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EXCAVATIONS IN THETFORD, 1948-59 and 1973-80

East Anglian Archaeology 22

Norfolk Archaeological Unit, Norfolk Museums Service, 1984

EAST ANGLIAN ARCHAEOLOGY

Frontispiece Group Captain Knocker (right) with workforce

Excavations in Thetford

1948-59 and 1973-80

by Andrew Rogerson and Carolyn Dallas

with contributions from
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Cover Illustration Looking south at work in progress on the southern end of hut 7, Site 2 South. The roads are in section to the right.
Photo: courtesy Eastern Daily Press.

Contents

Part III: Site 1022, Norfolk Archaeological Unit Excavations, 1973 and 1980

Part IV: The Artefacts

Part V: Zoological and Botanical Evidence

Part VI: Conclusions

List of Plates

List of Figures

List of Tables

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Abbreviations

Site 2N	:	Site 2 North	*K*	:	kiln
Site 2S	:	Site 2 South	*P*	:	pit
G	:	grid (Site 2N only)	*R*	:	road
H	:	hut			

Pottery and small find summaries are entered below each feature description. Sherd counts of each group are given and the following abbreviations used:

EM	:	Early Medieval Ware	SN	:	St. Neots-type Ware
GMT	:	Grimston-Thetford Ware	ST	:	Stamford Ware
HM	:	Hedingham Ware	TH	:	Thetford Ware
Med.gl.	:	Medieval glazed Ware	THS	:	Thetford Smooth Ware
RB	:	Romano-British Ware	Unident.	:	unidentified

ST form and fabric codes are given in parentheses (Kilmurry 1977 and 1980) as are approximate date ranges.

Ae	:	Copper alloy

An Appreciation of the late Group Captain G.M. Knocker

by the late Stuart Rigold

Guy Knocker, even when he was among us, was too often dismissed as a figure of the past. This is quite unjust, for he was typical of no age; he enriched the bare, hygienic sections of pre-War prehistorians and by trial and error made what was then an almost unbroken, Old English, field his own. He had no chance of labour-intensive practice in 'areas'; it was unthinkable and unaskable. Usually he had a very small body of ordinary labourers, a gift for getting the best out of them, and a site-assistant only allowed him when he was away! He had been a regular officer, largely with administrative duties; his home and some at least of his service were in Wessex. But I cannot find that he was particularly bred up in the Crawford-Keiller ambiance, or especially concerned with air-photos. He learned, as always, by keeping his wide eyes open and asking questions. He had a quick grasp of terrain and normally made straight for the target, and when its shape was measurable seized a base-line on anything immobile. The wrong way round, one may say, but economical for a man tackling a large site almost single-handed. He made quick, and excellent sketches both of plans and objects, and all his writings were to the point—courteous, elegant, unpolluted by technical jargon, sometimes as lively as his eyebrows.

Thus equipped, deterred by nothing and ready to invent methods, soon after he had left the R.A.F. in 1947 he chose the very contrary of retirement and found a patron in the great Chief Inspector, Brian O'Neil, whose confidence, as long as he lived, was complete. There was much to learn but he was ready to learn quickly, and even O'Neil could not carry a case for labour and equipment in terms of more than a very few hundred pounds, while unequivocally pleading that Thetford was among the most significant sites of this generation. The time was as short as the money, but Guy's tact and diplomacy helped them to go far. The first, but not uninterrupted stages at Thetford occupied him from early in 1948 to the end of 1949. These were admirably summarised in two 'interims' in the Archaeological News Letter (Knocker and Hughes 1950a and b), and more briefly in Archaeological Journal (Dunning 1949). This was not procrastination, but Knocker had other tasks at this period: two rather similar 'Saxon cemeteries, Snell's Corner, Horndean, and Portsdown, both duly published (Knocker 1956b and Corney *et al.* 1967) and another at Illington, near East Harling (Green, Myres and Milligan forthcoming). He was to return to cemeteries again, at Framlingham (Knocker 1956a) for instance, in his last major work at Thetford, in 1957-8, at Red Castle with its associated church. Before enumerating some of his other sites, we should remember that he remained throughout a Temporary Assistant Inspector, until not far short of 1960 when, by a prodigy of non-recruitment, he was made permanent but not established. He had almost had enough, and retired finally at the end of March 1960, though publications appeared later, Red Castle in 1967. He still made trips to Iceland and Greenland, which were part of his almost mystical devotion to Viking lore. He had not inconsiderable acquaintance with Old English literature which, rather than field-studies, may have been the deepest spring of his enthusiasm. He died on 29 September 1971.

In the 1950's he entered the more accustomed field of later medieval fortified sites, less treacherous and controversial than the Saxon field, and I consider that his success was unqualified. The Mount at Princes Risborough (Pavry and Knocker 1953-60) is admirably straight, and so are the excavations at two ringworks at Berden, Essex (Knocker 1958). He did a little on the town banks at Cricklade, near his home, but in 1954 at Chertsey Abbey, a vast area, robbed, built over and then stripped again, surely a case for a grand area excavation or none, he pitted his bold skills, but has left a difficult legacy. I hope that these skills have been justly vindicated in the primary excavation at Thetford. They deserve it for all their limitations; they still shine in my memories of that heroic age, when I played a very small part in them. For all those who worked for and with him, not least the late Dr. Calvin Wells, and especially those who returned his courtesy and respect, his gratitude and friendship were unfailing.

June 1980

Part I
Group Captain Knocker's Excavations 1948-57

I. Introduction

Preface

This report attempts to present the archaeological evidence recovered by Group Captain Guy Knocker in excavations at Thetford between 1948 and 1957. It is intended as a corpus of constructional and stratigraphic details, and not as a synthetic analysis. The results of Knocker's long hard labours have been known up to now through various interim summaries (Dunning 1949; Knocker and Hughes 1950a and b; Clarke 1960, 169-72), and a secondary aim of this paper is to amplify and correct where necessary the somewhat simplified and misleading statements contained in these summaries. A lengthy final report was written by Knocker in the 1950's. Under editorial pressure to reduce its size and intractability the text was redrafted on several occasions, but it remained unpublished at the time of his death in 1971. In 1976 it was decided that a full account of Knocker's work deserved publication, so that along with the important and extensive excavations carried out by B.K. Davison between 1964 and 1970 (Davison 1967, Wilson and Moorhouse 1971), there would eventually be available a complete account of archaeological work in this major Late Saxon town.

The interpretation of the excavation records was undertaken by Andrew Rogerson, who is responsible for the statements contained in this report. All the normal difficulties encountered in the use of another excavator's field notes were met with, but it is hoped that what follows does justice to Knocker's efforts. The original field plans, sections and notebooks were first consulted in preference to Knocker's final unpublished report and final drawings. These latter were only examined after the primary records had been fully checked. It was felt that greater objectivity would be attained by relying on the primary evidence where possible, although the excavator's account written after several years' work was considered of importance in the overall interpretation. Where the opinion of the excavator or his descriptions have been included, his words are set within quotation marks.

Knocker numbered his sites in the sequence in which they were dug, and his numbers have been retained throughout the report. The largest excavation, Site 2, was divided into Sites 2 North and South.

'. . . the archaeology of the Anglo-Saxon town is a post-war phenomenon that did not gather momentum until the

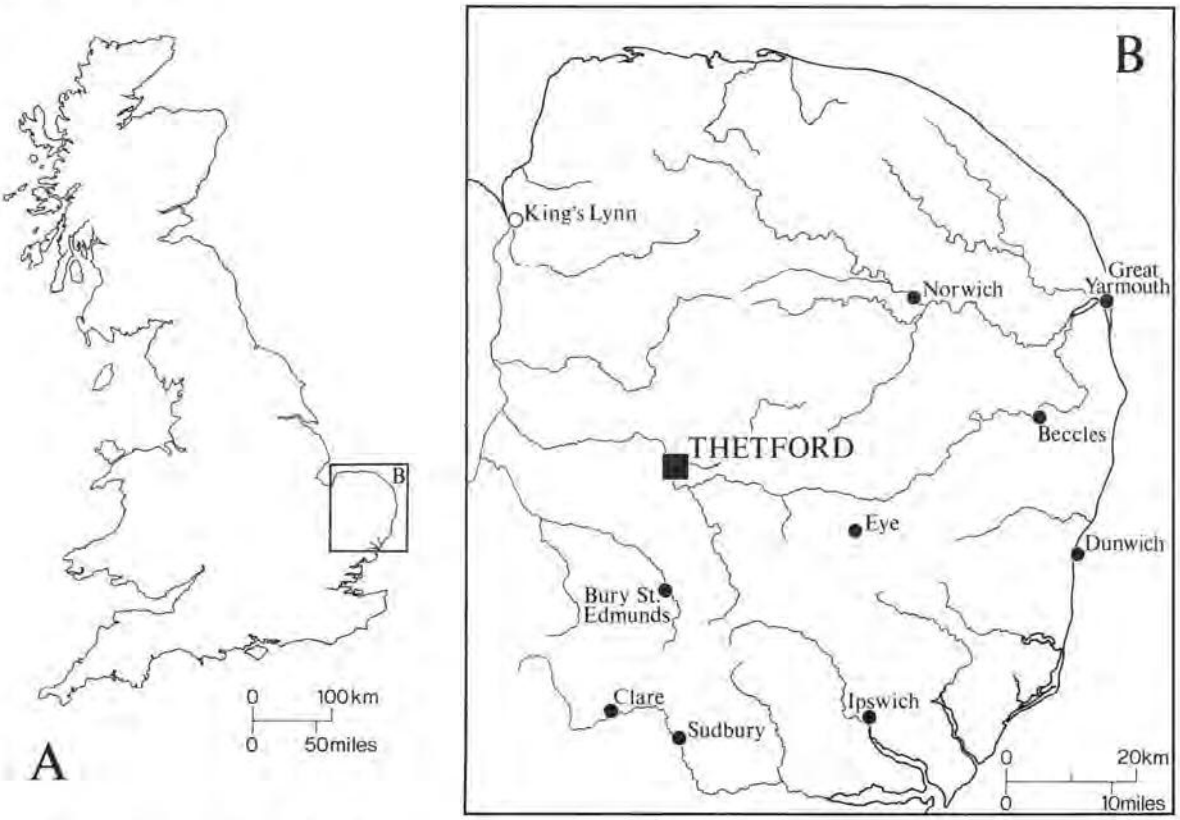


Fig. 1 Location maps. Map B shows the location of Thetford, other Domesday boroughs, and King's Lynn.

