

PRELIMINARY REPORT ON THE EIGHTH AND NINTH SEASONS  
OF EXCAVATION BY THE UNIVERSITY OF SYDNEY  
AT PELLA (ṬABAQAT FAHL), 1986 and 1987.<sup>1</sup>

by  
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The eighth and ninth seasons of excavation by the University of Sydney at Pella lasted from 31 December 1985 to 13 February 1986 and from 3 January to 14 February 1987 respectively, except for the clearance of four tombs discovered in the last week of the ninth season which was not completed until 1 April.<sup>2</sup>

During the eighth season, operations were continued at the Natufian settlement above Wadi el-Ḥammeh (Area XX), in the East Cut on the main *tell* (Areas III, IV), and in the tomb fields on and behind Tell el-Ḥuṣn (Areas VI, XI). A new plot was established on the southern side of the *tell* west of Area III, where a large stone wall, apparently associated with Early Bronze Age pottery, was found protruding through the surface.

In the ninth season, excavation was recommenced in Area XXIII towards the centre of the *tell*, revealing more of the late

Hellenistic destruction explored in previous years, and two very large pits of the Mamluk and Abbasid periods, the latter representing the first significant evidence of occupation on the main Pella mound during that period. This operation is not reported further here. The primary effort focused on the Natufian site at Wadi el-Ḥammeh (Area XX) where several new plots were opened. A preliminary exploration of the rich Upper Palaeolithic sequence underneath proved rewarding and promises much for future investigation. A new area of excavation (Area XXXII) was opened on the main mound to investigate the extensive Early Bronze Age deposits revealed in the eighth season. Although these levels have not yet been reached, the initial clearance of an Iron Age II phase extends the range of stratified deposits on the east of the mound perhaps a century beyond its previous tenth century limit.

1. The following abbreviations are used in the footnotes:

*PJ 1*: A.W. McNicoll, R.H. Smith, J.B. Hennessey (eds), *Pella in Jordan 1: An Interim Report on the Joint University of Sydney and the College of Wooster Excavations at Pella 1979-1981*, Canberra, 1982.

*PJ 2*: A.W. McNicoll et al. (eds), *Pella in Jordan 2*, forthcoming.

2. The excavation staff of the 1986 season was: J.B. Hennessey and T.F. Potts (Co-Directors), J.H. Tenison (Field Director), S. Bassett, P. Edwards, M. Hinman, M. Melnyczek, M. Newton, F. Richards, P. Watson (Site Supervisors), H. Baker (Site Supervisor and Small Finds Cataloguer), S. Colledge (Site Supervisor and Palaeobotanist), Lady Wheeler, P. Hogan (Pottery Cataloguers), V. Evans (Photographer), N. Siver (Conservator), L. Randle, S. Smith, T. Smith (Draughters), J. Lydon (Small Finds Cataloguer), M. Wilmott (Architect), Sultan Shreideh (Dept. of Antiquities Representative), Badri Madi (Foreman) and Hasan Rahmi (Cook). The staff of the 1987 season consisted of: J.B. Hennessey (Project Director), P.C. Edwards, J. Tidmarsh, A.G. Walmsley (Co-Directors), S. Bourke, B. Chur-

cher, K. da Costa, K. Eriksson, A. Gorman, K. Kelly, D. Mills, M. Newton (Site Supervisors), M. Browne, F. Richards, C. Saunders (Site Supervisors and Small Find Cataloguers), S. Colledge (Site Supervisor, Palaeobotanist), M. O'Hea (Site Supervisor, Glass Cataloguer), Lady Wheeler (Pottery Cataloguer), R. Grundy, J. Meehan (Lithic Cataloguers), P. Macumber (Geomorphologist), J. Head (Radiometric Dating Consultant), T. McNicoll (Architect), I. Edwards, J. Sellars, T. Smith (Draughters), N. Siver (Conservator), C. Browne (Palaeopathologist), J. Carter, J. Halfhide (Photographers), Sultan Shreideh (Dept. of Antiquities Representative), Badri Madi (Foreman) and Hasan Rahmi (Cook). As in previous seasons, Dr. A. Garrard, assisted in 1987 by Ms A. McQuitty, generously provided many back-up facilities. We are especially grateful to Dr. Adnan Hadidi, former Director General of the Dept. of Antiquities, and his staff for their vital support and assistance. The excavations were funded principally by the Australian Research Grants Scheme, The Australian National Gallery and the University of Sydney. To these and our other sponsors go our sincere thanks.

The search for tombs, concentrating on the hills to the north and east of the main mound, revealed burials of the Bronze, Iron, Roman and Byzantine periods.

In addition to these excavations of the eighth and ninth seasons, one operation of the seventh season (1985) — viz. the clearance of eleven tombs in an Early Bronze Age IV cemetery in Wadi el-Hammeh (McNicoll *et al.*, *ADAJ XXX* (1986), p. 171 — is reported here also.

The results of these operations are described in approximate chronological order. The author is indicated by his/her initials at the end of each section.

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### Wadi Hammeh 34 (Upper Palaeolithic)

Excavations in 1986/87 were begun at Wadi Hammeh 34, a rich *in situ* Upper Palaeolithic site bedded directly under both the Kebaran sites Wadi Hammeh 26 and Wadi Hammeh 33.<sup>3</sup> The site is located in a dark clay band sandwiched in the red pebbly clays of the Wadi Hammeh Conglomerate (Pl. XX,1). The site occupies a pivotal position in the local sequence, overlying a Levantine Mousterian site located only four metres below it; but possesses a fully developed bladelet technology characteristic of the much later Epipalaeolithic sites.

The dark grey clay band containing the remains lies about two-thirds of the way up the exposed Plateau sequence, at an altitude of -96 metres. The site appears to span the entire distance separating sites Wadi Hammeh 26 and Wadi Hammeh 33, a length of about fifty metres. A number of erosion gullies dissect the cliff section over this stretch of the outcrop, and material

was recovered in rich quantities from all of them. Lithics had sharp edges. The sample included a high quantity of small size-fraction material, an entire series of bladelet core reduction products, and the highest lithic concentrations of any of the sites investigated in Wadi el-Hammeh. There were also traces of fauna.

If the site can be considered as an exposed outcrop strip of an essentially circular scatter, the minimum size for Wadi Hammeh 34 is 3,930 square metres, which is large for an *in situ* Levantine site of this age.

The cultural deposit was sampled in seven areas over the fifty metres of exposed outcrop strip. Six of these were erosion gullies that had conveniently cut through the section. Volumes of sampled deposit taken out of section were recorded, and the matrix was dry and wet-sieved through a 0.5 centimetre mesh. Whole samples of matrix from each spot were also directly passed through a flotation machine and the artefactual residue caught in a 0.5 millimetre mesh. The floated sample was retained for analysis of any botanical remains.

Radiocarbon dates recently obtained from *Melanopsis praemorsa* shells lying stratified in bands above and beneath the site indicate a date for Wadi Hammeh 34 of ca. 29,000 b.p.<sup>4</sup> The dates accord with the site's stratigraphic position eight metres lower than the overlying Wadi Hammeh 26 dated at 19,500 b.p.,<sup>5</sup> and its position some four metres higher than an as yet unsampled Levantine Mousterian site.

Wadi Hammeh 34 has the highest lithic concentration (13,829/cubic metre) of any of the late Pleistocene Wadi Hammeh sites so far investigated.<sup>6</sup> Conditions of

3. Details of these sites may be found in P.C. Edwards *et al.*, 'Late Pleistocene Prehistory in the Wadi al-Hammeh, Jordan Valley.' In Garrard, A. & Gebel, H.G. (eds), *The Prehistory of Jordan: The State of Research in 1986*. BAR (1988), p. 525-565.

4. Pers. comm. J. Head & P.G. Macumber. Thanks go to John Head for participating in the 1986/87 field sampling programme and for graciously making available the facilities of the Australian National University Radiocarbon-

dating Laboratory.

5. P.C. Edwards, 'Two Epi-Palaeolithic Sites in the Wadi Hammeh (Area XX)'. In McNicoll, A. *et al.*, 'Preliminary Report on the University of Sydney's Fifth Season of Excavation at Pella in Jordan,' *ADAJ XXVIII* (1984), p. 55-86.

6. P.C. Edwards, *Late Pleistocene Prehistory in Wadi al-Hammeh, Jordan Valley*, p. 102-105. Unpubl. Ph.D. thesis, University of Sydney (1987).

deposition are indicated as the main reason for the excellent preservation, since the site is embedded in a dark grey, silty clay with far fewer large pebbles than are found in the red pebbly clays above and below it. When lithic densities for several spots across the outcrop are compared (all using figures from the 0.5 cm mesh), consistently high values are attained. There is, however, a noticeable drop in density from ca. 10,000/cubic metre at the up-valley (south) end of the site to 1,000/ cubic metre at the down-valley (north) end.

In future it is hoped to investigate this site in further detail, involving horizontal and vertical clearance at a fine scale, which may resolve these differential lithic densities into discrete activity areas within the general site area.

Compared to the small Kebaran sites already excavated, Wadi Hammeh 34 has substantially higher amounts of debris (Table 1), at 64 per cent, approaching the levels of the Natufian site Wadi Hammeh 27. This includes a large proportion of chunks: potential raw material or waste from the splitting of raw material (28 per cent). Total debitage accounts for 34 per cent of the sample and retouched tools occur in very low levels at 1.3 per cent.

Nearly three-quarters of debitage by number are flakes (Table 1), yet the most striking aspect of Wadi Hammeh 34 is the miniature aspect of its blade core component. Cores consist almost entirely of bladelet core remnants. These are small and fine (average maximum dimension for all cores equalling only 64.3 mm), several carrying sets of very fine, parallel bladelet spalls (Fig. 1). Bladelets, which comprise 88 per cent of the blade total (Table 1), are gracile. Average length for blades is 31.8 millimetres (range = 14.7-75.2 mm), and average width is 11.4 millimetres (range = 5.0-29.8 mm). Most specimens are very thin, flat and narrow (Fig. 1) with proportions of punctiform platforms occurring at similar levels to the Kebaran site Wadi Hammeh 26 (Table 1). Like all other Upper and Epi-Palaeolithic sites investigated, the great majority of cores at Wadi Hammeh 34 are single platform, in this

case mostly unfaçeted (Table 1).

Core-trimming elements of any kind are extremely rare (0.4 per cent, Table 1) and microburin technique is absent.

Few of the Wadi Hammeh 34 bladelets were further modified into re-touched microliths (Table 1). Most of the small number of retouched tools were burins made on flake blanks (Fig. 1), with a smaller number of utilized chunks registered as scaled and battered pieces (Table 1). A small number of scrapers occur including a high-angled carinated scraper and a similar scraper which also has a burin spall detached from the other end (Fig. 1:8).

Many of these tools are nucleiform in character due to the placement of steep invasive retouch to form the scraper bits (Table 1).

Only two retouched bladelet tools were present in the sample: a broken bladelet partially retouched on one edge with very fine obverse marginal retouch, and an alternately retouched small bladelet finished with retouch of a similar delicacy positioned inversely on one lateral edge along to the point and obversely on the opposite lateral edge (Fig. 1:9).

High rates of breakage occur amongst flakes (55 per cent), with only slightly increased rates for blades and bladelets (60 per cent, Table 1). There were no significant numbers of burnt chert products.

Each of the seven spots sampled in Wadi Hammeh 34 across the entirety of the site produced few but consistent numbers of finely comminuted bone fragments, about ten per cent of which were burnt. The only possibly diagnostic elements were two pieces of tooth enamel, consistent with the bunodont form of *Sus* molars. The ubiquitous *Melanopsis praemorsa* occurs in low levels much reduced from its densities in the underlying and overlying levels.

The Upper Palaeolithic site Wadi Hammeh 34, dated around 29,000 b.p., is at this early date noteworthy for its size, good preservation and the predominance of bladelet cores and small bladelets.

P.C.E.

**Table 1: Lithic information for Wadi Hammeh 34 (Upper Palaeolithic).**

<i>Artefact type</i>	<i>N</i>	<i>%</i>	<i>Retouched tool list</i>	<i>N</i>	<i>%</i>
<b>DEBRIS</b>					
Chunks	543	28.1	Endscraper on flake	1	5.0
Chips	701	36.2	Broad carinated scraper	1	5.0
Sub-total	1244	64.3	Dihedral burin	2	10.5
<b>DEBITAGE</b>					
Flakes	49	25.4	Dihedral angled burin	1	5.0
Blades	131	16.8	Burin on natural surface	2	10.5
Core-trimming elements	7	0.4	Nucleiform burin	2	10.5
Burin spalls	15	0.8	Burin/scraper	1	5.0
Microburins	—	—	Partially retouched bladelet	1	5.0
Cores	26	1.3	Alternately retouched bladelet	1	5.0
Sub-total	671	34.7	Scaled piece	3	17.5
<b>RETOUCHED TOOLS</b>					
Sub-total	19	1.3	Battered piece	2	10.5
			Retouched flake	2	10.5
<b>Total</b>	<b>193</b>	<b>100.0</b>		<b>19</b>	<b>100.0</b>

Core types from Wadi Hammeh 34 (Upper Palaeolithic)

<i>Bladelet Cores</i>	<i>N</i>	<i>%</i>	<i>Flake Cores</i>	<i>N</i>	<i>%</i>
Single platform: unfacetted	8	30.8	Irregular, multiple platform	1	3.8
facetted	2	7.7	Core fragments	10	38.5
Opposed platform: same side	—	—			
opposite side	2	7.7			
combination	1	3.8			
Multiple platform	2	7.7	<b>Total</b>	<b>26</b>	<b>100.0</b>

Blank categories and retouch modes for tools. Wadi Hammeh 34 (Upper Palaeolithic)

<i>Blank category</i>	<i>N</i>	<i>%</i>	<i>Retouch mode</i>	<i>N</i>	<i>%</i>
Chunk	5	26.0	Burin blow	8	57.0
Flake	12	63.0	Semi-steep marginal	1	7.0
Blade	—	—	Very fine marginal	2	14.5
Bladelet	2	11.0	Abrupt marginal	—	—
Core	—	—	Semi-steep invasive	1	7.0
			Steep invasive	2	14.5
<b>Total</b>	<b>19</b>	<b>100.0</b>		<b>14</b>	<b>100.0</b>

Attributes of platform remnants on flakes and blades. Wadi Hammeh 34 (Upper Palaeolithic)

<i>Platform type</i>	<i>Flakes (N=198)</i>		<i>Blades (N=50)</i>	
	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
Cortical	13.1	2.0		
Crushed	17.2	34.0		
Plain	45.5	30.0		
Facetted	6.5	2.0		
Dihedral	8.1	2.0		
Punctiform	9.6	30.0		

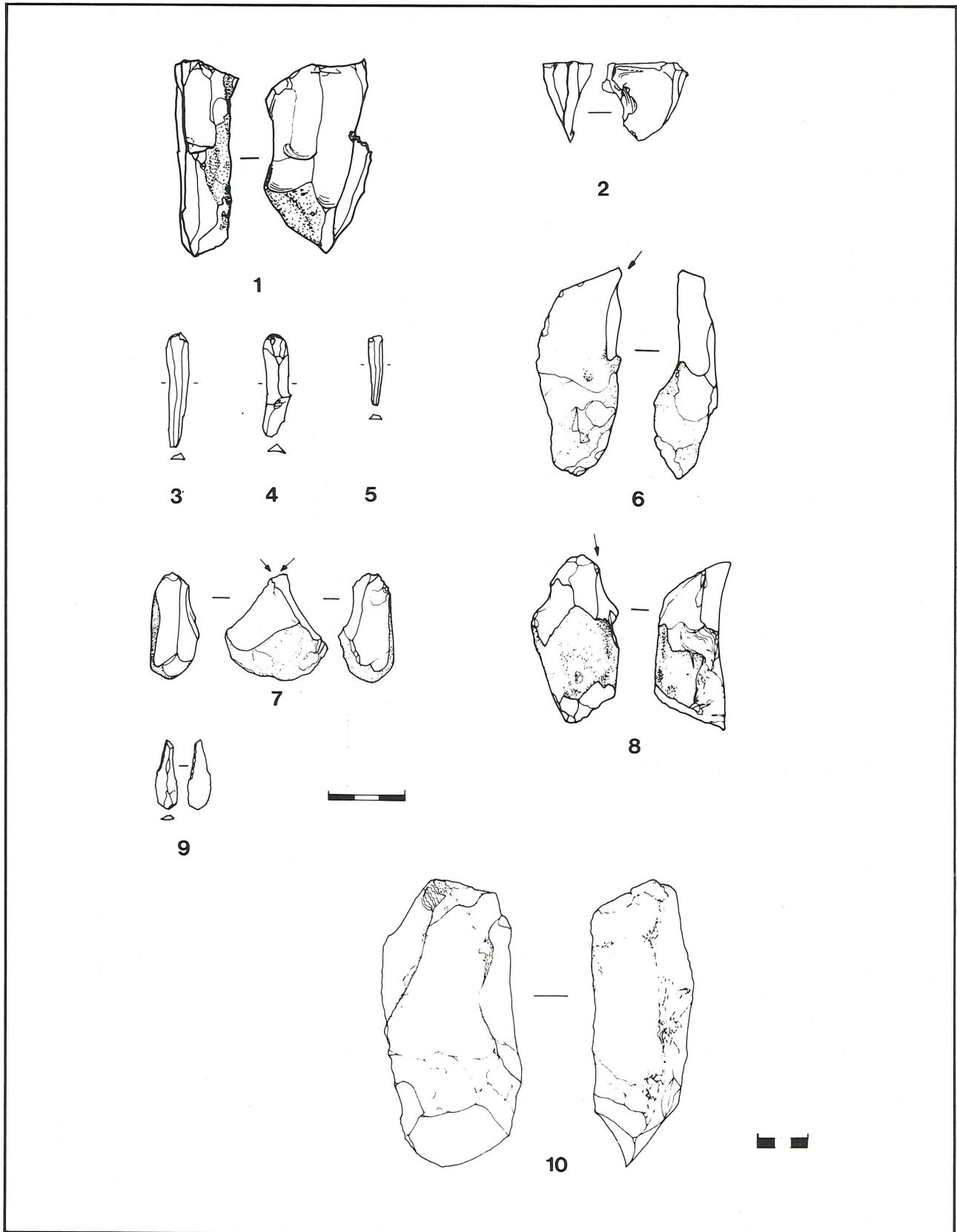


Fig. 1. Lithics from Upper Palaeolithic site Wadi Hammeh 34: (1-2) Bladelet cores; (3-5) primary bladelets; (6-7) burins; (8) burin/scrapper; (9) alternately retouched bladelet; and (10) pick from Early Natufian site Wadi Hammeh 27. Note different scales:  $\frac{1}{2}$  for nos. 1-9,  $\frac{1}{3}$  for no. 10. Scale graduations in centimetres.

