient site rather than a natural feature. The roughly circular configurations of the stones suggested possible hut foundations, and a label to this effect was added to the map. Closer inspection in ensuing years revealed pieces of gypsum plaster bearing finger marks lying on the surface in one part (subsequently found to belong to the gypsum jar emplacement [170] in square H6, see Figure 5.3).

The decision to excavate was taken during the 1982 season. Seven of the five-metre squares in the main grid were excavated, under the supervision of Martha Bell, Ann Bomann and Lisa Montagno Leahy (Kemp 1983). This revealed the basic nature of the site, and particularly the fact that, although circular stone structures had, indeed, been present, they had not been huts but emplacernents of a different kind. During the 1983 season the excavation was continued, across a further ten squares (Figure 5.1). The central, northern, and eastern parts of the site seem to have have been completed, but more remains to be dug on the west, and particularly on the south. As much as $40 \%$ may still remain unexcavated (cf. Figure 1.3). In view of the unusual nature of the site and the important inlerpretative role of the potlery, complete excavation remains one of the expedition's goals.

Characteristically the deposits consist of a surface covering of sand and fine pebbles containing larger stones either -singly or in groups. In places these groups become dense and may be mixed with decayed marl mortar or marl brick fragments and pieces of gypsum plaster, the whole representing the collapsed rubble from a crude structure. These structures for the most part
[1] Zir is the colloquial Egyptian Arabic word for a large pottery water jar. Since its ancient equivalents left the clearest archaeological traces at this part of the site, the term Zir-Area has come into use as a convenient term of reference.


Figure 5.1. General view of the Zir-Area during the 1983 excavations, looking south-east.
stand on an even surface of compacted marl and sand. In places it displays drying cracks as if wetted anciently. Its thickness varies from almost nothing at the edges to a maximum of 50 cms . in square H 7 , where its thickness is apparent from a robber's hole [500]. When examined closely, it can be seen that this packed layer is itself made up from many fine laminations which are not necessarily evenly spaced or lying parallel to their neighbours. They must represent stages in accumulation over the lifetime of the site. Within them, other smaller features became apparent in the course of excavation. Mostly they seem to have been holes or depressions which had filled up with material similar to the surrounding packed surface. Also lying within this packed surface, and occasionally rising up through it, are the remains of marl brick walls. By the time that the site was abandoned these walls had long ceased to stand to any significant height. On the south and east they had been reduced to the lowest course or two and had become invisible for much of their lengths. On the west and north a right-angled stretch had been kept and used as a support for the later individual structures. It was in this part (squares H 7 and H8), to the east of wall [504]. that the packed surface reached its greatest thickness.

The site had been dug over in modern times. In the north-east part (squares $J 7$ and JB ) this digging had taken the form of an irregular narrow trench. Over the rest it had been confined to individual pits. These had descended through the packed surface to the underlying desert sands and gravels. The largest of these holes (unit [500]) was in square H7. The material which had been dug out, and which included an mixture of pebbles and orange-coloured sand, formed a distinctive mound on the surface of the intersection of squares G7, G8, H7, H8. This modern digging has inflicted


[(Overleaf, page 62). Figure 5.2. Plan of the Zir-Area, western part (originals by L. Hulin)].
$\ddagger($ Overleaf, page 63). Figure 5.3. Plan of the Zir-Area, eastern part (originals by L. Hulin, M. Bell, A. Bomann and L. Leahy)].
relatively light damage on the site.
Although the depth of deposit is not great, the excavation and recording of the site is far from easy. There are two reasons for this. Firstly, the various structures (apart from the brick walls) were built very informally from a mixture of stones, broken bricks and occasional pieces of gypsum, welded together with applications of marl mortar. Because the original shapes were often amorphous it was sometimes difficult to distinguish original structure from collapsed rubble where this had become congealed by weathering. A plan was made at each stage in excavation, and by comparing the plans of different stages it can occasionally be seen or at least suspected that too much was removed during exeavation. In these cases the final inked-in plan (Figures 5. 2 and 5.3) uses the more appropriate field plan of an earlier stage.