1960s' (Biddle 1975, 20). When Knocker began excavating Thetford Site 1 in February 1948, neither he nor anyone else in British archaeology had any firm knowledge of the physical character of buried Anglo-Saxon urban remains or any developed techniques for their excavation. Frere's work in Canterbury, Grimes' in London and Maitland Muller's in 'Hamwih' could have been known only through site visits, while the only major piece of urban archaeology, the excavation of the Jewry Wall site at Leicester, was published by Kathleen Kenyon in the same year as the Thetford programme began. The standards set by Wheeler before the War and the excavating experience of the Chief Inspector of Ancient Monuments, Brian O'Neil, were an influence on Knocker as useful as the assistance in finds interpretation given him by G.C. Dunning and T.C. Lethbridge. The shortcomings of both excavation and recording techniques, so obvious in the pages below, must be seen against this background of the times, but a mitigating circumstance of equal importance was the minimal amount of resources in terms of manpower and money which was then available for rescue archaeology. The Ministry of Works was neither equipped nor mandated to record archaeological sites under threat, and as Thetford was its first post-War effort, Knocker was given no more than a small fraction of the on-site and post-excavation back-up nowadays considered indispensable in urban archaeology.

Circumstances of Excavation and Publication
(Fig. 2)

Large quantities of pottery now known to be Late Saxon were recovered from building operations along the northern stretch of Bury Road before the First World War and from further development of the Newtown Estate between the Bury and London roads in 1920-27. This material lay unrecognised until further pottery found in early 1947 during the construction of Nelson Crescent was passed to T.C. Lethbridge. From these finds Lethbridge guessed that part at least of pre-Conquest Thetford must have been south of the rivers. He informed the Ministry of Works who arranged a small excavation under the supervision of R.W. Feacham in the area of Nelson Crescent. This project revealed a number of burials in chalk-lined graves above clay floors associated with Late Saxon pottery. With the results of Feacham's work and the knowledge that further extensive building development was proposed for areas to the north-west later in 1947, the Ministry instigated larger-scale excavations under Knocker's supervision from February 1948. Sites 1-5 occupied Knocker almost continuously until December 1949. Site 6 was dug in late 1952. Site 7 and a series of test-holes in the south-east part of the town were excavated in 1957. Red Castle was examined in 1957 and 1958 (Knocker 1967) and trial trenches were dug across the town defences in 1959.

The former arable land on which most of Knocker's sites were situated offered few clues to guide the excavator in choice of areas to dig. In nearby building work, Knocker collected sufficient pottery to show that an, as yet, undeveloped area between new houses was worthy of excavation. Thus, Site 1 was begun. Site 2 South and North naturally followed on, once roads 1-3 had been discovered. The small area Site 3 was excavated following the discovery of much pottery by contractors. Site 4 was dug as a test for that area of the town and Site 5 was located as close as possible to Feacham's 1947 dig. Site 6 was aimed at tracing a suspected continuation of roads 1-3. Site 7 was designed to test the Ordnance Survey's location of the site of St. Edmund's church. Although most excavations were positioned to miss the sites of new houses, Knocker was under tolerant but steady pressure from the local authority and developers to complete the work and move on elsewhere in the town.

Methods of Excavation

All excavation was carried out by hand, machinery only being used for back-filling. The shovel was the normal digging tool because 'the limited labour force available did not allow the bands of soil to be hand-trowelled'. Workmen, up to six at any time, were employed as earthmovers, and they were supervised by Knocker who was assisted in 1948-9 by R.G. Hughes. For about one third of the twenty-one-and-a-half months of continual excavation Knocker was absent from Thetford for periods of up to four weeks, during which times Hughes supervised work.[1] Almost all recording, plans, sections and photographs were undertaken by Knocker and Hughes, as was the processing of the vast quantity of finds, itself kept up to date during the course of the excavations. Some assistance in recording was given by the occasional visiting archaeologist, for example R.L.S. Bruce-Mitford, who did valuable work within the combustion chamber of kiln 1, Site 2 North, and R. Gilyard-Beer, who drew a number of sections on Site 1. Sites 1 and 2 South began as trial trenches which were then gradually expanded and coalesced into areas. Site 2 North was initiated on a grid system. Other sites were laid out as trial trenches and extended where necessary. Excavation proceeded in spits whose depths were measured from the ground surface. Major horizontal layers were sometimes followed and in these cases finds can be related to the stratification. Pits were sectioned where possible. A steel probe was employed to feel for the base of pits when great depth rendered further excavation unsafe, and to trace the southern continuation of the road surfaces revealed on Site 2 South. Such prospecting is called 'probing' in the excavation descriptions.

Perhaps the most striking difference between Knocker's excavation methods and those of the present day lies in the degree to which the demands of safety were not allowed to interfere with complete excavation of deep features. Excavation was often continued down to frightening depths without the use of shuttering (Plate III), the deepest excavation being more than thirty feet below the ground surface, and the notebooks contain a number of references to collapses and the narrow escapes of workmen. Apart from considerations of human safety, such depths, as well as the retention of baulks up to six feet high in a somewhat unstable soil, must have seriously increased the possibility of the muddling of finds intruding from one context to another.

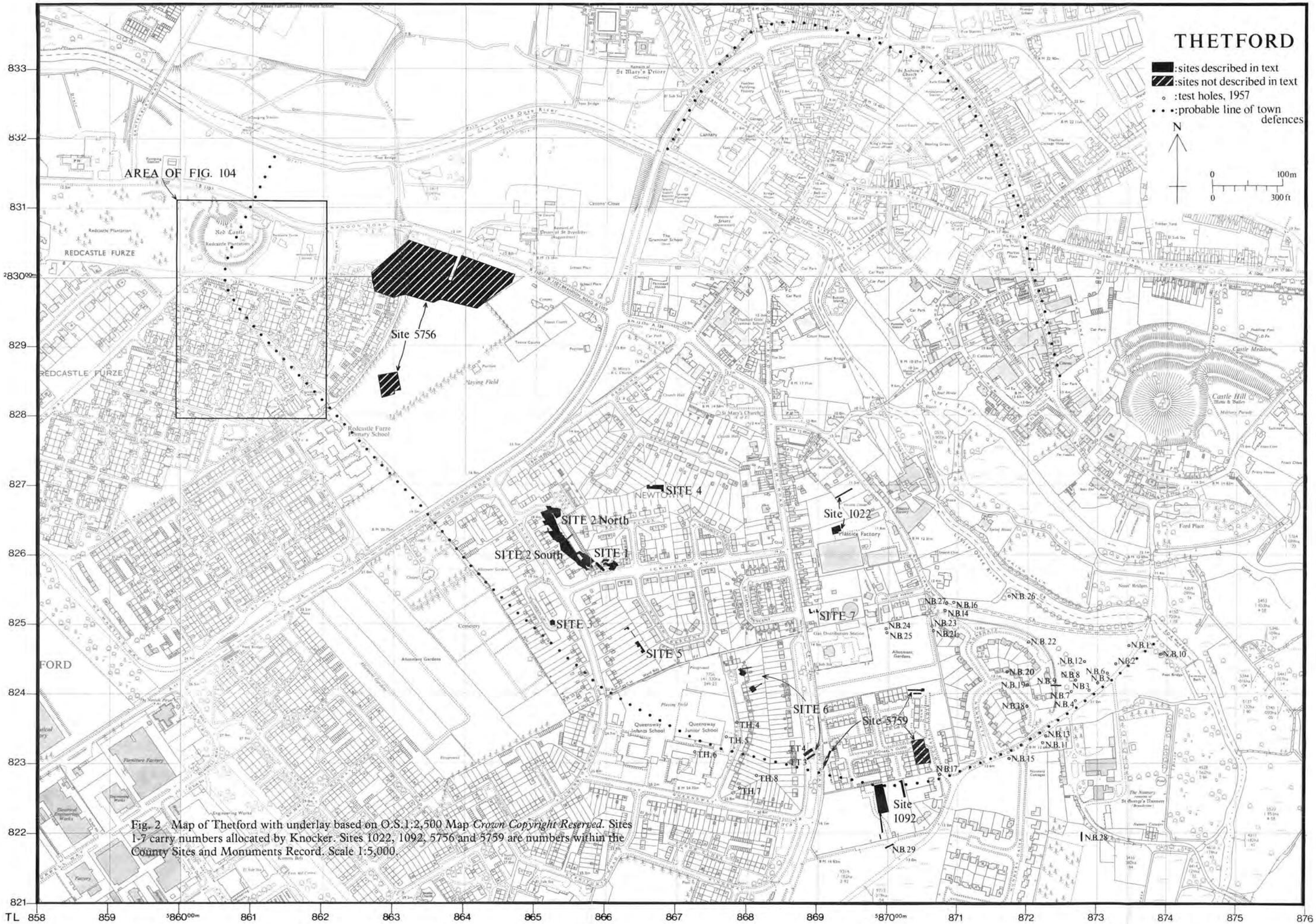


Fig. 2 Map of Thetford with underlay based on O.S.1:2,500 Map *Crown Copyright Reserved*. Sites 1-7 carry numbers allocated by Knocker. Sites 1022, 1092, 5756 and 5759 are numbers within the County Sites and Monuments Record. Scale 1:5,000.