### Wadi Hammeh 27 (Early Natufian)

During the fourth and fifth seasons of work at Wadi Hammeh 27, carried out in 1985/86 and 1986/87 respectively, operations were concentrated on further horizontal clearance of the uppermost (Natufian Phase I) occupation surfaces.

In 1986/87 two sondages were also undertaken away from the main excavation area, at points judged likely to provide information on the nature and placement of remains near the settlement's margin. One (Plot XX N) was located over forty metres to the south of the area excavations in the middle of the Plateau; the other (Plot XX M) to the southeast near the eastern edge of the Plateau. In both sondages dark soil deposits were found at similar altitudes to the cultural strata of the main settlement, but architectural remains or other features were lacking. A much reduced density of lithics compared to the main settlement area occurred, consisting mainly of debris and debitage. These diffuse scatters at the margins of the site stand in contrast to the huge amounts of lithic refuse found within structures near the centre of the settlement.

In this report, descriptions are centred on newly-discovered details of settlement plan, architecture, and the context of several *in situ* artefact groups, together with some recently available faunal data.<sup>7</sup>

The Natufian Phase I occupation surfaces have been cleared to their full extent in Plots XX D, XX E, XX F and XX G, and partially exposed in Plots XX H and XX J (Fig. 2: in this plan, light dot-shading represents contemporaneous Natufian Phase I occupation surfaces; dark dot-shading indicates cavities formed by animal burrows and plant roots; and black areas represent stone-ringed postholes. Incompletely excavated areas and eroded deposits to the west are left blank).

A large, horseshoe-shaped structure (the 'XX F Structure') has been isolated in the northern sector. Its curvilinear wall (represented by wall 1 in Plot XX F, Feature 2 [F.2] in Plot XX G and F.10 in Plot XX E), is mostly dry-built of limestone rubble, while clay mortar has been used in short sections like the middle section of wall 1, Plot XX F. An open margin has been left to the southwest (Plot XX E), demarcated by a dip in the ground surface along a curve extrapolated from Plot XX F's wall 1. This is also marked in several places by stone-ringed postholes (F.11, F.12, F.13 & F.17 in Plot XX E).<sup>8</sup>

A further extension of the outermost wall of the concentric complex already isolated in Plot XX D has been uncovered in Plot XX H. Whether the entire structure is elliptical, or a large sub-circle associated with the architectural elements in the south of Plot XX J, remains equivocal. Similar altitudes and stratigraphy indicate that the Plot XX J remains belong to the same constructional phase of Natufian Phase I as the rest of the settlement, although this remains to be demonstrated by the kind of direct stratigraphic linkage available for Plots XX F to XX H.

A wide variety of stone features occurs across the site. Several stone arcs are positioned on the outside of the XX F Structure (eg. F.3 in Plot XX F; and F.1 & F.6 in Plot XX E). Smaller arcs (F.8 in Plot XX F; F.4 in Plot XX E) or enclosed circles (F.6 & F.9 in Plot XX F; F.15 in Plot XX E; and F.21 a in Plot XX D) are also found within the structures. In contrast to the excavated postholes in Plot XX E, an irregular mass of stones in Plot XX J (F.1) surrounds a raised area of tamped earth. Additionally, each major structure contains an arrangement of boulders. In Plot XX F this takes the form of an oblong construction of limestone pieces set into a slightly raised base of mud with some of

7. Details of lithic descriptions for this site may be found in Edwards *et al.*, (1988) *op. cit.*, and Edwards (1987) *op. cit.*

8. This finding rebuts an earlier prediction made by the author that the XX F structure would turn out to be a narrower oval, *cf.* P.C.

Edwards. 'The Excavations in the Wadi Hammeh.' In McNicoll, A.W. *et al.*, 'Preliminary Report on the University of Sydney's Seventh Season of Excavation at Pella (Ṭabaqat Fahḷ) in 1985.' *ADAJ* XXX (1986), p. 162.

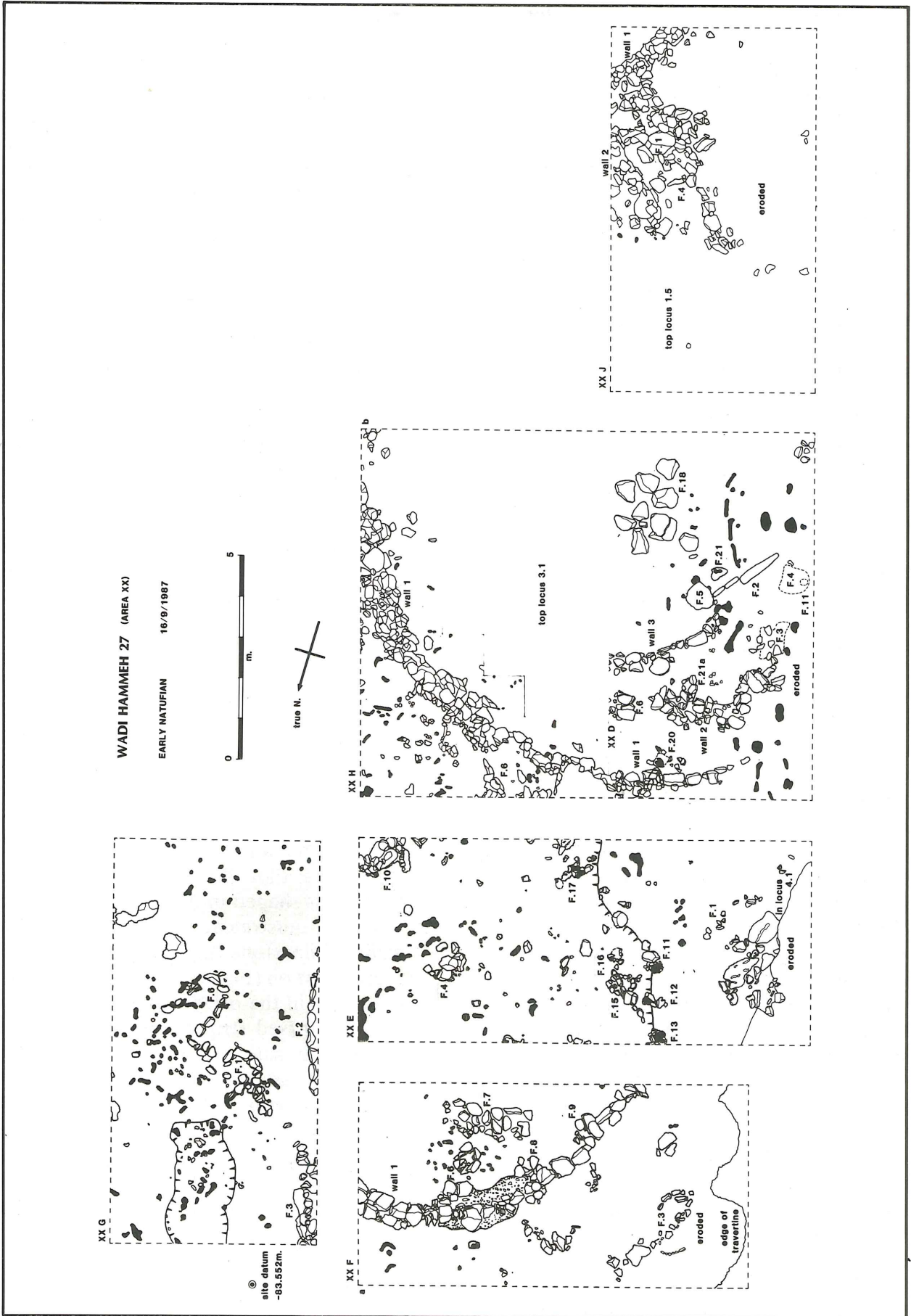


Fig. 2. Plan of Early Natufian site Wadi Hamme 27.

the border stones set on edge (F.7). In Plot XX D there is a looser arrangement of larger boulders, which may turn out to be the focal point of the structure formed by walls 1 to 3.

Though post-occupational degradation, mainly due to hollows loosened by the roots and bulbs of plants and labyrinthine systems of rodent burrows, has affected a significant amount of Wadi Hammeh 27's deposits, an excellent array of *in situ* artefact associations has nevertheless survived.

For example a pair of basalt pestles, placed side-by-side near F.1 in Plot XX E on the Natufian Phase I occupation surface, (Pl. XXI,2) have remained in position though they were situated perilously close to the erosion line at the cliff edge. One of the pestles is plain while the other has a raised band around its middle formed by pecking. A more extensive basalt cache was located several metres away on the margin of the XX F Structure near the posthole F.17, consisting of two pairs of pestles and two vessels (Pl. XXI,1). One pair of pestles had been placed across the mouth of the larger vessel. This pair exhibited a repetition of the practice of placing one plain pestle next to a decorated one. The decorated example had a raised band around its middle and a zoomorphic head formed by a flattened and somewhat concave 'skull' surmounting two protuberant eyes. A second pair of plain pestles rested thirty centimetres away (seen protruding from the baulk in Pl. XXI,1). The body of the larger vessel narrowed to a slender foot, whereas the smaller one had a pronounced carinate base. The contextual association of these items with the pestles implies their function as mortars.

A compact cluster of artefacts was located a metre away to the east, also on the Natufian Phase I floor within the XX F Structure (Pl. XX,2). A variety of objects surrounded an elaborate bone sickle haft complete with inset Helwan bladelets (1). These included a single platform bladelet core (2); seven polished siliceous stones (3); twenty-one Helwan and inverse-retouched lunates (4); and five gazelle

podial bones: two first phalanges, two second phalanges and one third phalanx (5). The lunates were made on a uniform translucent, caramel chert. This material corresponds so closely to the bladelet core that it seems the lunates were made from bladelets struck from this particular core.

Two grooved basalt plaques, one overlying the other, were situated forty centimetres away from this group of objects.

While during excavation it was assumed that one sickle haft overlay a second one visible beneath it, after conservation it was discovered that a single double-shafted sickle was present (Pl. XXII,1-2). Two long pieces of bone had been shaped with their interior, adjoining facets flattened so as to fit together. At the handle the two pieces merged to form a single grip. In this area the haft was quite badly damaged by burning. The series of Helwan bladelets fixed into each groove had been distinguished by colour with a lightly-mottled, dark brown chert used for one side and a light tan chert for the other.

Further tool groups were located on the interior Natufian Phase I floor of Plot XX H, nestled against wall 1. These included two basalt grinding stones and a separate pile of three chert picks, one of which is illustrated here (Fig. 1:10).

In each of the past two seasons an unusual zoomorphic artefact was discovered from Plot XX E. A drilled bone pendant is shaped in the form of a stylized bird with outstretched wings (Pl. XXI,3); while in limestone there is an animal head representation (Fig. 3). The piece is roughly broken in the occipital region. Forward of this a raised strip extends a short way down each side of the face, apparently indicating the location of the eyes. Between this strip and the snout a pair of bands, each indented with a furrow, are marked on the cheeks. The piece has a broad snub nose, and a fleshy, slightly protuberant tongue. The underside of the piece is flattened. It is difficult to unequivocally identify what animal was intended in this representation. To this author the squat head, broad snout and



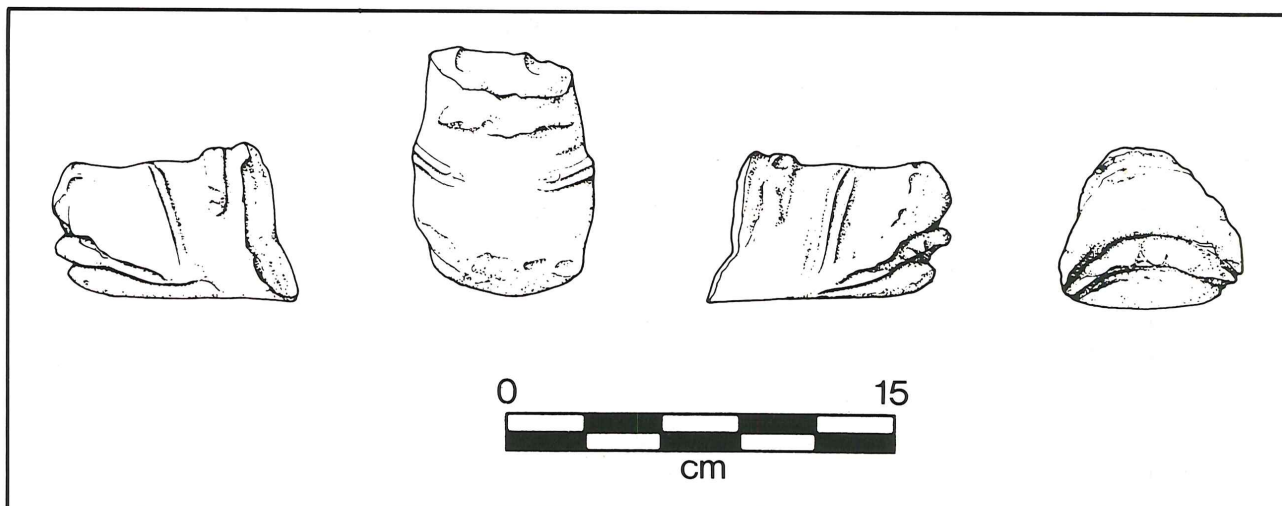


Fig. 3. Four views of zoomorphic limestone head. Plot XXE Natufian Phase I, Wadi Hammeh 27.

lolling tongue suggest a bovid; some of these features might less plausibly be interpreted as canine. In view of the carvings of apparently bridled equids known from the French Upper Palaeolithic,<sup>9</sup> a major interest of this piece is that a representation of a halter may have been intended.

Quantitative data is now available for a faunal sample from Wadi Hammeh 27 (Table 2).<sup>10</sup> Mammalian taxa are numerically dominated by gazelle remains (65.7%, by identified fragments), with smaller numbers of an array of other mammals which include equids, bovids, pig, goat, Red Deer, Fallow Deer, Roe Deer, fox, wild cat and hare. A small number of bones also derived from a wide variety of birds; White Stork, Eagle Owl, partridges, gulls, and duck and coot. The taxonomic diversity of this sample probably reflects the juxtaposition of a broad array of riverine, crag, open forest, steppic and lacustrine habitats found in close proximity to the site.<sup>11</sup>

P.C.E.