The second reason concerns the laminated nature of the packed surface. In theory there are almost any number of possible excavation stages involving the removal of individual laminations. In practice it has proved virtually impossible to peel off the thin layers separately. The material has congealed into a single hard pan, and excavation has been reduced to very few stages. Characteristically, once the packed surface had been exposed and planned the greater part was scraped down to a slightly lower level and replanned. Sometimes this resulted in complete removal of the packed surface, exposing the natural sand. In the centre (prineipally squares H7 and H8) more stages of removal are involved, and these are not yet completed. The packed surface forms a continuous layer over the entire site, and is really a single stratigraphic entity. However, for the purpose of recording, a different unit number was used for it in each square. This number was also changed for each subsequent stage of removal. The quantity of artefactual material actually within the packed surface was rarely sufficient for quantitative analysis in terms of individual units, however. Thus, in the section on pottery (Chapter 10), a degree of re-amalgamation of units has been necessary.

The whole site is really a thinly spread, congealed mass of rubble and irregular constructions. The plan which appears as Figures 5.2 and 5.3 summarises all significant features as if they all belong to the same stage of exposure. It is in places, however, a composite plan, showing details from more than one excavation stage. In the ensuing description, which is given square by square, the individual cases will be pointed out.

One of the fow certain aspects of the site, which serves as an important fixed point in attempting to interpret it, is that some of the rough structures were emplacements for large bulbous pottery jars, cemented in place. This class of vessel was most probably used for the storage of water, and is thus the kind of jar to which the modern Arabic word zir is applied (Holthoer 1977: 80). This has given rise to a convenient label for the site: the Zir-Area.

One further general point should be made: the site contains the remains of two separate structural phases. They may represent two different purposes, but they may also represent lwo phases of doing the same thing. In either case we seem to be witnessing the same change in building materials, from brick to stone and morlar, already observed in the animal pens, and probably present also in the distribution of building materials in the Main Chapel.

### 6.2 Description of individual squares

The following square by square descriplion includes all of those excavated in 1982 as well as in 1983. The order of descriplion is from the northeast square to the south-west square, in north-south columns.

Square J8. This north-east corner square offers a stratigraphic record quite different from the others. The removal of surface sand revealed two principal deposits. Around the north and east side lay a confused mass of stones and weathered marl mortar [156]. disturbed on the north side by an irregular modern trench. Only at the western and southern ends did this deposit resolve itself into something deliberately constructed, in the form of large stones sct in mortar. Subsequent to planning, all of the looser part was removed exposing the packed surface [155] lying unbrokenly beneath, and leaving only the two more solid end portions. Subsequent excavation of the adjacent eastern square (K8) revealed no structure from which the rubble could have collapsed. We must therefore conclude that, although almost formless, deposit [156] is the remains of a crude boundary, perhaps only an elongated heap. If so, it corresponds to more positively constructed boundary running across squares H 8 and 18 to the west.

The second major deposit lay within the angle of [156], and filled much of the south-western part of the square. It is not shown in Figure 5.3. This plan shows the square at a later stage of excavation, but the area in question is represented by unit [179]. The deposil consisted of a mixture of sand and fine grey ash, containing charcoal, chaff and other organic matter. Much of it was fine and loose [162], but in places the surface had compacted and taken on the mottled appearance produced by weathering [178] (ef. Chapter 15 , section 5). The deposit had been cul into by modern trenches.

The removal of this deposit did not reveal the expected packed surface. It lay instead on compacted yellow sand containing lenses of gravel and fine wind-blown organic matter [179]. As the excavation of this proceeded it became apparent that this was the fill of a pit cut into the natural desert deposits which also consisted of sand. It became increasingly difficult to distinguish between original pit and fill on the south and west sides. Probably the pit continues into squares J 7 and 18 . The straight edges which it has on the plan along these two sides are arbitrary. The sand fill also contained stones and lumps of marl mortar [ $182,184,240$ ]. Along the eastern edge there also lay a few tumbled bricks [183], which look as though they have fallen from wall [105]
as it emerges from square J 7 .

What seems to have happened is that after the wall had been built the pit was dug into the sand (perhaps just to obtain clean sand for some purpose) and then left exposed; the wall fell into it; the pit filled up with wind-blown sand; during the final phase of use ash and organic soil were dumped over the area. Although the nature of the activity here remains obscure, the sequence recalls that in the main quarry, where two periods of activity are separated by a deposit of clean wind-blown sand.

Square J7. Most of the square is occupied by the packed surface $[106,115$ (below)]. The bottom course of a marl-brick wall [105] strengthened with internal buttresses runs north-south across the northern part. A modern trench [111] filled with drift sand [110] has been dug along one side.