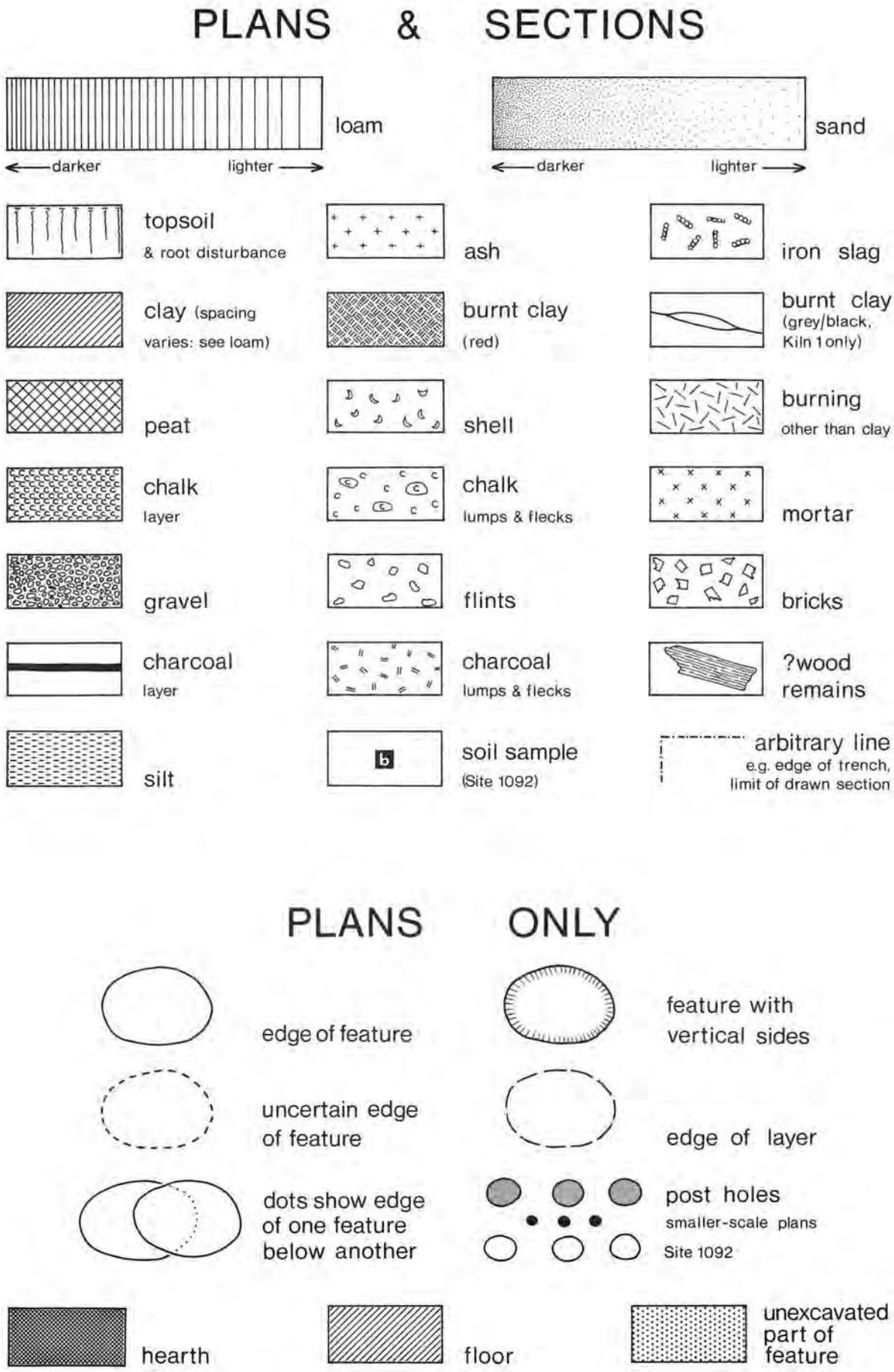


Fig. 3 Key to plan and section conventions.

Phasing
In the site descriptions below, no attempt has been made to phase the development of each site. This lack is caused by the inadequacy of the recorded information. Although a succession of activity can be discerned in most areas, these sequences cannot be linked together over any significant distance. The excavator phased some sites on the basis of stratigraphical sequences, others on a pottery sequence and, particularly in the case of Site 2 South, on an arbitrary series of depths below ground surface related to the depths of three superimposed road surfaces. As will be clear in the numerous published sections through these roads, they do not provide, as was thought, 'convenient datum levels with which to equate the various occupation periods'. The phasing worked out for Site 2 South was given close dating by the seven Late Saxon coins found on Sites 1, 2 South and 2 North so that five periods were designated for the whole town:

1. mid-to-late ninth century
2. early-to-mid tenth century
3. mid-to-late tenth century
4. early eleventh century to *c.* 1086
5. ('site 2 North only with light occupation elsewhere') *c.* 1086—'early medieval period'

Our present state of knowledge of the pottery sequence in Thetford does not permit such close phasing of deposits which lack independent dating, either on Knocker's sites or of groups of casual finds throughout the town. In addition, our awareness of the possibility of residuality in pottery and coin finds prevents such close dating as Knocker attempted. The reports contained below, especially those of Sites 2 South and 2 North, clearly demonstrate the enormous potentiality of certain areas of the town in terms of clearly defined and deep stratification, almost all of Late-Saxon-to-early-medieval date. Modern urban excavation techniques might succeed in estimating the percentage of residuality and in unravelling the complexities of succession on such sites, if any similar areas have survived redevelopment. Despite the obvious potential of Knocker's sites, there is now no possibility of presenting even loosely-phased site descriptions, and so in the following reports, pits, roads, kilns, and possible structural features, 'huts', are described in the numerical sequence given by the excavator, and not by phase. Where relationships are known or thought to have existed, these are stated and cross-referred between features.

Methods of Recording
Plans were drawn in pencil and crayon normally at a scale of 1:48. Usually one plan sufficed for each site, but with Site 2 North, some areas of Site 2 South and Site 6, separate plans were drawn at arbitrary depths below ground level. Measurements appear to have been taken with the use of off-sets from lines between co-ordinates or from trench edges. Sections, whether of individual pits or of larger lines across excavations were drawn at a scale of 1:24 or occasionally 1:12 in pencil and crayon. The crayons were used as a basic colour code, e.g. sand—yellow; burnt clay—red; soil—brown. Ordnance or other datum heights were not used, so that sections were related only to ground level. In some cases features were projected on to sections. These have been removed from the drawings published in this paper. The day-to-day progress of work was recorded in Day Books. The information in these varies considerably, but at best they contain observations of relationships and on-the-spot thoughts of the excavator which do not always appear in the other records.

Pottery and small finds were recorded variously by depth below ground level; by pit; by grid (in the case of Site 2 North); by eastings and northings (Sites 1 and 2 South); by trial trench; and by hut (which in many cases are simply areas of the site). In some cases finds were recorded not only by depth but by stratigraphic position, e.g. 'above clay floor' or 'below hearth'. Pottery was collected under bag numbers (which were similar to the modern 'observable phenomenon' or 'context' numbers) and details of provenance were entered in Pottery Log Books. A typical entry reads '949. Pit N26 5ft 6in-10ft. Dark brown soil and sand. Small finds 900 and 901.' Small finds, which included pottery lamps, crucibles and other ceramic oddities, were entered under a running number series in Small Finds Log Books where a typical entry reads '900. Sax knife 5in long, pit N26 at 6ft. Dark black layer. With 949.' The soil descriptions in the Pottery and Small Finds books have proved of great value in the writing of this report.

Numbers
Knocker's original site, hut, pit, road and kiln numbers have been retained throughout. Unnumbered pits have been allocated numbers, following on in sequence. Hearths on Site 2 South were given numbers, but because of numerical confusion they are not used below. For an explanation of the small finds numbering system see p.66.

Measurements
Dimensions of features are given where known. Pit measurements refer to upper edges, usually level with the surface of the natural sand and gravel. Depths are measured from this surface, except where a pit is cut from a higher level. For the sake of brevity 'below natural' is used in place of 'below the surface of natural'. Absence or ambiguity of evidence regarding dimensions is not usually stated, again for brevity. Imperial measurements were used on all excavations. These are retained with approximate metric equivalents in parentheses.

Soil descriptions
Knocker's soil nomenclature is used in all cases, including such epithets as 'chocolate', 'smelly' and 'puggy'. Where no soil description is given either no details were recorded or the feature is adequately shown on a published section.

II. Site 1
(Figs. 4, 5 and 21)

Summary
The lack of recorded edges of excavation in the south-east area sets this site somewhat out of context. The inexact recording of the pair of north-west-to-south-east ditches on the west side of the site, and the uncertain relationship between the western ditch and the adjacent road surfaces, which continued to the north-west through Site 2 South, is far from satisfactory.