### The Early Bronze Age IV Cemetery (Area XXXI)

Surveys conducted during 1982/83 by Petocz and Villiers<sup>12</sup> in the Wadi el-Ḥammeh system found, *inter alia*, a partly robbed cemetery of the late third millennium B.C. The cemetery occupies the southern ridge and upper slopes of Wadi el-Ḥammeh's south terrace, about 500 metres east of its confluence with the Jordan Valley and lies opposite the contemporaneous occupation mound of Khirbet el-Ḥammeh.<sup>13</sup> The cemetery has been given the provisional designation 'Area XXXI' within the Ṭabaqat Faḥl archaeological area system (site 7 in the local Wadi el-Ḥammeh reference system).<sup>14</sup>

Eleven of the intact tombs were excavated by the University of Sydney team in the seventh season. Most are circular rock-cut pits, about two metres in diameter and seventy to ninety centimetres deep (Fig. 4:1). Pit tombs are virtually unknown in the Palestinian/Transjordanian EB IV culture, and are equally rare elsewhere in

9. P.G. Bahn, 'The "unacceptable face" of the West European Upper Palaeolithic.' *Antiquity* LII (1978), p. 183-192.

10. A.N. Garrard, *Preliminary Notes on Faunal Remains from Wadi Hammeh 27 (1982/3-1984/5 Seasons)*. Unpubl. typescript held in Dept. of Archaeology, University of Sydney (1985). Thanks are due to Barbara West for avian identifications.

11. *Ibid.*

12. D. Petocz & L. Villiers, 'The Wadi Hammeh Survey.' In McNicoll, A. *et al.* 'Preliminary Report on the University of Sydney's Fifth Season of Excavation at Pella in Jordan.' *ADAJ* XXVIII, (1984), p. 77-81.

13. M. Ibrahim, J. Sauer & K. Yassine. 'The East Jordan Valley Survey, 1975.' *BASOR* 222 (1976), p. 41-66.

14. Petocz & Villiers *op. cit.*, Fig. 10.

**Table 2:** Faunal remains from Wadi Hammeh 27, Early Natufian (No. of identified bone fragments).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	% total
<i>Equus</i>	—	—	—	.1	—	—	—	—	—	—	—	1	—	—	—	—	—	0.7
<i>Sus scrofa</i>	2	2	—	—	—	—	—	—	—	—	—	2	—	2	4	—	—	4.3
<i>Gazella</i>	3	—	2	2	5	2	4	3	1	3	—	29	9	16	98	1	—	65.7
Ovicaprids	—	1	—	—	—	—	—	—	1	1	—	1	2	2	7	—	—	
<i>Capra</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	6.2
<i>Bos primigenius</i>	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4
<i>Cervus elaphus</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	0.4
<i>Dama dama</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	0.4
<i>Capreolus</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	0.7
<i>Canis lupus</i>	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	0.7
Large carnivore	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.7
<i>Vulpes</i>	3	—	—	—	—	—	1	1	1	—	—	—	—	—	2	—	—	2.9
<i>Felis</i>	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	0.4
<i>Lepus capensis</i>	—	—	—	4	2	2	1	—	1	—	—	—	—	2	—	—	—	4.3
<i>Alectoris rufa</i>	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	
<i>Alectoris chuckar</i>	—	—	—	—	1	—	—	—	—	2	—	—	—	—	—	—	—	
<i>Ciconia ciconia</i>	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	
<i>Larus canus</i>	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	
<i>Bubo bubo</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	
<i>Fulica atra</i>	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	
Anatinae	—	—	—	—	—	—	—	—	—	1	1	1	—	—	—	—	—	
Aves	—	—	—	1	—	—	—	—	—	—	2	1	—	—	11	—	—	10.2
<i>Testudo</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	1.8
<i>Potamon potamon</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	0.4

1 = mandible	4 = scapula	7 = ulna	10 = tibia	13 = carpal	16 = sesamoid
2 = teeth	5 = humerus	8 = pelvis	11 = coracoid	14 = tarsal	17 = scute
3 = horn core	6 = radius	9 = femur	12 = metapodial	15 = phalanx	

Southwest Asia during this period (though common in the Philia culture on Cyprus, whose terminal date probably overlaps the EB IV in Syria-Palestine). Only one of the tombs is certainly of the typical EB IV shaft type (Tomb 68; Fig. 5), while two others were entered along sloping *dromoi* (Fig. 4:2).

Skeletal material was sparse, yet sufficient to indicate the predominance of single inhumations (or in a few instances, possibly dual). All tombs contained varying quantities of pottery, but only one yielded a metal object (a bronze dagger). No other grave goods were present. The pottery (Figs. 6-7) is typical of sites in the Beisan Basin and Central Jordan Valley. Clays are well levigated, firing evenly to shades of orange, ochre or buff, and contain much lime and chert (and occa-

sionally sand) temper. The tempering imparts a rough texture to the surfaces of the vessels. Bodies and bases are handmade or wheelmade, but are consistently smoothed on a slow wheel. A few of the bowls and lamps are completely wheelmade. Bodies are commonly wet-smoothed irregularly by hand.

The specific type of small, loop-handled jar, and the popularity of shallow bowls (some with wavy-edged ledge handles) relate the repertoire to sites in the Central Jordan Valley, such as Tell Umm Hammad and Tiwal esh-Sharqi, whereas the strap-handled jugs with narrow necks point more toward the Beisan Basin and the Marj Bani 'Amer Plain. The envelope ledge-handled storage jars with flat bases have a wider distribution in the north of the country. Good parallels for the Wadi

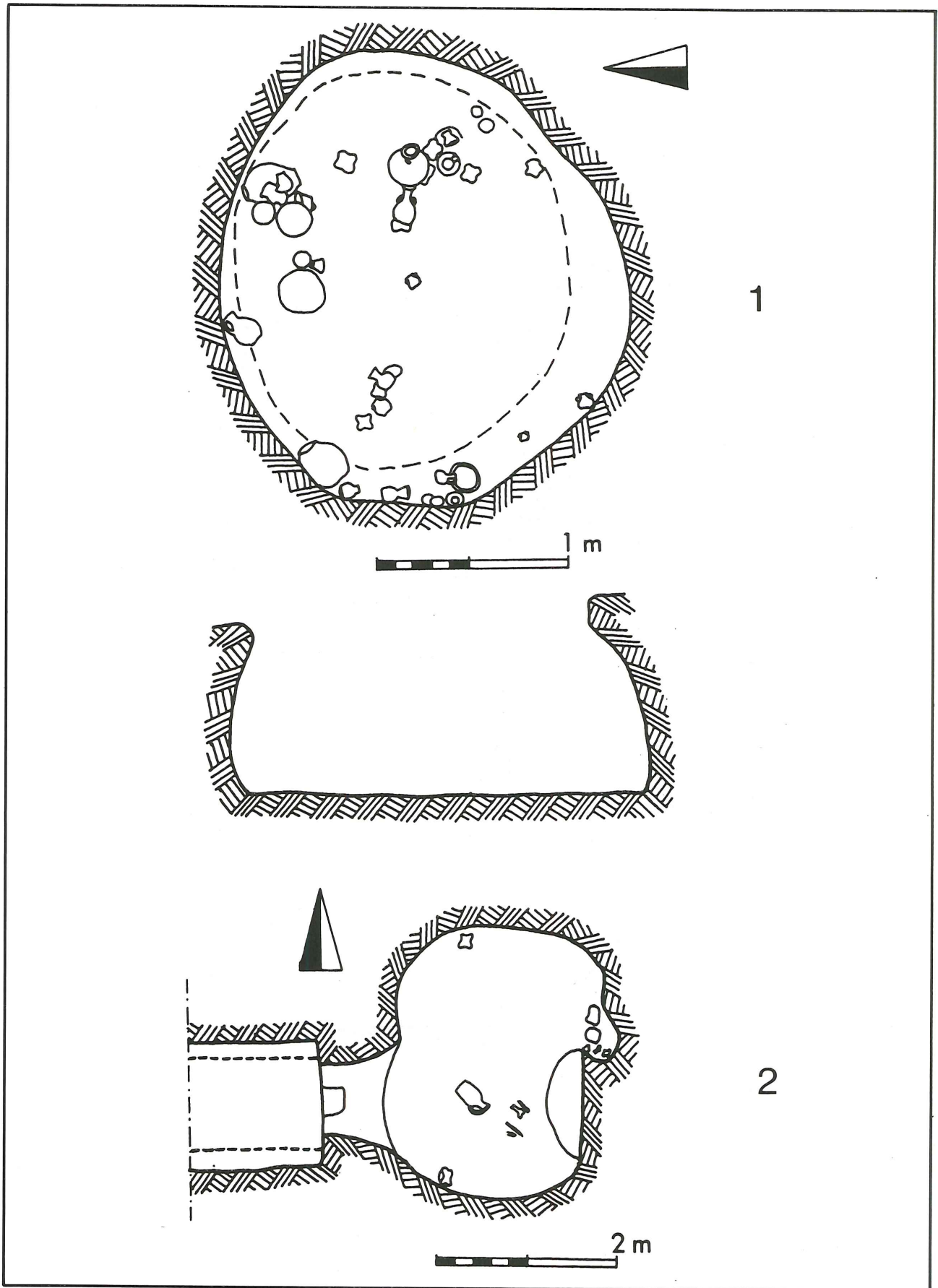


Fig. 4. (1) Tomb 70. (2) Tomb 69. Early Bronze IV period.

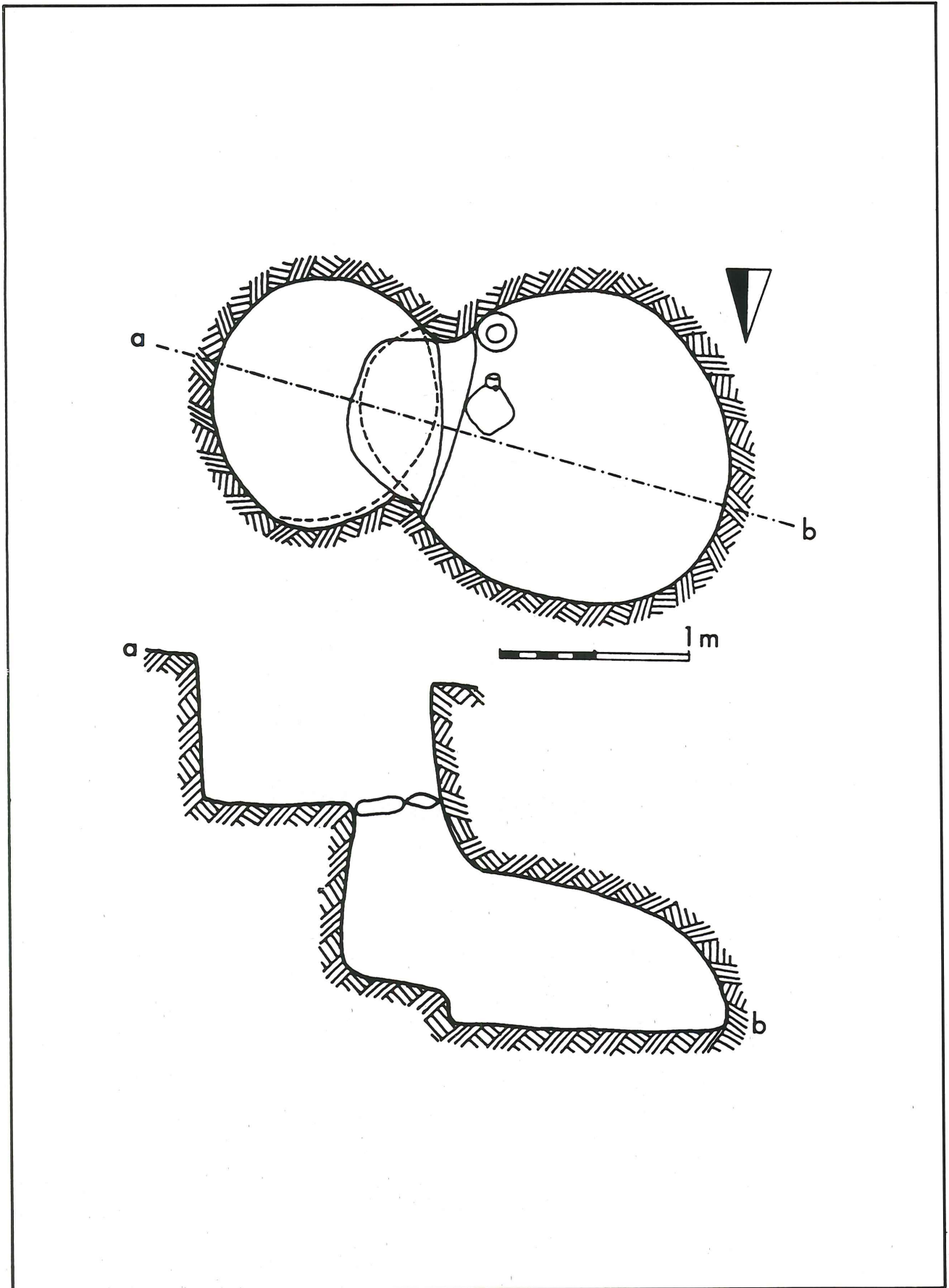


Fig. 5. Tomb 68. Early Bronze IV period.

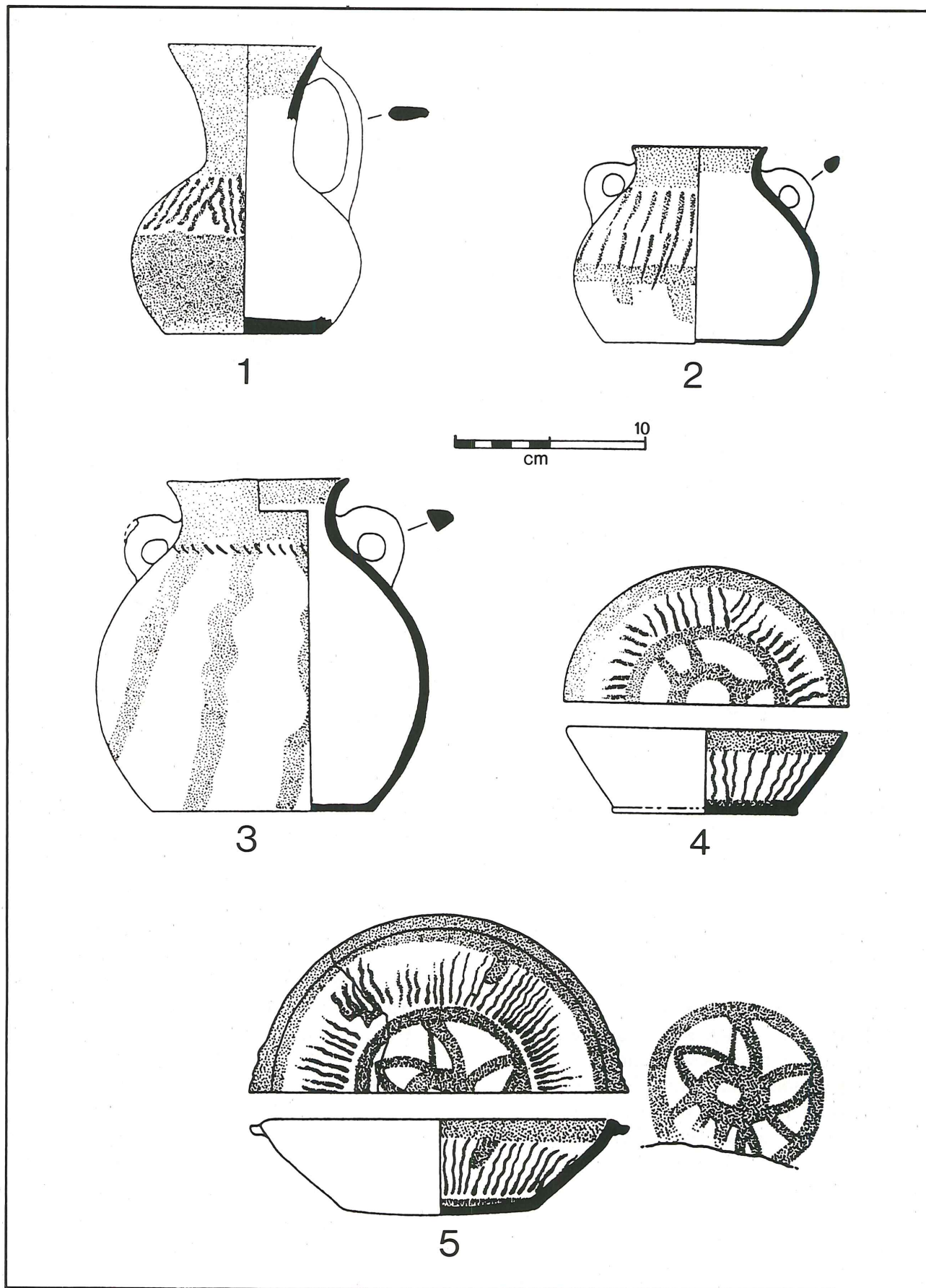


Fig. 6. Typical pottery from the EB IV tombs in Wadi el-Hammeh.

el-Ḥammeh EB IV pottery can be found as far afield as Megiddo, Hazor, Ma'ayan Barukh, el-Ḥuṣn, Tell es-Sulṭan and Tell Iktanu. The closest parallels in both shape and decoration are found at Tel 'Artal in the Beisan Basin<sup>15</sup> and from el-Ḥuṣn in northern Jordan.<sup>16</sup> Two unique features of the Wadi el-Ḥammeh shape repertoire are: (1) wavy-edged ledge handles attached at the rim (rather than well below, as is more usual in Palestinian EB IV), and (2) a flat-based lamp with five spouts.