Figure 5.4. Plan and section of zir-emplacement [89] in square J6. In the section drawing, the outline of the zir and surrounding stonework in thinner line is reconstruction.

Square J6. In the south-east corner the packed surface [90, 91] gives way to the natural desert surface [59], representing the original edge of the site. The packed surface bears drying cracks from water spillage. In the north-west corner stands a solidly constructed zir-emplacement [89] (Figure 5.4). It measures 2.00 by 2.10 metres, and stood to a maximum height of 46 cms . on the west. It was constructed from stones and mortar, and possibly pieces of brick. An inner core is visible as a rounded wall of stones and mortar. This enclosed a platform, 24 cms . high in the middle but sloping down to the east. At the highest point lay a concave bed of mortar bearing the impression of the base of a large pottery vessel. The initial stage of excavation uncovered a considerable spread of loose stones which must have fallen from the emplacement, implying that it had been built up around the sides of the pottery jar to enclose it (Figure 5.5).


Figure 5.5. Plan of square J6 after removal of surface sand. Note the concentration of loose stones from the collapse of superstructure around the emplacement [89].

Beside the southern edge of the square lies a further concentration of stones and marl mortar [47]. This may represent another zir-emplacement, but
further investigation belongs with the excavation of the square lying to the south.

Square IB. In the north-west sector a section of east-west wall [301] of the first phase survived into the second phase, and was used as the core for rough constructions of stone, marl mortar and gypsum (Figure 5.6). On the north they form a curving wall [260] which seems to mark a northern perimeter to the site in its final phase, leaving a broad gap closed to the east by the rubble construction in square J8. In the midst of [260] a hole descends to bedrock [318], but its purpose is unclear. On the south side of the wall the rubble construction formed an emplacement for a pottery zir [93]. The base of the vessel is still in place. A broad scatter of rubble to the east and south implies that the vessel was firmly embedded in masonry for much of its height.


Figure 5.6. Zir-emplacement [93] built against wall [301] and masonry layer [260] in square IB, looking east.

The packed surface [279] covers much of the remainder of the square. On the east lies a group of three features: a ring [261] formed by stones and by a depression marking from where others have been removed; a shallow circular depression [262] in the packed surface; and a broad and shallow depression [278] on the edges of which are a few stones and two pieces of brick. These may be the remains of two largely destroyed emplacements. The south-west
corner was occupied by another emplacement, extending into the three adjoining squares.

Square 17. The emplacement just mentioned, which covers the north-west corner, is the only structure in the square, which is otherwise covered with the packed surface ([121] over [177]). A modern robbers' pit filled with sand [149] occurs on the east side. When the top deposit [121] was scraped away, a series of small features appeared on the new surface [177]. They were irregularly rounded patches of marl distinguished by a redder colouring [185188, 190-191], and usually a slightly different texture. Three of them ([185, 187, 190]) also contained limestone cobbles. When excavated a further distinction emerged. Whereas three ( $[185,186,187]$ ) were the fills of shallow depressions, the other three ( $[188,190,191])$ seemed to be the fills of more sharply defined holes. It was thought at first that the latter may have been post-holes, but subsequent experience at the site makes it more likely that all are places where pottery jars had once stood.

Removal of the upper skin of the packed surface also revealed remains of small emplacements along the southern edge. They consisted of a curving line of brick pieces [159] and two patches of compressed marl surface [193, 242].

Square 16. When the surface debris had been removed the packed surface [101] extended over much of the square, with only the top of wall [102] visible and almost flush with the packed surface. Further clearance exposed the east-west walls [116, 117] as well, dividing the square into three separate sectors. Walls [102] and [116] have clearly been built against wall [117], and must represent an additional small courtyard on the south side of the main one. The main east-west wall [117] has a single internal buttress built against the north face. It had been constructed in a shallow foundation trench filled with sand [123], and this had preserved three of the original courses of brick. The east and west ends of the wall lie beneath the later emplacements [89, 108].

A third emplacement [104] stands a short distance to the north of wall [117]. It was built on the uppermost level of the packed surface, at a time when the wall itself was virtually invisible. It consists of a well-defined circular construction of stones and marl mortar surrounding an empty nearrectangular space. Fallen stonework in the covering sand showed that it had originally been built up for some height.