Of six features called huts by the excavator, only hut 3 was a convincing structure. It was a cellar below a building supported on posts set in the base of a pit around a clay floor. There was no hearth. The dimensions, *c.* 5m by 3m

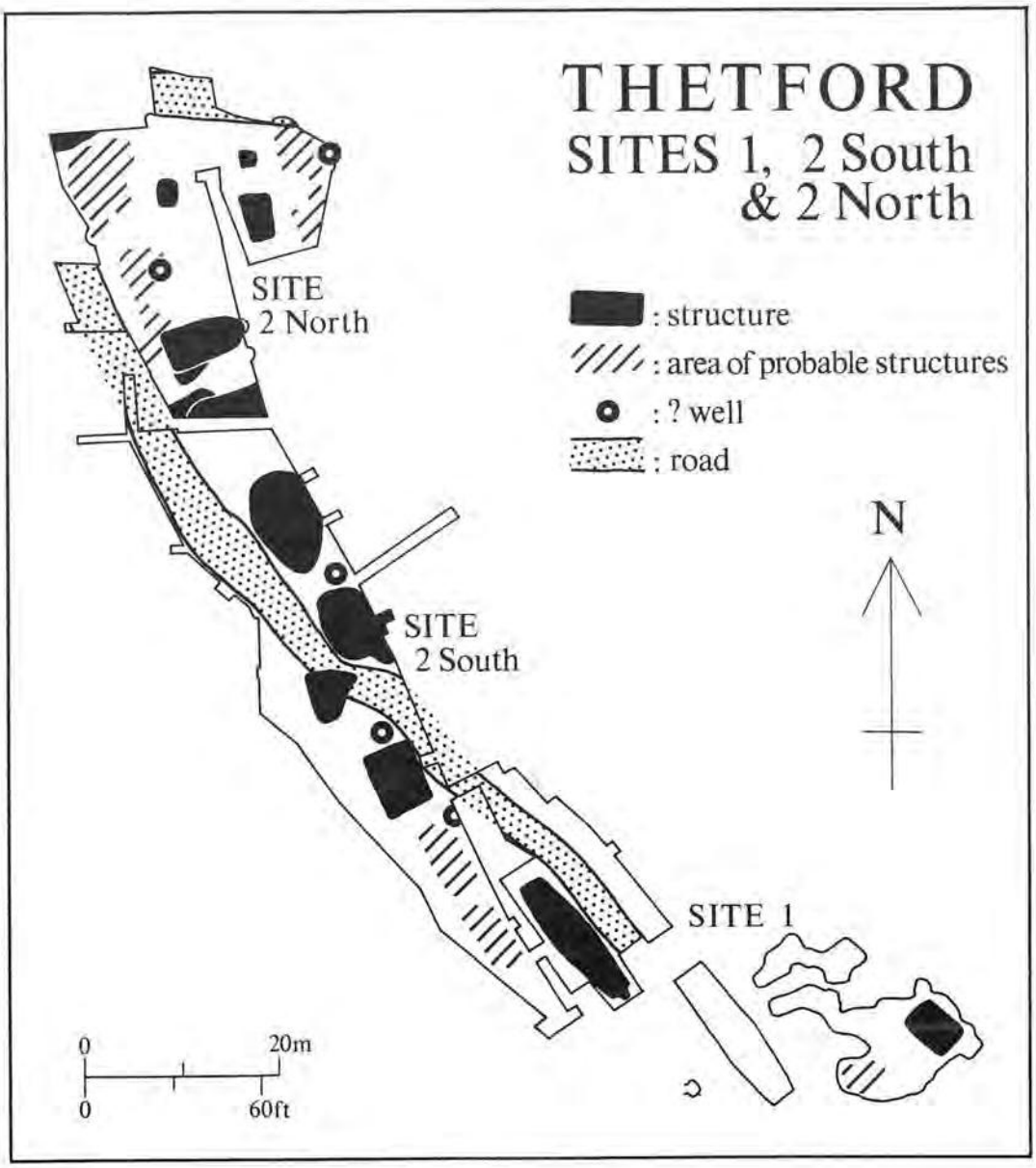


Fig. 4 Plan Sites 1, 2 North and 2 South showing roads, structures, and possible wells. Scale 1:750.

are very close to Davison's Buildings J and L (1967, Figs. 51 and 52). Hut 1 may have been a roughly rectangular sunken-feature structure, but no interpretation is forthcoming from the few recorded post-holes and a possible 'beam-slot'. Huts 2, 2A and 4 were probably only the weathered upper parts of pits. As a vertically-sided and flat-based pit hut T1 is certainly unusual. However, its small size (2.4m by 1.8m) makes it unlikely to have been a cellar and no structural evidence was recorded in the base.

Two out of twenty-four pits yielded some evidence of having been lined. Pit 1 contained two vertical ? posts set on some sort of ring of wood or wattle above a peaty lower filling, and pit 2 had eight stake holes extending from top to base around the edge. Five pits (E, K, L, 5 and 11) had hearths in their upper fillings. All pits except two contained rubbish, but there is no certain evidence that any were dug primarily as rubbish receptacles. None was certainly used as a cess pit and no wells were found. In comparison with those on Sites 2 North and South, the pits were small and shallow, with an average depth of 1.3m, the deepest being 2.3m.

Iron heckle teeth, bone needles, and spindle-whorls suggest textile production, but other crafts are not represented on any scale by the small finds. There is no mention of iron slag in the records.

The ceramic evidence shows that the majority of activity occurred in the tenth century, although it is likely that two 'St. Edmund Memorial' halfpennies from hut 3 may have been somewhat old when lost. Apart from the upper filling of hut 3 which produced some medieval pottery, the latest context on the site was the eleventh-century filling of hut 4.

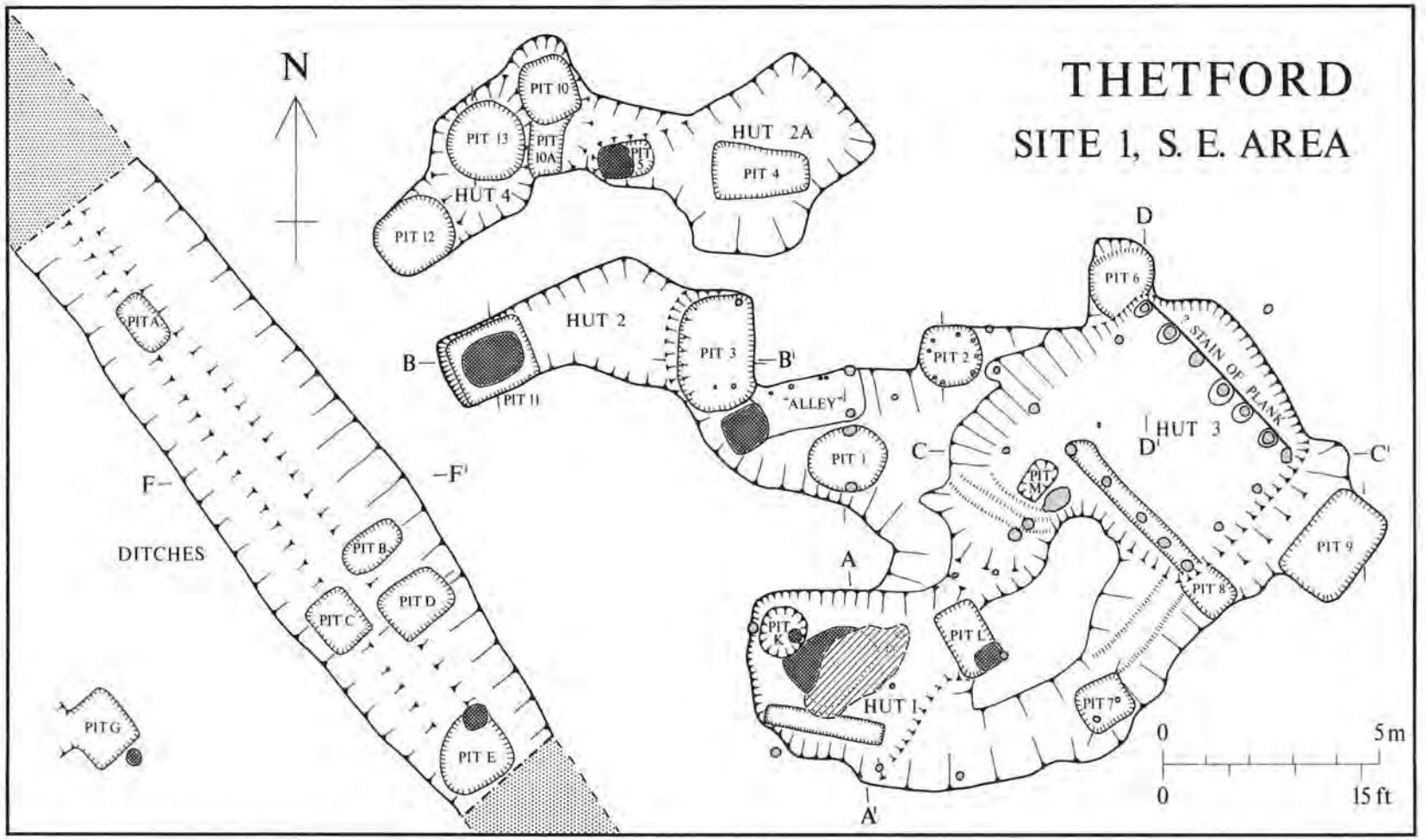


Fig. 5 Plan Site 1 south-east area. The border does not indicate the edges of excavations. Scale 1:150.

Introduction

The site lay at *c.* 18m O.D. on fairly level ground sloping gently downwards to the north-west, north-east and east within an area due for housing development and already flanked by newly-built houses to east and west, and a road to the south. Work began on 17 February and ended on 10 June 1948. At first a series of trial trenches *c.* 2ft 6in (0.8m) wide, aligned north to south were laid out. These later coalesced into an area covering *H*1-4. The two ditches, first found in a trial trench, were emptied as far as 15ft (4.6m) north-west of *H*T1. Finally, a trench was cut across the roads south-west of *H*T1. These roads *R*1-3 are discussed under Site 2 South (p.18). Edges of excavation were not recorded on field plans of the south-east area, so that only the edges of features cut into natural are shown on Fig. 5. The north-west part of the site appears with Site 2 South on Fig. 21. In the south-east area there was little stratification above natural, but to the north-west stratification, including the road surfaces, was present on a scale similar to that on Site 2 South.