At no other EB IV site in Palestine or Transjordan has painted decoration turned up with such a high relative frequency as in the Wadi el-Ḥammeh tombs. Paint is in matt red or brown applied with a single brush directly to the fired surface. Slip is rare. Band combing is absent, and incised decoration is uncommon. The decorative repertoire is one that is common in the Beisan Basin and Marj Bani 'Amer Plain during the EB IV period, and is typically based on a zonal system, whereby certain parts of the vessel are given a painted wash, while other parts (usually the upper half of the body) are either left plain or decorated with vertical, squiggly lines. Variations on this basic scheme are common and the standard of execution varies widely. The bowls show a greater diversity in combination of motifs but again these are usually structured around a zonal system. An alternative decorative scheme, attested so far only in one of the tombs, may be described as "freefield": rapidly-sketched curvilinear motifs are applied to the vessel with little regard to the natural morphological divisions of the shape (Fig. 7:1). This technique has a few general parallels at el-Ḥuṣn, where it is applied to large jars rather than bowls, and may yet prove to be a local characteristic of northern Transjordanian EB IV (it is, however, so far unattested at nearby Tell el-Ḥayyat, where the zonal decorative scheme predominates).

G.J.W.

### Early Bronze Age Area XXXII (Fig. 8. Supervisor: J.H.-Tenison)

Courses of a large wall constructed of medium-sized (ca. 20 x 30 cms) rounded wadi stones have been exposed in recent years by erosion to the slope of the *tell* just east of Area XXV, where a modern path descends from the *tell* to Wadi ej-Jirm. Surface collections in the immediate vicinity produced significant quantities of Early Bronze Age pottery. It was therefore decided in 1986 to clear around the wall to determine its date and purpose, in particular whether it might be the town wall of the Early Bronze Age. The brief excavations did not reach any surfaces, so no definite conclusion was reached, but the width of the wall and the pottery recovered from the upper levels are consistent with this interpretation. This operation will eventually be incorporated into the Area XXXII excavations, which have since been established immediately to the east.

T.F.P.

### Middle Bronze Age to Late Bronze Age/ Iron I 'East Cut' Plots IIIC, IIID, IIIN, IIIP, IIIQ, IIIR, IIIS. (1986) (Fig. 8)

A major objective of the excavations in this area was to clear the existing line of upper plots (IIIP, IIIQ, IVE) down to the phase IA destruction dating to the final Late Bronze or Early Iron Age. A fourth plot, IIIR, was established immediately to the south of IIIQ so that these and lower deposits could continue to be exposed to the edge of the *tell*. Meanwhile, excavation was continued in the deeper plots IIIN and IIIC, which are down to Late Bronze and early Middle Bronze Age deposits respectively. The old southern baulk of IIIN, previously removed to allow excavation to extend to the very edge of the *tell*, was reestablished and a new plot (IIIS) opened immediately to the south, in line with IIIR.

T.F.P.

15. O. Hess, 'Middle Bronze I Tombs at Tell 'Artal.' *BASOR* 253 (1984), p. 55 ff.

16. G. Lankester-Harding, 'An Early Bronze Age Cave at el-Husn.' *PEF Annual* 6 (1953), p. 1-13.

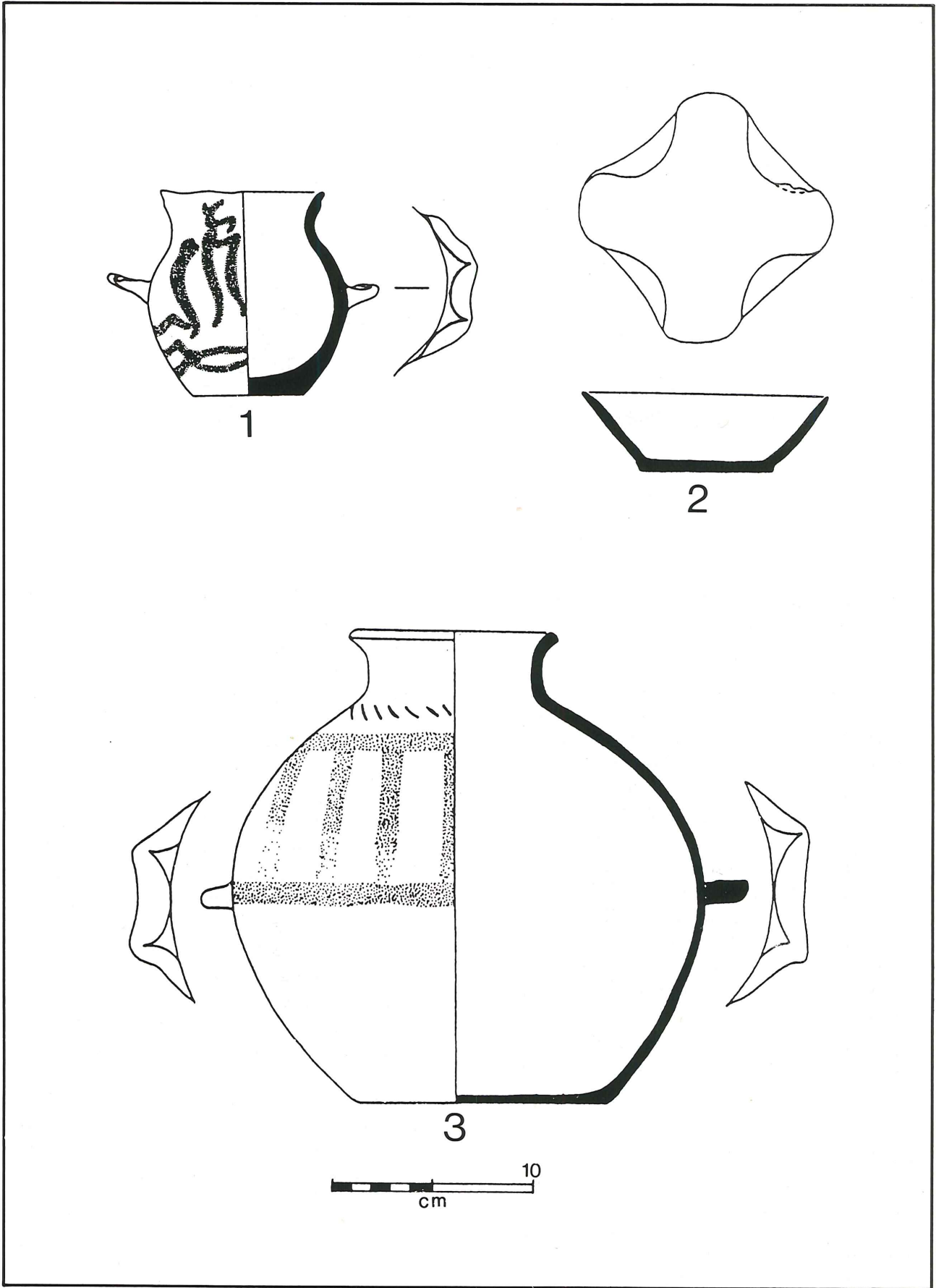


Fig. 7. Typical pottery from the EB IV tombs in Wadi el-Hammeh.

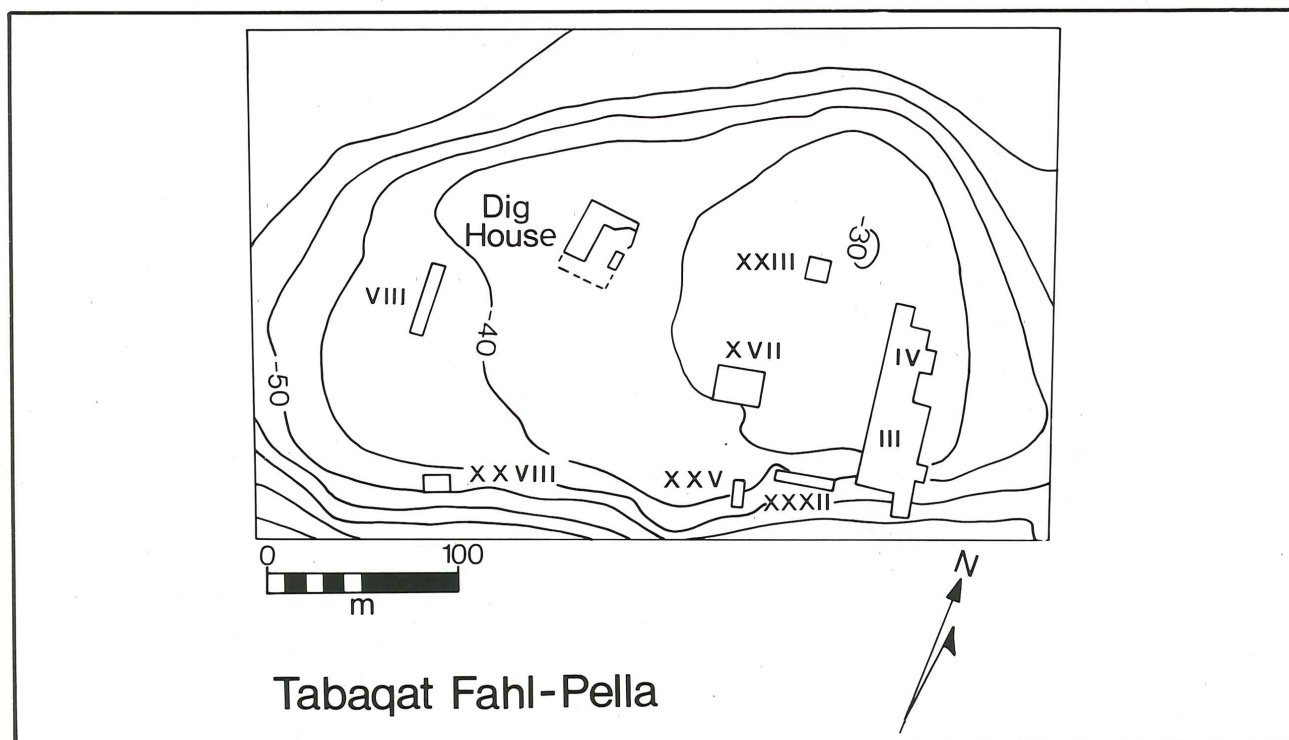


Fig. 8. Plan of Tabaqat Fahl showing locations of excavated areas.

**The Middle Bronze Age** (East Cut Phases VI, VII), Plot IIIC (Fig. 8). Supervisor: Pam Watson

In the 1984 season a rectangular room was exposed immediately inside the Middle Bronze Age town wall (Potts *et al.*, *ADAJ XXIX* (1985), p. 198-200, Fig. 4). During the 1986 season the remains of this structure — now designated Phase VI in the 'East Cut' sequence — and the associated deposits to the north were removed, and approximately 0.5 to 1 m. of underlying material was excavated. This proved to contain only a few short stretches of walls and patches of floor which were insufficient for even a tentative architectural reconstruction. Much disturbance seems to have been caused by levelling and other preparations for the construction of phase VI.

The white plaster floor (IIIC 37.17) uncovered in 1984<sup>17</sup> proved to be the earliest floor associated with this structure. Unplastered surfaces encountered north of the room may represent an outside area.

Observations made during the removal of the double walls (IIIC walls 36-40)<sup>18</sup> suggest that while the outer set with stone foundations (walls 36, 37, 40) was constructed first, there may not have been any significant period of use before the inner 'skin-walls' (IIIC walls 38, 39) were added. No occupation surfaces (only some possible construction surfaces) were found running under these later walls up to the outer walls; all major occupation deposits were associated with the double wall arrangement. The broad wall 27, against which the southern wall of the room had been built, apparently stood throughout phase VI, thus making unnecessary the addition of a 'skin-wall' on this side of the room. The foundation trench for wall 37 cut into the town wall (IIIC wall 41) whose true western face, *ca.* 30 cms further west, was not exposed until after that wall was removed.

During phase VI the western face of the town wall north of the junction with wall 36 apparently fell into disrepair. A series of attempts were made to prevent further collapse, first by refacing and then

17. A few further patches of this surface, excavated as IIIC 37.37, were discovered in 1986.  
18. The numbering of these walls has changed since

the report in *ADAJ XXIX* (1985), p. 198f., Fig. 4, where they were referred to simply as walls 34 and 35.



by buttressing (Feature 83). Finally, when the buttressing had decayed, a series of new walls were built, two (IIIC walls 29, 30) running north from the north side of the room (wall 36), and another (wall 33) butting onto one of these from the west. These walls seem to belong to a late stage in phase VI, contemporary with the uppermost floors inside the room (IIIC 36.9, 37.1-3, 37.5-7, 37.9-10).

The underlying deposits, representing phase VII, have so far yielded only vestiges of earlier buildings constructed on the western side of the town wall. The foundation trenches for the main phase VI walls (36-40) and some contemporary pits (Features 72, 75) seriously disturbed these strata, which seem already to have been largely destroyed or demolished when the construction of phase VI began. Uppermost were two walls in the northwest of the plot (IIIC walls 42, 44) forming the southeast corner of a room, and another wall (43) abutting the town wall from the west. The base of this latter wall has not yet been reached. Some courses of mud brick on stone foundations in the north baulk (Feature 84) may represent the corner of another room. Associated with these walls were some patches of clay and plaster floors (IIIC 37.37, 43.1-2) which ran under walls 36 and 38.

Below these remains some earlier patches of floor were excavated together with a fire platform (oven?) of carefully laid pebbles (Feature 88). There is no architecture associated with this early phase VII material in IIIC, except the town wall and possibly wall 43. It seems that the large mud brick wall 27 in the south of the plot does not pre-date phase VI.

The phase VII walls have not yet been fully excavated and it remains to be seen how many sub-phases of construction are involved. The fill or packing between the sub-phases consists largely of red-brown pebbly soil which can also be seen below the phase VII walls in the sides of pit Feature 75 (cut from phase VI). These earlier fill deposits seem to continue down

at least 1.5 m. One of them (IIIC 43.5) appears to run under wall 27. Further excavation is necessary to establish whether they were laid immediately after the construction of the town wall to elevate the constructions inside the defenses, or after earlier building phases had fallen out of use.

On top of the town wall the vestiges of surfaces belonging to phase A (probably contemporary with phase VI, or possibly phase VII)<sup>19</sup> were removed in the northeast corner of the plot. A small pit contained jaw bones of a sheep/goat and a pig.

No fully reconstructable pottery was found *in situ* in IIIC in 1986. The sherd evidence (see Fig. 9) confirms a date in the Middle Bronze Age. Other finds included fragments of two "spindle whorls".

*Catalogue of Illustrated Pottery from Plot IIIC, East Cut Phases VII (No. 1) and VI (Nos. 2-14). Middle Bronze Age.*

Fig. 9

1. CN 9365. IIIC 43.2 (surface). Jar. Fired buff with fine chert and lime grits.
2. CN 9170. IIIC 37.42 (fill). Jar. Fired buff throughout, with fine and medium-sized grits.
3. CN 9160. IIIC 37.42 (fill). Jar. Fired buff, pale grey at core of rim, with fine grits.
4. CN 9148. IIIC 37.46 (fill). Jar. Fired orange-buff at surfaces, buff to pale grey at core, with fine and few larger grits, mostly chert.
5. CN 9145. IIIC 37.46 (fill). Jar. Fired orange-buff, with fine to medium-sized chert and lime grits.
6. CN 9036. IIIC 41.7 (floor). Hole-mouth jar. Fired greenish buff with fine chert and lime grits.
7. CN 9146. IIIC 37.46 (fill). Holemouth jar. Fired grey-buff at core, pale brown at surfaces, with fine chert grits.
8. CN 9038. IIIC 41.7 (floor). Fired buff, with fine chert grits. Painted band around rim.

19. *PJ* 1, p. 49; *ADAJ* XXIX (1985), p. 197; *PJ* 2.