In the final phase of use, the packed surface ran almost uninterruptedly over the southern part of the square. Earlier, however, wall [102] divided it into two separate areas. In the western part, removal of a layer of packed surface left a lower level [112] in place, above the original desert sand [119]. Near the centre lay an irregular area of marl [181] redder than the surrounding packed surface. It contained large cobbles, and may be the remains of a shallow depression anciently filled in. Beside wall [102] were at
least two places where the marl of the packed surface possessed a slight structure of its own, sufficient to distinguish rounded patches. It is possible that these are the marks where water jars had stood, but this remains only a guess.

Square H9. The only structural remains are the edge of the masonry mass in square H 8 [472], and an enigmatic step-like construction [495]. Otherwise only two deposits occur: the packed surface [470], fading away north into compacted sand, yellow [551] and orange-brown [552]. A roughly circular patch of packed marl [470], with slightly concave surface, stood isolated on the latter.


Figure 5.7. Row of rectangular depressions [495] in the marl surface of square H9, looking south.

The stepped feature [495] is formed in the packed marl surface [470], and being directly covered with undisturbed surface sand its excavation was accomplished without ambiguity (Figure 5.7). Six very shallow steps occur, following a gently curving line which descends westwards. The heights of the steps were between only 2 and 5 cms ., the lowest, on the west, being only 19 cms. below the highest on the south-east. The top three steps were actually slightly higher than the surrounding packed surface, whilst a slight ridge ran along the north side of the bottom three steps. There was no trace of wear. These various considerations make it possible that what has been preserved is
not an actual flight of steps descending to the west, but the impressions of a line of stone blocks which were set at a descending series of levels reflecting the slight natural slope of the ground. The steps terminated in a roughly rectangular hole in the packed surface which exposed the underlying natural sand. This looks particularly like an emplacement for a stone block. No trace has been found of actual stone blocks in the vicinity, but on the surface of the ground to the north-west, beginning with square G9. lie piles of limestone chippings, a few of them with chisel marks, where limestone objects of some kind have been smashed (marked on the plan in Kemp 1978: 25, Figure 2). At various points over the whole site pieces of limestone trough have been found. some lying on the surface. If one wishes to interpret [495] as impressions of limestone blocks, then rectangular troughs (presumably for animal drinking or feeding) are the most likely kind.

Square H8. The top of the packed surface in this and the adjacent square to the south (H7) rises slightly as it approaches wall [504]. representing a greater thickness of deposit banked against the wall. This wall meets the eastwest wall [301] at right-angles. Built into the angle is what looks like a broad and shallow flight of four steps [464], having a total height of only 14 cms . On the third step was cut a small rounded depression [720]. The steps were not constructed of brick but were made from the same marl as forms brick walls and the packed surface alike. It appears to be a late feature, belonging to a time when the wall was ruined, for it is built against the worn wall face. which here contains a repaired breach [468].

Against the north side of the wall lay a broad strip of packed surface [467] at a higher level than the surroundings, edged by an irregular line of stones and marl mortar [472]. At least one large potlery vessel had stood here, for its base had left an impression [466]. Otherwise the stonework [472] merges with the stonework [260] in the adjacent square to form the northern boundary to the area in the later phase of use. To the west an irregular extension has been breached by modern digging to form a broad hole [328] which penetrates the packed surface.

In the southern part of the square lie two separate vessel emplacements. That in the south-east occupied parts of four five-metre squares. Most of it is an amorphous mass of marl [284] banked around an inner construction of stonc and brick. Probably at least two zirs had stood here, in separate spaces [241, 245], whilst the position of a third is assured by a patch of marly mud [189] retaining the impression of the base of a large rounded pottery jar. A separate emplacement of a different kind was attached to the north-west corner. It consisted of two necks from large storage vessels [297, 330] packed around with mar! mortar and placed in shallow cuts in the packed surface. They must have served as ring-stands for pottery jars which were portable, unlike those embedded firmly in their emplacements.

Beside this emplacement, on the west, lay another separate multiple emplacement (Figure 6.8). It consists of a pair of circular constructions of stones and mortar [307, 309]. One [307] was packed around the broken neck of


Figure 5.8. Emplacements [305], [308] and [326] in square H8, looking southwest.
a zir [305], the surface of the mortar having been carefully smoothed. The other [309] merely surrounded a roughly circular depression [308], of a size suitable for receiving a zir. Around both constructions a further layer of masonry had been laid, and the neck of another zir [326] set into it.