Description

The Huts

***H*1**—(Sect. A-A', Fig. 6, S-E area). Roughly rectangular feature dug 2ft (0.6m) below natural with defined edges to N, S and W; in centre of base an irregular scoop, 6in (15cm) deep filled with burnt material, black soil and charcoal; along south edge 2in (5cm) deep rectangular feature filled with dark soil, thought to be a beam-slot.

Main dark soil filling with flat upper surface, and two post-holes, sealed by uneven clay layer; six post-holes around edges and in central area; uncertain relationship between *P*K and *H*1; *P*L sealed by main filling. Curving linear feature or 'passage', filled with light brown soil, between S-E corner and *H*3, near which base narrowed to vertical-sided gulley; 'doorway' led from N-E corner towards *H*3 entrance.

Pottery Below clay layer: 82 TH

Small finds Below clay layer: iron knife (Fig. 123, No. 68).
Above clay layer: iron knife, angle binding (Fig. 130, No. 154).

***H*2**—(Sect. B-B', Fig. 7; S-E area). N-W of *P*1 rectangular 3ft (0.9m) deep feature, or 'alley' filled with dark soil, charcoal, and burnt clay, overlain by 'cooking hole with hearth'; five stake- and post-holes probably sealed by filling.

Area between *P*3 and *P*11 dug *c.* 1ft (0.3m) below natural; three stake-holes cutting *P*3; hearth, relined at least three times, forming upper filling of *P*11. Probably medieval brooch pin from upper part of hearth.

Pottery General area: 1 ST (spout D5, 900-1020), 5 SN, 338 TH.

Small finds Between *P*3 and *P*11: Iron; heckle tooth (Fig. 119, No. 24), three heckle teeth, nail, object (Fig. 135, No. 225), staple (Fig. 128, No. 128), knife (not illus., No. 101a), lock bolt (Fig. 131, No. 174).
'Alley': iron knife (not illus., No. 78c); bone comb connecting plate.
Hearth in 'alley': bone needle (Fig. 189, No. 28), bone comb connecting plate (Fig. 186, No. 1).
Hearth above *P*11: probably medieval copper alloy brooch pin (Fig. 109, No. 9); two iron rings (including not illus. No. 208a); bone comb connecting plate.

***H*2A**—(S-E area). Irregular feature dug *c.* 1ft 6in (0.5m) below natural; probably upper weathered part of *P*4; filled with dark soil; hearth above *P*5: no structural features.

Pottery 484 TH.

Small finds General area: iron nail.
Hearth above *P*5: iron needle (Fig. 119, No. 32), nail.

***H*3**—(Fig. 8; Sect. C-C', Fig. 9 and Sect. D-D', Fig. 10; S-E area). Roughly rectangular, flat-based feature: *c.* 24ft (7.3m) by 17ft (5.2m); dug 6ft (1.8m) below natural gravel into clay; base lined with 'cement hard' clay floor, 15ft (4.6m) by 10ft (3m); sixteen post-holes *c.* 1ft 6in (0.5m) deep, with posts *c.* 9-10in (23-25cm) in diameter; five posts along S-W side set in continuous trench; no hearth on floor; large carbonised oak' log lay in centre; probable entrance between N-W' corner post and neighbour to S-E; three steps cut into natural leading up to 'doorway' of *H*1; steps thought to have been revetted with wood; flanked by three post-holes to S-E and one to N-W; *P*M at base of steps; floor covered by thin layer of 'black occupation soil' with 'burnt material'; section D-D' shows burnt clay above primary charcoal layer and below thin layer of chalk; backfilling of three major layers, upper two with many finds; sealed by horizontal layer of dark soil; two post-holes E of *P*2; another N-E of hut on edge of excavation; rectangular feature cutting *P*6, 8 and 9.

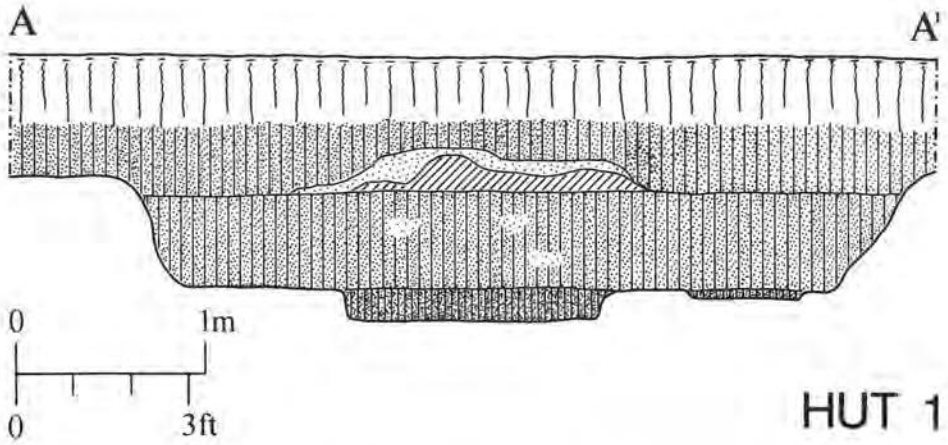


Fig. 6 Section A-A', hut 1. Scale 1:40.

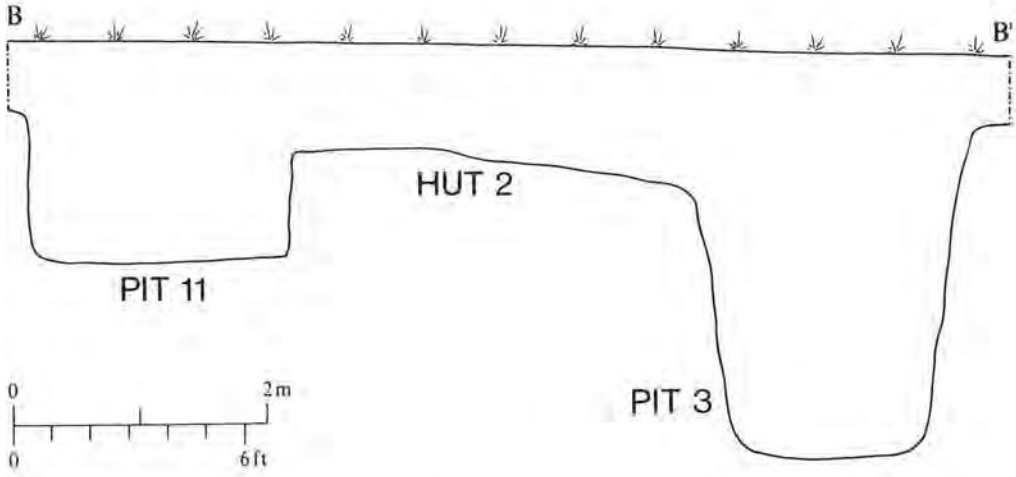


Fig. 7 Profile B-B', hut 2, pits 3 and 11. Scale 1:60.

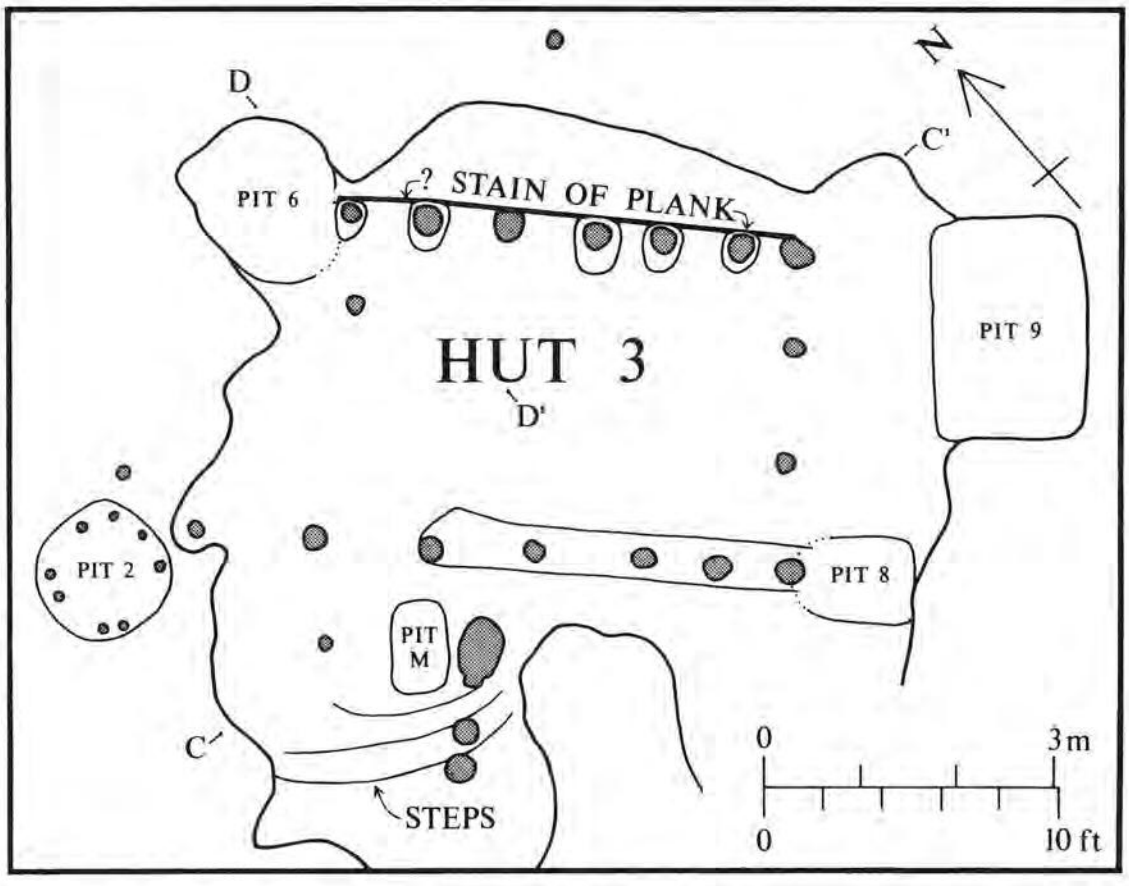


Fig. 8 Plan hut 3. Scale 1:125.