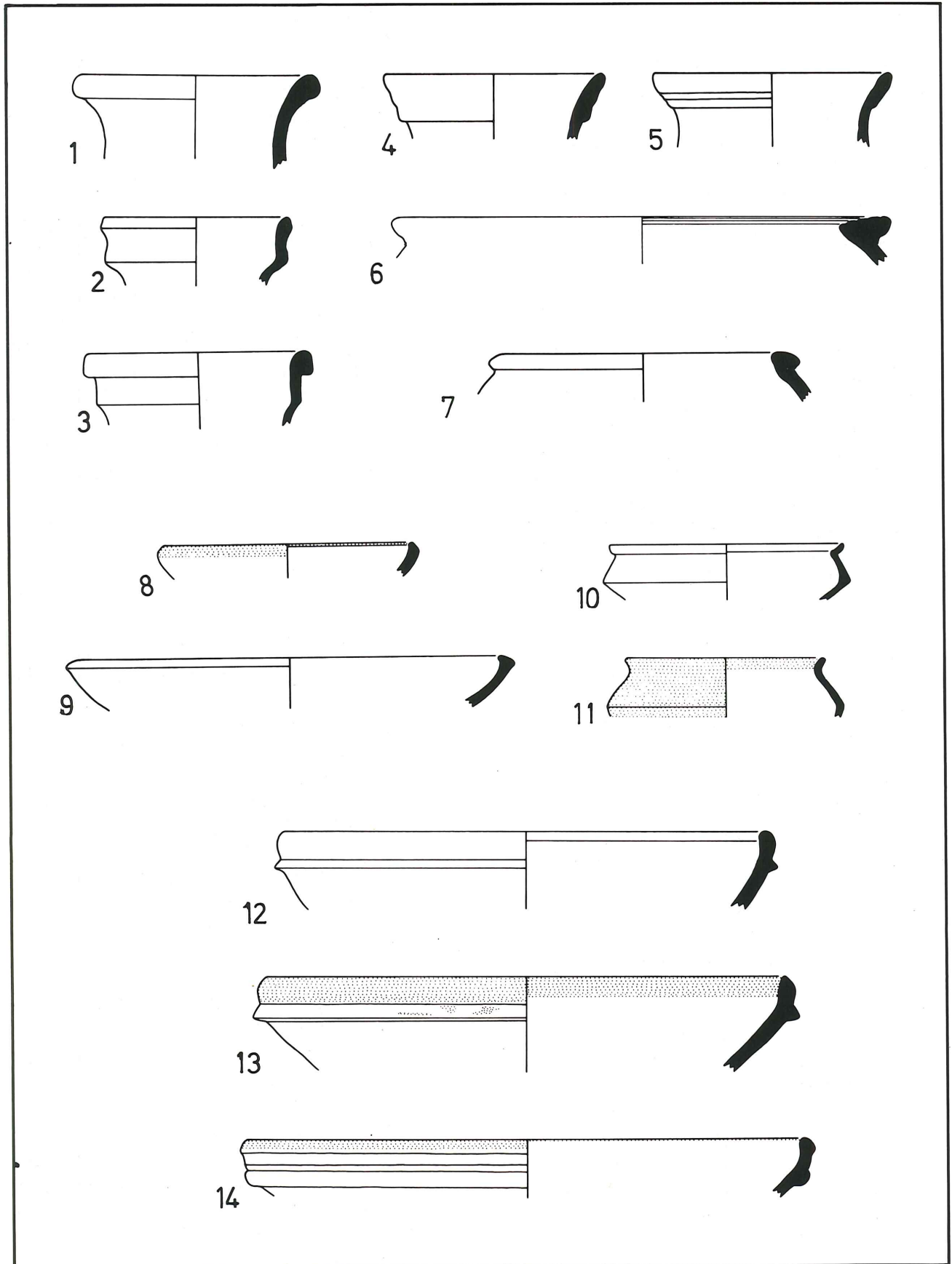


Fig. 9. Middle Bronze Age II pottery from Plot IIIC, East Cut Phases VII (1) and VI (2-14). Scale 1:3.

9. CN 9172. IIIC 37.42 (fill). Bowl. Fired buff, with fine grits.
10. CN 9167. IIIC 37.42 (fill). Jar/deep bowl. Fired buff, with very fine grits.
11. CN 9165. IIIC 37.42 (fill). Jar. Fired buff with very fine grits. Red slip on exterior and interior rim.
12. CN 9154. IIIC 37.42 (fill). Bowl. Fired buff, with fine grits.
13. CN 9155. IIIC 37.42 (fill). Bowl. Fired buff, with fine to medium-sized chert and lime grits. Painted band around rim.
14. CN 9159. IIIC 37.42 (fill). Bowl. Fired grey-buff at core, orange-buff at surfaces, with fine to medium-sized chert and lime grits.

T.F.P.

**The Late Bronze Age** (East Cut Phases III-V) Plots IIIN, IIIS (Fig. 8). Site Supervisors: Stephen Bourke (1985), Michael Newton (1986)

During the sixth season, East Cut Phase II had been cleared over all of Plot IIIN and phase III was exposed in the eastern half of the plot (Potts *et al.*, *ADAJ XXIX* (1985), p. 202f.). During the seventh season the remaining phase II deposits were cleared down to phase III. That stratum was removed in the eighth season, along with most of phase IV. The tops of some of the phase V walls are now exposed also, and the associated plaster floors are visible in the sides of later pits which penetrate these levels, but none have yet been reached.

Soon after the beginning of the season, it became apparent that the series of overlapping storage pits running in an approximately north-south line in the western half of the plot, cut from phases O, I and II, had not been fully excavated in the

sixth and seventh seasons, as was then believed. Many in fact continued down through phases III, IV and V. Fortunately, the eastern half of the plot had been excavated as a separate locus to avoid the possibility of any contamination from these intrusions. All have now been fully excavated and their relative chronology clarified.<sup>20</sup>

The preserved architecture of phase III is severely fragmented by these pits and by general delapidation, so that no complete reconstruction of the original layout of the room is now possible. Two sets of wall fragments on different alignments seem to represent different building phases rather than just irregular planning. They are all constructed of stone to a height of at least 0.5 m.; the superstructures were presumably mud brick, though none was found *in situ*. Floors running under wall 62 indicate that it, and its return wall 63, are later than those in the eastern and northern parts of the plot. There, walls 57+64, 60 (these being the continuations of IIIC walls 9 and F.20 respectively; see *PJ 1*: fig. 7b) and 61 (as well as IIIN walls 66 and 67, now in Plot IIIS) align together; walls 62 and 63 further west are almost certainly elements of the same building on a different orientation. Together they define parts of three or four rectilinear rooms (IIIN loci 36+43, 40+44, 34 and possibly 42) and an area which is probably a thoroughfare or courtyard (locus 37+38). The northernmost wall of this latter area (57+64) had no clear northern face and may have acted as some kind of retaining structure, cut down into the collapse of phase V.

The floors of phase III are poorly preserved tamped earth and were often very difficult to follow across the plot. A deposit of stones south of wall 57 (F.116) was probably laid as a packing for the floors in this area. The stone-lined pit

20. Pit Feature 98 was certainly cut from phase IA; its base was covered with the same thick deposit of burnt barley retrieved from the floors of that phase (*ADAJ XXVIII* (1984), p. 65). Pit Feature 105 may also be attributed to phase IA. It contained a small blue composition bead (RN 90179). These pits were both cut by pit Feature

100, Feature 98 also being cut by Feature 120; both of these later pits thus belong to phase O (*PJ 2*), as may also Features 97 and 99. Three further pits along the west baulk, Features 94, 119 and 128, likewise belong to phase IA or later. Features 86 and 96 in the centre of the plot seem to have been cut during phase II.

Feature 106, and possibly also the plain pit Feature 125, were cut from phase III floors. Below the surfaces associated with wall 61, just beyond the line of its faces in Plot IIIS, were found a pair of lamp and bowl "foundation deposits", each consisting of a lamp placed inside a bowl, all covered by another bowl (Fig. 10:7, 11, 12). These were probably deposited just before the construction of walls 60 and 61.<sup>21</sup> A complete juglet (Fig. 10:4) was found against the IIIN south baulk on the phase III floor 36.4, which ran up to walls 60 and 61.

A selection of pottery from IIIN phase III is shown in Fig. 10:4, 7, 11, 12. Among the few other finds was a baked clay "spindle whorl" (RN 90060).

The remains of the preceding phase IV are also poorly preserved in Plot IIIN, rendering architectural reconstruction problematic. The principal phase IV construction is a room in the southeast of the Plot (walls 70, 72, 73) belonging to a structure first encountered in IIIC (*PJ 1*: Fig. 6b, walls 14, 18). The south wall of this room lies in the IIIN/S baulk. The westernmost third of the interior was removed, probably in phase II, when pit Feature 86 was cut. Access to the room was gained through a threshold at the eastern end of the north wall (70). The interior floor had been prepared by laying a packing of medium-sized stones over the western two-thirds of the area. Just north of the room, in locus 47, ash from a *ṭabūn*-oven extended eastwards into IIIC, where it had been encountered previously (*PJ 1*: 51). A stone-lined pit (F.129) a few metres further west and a roughly L-shaped deposit of stones probably laid as floor packing in the northeast of the plot (F.116) constitute the other phase IV remains.

The main undisturbed area, north of wall 70, was probably a thoroughfare or courtyard whose irregular stony surfaces sloped up to, and partly over, the stone packing Feature 116.

The phase IV deposits in the north-

west of the plot consist largely of gravel stratified in a series of bands and rough surfaces which almost certainly represent rubbish build-up in a street whose origins go back to phase V or earlier. The gravel layers form a slight gully running approximately north-south, suggesting the orientation of the thoroughfare and water run-off. The latest surfaces in the south-east of the plot, west of the room locus 45, ran over the stone-lined pit (F.129). A new pit (F.125) was then dug a metre further north.

The lowermost phase IV deposits and the collapse from phase V are still in process of excavation. The tops of some of the well constructed phase V walls are already exposed and it is planned to continue the excavation of this important phase in the tenth season.

Among the phase IV sherds some imported fabrics were again encountered, including fragments of Cypriot "milk bowls" (Fig. 10:9, 10).

*Catalogue of Illustrated Pottery from Plot IIIN, East Cut Phases IV (Nos. 1-3, 5, 6, 8-10) and III (Nos. 4, 7, 11, 12). Late Bronze Age.*

*Fig. 10*

1. CN 9194. IIIN 49.29 (floor). Jar. Fired pale buff, with fine to medium-sized chert grits.
2. CN 9197. IIIN 49.29 (floor). Cooking pot. Fired grey at core, brown at surfaces, with many grits.
3. CN 9184. IIIN 49.28 (floor). Cooking pot. Ware as no. 2.
4. CN 8966 (RN 92009). IIIN 36.4 (floor packing). Juglet. Fired orange-buff (5YR 7/6) with many fine, few large, lime grits.
5. CN 9182. IIIN 49.28 (floor). Bowl. Fired buff, with fine grits. Black painted bands on interior and exterior rim.
6. CN 9176. IIIN 49.26 (floor). Bowl.

21. Note the similar deposits encountered in Plot IIIC below the phase IA architecture (*PJ 1*, p. 56, Pl. 123).

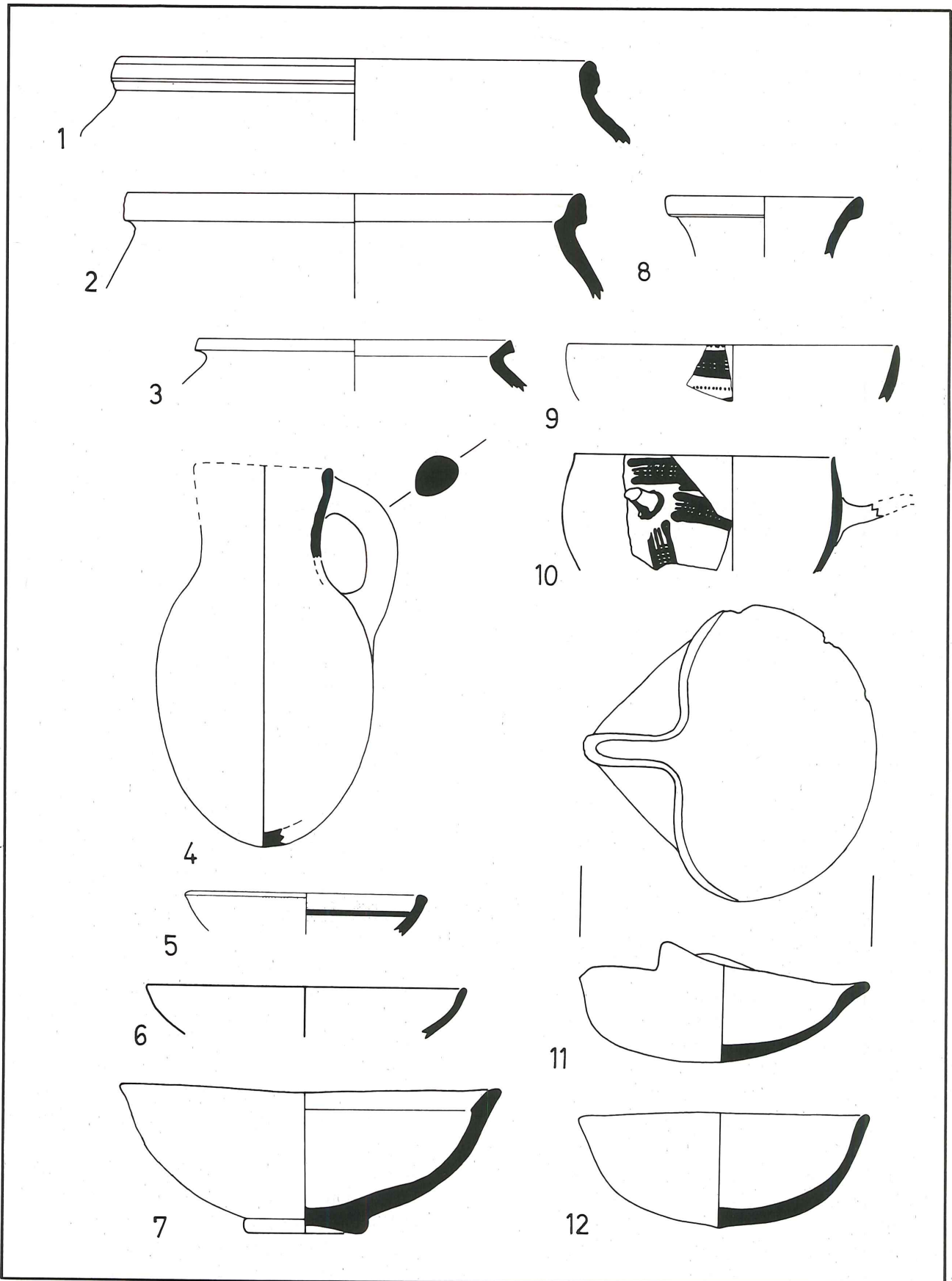


Fig. 10. Late Bronze Age pottery from Plot IIIN, East Cut Phases IV (1-3, 5, 6, 8-10) and III (4, 7, 11, 12). Scale 1:3.

- Fired greenish-buff, with fine grits.
7. CN 8994 (RN 92034). IIIN 44.2 (floor packing). Bowl. Fired grey-brown at core, red-buff at surfaces (5YR 6/6), with fine to medium-sized chert grits.
  8. CN 9043. IIIN 47.2 (floor). Jar. Fired pale grey at core, orange-buff on exterior surface, with fine to medium-sized chert and lime grits.
  9. CN 9191. IIIN 49.29 (floor). Cypriot 'milk bowl'. White slip with brown painted decoration.
  10. CN 9190. IIIN 49.34 (floor). Cypriot 'milk bowl'. Fired grey. White slip with pale brown painted decoration.
  11. CN 8964 (RN 92017). IIIN 43.1 (floor packing). Lamp. Fired yellow-buff, with medium to large lime grits, some fine chert.
  12. CN 8965 (RN 92013). IIIN 43.1 (floor packing). Bowl. Ware as No. 11.

T.F.P.

**The Final Late Bronze and Early Iron Ages** (East Cut Phase I) Plots IVE, IIIP, IIIQ, IIIR (Fig. 8). Site Supervisors: Ian Biggs (1985), Jack Hanbury-Tenison (1985-6), Mark Hinman, Heather Baker, Fiona Richards (1986).