On the west side of the wall further constructions had been built against the face, on the packed surface [322] which lay at a lower level than the equivalent surface on the east. Because of this and the general homogeneity of materials it is difficult to determine what belongs to the original wall and what to the later emplacements. The one part which seems most likely to be in the former category is the roughly rectangular bin [315], which was found filled with sand [313]. A buttress-like strengthening [316] had later been added to one corner. Further along to the north lay a second compartment [448], but much more roughly constructed of stones and marl mortar. Again a buttress [449] had been added to the outside. This bin was mostly filled with marl mortar [450] leaving a concave surface, which could have formed another jar emplacement. Against the north side a smaller concavity had been created from stones and marl mortar [456], presumably to hold another vessel.

Between the two bins lay a curious construction. A large pottery jar [457] had been set against the wall, the base still surviving. In front of it lay a smooth platform ending in a straight edge only 3 cms . above the packed surface [322]. Two rectangular projections only 0.5 cms . high ran out from it. The whole was very neatly made, and because of its condition and presence
above the surface of [322] it must belong to the latest phase of use. One possibility is simply that these are the marks where bricks had stood, but if so, it is surprising that no brick fragments or actual pieces of mortar remained.

Towards the north-west eorner of the square lay an upturned circular object of limestone [327] ( $=$ object no. 5344). It has the shape of a truncated cone, 18 cms . high, and was hollow, with a maximum inner diameter of 12 cms . It is most likely the support for a pottery jar, removed from one of the emplacements. Its nearest equivalent is the in situ gypsum circle [170] in square H 6 .


Figure 5.9. Enclosure wall in square H7, with thickening beside gate [499]. Behind are the two emplacements [721] and [783]. Looking east.

Square H7. As with the previous square, it is divided into two parts by the north-south wall [504]. The packed surface on the east [497] lay 19 cms . above its equivalent [506 above 829] on the west. A large hole [500] had been dug in modern times beside the wall, passing down into the underlying desert. It has revealed the depth and laminated nature of the packed surface, and the fact that the wall was probably originally pierced by a doorway at this point [505],
flanked by thickenings of the brickwork [499] (Figure 5.9). The hole had also narrowly missed two small vessel emplacements packed together with marl mortar [784]. One consisted of a neat circle of bricks with some stones [783]. having an external diameter of 68 cms . The other is the neck and part of the body of a zir [721] buried in the ground to act as the support for a pottery jar.

Further constructions lay against the west side of the wall, providing a rough parallel with the bins in square HB , but more irregular. The main mass of stones and marl mortar [785] contained two concave depressions [512, 786] in the interior fill of mortar [789]. The depression [786] actually bore the impression of the base of a pottery vessel. Beyond these constructions. where the wall face is clear, two adjacent clearly defined depressions [508, 509] may mark where other vessels had stood. [2]

The south-west corner of the square conlained a rough circular construction of stones and marl mortar [793], which may have been a ziremplacement.

Square H6. Originally. the enclosure of the lirst phase should have turned a corner here, but the ancient loss of brickwork has left the two companent walls [505, 168] with a considerable gap between them. This square has also been dug over in modern times more than the others, pits [173, 204, 221, 223, 227] being all probably consequences of this. In addition to the main east-west wall [168] and loose bricks which had presumably fallen from them [223] two short. lengths of wall occur which seem to belong with wall [102] in square 18 and represent the remains of smaller enclosures built on the south of the main enclosure. One of these short lengths [229] is simply an isolated pair of bricks expascd by vigorous scraping of the packed surface [219]. The other (unnumbered) was used as a support for the vessel emplacement [170].

Emplacement [180] had been moulded from gypsum, but partly broken up by modern digging. It had originally been set in the usual matrix of stones and marl mortar [167], but this had become so confused by the modern digging that it is omitted in Figure 5.3. The external diameter of the gypsum circle is 64 cms., its height 29 cms .

Other features in the square are a group of four circular depressions [225, 230, 231, 232] filled with pebbles, sand and marl, which may be places where pottery jars had stood, and an irregular zir-emplacement in the north-west corner [174, 175]. This is rcally an extension of the emplacements buill against wall [504] in square H 7 . It consists essentially of two circles of stones in marl mortar. On the north-west side a regularly shaped rounded depression [830] may be the remains of another.