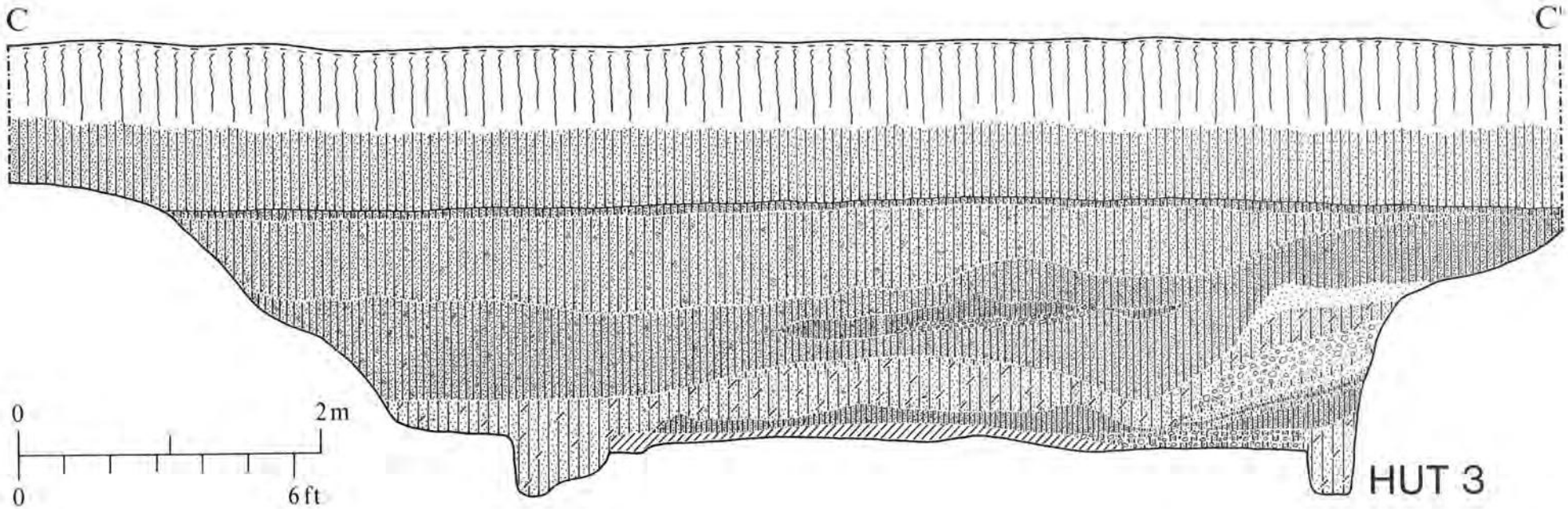


Fig. 9 Section C-C', hut 3. Scale 1:40.

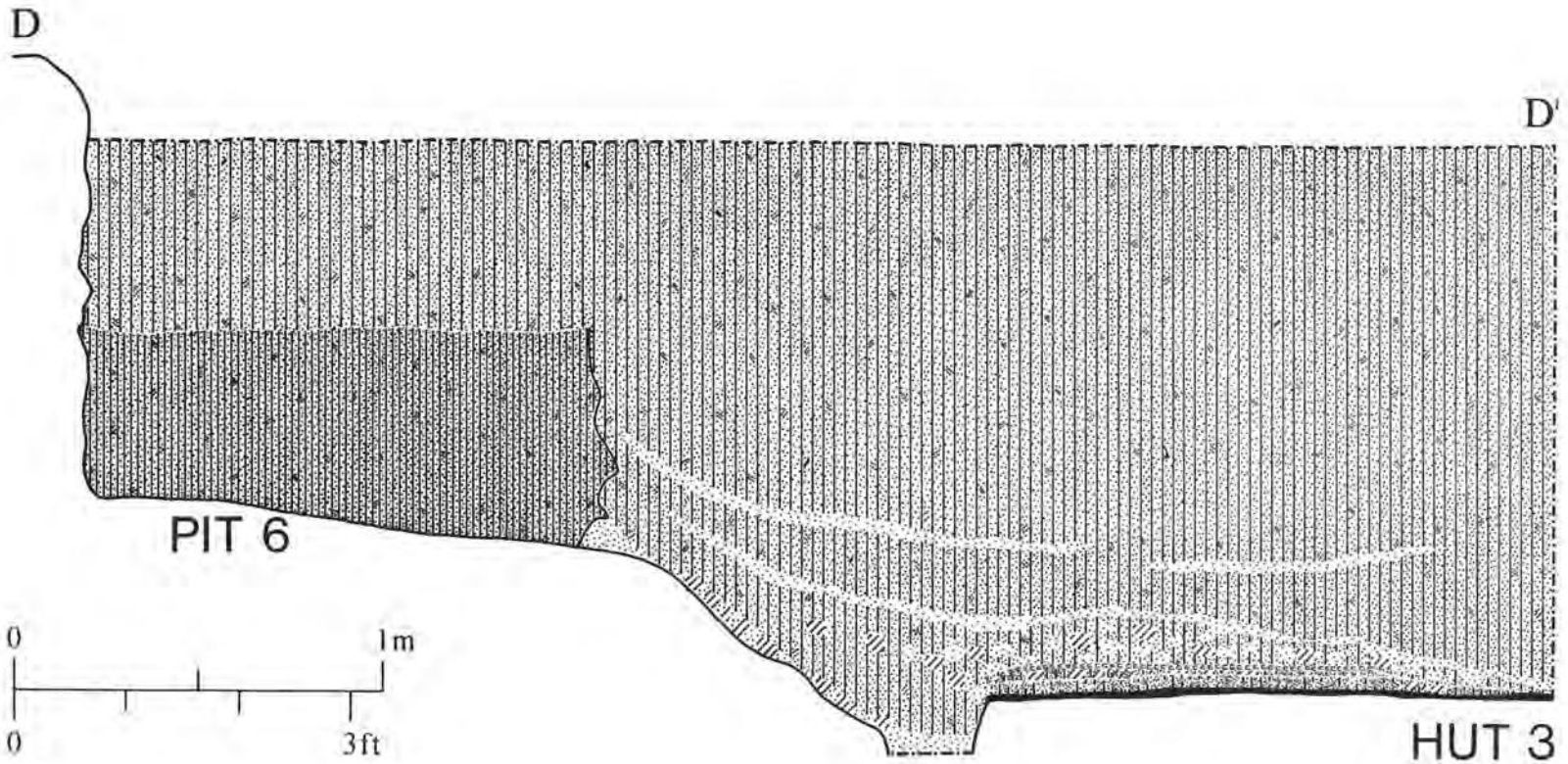


Fig. 10 Section D-D', hut 3 and pit 6. Scale 1:20 to show floor levels.

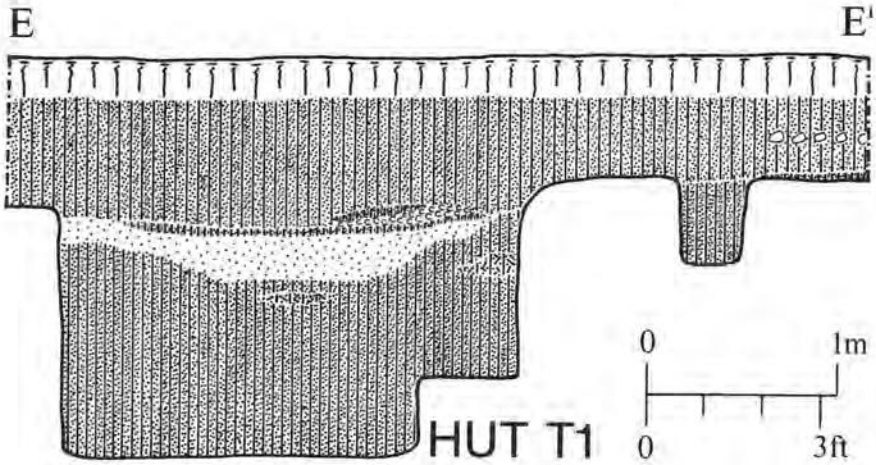


Fig. 11 Section E-E', hut T1. Scale 1:40.

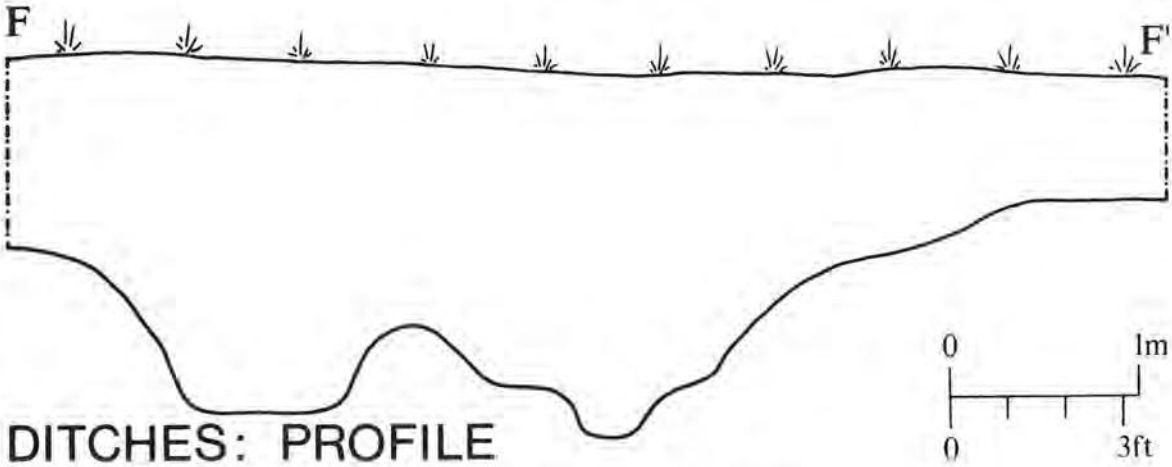


Fig. 12 Profile F-F', ditches. Scale 1:40.