By the end of the sixth season<sup>22</sup> the main line of plots in the East Cut (from north to south: IVE, IIIP, IIIQ) had reached Iron I levels, within a metre or so of the phase IA destruction which had been uncovered previously in Plots IIIC and IIIN.<sup>23</sup> The main aim of excavation in this area in the seventh season was to clear down to the collapse above that destruction which was then to be excavated in the following season (1986). This programme has now largely been achieved, although the irregularity and uneven state of preservation of the phase I surfaces sometimes leave unclear whether the destruction floor has in fact been reached in a given area. Particularly in Plot IIIP there seems to be a succession of burnt levels, some perhaps from collapsed ceilings, and a final decision

on which constitutes the phase IA floor cannot yet be taken. The diagnostic heavy burning did not extend north of IIIP, thus forcing the identification of phase I in IVE to depend entirely on stratigraphical criteria which, in this area of the excavation, are not entirely unproblematic.

Nonetheless, the general outline and character of the phase I remains are clear. The buildings are oriented slightly to the west of the plot axes. A street approximately 1.75 m. wide runs down the western side of all four plots to the present-day edge of the *tell*. East of the street lies a series of rectilinear rooms constituting parts of three domestic structures. These houses are separated by two narrow east-west passages (IIIQ locus 104, IIIP locus 112, IVE locus 109). The walls were built of undressed stones, now preserved to a maximum height of ca. 0.5 m. (IIIP wall 102/103). The upper courses were presumably mud brick whose burnt remains constituted the bulk of the overlying destruction debris.

Phase IA floors have been unequivocally identified in the two southernmost Plots, IIIQ and IIIR, where they connect with surfaces in IIIN and IIIS. There also are found the clearest patches of street surface (IIIQ 102.5, IIIR 5.14), though some of these may post-date phase IA. The southernmost structure, bridging Plots IIIQ, IIIR and IIIN, is a rectilinear room (IIIN locus 28, IIIQ locus 105, IIIR locus 6), the westernmost part of a house whose eastern extension in IIIN (locus 30) has been destroyed by erosion. Immediately north of this room a narrow space (IIIQ locus 104), probably an alley, connects the courtyard of IIIN locus 29 with the newly excavated street. Some of the heaviest burning was found on this passage. Most of two rooms of another structure have been exposed on the other side of the alley. The southern room occupies most of eastern IIIP (locus 101). Any eastern wall must lie in the IIIQ/N baulk. Two pits in this room, Features 108, 116, were cut during phase I. In the northern room, occupying most of

22. *ADAJ* XXIX (1985), p. 203f.

23. *PJ* 1, p. 56; *ADAJ* XXVIII, (1984), p. 64f.; *PJ* 2.

IIIP and the northernmost part of IIIQ, was a *tabun*-oven (IIIP F.106) next to an area of stone paving (IIIP F.110). Another pit in the same room (F.109), found largely empty of soil, has not yet been fully excavated. It contained a dipper juglet (IIIP P.O.273).

A number of complete vessels broken during the conflagration which brought phase IA to an end were recovered from this room (Fig. 11).

What is probably a second alley separates the house in IIIP from another in IVE. This latter is the only building whose eastern wall falls within the excavation area, though much of it is now lost, probably robbed out for stones. Much of the southern wall too is destroyed, but the doorway with a raised threshold and door socket survives. In the north of the plot some stone paving (IVE F.111+114) is preserved.

The pottery from the collapse deposits (Fig. 11) includes a krater decorated with goats flanking a tree (Fig. 11:6) and some other types which would be easily accommodated in the final Late Bronze Age as in Iron I, to which the phase IA destruction has been previously ascribed.

After that disaster the houses were rebuilt preserving roughly the same orientation, and sometimes precisely the same wall alignments. These buildings (Phase O in the sequence of *PJ 2*) survive only in small patches, most of the architecture and associated floors having been destroyed by subsequent erosion, building activity and pits. In Plot IVE traces of at least three post-IA phases were excavated in the seventh and eighth seasons, but no overall reconstruction can now be attempted; nor is it possible to be certain of the precise relationships of these vestigial structures to the similar remains in Plots IIIN, IIIP, IIIQ and IIIR, since the stratigraphy is so often interrupted. In Plot IVE the rebuilt houses were expanded to cover the northern of the two alley-ways and much of the street, where a series of *tabun*-ovens and fire installations were placed (IVE F.108, 113, 115). The bottoms of the shallow pits in which these installa-

tions were placed had been covered with grasses or rushes which survived as a very distinctive white layer.

The rebuilding in Plot IIIP followed phase IA more closely, but in IIIQ the wall defining the western side of the street was realigned about a metre to the west. The stretch of street at the southern end of IIIQ was later completely destroyed by a pair of deep pits (F.103, 117), the deeper of which has not yet been completely cleared. These and other pits dug throughout the phase IA collapse and floors (F.114, 115) seem to date to the early Iron Age.

The pottery from the post-IA levels of the upper plots largely repeats that of IIIN and IIIQ (see *PJ 2*, forthcoming).

*Catalogue of Illustrated Pottery from Plot IIIP, Phase IA. Late Bronze Age - Early Iron Age.*

*Fig. 11*

1. CN 9371 (RN 92065). IIIP 107.1 (burnt collapse). Krater. Fired brown-buff at core, green-buff at surfaces, with medium to large lime grits, some chert.
2. CN 8974, IIIP 102.4 (burnt collapse). Jug. Fired buff, with fine to medium-sized chert and lime grits. Decorated in red-brown paint.
3. CN 9108 (RN 92029). IIIP 101.6 (burnt collapse). Bowl. Fired buff to red-buff, with fine to medium-sized chert grits. String-cut base. Red paint on top of rim. Upper interior and exterior walls of bowl fire-blackened.
4. CN 8980 (RN 92057). IIIP 101.2 (burnt collapse). Juglet. Fired grey-buff, with many small chert grits.
5. CN 8981 (RN 92050). IIIP 101.2 (burnt collapse). Jar. Fired pale buff, with fine to medium-sized chert grits. Decorated in bands of red-brown paint. Exterior slightly blackened by fire.
6. CN 8985. IIIP 105.6 (burnt collapse). Krater. Fired grey-buff, with many fine lime grits, some chert. Blackened by fire on interior.

T.F.P.

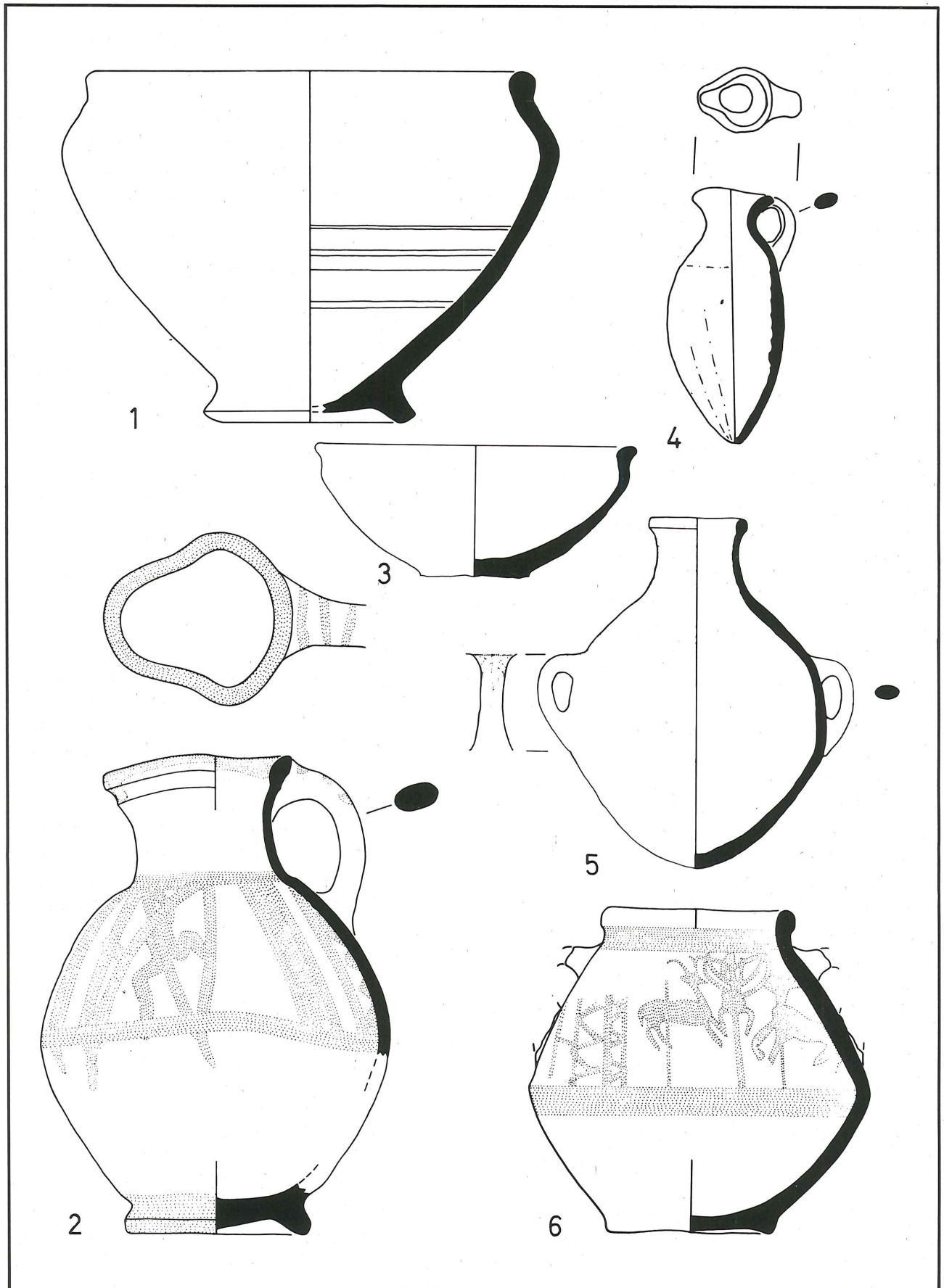


Fig. 11. Late Bronze II / Iron I pottery from Plot III P, East Cut Phase IA. Scale 1:3.



**Iron Age II Area XXXII (Fig. 8) (1987)**

Area XXXII consists of three 5 x 10 m. plots (XXXIIA-C) running east-west, separated by metre baulks thus giving excavation areas of 4 x 9 m. The area is located slightly upslope from, and some fifteen metres to the east of the Wooster Deep Probe (Area XXV), and some ten metres to the west of the Sydney East Cut (Area III). Preliminary investigations in this area during the eighth Sydney session (Potts, above p.116 of this text) tended to reinforce McAdam's surmise that the Wooster probe had been placed outside and slightly to the south of the Early Bronze Age structures on the southern edge of the tell.<sup>24</sup> It was with the aim of exploring these early period structures that Area XXXII was begun.

Clear from the eighth season's explorations was the presence of shallow Iron Age deposits overlying the earlier material. What was unexpected was the close sequence of Iron Age II material recovered, most post-dating the latest stratified Iron Age deposits in the East Cut, though it is significantly lower than the latter in absolute level.

*Stratigraphy*

There are three major phases of occupation revealed to date. The earlier deposits will be described first.

*Phase C:* The phase C architecture and associated deposits were reached towards the end of the digging season, and are, in consequence, only partially exposed. As the area appears to have been much cut about and levelled off during the construction of the succeeding phase B architecture, no plan can be offered as yet.

Where probes in XXXIIA and XXXIIB did reach occupation surfaces a thick destruction layer, consistent across both trenches, covers the terminal floors (XXXIIA 9.8/9.10, 10.10; XXXIIB 11.3).

Pottery recovered from the floors will mend up into many whole vessels including lamps, cooking pots, ridge-necked and hole-mouth jars, simple and carinate bowls and a complete painted amphoriskos (Figs. 13, 14).

Much of this material has direct parallels in deposits associated with the destruction of the final Iron Age level in Sydney East Cut (Phase Oe), and is to be dated towards the end of the tenth century BC (Potts, *PJ* 2). It is very likely that the XXXIIA and XXXIIB destruction is the same as that in IVE 16.7/21.7, the latest stratified Iron Age material previously known on the eastern side of the tell (*ibid.*).

There are no small finds of note from Phase C deposits.

*Phase B:* Phase B (i) is the major architectural phase excavated this season (see plan, Fig. 12:1). Phase B (ii) is essentially a rebuild and modification of the B (i) structures (plan, Fig. 12:2).<sup>25</sup> The structures would seem to be consistent with domestic occupation.

It is only with difficulty that the very scrappy architectural remains from the westernmost trench, XXXIIC, are attributed to Phase B, as this whole trench is very seriously disturbed by large Late Iron Age wash gullies which effectively sever all links with trench XXXIIB to its east. Nonetheless, the fragmentary wall-stub XXXIIC wall 3 and its associated surfaces 5.1/5.3 would appear to be best placed in Phase B (i).

In XXXIIB, Phase B (ii) saw the construction of wall 11, with its primary floor 2.9. They seem likely to form the eastern margins of the room defined by the XXXIIC remains described above. To the east of this structure the construction of walls 4, 6, 8, 12 and 13 seem to define a second room.

Floors are of tamped earth initially (3.31), but with the addition of an elaborate bin against the east face of wall 6 and

24. R.H. Smith & A.W. McNicoll, 'The 1982 and 1983 Seasons at Pella of the Decapolis', *BASOR* Supplement No. 24 (1986), p. 112-14.

25. Plot XXXIIC is not illustrated in the plans Figs. 12 (1) and 12 (2). The internal divisions of Phase B are tentative, with further sub-divisions likely.

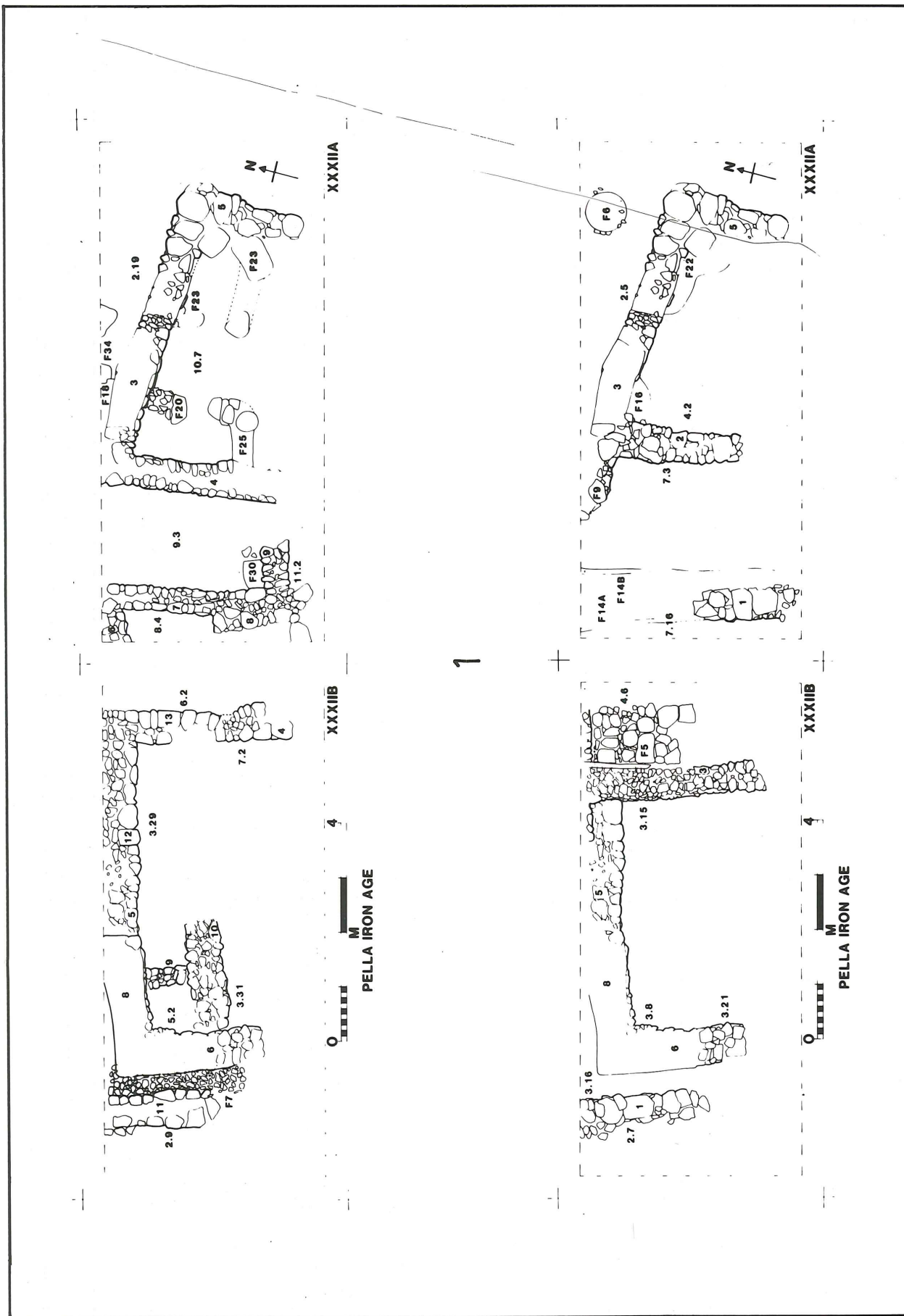


Fig. 12. (1) Plan of Plots XXXIIA and XXXIIIB, Phase B (i). (2) Plan of Plots XXXIIA and XXXIIIB, Phase B (ii).

the south face of wall 8 (walls 9 and 10), associated floors are of white plaster (5.2, 6.2, 7.2). Terminal B (i) floors in XXXIIB are of tamped earth on a pebble makeup (3.26, 3.27, 3.29).