Square G9. There are no structures in this square, which is filled partly by the edge of the packed surface [644], and partly by sand, both yellow [551]
[2] On the plan, Figure 5.2, depression [509] appears larger than it rcally was. This is a consequence of accidental over-digging.
and orange-brown [552]. Towards the north-west corner lies a group of shallow circular depressions and marks $[554,555,556,557,558,559,560,639,640,641$, 642]. As with other such features on the site, one is tempted to interpret them as places where pottery vessels have been stood.


Figure 5.10. Zir-emplacement [649/395] in squares G8 and F8, looking west.

Square GB. Four emplacements lie on the packed surface [657]. At the northern end is a double one, comprising a tight inner circle of stones packed around with marl mortar [645], to which a circle composed almost entirely of marl mortar has been added [925]. Along the eastern side of the square are two more [647, 648]. The western side of the former is missing. In its place is a roughly rectangular cut [646] into the underlying natural sand [445]. The eastern side of the cut is sharp and vertical, the other sides have a gentle even slope. The fourth emplacement is on the western edge of the square (Figure 5.10). It consists of another tight inner circle of stones and mortar [649], with an outer packing of larger stones and mortar [395]. Just to the north is a circular cut [660], which offers the most positive identification for the small circular features being the marks where pottery vessels have stood. This one has sloping sides which break sharply from the packed surface. When the vessel was pressed into the ground, surplus earth was squeezed up and formed a slight ridge around the edge on the north-east side.

Square G7. No structures occur at all in this square. The packed surface [348] is marked by several holes and depressions [350. 366, 368, 369, 371, 372, 373. 375]. It is likely that several are the impressions from pottery vessels.

Square G6. This is a difficult square to interpret. When the covering of surface sand and gravel was removed, patches of stones and marl mortar were found lying on a continuation of the packed surface [71B], which, along the western side of the square, had been naturally weathered to expose the underlying sand [667]. These patches were even less coherent than most of the structures at the site. After planning they were further examined by slow removal, but this revealed no inner structure, and in the end little was left at all. Yet the masonry must have come from somewhere. Either it represents the remains of badly built emplacements which exposure to erosion has robbed of their original shape, or, perhaps in part, it represents materials for intended emplacements not actually used. The rubble groups [717] are particularly suspect as structures. The mass of stones and mortar [670] is somewhat less amorphous, and may represent a vessel emplacement. The irregular cut [715] through to the underlying natural sand [445] is probably a modern robbers' hole, and this may have destroyed some of the masonry on this side. The oval depression [716] on the north, which is subdivided by a slight ridge into two more circular depressions. may represent vessel emplacements, but could also be where embedded stones have been removed in antiquity.

Square FB. Two large modern pits [396, 397] had cut down into the packed surface [392], and had partly destroyed one of the emplacements [391]. This particular emplacement had been solidly constructed of stones and marl mortar, and differed from others by having originally been square. It is of some interest to note that the alignment of the sides is at an angle of something like $45^{\circ}$ to the alignment of the walls of the first phase. Close beside it on the north lies a small but neatly made vessel emplacement [714], almost perfectly circular. A further emplacement lies in the south-west corner of the square. This consists of a rough ring of stones and mortar [394] in the centre of which is a shallow circular depression in the packed surface. On the south-east side the ring is broken by two small, low flat platiorms of marl plaster [921], the northern 5 cms. thick, the southern 10 ems. The small irregular area [825] is a patch of smoother marl plaster.

Square F7. The central part is occupied by an irregular emplacement consisting of a circular core of large stones set in marl mortar [795] and with a circular concavity on the top and additional masses of masonry at the sides. Two patches [ 800 ] may be nothing more than rubble fallen from aroundthe emplacement; the almost separate patch [796] may be the same, but does have enough coherence perhaps to qualify as a small emplacement. The narrow curving patch of sand is probably filling a natural erosion hollow [797]. A small circular depression [801] lies on the northern edge. Four more small circular features occur on the north side of the main emplacement. One of them [723] is a cut through to the underlying sand; anolher [ 822 ] is a shallow concave depression; a third [823] is simply a circular patch of marl plaster; the fourth [824] is a compacted area containing a slight concentric inner ridge. The last thrce may well represent where pottery jars had stood.

Much of the western side of the square is occupied by an elongated mass of stones and marl mortar [798] which runs into the adjacent and unexcavated square E7. The plan shows its state after removal of surface sand. When further examination is made, following the excavation of E7. it may well resolve itself into something more coherent. Its only visible feature at present is a slight depression at the north end.