Pottery Lower filling (below 1.4m): 1RB, 926 TH, 4 SN, 1 EM (at 1.4m depth). Less pottery towards base.
Post-holes around edge of base: 7 TH.
Upper filling: pottery from all groups including medieval.
Filling above steps: 272 TH, 1 SN.

Small finds Post-hole S-W wall: iron buckle. On floor: iron heckle tooth. Lower filling: 'St. Edmund Memorial' halfpenny (Fig. 108, No. 1), copper alloy sheet ?trial piece (Fig. 113, No. 55). Iron; chisel (Fig. 115, No. 5), strike-a-light (Fig. 133, No. 197), heckle tooth, knife (not illus. No. 96a), nail; chalk spindle-whorl (Fig. 148, No. 1); bone pin (Fig. 190, No. 42), bone spindle-whorl.
Upper filling: Iron; bridle boss (Fig. 139, No. 264), bridle mouthpiece link (Fig. 138, No. 255), six heckle teeth, two nails.
Filling above steps: 'St. Edmund Memorial' halfpenny (Fig. 108, No. 2). Iron; bridle side link (Fig. 138, No. 258), two heckle teeth, knife, three nails.

***H*4**—(S-E area). Irregular area cut *c.* 9in (23cm) below natural; probably upper weathered parts of *P*10, 10A and 13; filled with dark soil; no structural features; 'sixteen horn stubs all together . . . very little bone'.

Pottery 1 samian, 1RB, 3 ST (12-11AO, 2AO, 1000-1100), 103 SN, 2 THS, 150 TH.

Small finds Above *P*10: sawn antler tine. Above *P*13: copper alloy pin (lost) and sheet fragment; iron strip, nail.

***HT*1**—(Sect. E-E', Fig. 11; Fig. 21; N-W area). Rectangular, vertical-sided flat-based feature; 8ft (2.4m) by 6ft (1.8m); dug 5ft (1.5m) below natural; no floor surface; ledge or 'bench' 1ft (0.3m) high along S-E edge; filled with dark brown soil with many animal bones; two superimposed hearths in upper filling thought to be associated with rectangular area 16ft (4.9m) by 11ft (3.4m) of dark soil above natural and extending over ditches; rectangular feature cutting ditches; post-holes in area thought to be associated with *H*12, Site 2S.

Pottery 1 samian, 3 SN, 312 TH.

Small finds Copper alloy ring (Fig. 110, No. 22). Iron; flesh-fork (Fig. 133, No. 196), two rings (Fig. 134, No. 208 and not illus. No. 208b), knife (Fig. 125, No. 94).
S-E of rectangular feature: two iron heckle teeth and knife; hone (lost).

The Ditches

(Sect. F-F', Fig. 12; Fig. 21; N-W and S-E areas).
Two parallel ditches ran N-W to S-E, W of the S-E area of the site. They were dug *c.* 4ft (1.2m) below natural, and had a combined width of 10ft-14ft (3-4.3m). They were filled with dark soil and sand, and no relationship was established between them. Both were cut by *P*A-F. The W ditch was cut by *P*65 and by *HT*1. The E ditch terminated S-E of *HT*1 but was present again N-W of the hut. *R*1 was thought to overlap the W edge of the W ditch, but the only section recorded across the roads and ditches is uncertain as is the ditches' relationship to *H*12 (Site 2S). The W ditch was traced as far as *P*23 on site 2S.

Pottery 19 TH from S end of E ditch, otherwise material from E and W ditches muddled with each other and with topsoil.

Small finds Topsoil above: iron padlock key (Fig. 132, No. 182).
Filling: copper alloy strap-end (Fig. 111, No. 29).
Iron: washer (Fig. 134, No. 214), rove (Fig. 129, No. 137), heckle tooth, nail; two hones (Fig. 146, Nos. 1 and 2); soapstone vessel fragment.

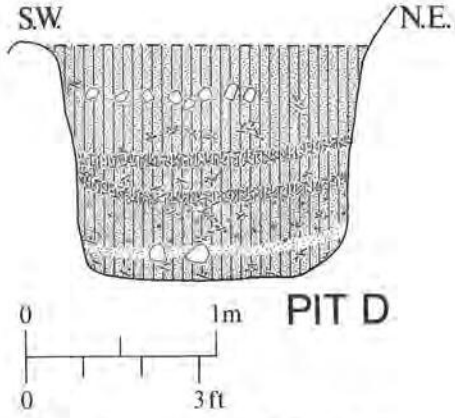


Fig. 13 Section pit D. Scale 1:40.

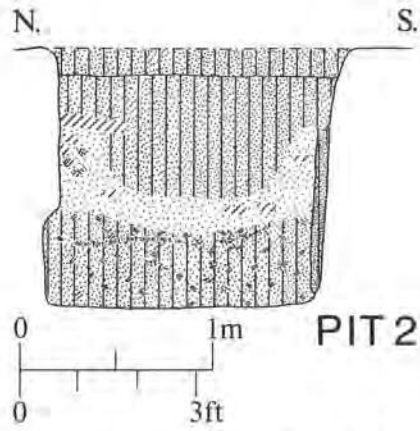


Fig. 15 Section pit 2. Scale 1:40.

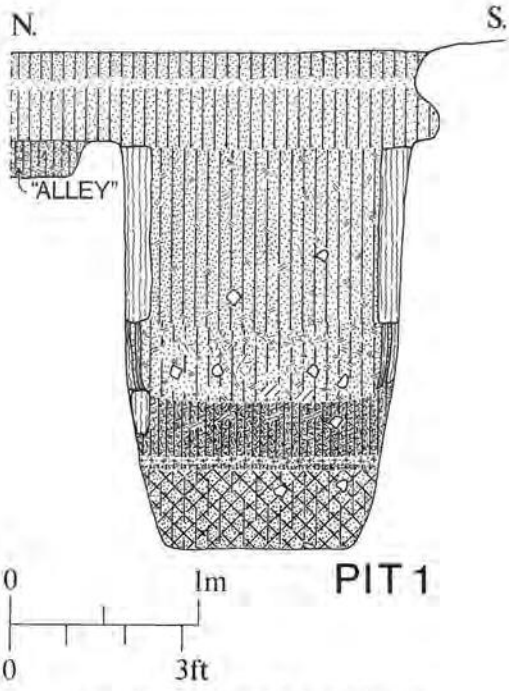


Fig. 14 Section pit 1. Scale 1:40.

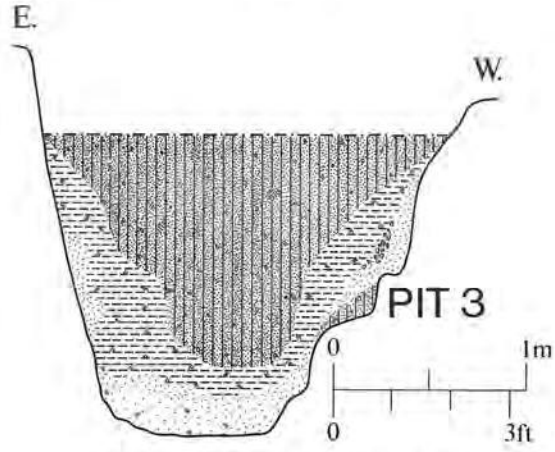


Fig. 16 Section pit 3. Scale 1:40.

The Pits

PA—(S-E area). Subrectangular; 4ft 6in (1.4m) by 2ft 6in (0.8m); dug 4ft (1.2m) below natural; filled with dark soil containing charcoal and burnt clay; cutting upper filling of ditches.
Pottery 1? EM, 1 SN, 85 TH.
Small finds Iron hasp (Fig. 131, No. 163).

PB—(S-E area). Roughly oval; 5ft (1.5m) by 2ft 6in (0.8m); *c.*2ft (0.6m) deep; cutting upper filling of E ditch.
No finds except animal bones.

PC—(S-E area). Rectangular; 4ft 6in (1.4m) by 3ft 6in (1.1m); dug *c.*3ft (0.9m) below natural; filled with dark soil; cutting upper filling of W ditch.
Small finds Iron auger bit (not illus., no. 17a).

PD—(Fig. 13; S-E area). Rectangular; 5ft (1.5m) by 4ft (1.2m) dug *c.*5ft (1.5m) below natural; cutting E ditch.
Pottery 1 ST (A5, 900-1000), 197 TH.
Small finds Topsoil above: Nuremberg counter.
Filling: iron heckle tooth (Fig. 119, No. 27); bone needle (Fig. 189, No. 29).

PE—(S-E area). Irregular, averaging 5ft (1.5m) across; dug *c.*2ft 6in (0.8m) below natural; hearth on upper filling; cutting upper filling of ditches.
Pottery 7 TH.

PF—(Fig. 21 N-W area). N-E part not excavated; dug 3ft 6in (1.1m) below natural; cutting E edge of E ditch.
Pottery 16 TH.