One architectural feature of note is the carefully paved drain (F.7) that links walls 11 and 6. A large quantity of pottery and animal bone was recovered from the environs of this feature. Another is the blocking of the apparent passageway between walls 8 and 12 (wall 5). This is associated with the pebble makeup floors 3.26, 3.27 and 3.29. Feature 7 occurs early in Phase B (i) and wall 5 towards its end.

In the easternmost trench XXXIIA the Phase B (i) architecture begins with the construction of walls 4, 6, 7, 8 and 9, coupled with the reuse of Phase C walls 3 and 5. Associated features of note are the mud brick bench against the north face of wall 9 (F.30) and the two stone-built bins against walls 4 and 3 (F.20 and 25), and walls 3 and 5 (F.23).

Floors are tamped earth with ashy patches (2.19, 8.4, 9.3, 10.7, 11.2). Towards the end of Phase B (i), bin Feature 20/25 is rebuilt as Feature 11. Floor levels are still of tamped earth, although now pebble makeup is not uncommon (2.17, 4.14, 7.11).

Phase B (i) pottery is primarily domestic. Cooking pots display thickened shortened rims; red and brown slipped carinate and simple bowls, occasionally wheel-burnished, occur in numbers. A small amount of Cypro-Phoenician Black-on-Red ware is present.

Notable small finds are fragments of six spherical sun-dried clay loom-weights from the white plaster floor XXXIIB 6.2, early in Phase B (i), and the chipped but complete 'Mother and Child' figurine (RN 100027) from an occupation deposit (7.13) in XXXIIA dated towards the end of this phase (Pl. XXII, 3).

As with the Phase B (i) architecture in XXXIIC, that attributed to Phase B (ii) is both fragmentary and severed from like material in XXXIIB. A solitary wall stub,

XXXIIC wall 1, and two patches of adjoining floors (3.3 and 1.7/2.1) are all that can be allocated with any confidence. As in Phase B (i) the likely continuation of this Phase B (ii) building is to be found in XXXIIB.

In XXXIIB in Phase B (ii) wall 11 is rebuilt as XXXIIB wall 1. Its primary surface (2.7) is a possible continuation of XXXIIC floor 1.7/2.1, although the connection is destroyed by a large Iron Age wash gully. Walls 5, 6, and 8 remain in use but the bin formed by walls 9 and 10 is built over. The eastern border walls 4, 12 and 13 are rebuilt as wall 3 with a stone buttress (wall 2) along its western face. The most noteworthy feature associated with this rebuild is the paved stone platform (F.5) running from the eastern face of wall 3 to the eastern baulk. Although much cut about by erosion to the south, it seems possible that this step platform is all that remains of a paved street running north-south through the eastern edge of XXXIIB.

Floors are of tamped earth over pebble makeup. Floors 7.16, 7.7, 4.4 and 2.15 are early; 7.3, 4.2 and 2.5 late. Associated with floor 2.5 is a *ṭabun* (F.6) which contained much diagnostic pottery.

Pottery is dominated by domestic wares. Cooking pots are mostly of thickened rim types with narrow necks; red and brown slipped carinate and simple bowls, often wheel-burnished, occur with ridge necked and holemouth jars. A few sherds of Cypro-Phoenician Black-on-Red ware supplement the list.

No small finds of great interest were recovered from Phase B (ii).

*Phase A.*<sup>26</sup> The Phase A remains are not associated with architecture and are for the most part confined to the westernmost trench XXXIIC. All material comes from a series of much disturbed pits (XXXIIC F.4, 5 and 6). The primary surfaces associated with the pits have been lost to the large erosion gullies running north-south through the trench. They have removed perhaps the upper two-thirds of each pit

26. Phase A of Area XXXII is not to be confused with Phase A in the East Cut, Plot IIIC (PJ 1, p. 49; PJ 2).

deposit. Nonetheless, enough remains to suggest a slightly later date for this material than that of the Phase B (ii) occupation.

Pottery consists of well fired sandy buff ware; open bowls with large ledge rims, often painted red, holemouth jars, narrow-necked and swollen-rimmed cooking pots, simple and carinate bowls and the occasional sherds of Cypriot Black-on-Red make up the assemblage.

### Conclusions

The Iron Age occupation in the Area XXXII excavations is best characterised as domestic and dated within the Iron II period. The chronology may be summarised as follows:

The Phase C remains are likely to be of late tenth or early ninth century date, and should be equated with the Iron Age II destruction deposits found in the Sydney East Cut trench IVE (16.7, 21.7, 69.1, 69.2, walls 31 and 32; Potts, *PJ* 2), attributed to East Cut phase Oe. This approximates the Wooster West Cut (Area VIII) Stratum VII.<sup>27</sup>

The Phase B remains, divided into a constructional phase (B (i)) and one of significant rebuilding (B (ii)), are best placed within the ninth century, with B (i) early and B (ii) late.<sup>28</sup> This is best compared with Wooster West Cut Stratum VI, as there is no stratified ninth century material from the East Cut.

The Phase A remains are not extensive, and from less than satisfactory contexts, but seem best associated with Wooster West Cut Stratum V<sup>29</sup> of eighth century date.

### Catalogue of Illustrated Pottery from Area XXXII. Iron Age II.

*Fig. 13.* Plot XXXIIA, Phase C destruction deposit (equivalent to East Cut Phase Oe and Area VIII Stratum VII).

1. CN 9614 (RN 102083). XXXIIA 10.10

(floor). Cooking pot. Fired dark grey at core and black at surfaces. Many white grits. Self slipped.

2. CN 9647 (RN 102029). XXXIIA 10.10 (floor). Amphoriskos. Well levigated clay, fired pale grey at core, and buff surfaces. Red-brown self slip. Many fine lime and chert grits, with some grits showing through the surface. Red paint int. and over slip on rim. Four red bands on neck, three on shoulder, and three round centre body. Complete.
3. CN 9610. Bowl. Fairly well levigated clay, fired grey at core and red-buff at surfaces. Traces of red slip int. Burnished. Many medium lime and some chert grits.
4. CN 9650. XXXIIA 10.11 (destruction debris). Jar. Fairly well levigated clay, fired greenish-buff throughout. Some chert and lime grits.
5. CN 9653. XXXIIA 10.11 (destruction debris). Jar. Moderately levigated clay, fired light brown at core and pale brown at surfaces. Some lime grits.
6. CN 9652. XXXIIA 10.11 (destruction debris). Jar. Fairly finely levigated clay, fired pale grey at core and surface int., and greenish pale buff surface ext. Many fine and some large chert and lime grits.
7. CN 9651. XXXIIA 10.11 (destruction debris). Jar. Well levigated clay, fired orangey-buff at core and greenish buff at surfaces. Fine chert and lime grits.
8. CN 9655. XXXIIA 10.11 (destruction debris). Jar. Moderately levigated clay, fired a mottled brownish-buff throughout. Some 'layering' of the clay visible. Some large lime and fine chert grits.

*Fig. 14.* Plot XXXIIB, Phase C destruction deposit (nos. 1-3) and Plots XXXIIA-C Phase B (i) deposits (nos. 4-7) (equivalent to Area VIII Stratum VI)

1. CN 9691 (RN 102110). XXXIIB 11.2 (destruction debris). Holemouth jar. Moderately levigated clay, fired

27. Smith & McNicoll, *op. cit.* p. 98.

28. *Ibid.*, p. 97; Smith, Potts in *PJ* 2.

29. Smith & McNicoll, *op. cit.* p. 98.

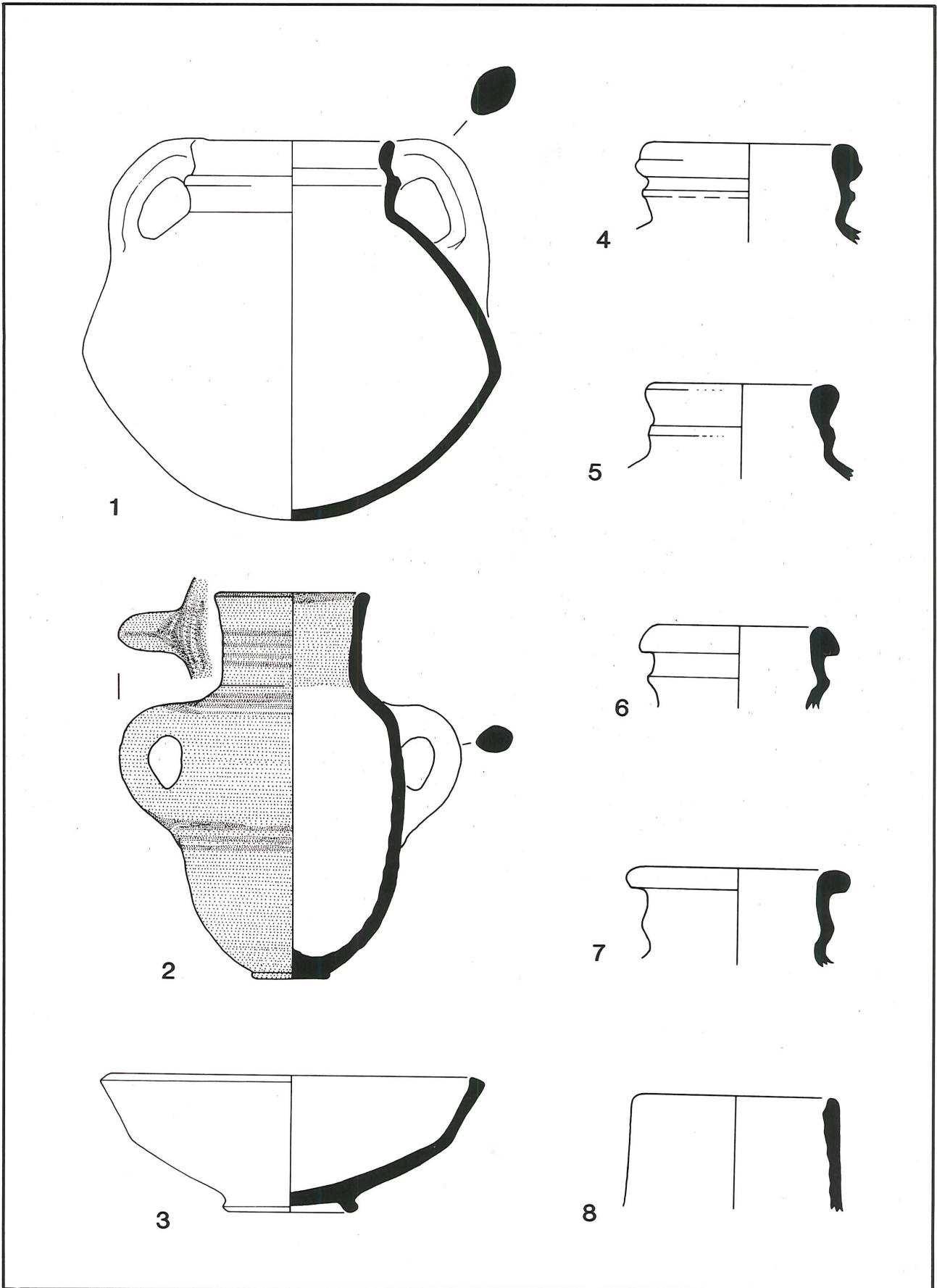


Fig. 13. Iron Age IIB pottery from Plot XXXIIA, Phase C. Scale 1:3.

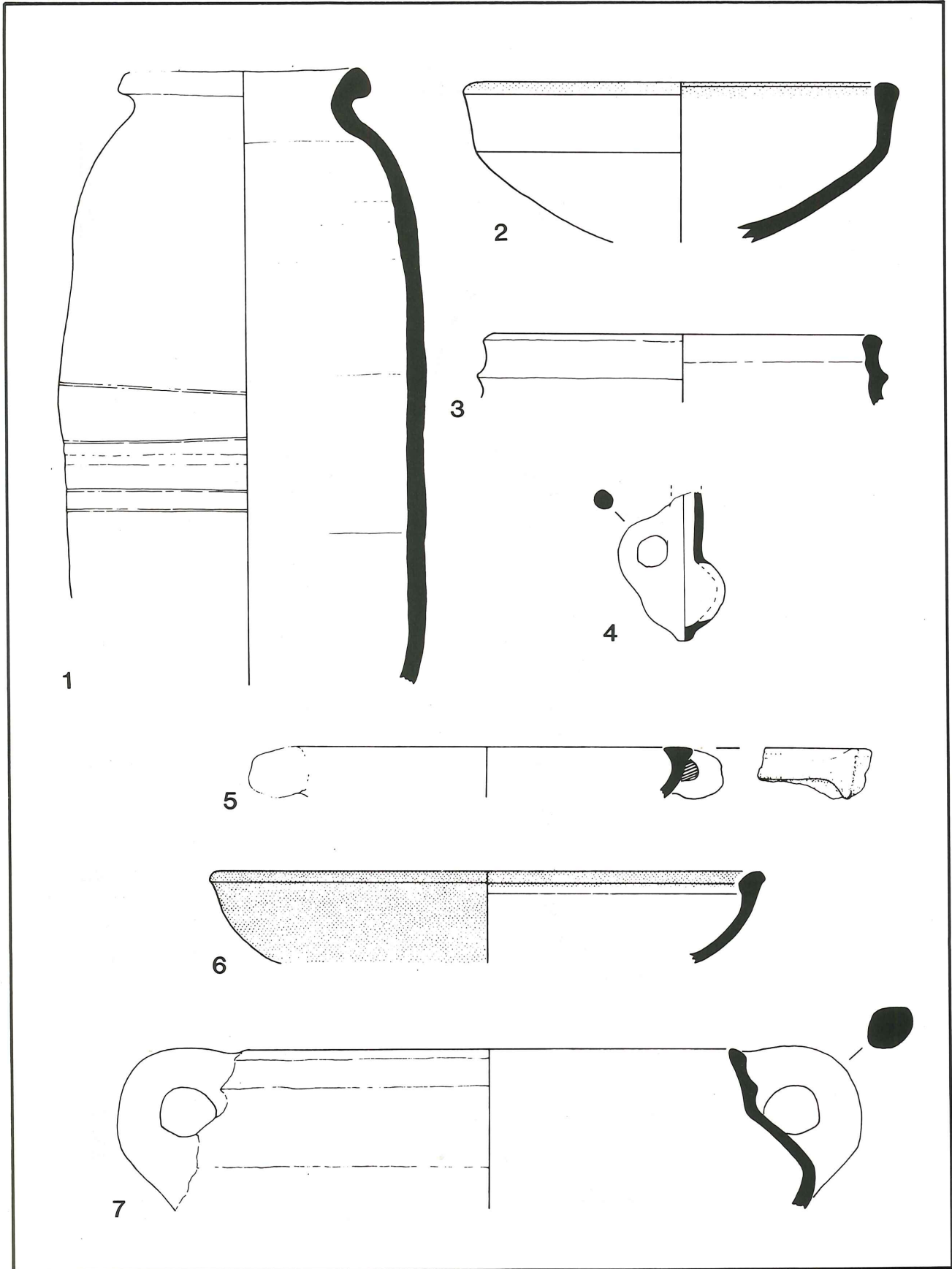


Fig. 14. (1-3) Iron Age IIA pottery from Plot XXXIIB, Phase C. (4-7) Iron Age IIB Pottery from Plots XXXIIA-C, Phase B (i). Scale 1:3.