Square F6. As with G6 and F7 this square, once the surface sand had been removed, revealed amorphous deposits of stone and marl mortar which did not always clarify themselves on further excavation. Thus, the northern part of the square was occupied by one deposit [460] which, after probing, left nothing but a group of stones partly in the western section face. The small patch [442] is another, although the shallow depression on its north side increases the likelihood that this was a vessel emplacement. The adjacent patch [440] has a more positive appearance, in the form of a circular core of large stones. Beside it the neck, rim and part of the shoulder of an inverted pottery $\operatorname{zir}$ [441] set into the mortar may have served as a stand.

In the north-east corner the large cut [444] through the packed surface [446, 439] into the underlying desert sand [445] may be modern. It is unclear whether the group of stones [461] is part of a constructed feature. The western side of the square is occupied by a construction [400] still partly buried in the adjacent unexcavated square. It appears at this stage of the excavation to be somewhat larger than other emplacements, but until it is completely cleared no conclusions should be drawn. The floor of the hollow interior [447] is marked by a shallow depression [668] and an oval cut [669] into the underlying sand.

### 6.3 Interpretation

Structurally the site has two distinct periods, but this need not imply two different purposes. Instead it may be a further instance of a declining use of brick and interest in formality of layout.

The first period or phase is represented almost entirely by the brick walls. They formed a square enclosure measuring 11 by 10.80 metres, to which smaller enclosures had been added on the south, still only partially excavated. The walls were only a single stretcher-laid course in thickness, but were strengthened with internal buttresses. A doorway had existed in the middle of the west wall, which was thickened on each side to provide added support. It is possible that a lew brick bins were buift against the outside of the west wall, but constructions of the second phase have obscured this. Unlike the other brick enclosure in squares K9, L9, K10, L10 (Kemp 1983: 9, Figure 4; 10; Plate I.1) this one evidently did not have a laid brick floor. A second contrast between the two enclosures is that whereas the paved one was built deliberately along the edge of the partially filled main quarry and is thus at an angle to the Walled Village, the enclosure in the Zir-Area is aligned with some exactitude to the walls of the Village.

It is possible that between the two phases occurred a period of abandonment. This is clearest from the record in square JB, where a length of
wall had collapsed into a pit, subsequently filled with sand betore the second phase of use.

In the second phase the enclosure was virtually ignored. On the west and north-west, the surviving wall stumps were used as support for the rubble emplacements, but elsewhere the brickwork was either cleared away altogether, or a foundetion course was left which was subsequently buried. Many of the emplacements used pieces of brick rubble which could have been debris from the wall, and the general shortage of bricks at the Workmen's Village site may have meant that most of the good bricks were taken away and reused.

The activity of the second phase led to the construction of a large number of rough emplacements from stones, brick rubble and marl mortar. The scatter is noL random: one can detect a general linear trend diagonal to the compass points, and thus diagonal to the original lines of the brick enclosure. Having said this, however, it does also seem that a crude perimeter was created along the line of the north wall of the old brick enclosure, although leaving a gap in the middle, facing the Halled Village.

Evidence for the purpose of the emplacements is provided by two actual bases of large pottery vessels found still in place, by the clear impressions in dried mud from four others, and from the struetural incorporation of circular stands, either necks from old broken jars, or, in one case ([170] in square H6]) made from gypsum. The limestone stand [327] in square HB is probably another. The emplacements were used to support pottery storage vessels. There is, however, a possible distinction to be made between vessels which were built permanently into their emplacements, and those which rested only temporarily in stands. The temporary presence of other vessels simply slood upright in holes or depressions in the ground is suggested by the holes and depressions which occur with some frequency on the packed surface. Since no other forms of suppart were present these vessels cannot have been amphorae, which would have been too topheavy to stand like this, but rather the smaller varieties of storage jar (cr. Chapter 10).

The surface of the ground during this phase became a hard-packed surface of orange coloured marl. which gradually increased in thickness, sometimes burying the more ephemeral traces where jars had been stood. Water spillage probably occurred with some frequency, leaving patterns of cracks on the surface. The accumulation of surface debris was not even. The greatest thickness occurred towards the centre, along the east side of the wall of the enclosure of the first phase.

Certain features defy explanation: the ashy deposit over the pit in the north-east corner, and the enigmatic steps inside the north-west corner of the old enclosure. Perhaps the latter formed a low dais where the official in charge could sit, but this is no more than a guess. The other step-like marks on the far side of the wall may signify where a line of stone blocks (perhaps troughs) originally stood, but again this is a highly speculative suggestion.