- orangey-buff throughout. Some chert and lime grits.
2. CN 9692. XXXIIB 11.2 (destruction debris). Bowl. Moderately levigated clay, fired buff throughout. Some chert and lime grits. Bands of red paint on upper rim.
  3. CN 9693. XXXIIB 11.2 (destruction debris). Cooking pot. Well levigated clay, fired pale grey at core and light brown at surfaces. Some chert and lime grits.
  4. CN 9676 (RN 102103). XXXIIC 5.33 (fill). Black burnished juglet. Fairly well levigated clay, fired dark grey at core and pale grey at surfaces. Some fine white grits. Black slipped and vertically burnished.
  5. CN 9683. XXXIIA 8.10 (foundation trench). Bowl with lug handles. Well levigated clay, fired grey throughout. Some fine white grits. Black slipped and burnished.
  6. CN 9659. XXXIIB 6.2 (floor). Red slipped bowl. Fairly well levigated clay, fired reddish-buff throughout. Some fine and medium lime and chert grits. Red slipped ext., with traces on rim.
  7. CN 9681. XXXIIB 8.1 (floor). Cooking pot. Coarse, gritty ware, fired brown throughout. Some fairly large lime grits.

*Fig. 15.* Plots XXXIIA-C, Phase B (ii) (equivalent to Area VIII Stratum VI).

1. CN 9639. XXXIIC 3.3 (floor). Cooking pot. Coarse gritty ware, fired grey at core and red at surfaces. Many chert grits.
2. CN 9619. XXXIIB 3.20 (fill). Hole-mouth jar. Coarse ware, fired light brown throughout. Medium and a few fine chert grits.
3. CN 9533. XXXIIB 3.21 (floor). Jar. Moderately levigated clay, fired pale grey core and buff surfaces. Fine and a few medium chert and lime grits.
4. CN 9532. XXXIIB 3.21 (floor). Bowl. Moderately levigated clay but quite coarse ware, fired orangey-buff throughout. Many large lime grits. Red paint along rim int.

5. CN 9547. XXXIIA 2.6 (floor makeup). Cooking pot. Coarse gritty ware, fired purpley-grey throughout. Many chert grits.
6. CN 9521. XXXIIA 4.7 (fill). Cooking pot. Coarse gritty ware, fired purpley-grey throughout. Many chert grits.
7. CN 9484. XXXIIC 1.7 (floor). Cooking pot. Coarse gritty ware, fired grey at core and purpley-grey at surfaces. Many chert grits.
8. CN 9485. XXXIIC 1.7 (floor). Jar. Coarse, poorly levigated ware, fired grey at core and brownish-buff at surfaces. Many medium lime grits.
9. CN 9483. XXXIIC 1.7 (floor). Bowl. Coarse, moderately levigated clay, fired brownish-buff throughout. Medium chert and lime grits.
10. CN 9522. XXXIIA 4.8 (fill). Storage bowl. Coarse ware, fired buff throughout. Self slipped and wet smoothed.

S.J.B.

#### TOMBS

**The Eighth Season (1986)** (Site Supervisors: Sultan Shreideh, Sue Basset, Mel Melnyczek)

The search for tombs in Area XI, on the northeast crest of Tell el-Huşn, yielded no significant discoveries in the eighth season. A few metres to the west of Tomb 62 (Potts *et al.*, *ADAJ* XXIX (1985), p. 205f.) a series of three superimposed chamber tombs (Tomb 77) had been almost completely destroyed by erosion; they yielded only a few fragments of MB II - LB I pottery. Further west, what was originally thought to be another tomb (thus designated Tomb 79) is more probably a house. Clumps of mud brick, some seemingly *in situ*, seem to define walls, and a number of ash deposits over the rock-cut floor suggest a significant period of occupation. When excavations were suspended some MB II - LB I sherds, two fragments of groundstone and three chert blades had been recovered. A great overburden of soil

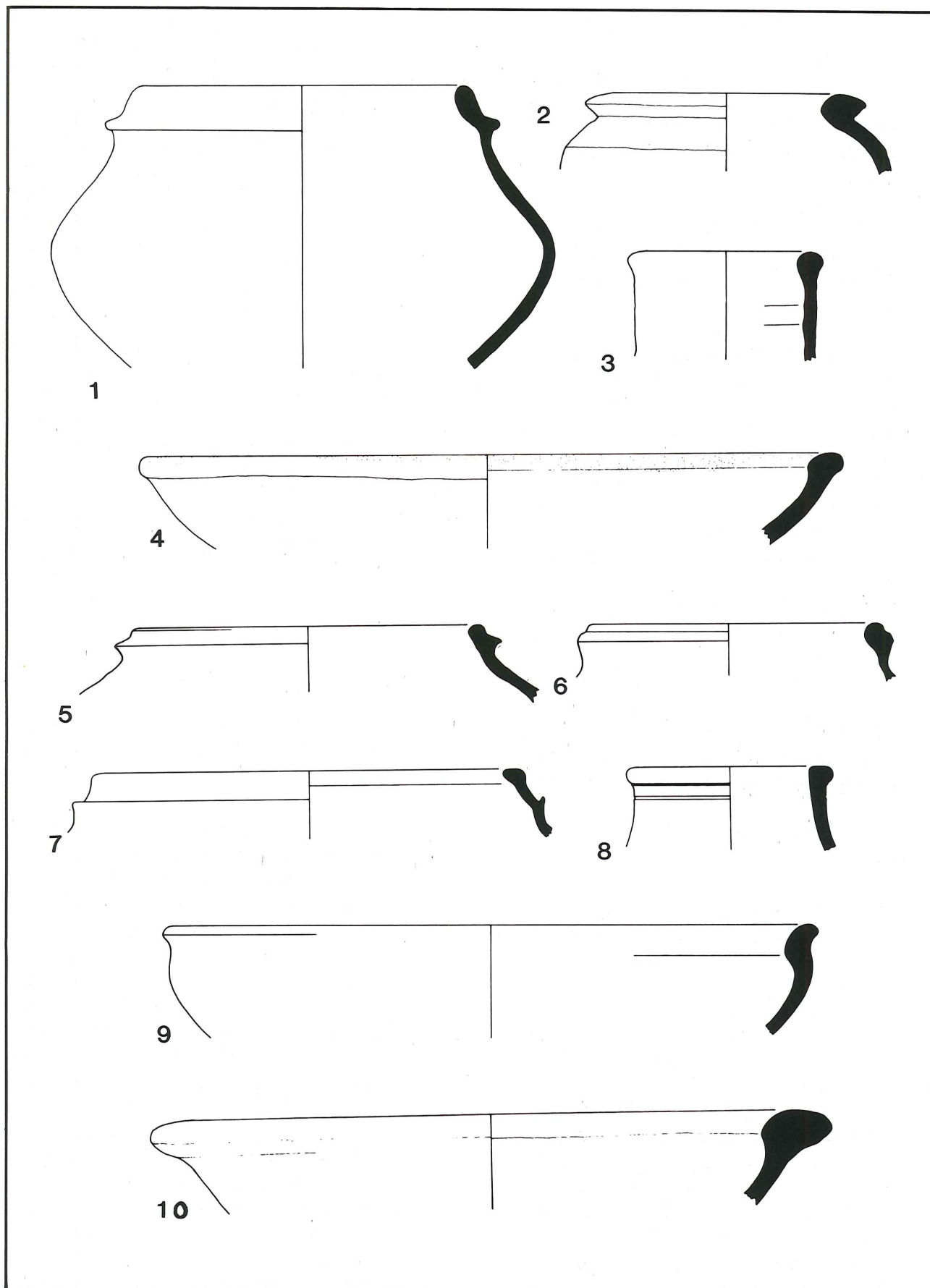


Fig. 15. Iron Age IIB pottery from Plots XXXIIA-C, Phase B (ii). Scale 1:3.



prevented the clearance of the rest of the structure into the hillside.

In the sixth season the large MB-LB tomb 62 was cleared down to the top of occupation deposits which indicated an earlier use of all three chambers for domestic purposes. Also in that season the shallowest series of deposits, those in locus 3, were removed, leaving loci 1 and 2 for future investigation. In the eighth season the eastern half of locus 1 was excavated to bedrock revealing twelve distinguishable deposits. Among these, three clear floors were identified, separated by occupational build up and layers of compacted mudstone which had fallen from the roof. A small pit was cut in the earliest floor, and a hearth was found in the penultimate occupation. Finds from these deposits included eight bone points, six ground stone grinders and tools, and a limestone chisel. Among the pottery were two lamps, two cylindrical juglets and sherds from cooking pots. These and other data suggest a date in MB II.

T.F.P.

The search for tombs in Area VI brought to light two important late period tombs, with the first (Tomb 75) providing the majority of the finds.

Tomb 75 is a three-chambered loculus tomb, similar in type to Tomb 39 (see McNicoll "The Roman Period", *PJ* 2), and dating, like it, to the late fourth century A.D. Over fifty fragments of bronze and iron jewellery and other personal possessions, ten coins (most unreadable but favouring a date in the second half of the fourth century), ten glass vessels, over thirty lamps and up to ten other vessels (most very fragmentary), some eighty-nine beads of various shapes and sizes, and a single Bronze Age scarab (apparently reused as a piece of jewellery) make up the list of finds associated with the twelve adult and three child burials. There was no evidence of disturbance in antiquity.

Tomb 76, located some five metres to the west of Tomb 75, proved to be almost completely robbed out in antiquity. It is a

multi-chambered loculus tomb similar to Tombs 54 and 64 (McNicoll *op. cit.*), and like Tomb 64 shows clear evidence of ancient disturbance. The more restricted pottery and other finds suggest a slightly earlier date for this tomb, with its floruit likely to be within the third century, although a relatively long period of use is not uncommon in these large tombs. Over thirty individuals have so far been identified from the excellently preserved skeletal remains. A beautifully preserved terracotta mother and child figurine (Pl. XXII,4) was recovered from the last loculus investigated.

S.J.B.

**The Ninth Season (1987)** (Site Supervisors: S. Shreideh, S. Bourke, K. da Costa, B. Churcher, M. Newton, M. O'Hea, C. Saunders, T. Smith)

The search for tombs in the ninth season concentrated to areas north and east of the main mound. Initial work was carried out within Area II to the east of the Hammeh road, before shifting to the newly-established Area XXXIII north of Area II. Towards the end of the season further work in Area II, this time to the west of the Hammeh road, was rewarded with spectacular Bronze Age and Roman discoveries.

Six Late Roman/Byzantine tombs were discovered in Area XXXIII (Tombs 80-85), all more or less robbed out in antiquity. A selection of lamps and glass fragments confirmed their predominantly fourth century date.

Renewed work in Area II towards the end of the season first uncovered a robbed Byzantine tomb (86) and then, close beside the very rich Wooster Tomb 7, an intact Byzantine three-chambered loculus tomb (87) was discovered.

Grave goods from Tomb 87 include fragments of three painted plaster figurines (a fish and two female figures), a large glass bowl, a number of complete single and double unguentaria, three bronze cymbals, cruciform pendants, several pierced coins, and numerous bronze and iron

bracelet fragments. Over 250 objects were removed from this tomb, which appeared to contain between three and six burials per loculus, all in very poor condition. Numerous parallels with the Wooster tomb<sup>730</sup> suggest a very similar date for our Tomb 87.

In the last week of excavation investigations west of the Hammeh road uncovered a cluster of four tombs, with Tomb 88 dating to the Late Bronze II period,<sup>31</sup> Tomb 89 to the Early Iron Age, Tomb 90, very similar to Tomb 87, to the early Byzantine period, and Tomb 91 to the transitional MB-LB period. All tombs were intact, although Tombs 88 and 89 had suffered from roof collapse and some water churning.

Notable finds from Tomb 88 include two conical seals, an alabaster pot and lid, and several large bronze anklets.

From the 204 objects excavated in tomb 89, those of particular note are a fragmentary bronze belt (RN 100118, Pl. XXIII, 2), an iron (?) dagger, a small ivory plaque of a bull calf<sup>32</sup> (RN 100119; Pl. XXIII,1), and six scarabs (RNs 100144, 100189, 100199, 100209; Pl. XXIV), the latter discussed further by Richards below.

Tomb 90 contained some 58 objects, of which a complete bronze bell, several glass double unguentaria, and fragments of what may well be a linen (?) shroud are the most outstanding. An interesting collection of MB-LB bowls and jars from Tomb 91 make up the total.<sup>33</sup>

S.J.B.

### Scarabs from Tomb 89

The scarabs from Tomb 89 are difficult to date precisely. Parallels from reliable contexts in Egypt and Palestine are elusive, although similar designs without precise dates are available from both regions. The overall size of the scarabs, taking into account the back, head, side and design, as well as material and workmanship, would favour a New Kingdom date, probably late in that period.

#### *Catalogue of Illustrated Scarabs*

Pl. XXIV,1, RN 100144, T. 89 1.4

1.05 x 0.8 x 0.55 cm. Soft white stone covered with a very degraded yellowy glaze. Complete; small chip on base; some glaze preserved.

Parallels: No exact parallels for design. Lion designs known in Egypt and Palestine, e.g., J.L. Starkey & G.L. Harding. *Beth Pelet II*, London (1932), Pls. lii:171; lvii:384, 385, 401; F. James, *The Iron Age at Beth Shan*, Philadelphia (1966), Fig. 113:6; O. Tufnell, *Lachish IV*, London (1958), Pl. 36:221; F. Matouk, *Corpus du scarabée égyptien II*, Beirut (1977), nos. 532-41.

Pl. XXIV,2, RN 100189, T. 89 1.4

1.5 x 1.3 x 0.75 cm. Faience; no glaze preserved. Very badly weathered; broken into four. Chipped around front loophole. Pale yellow.

Parallels: No exact parallels. Similar design ideas from Palestine and Egypt. e.g., K.

30. R.H. Smith, *Pella of the Decapolis*, Wooster (1973), p. 182ff.

31. This is the first LB II tomb excavated by the Sydney expedition, and finds its best parallels with material from LB II tombs excavated by the Dept. of Antiquities at Pella in 1963/64. Of the eleven tombs there excavated, nine are of LB II through Iron I date, and our material finds good parallels with Rashid Tombs 1, 2 and 6. This material is at present being prepared for publication by S.J. Bourke.

32. A more complete study of the ivories from Pella is planned by T.F. Potts. For the moment it is interesting to note the close similarity of the

iconography of our piece to that regularly employed by the painters of Cypriot Rude Style ceramics, given the obvious associations of our ivory box iconography with Mycenaean motifs (T.F. Potts, 'A Bronze Age Ivory-Decorated Box from Pella (*Pahel*) and its Foreign Relations', in A. Hadidi (ed.), *Studies in the History and Archaeology of Jordan III*, Amman & London (1987), p. 70-71.

33. As much of the material from Tombs 87-91 was excavated after the end of the main season's work no full report on the 550 plus objects is possible for the time being. A description of the contents of these tombs will appear in the next report.

Kenyon, *Jericho II*, London (1965), p. 653:16; Matouk, *op. cit.*, nos. 529-30, 545, 556, 559-60; A. Rowe, *A Catalogue of Egyptian Scarabs in the Palestine Archaeological Museum*, Cairo (1936), Pl. viii:315; Tufnell, *op. cit.*, Pl. 36:219.

Pl. XXIV,3, RN 100199, T. 89 1.4

1.25 x 0.9 x 0.65 cm. Glazed faience. Well preserved; small chip on back and front edge of clypeus above loophole. Off-white glaze; brownish-orange in incisions.

Parallels: No exact parallels. No similar designs. However, both two and four-winged beetles are known from Egypt and Palestine. *E.g.* O. Tufnell, *Lachish III*, London (1963), Pl. 45:167; G.A. Reisner *et al.*, *Harvard Excavations at Samaria*, Cambridge, Mass. (1924), Pl. 56:e2; J.W. Crowfoot *et al.*, *Samaria-Sebaste III, The Objects*, London (1957), Pl. XV:29; R.A.S. MacAlister, *The Excavation of Gezer 1902-1905 and 1907-1909, Vols. II, III*, London (1912), Pls. ccvii:42, ccviii:4, 24; Matouk, *op. cit.*, nos. 1247-64; H. Frankfort & J.D.S. Pendlebury, *The City of Akhenaten, Part II*, London (1933), Pl. XLIX:II.c.9.

Pl. XXIV,4, RN 100209, T. 89 1.4

1.35 x 1.0 x 0.75 cm. Faience. Traces of glaze preserved. Chips from front loophole and clypeus. Yellow-beige; orange-brown in incisions.

Parallels: Good parallels from Cyprus: V. Karageorghis, *An Iron Age Cemetery in Cyprus*, Konstanz (1983), Pl. clxxii:4,5. Derived from Egyptian designs such as Matouk, *op. cit.*, nos. 561-2, 564, 565, 652; E.A. Gardiner, *Naucratis II*, London (1888), Pl. xviii:6-7; E. Hornung & E. Staehlin, *Scarabäen and andere Siegelamulette aus Basler Sammlungen. Ägyptische Denkmäler in der Schweiz, Mainz* (1976), 400, No. 27; and also in Palestine: Starkey & Harding *op. cit.*, Pl. lxi:374; Rowe, *op. cit.*, Pl. viii:320.

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