The explanation for the principal activity here centres on the nature of the pottery found during the course of excavation. An analysis of this is included in Chapter 11. The most distinctive feature of the assemblage is the high proportion (relative to other parts of the site) of large wide-bellied jars (zirs) and amphorae, particularly of the wide-mouthed. so-called "Canaanite" type (Amiran 1970: 140-41). As noted towards the beginning of this chapter the former probably served to contain water (cf. Holthoer 1977: 80), the latter were used to transport a variety of commodities, the identity of which was sometimes written on the shoulder of the vessel in hieratic, or stamped on the mud jar stopper (e.g. Petrie 1894: 32-34; Pendlebury 1851: 143-76; Leahy 1978). These kinds of vessels are very appropriate to the nature of the rough emplacements of the second phase. Indeed, a few of them retain either actual bases or the impression therefrom of the first class of vessel. There can be little doubt that the emplacements were intended for the support of storage vessels. The site is, however, quite unsuited for the permanent storage of commodities. It is exposed to the elements, inconvenient to the Walled Village. and is quite unlike any other form of storage facility known from ancient Egypt. If we take into consideration the likely institutional framework for the site, as provided by the Deir el-Medina parallel, an explanation is forthcoming-

We know from abundant written evidence that Deir el-Medina was supplied with commodities from state sources, in the form of rations delivered and distributed regularly (Janssen 1975: 455-493; Bierbrier 1982: 40-41). The distribution itself was naturally a matter of keen interest to the villagers themselves, and if not satisfactory it could give rise to serious disputes, as recorded in some detail in the Turin Strike Papyrus (Edgerton 1951). Unfortunately neither the texts nor the excavations at Deir el-Medina have provided any direct evidence as to where the ration distribution took place, except possibly in the case of water. Water was brought to Deir el-Medina by water-carriers who seem to have held a low social position, but who had access to donkeyz for the actual carrying (Christophe 1953-54; Janssen 1975:448-49, 493). Outside the main entrance to the village, excavation revealed a circular cistern cut in the rock, two metres in diameter (Bruyère 1939: 33-34). It has been argued that the water-carriers emptied the water here, and that the villagers subsequently drew their own supply from it and kept it in pottery vessels in their houses, so that it was never neeessary for the carriers to enter the village (Christophe 1953-54: 395-97).

The Zir-Arca at the Workmen's Village site can be explained in these terms. Water and foodstuffs were brought out from the main city by special porters using donkeys (a vivid picture of such a train is provided in the tomb of Mahu at el-Amarna, see Davies 1906: Plate XXIV). Their path took them directly to our site, which, in its second phase, provided a large series of emplacements where jars could be stood temporarily during the measuring out and transfer of supplies, which the villagers would then take back to the privacy of their village. Since the porters and their donkeys would also require water for their own sustenance, a few zirs were also built permanently into more substantial structures, the jars protected by being cncascd in masonry almost up to their rims. The surviving examples lie inside or against the enclosure of the first phase. If the village also acted as a centre for desert patrolling then this permanent water supply would have
bencfited those on patrol duties in the vicinity as well.
On this interpretation, and considering the nature of the remains themselves, it might be expected thal each household in the village had its own emplacement. Within the excavated area it is difficult to count the number of separate emplacements because of a merging of structures on the west and north side of the brick enclosure. But a figure in the region of twenty-five seems to be involved. About $40 \%$ of the site remains unexcavated. If the distribution remains fairly constant the total number would be somewhat under fifty, of which some might have been set aside for permanent water supply. This is a figure nol dissimilar to the estimated total number of chapels (see Chapter 1). It is significantly fewer than the lotal number of houses in the village, although if one discards the houses in the western sector which may not have been occupied for long, the numbers tally very well. However, since we do not know what sharing arrangements may have existed in the village, and since it is perhaps unlikely that a site so exposed to weathering would preserve its full complement of structures, this should not be used as an argument for limiting the effective size of the village to only fifty houscholds or so.

With regard to the first phase, simple location becomes the main argument. If this site served conveniently as a reception point for deliveries in the later part of the village's history, then presumably it did so earlier. The change in style simply reflects the move away from formality and careful brick construction seen elsewhere at the site. The brick enclosure, built on the same alignment as the village, looks like the product of an official decision, presumably to designate a sheltered area where the exchange could take place.