PG—(S-E area). Rectangular; 5ft (1.5m) by 4ft (1.2m) and dug 3ft 6in (1.1m) below natural; located in trial hole; uncertain feature to W; hearth with burnt wattle-impressed daub to S-E.
Pottery 37 TH.

PK—(S-E area). Roughly circular; diam. *c.*3ft 6in (1.1m); dug 3ft (0.9m) below natural; filled with dark soil; uncertain relationship with *H*1; overlain by small hearth.
Pottery 104 TH.
Small finds Iron awl (Fig. 120, No. 34).

PL—(S-E area). Rectangular; 5ft 6in (1.7m) by 3ft 6in (1.1m); dug 2ft 6in (0.8m) below natural; filling of dark soil with burnt patches and charcoal; possibly sealed by backfilling of *H*1; hearth cut by post-hole on upper filling.
Pottery Mainly missing.
Small finds Copper alloy balance arm (Fig. 113, No. 57).

PM—(S-E area). Roughly rectangular; 3ft 6in (1.1m) by 2ft (0.6m); cut *c.*1ft 6in (0.5m) into natural clay at base of steps W of *H*3; capped with cobbles.
No finds.

P1—(Fig. 14; S-E area). Oval; 6ft (1.8m) by 5ft (1.5m); 7ft (2.1m) deep; above lower filling 1ft (0.3m) high 'double ring of burnt wood or wattle' (oak) around edge below rectangular 9in (23cm) by 5in (13cm) dark soil stains extending upwards to lip; pit lying on S edge of area cut 1ft 9in (0.53m) into natural; sealed by horizontal layer of soil.
Pottery 106 TH.
Small finds Iron nail.

P2—(Fig. 15; S-E area). Roughly circular, diam. 5ft (1.5m); 4ft 6in (1.4m) deep;. eight stake-holes around edge extending to base and sealed by upper filling.
Pottery 137 TH.
Small finds Iron chain link (not illus. no. 206a).

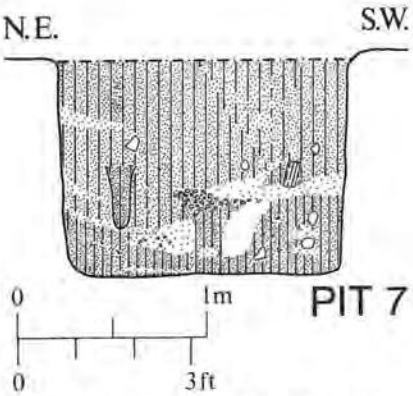


Fig. 17 Section pit 7. Scale 1:40.

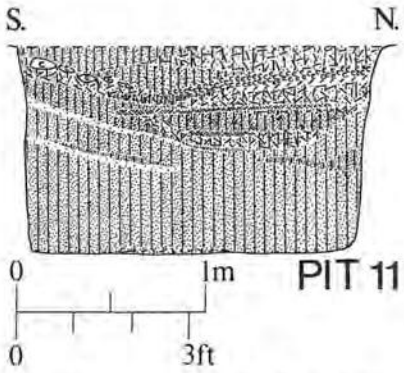


Fig. 19 Section pit 11. Scale 1:40.

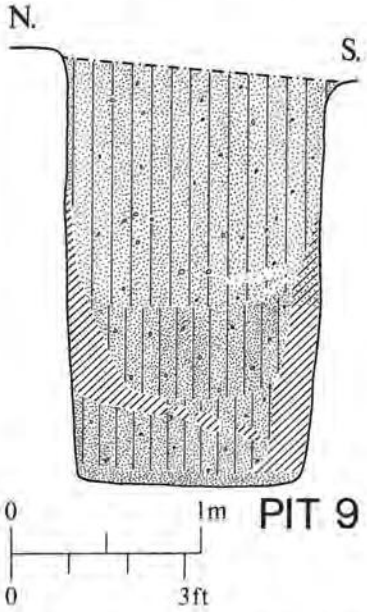


Fig. 18 Section pit 9. Scale 1:40.

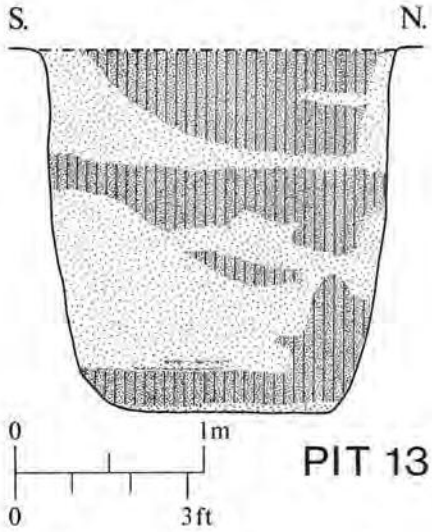


Fig. 20 Section pit 13. Scale 1:40.

P3—(Sect. B-B[1], Fig. 7, and Fig. 16; S-E area). Irregular; 9ft (2.7m) by 7ft 6in (2.3m); 7ft (2.1m) deep; upper filling cut by three stake-holes; thought to be sealed by *H*2.
Pottery 7 SN, 325 TH.
Small finds Iron knife (Fig. 123, No. 66), nail; bone spindle-whorl (Fig 194, No. 70).

P4—(S-E area). 'Coffin-shaped'; length 7ft 6in (2.3m) and max. width 4ft 6in (1.4m); dug 5ft 6in (1.7m) below natural; filled with dark soil; thought to be sealed by *H*2A.
Pottery 33 TH.

P5—(S-E area). Subrectangular; 4ft (1.2m) by 2ft 6in (0.8m); dug 4ft (1.2m) below natural; filling of dark soil below hearth with burnt wattle-impressed daub.
Pottery 1 SN, 78 TH.
Small finds Iron knife (Fig. 124, No. 83).

P6—(Sect. D-D[1], Fig. 10; S-E area). Irregular; *c.*6ft (1.8m) across; dug 4ft 6in (1.4m) below natural; cut by *H*3 and sealed by upper filling.
Pottery 34 TH.
Small finds Iron; knife (Fig. 124, No. 84), awl (Fig. 120, No. 35), sheet fragment; bone comb (Fig. 186, No. 2).

P7—(Fig. 17; S-E area). Roughly square; 4ft (1.2m) across; dug 6ft (1.8m) below natural; filling including wood fragments, voids and one post-hole; uncertain relationship with 'passage' E of *H*1; one post-hole cut into upper filling.
Pottery Missing.
Small finds Bone double-ended implement (Fig. 191, No. 47).

P8—(S-E area). Rectangular; 4ft (1.2m) by 3ft (0.9m); dug 6ft (1.8m) below natural; filled with dark soil and sand; uncertain relationship with 'passage' E of *H*1; cut by *H*3.
No recorded finds.

P9—(Fig. 18; S-E area). Rectangular; 8ft (2.4m) by 5ft (1.5m); dug 7ft 6in (2.3m) below natural; cut by *H*3.
Pottery 24 TH.
Small finds Iron heckle tooth.

P10—(S-E area) Roughly rectangular; 6ft (1.8m) by 5ft (1.5m); dug 5ft 6in (1.7m) below natural; filled with dark soil; thought to be sealed by *H*4; cutting *P*10A.
Pottery Partly missing, surviving sherds are TH and SN.
Small finds Iron box padlock (Fig. 131, No. 169), nail.

P10A—(S-E area). Uncertain shape; 2ft 6in (0.8m) E to W and min. 4ft (1.2m) N to S; dug 3ft 6in (1.1m) below natural; thought to be sealed by *H*4; cut by *P*10.
Pottery Missing.

P11—(Sect. B-B[1], Fig. 7, and Fig. 19; S-E area). Rectangular; 6ft (1.8m) by 5ft (1.5m); dug 3ft 6in (1.1m) below natural; filled with dark soil below hearth thought to be associated with *H*2.
Pottery 123 TH.

P12—(S-E area). Subrectangular; 6ft (1.8m) by 5ft (1.5m); dug 4ft (1.2m) below natural; filled with dark soil and stones, with burnt daub near lip.
Pottery Muddled, but probably included 11th-century ST.
Small finds Hone; bone spindle-whorl.

P13—(Fig. 20; S-E area). Roughly circular; diam. 6ft (1.8m); dug 4ft (1.2m) below natural; thought to be sealed by *H*4.
Pottery Muddled but included SN.
Small finds Bone cord-making tool (Fig. 199, No. 96).

P65—(Fig. 21; N-W area).See page 25 (listed under Site 2S).

III. Site 2 South

(Figs. 4 and 21)

Summary

The majority of this 80m-long site lay on the south-west side of three superimposed road surfaces running north-west to south-east, but to the north, in and around hut 6, an area on the north-east side of the road was excavated. The lowest road surface, road 1, was not the primary feature on the site for it sealed two groups of post-holes, called huts 10 and 12, with some associated soil, and two pits. Road 1 was largely covered with soil to a depth of as much as 0.6m before a second surface, road 2, was laid down. It is not possible to say whether this deposit represented a period of abandonment or whether it was the result of deliberate dumping to raise the road level up to the height of the rapidly accumulating deposits on either side. Because these two surfaces follow a similar course the latter explanation is more plausible. However, all three surfaces were pierced by one or more pits, so there were certainly periods when the through-flow of traffic was impeded. (As mentioned, on Site 1 the relationship between the roads and the ditches at the southern end of the site is unknown.) The course of the final surface, road 3, was coincident with road 2 except where it diverged to cross over the site of an abandoned building, hut 7. The road continued north-west alongside Site 2 North, where it was picked up in a westward extension of the main excavation.

The features called huts by the excavator will be described in numerical order. Hut 5 was a general area which included an almost trapezoidal floor, length 5.5m, maximum width 5m. Somewhat curiously, part of road 2 had been removed to receive the floor. A hearth lay on the floor. Hut 6 was an oval hollow. Post-holes and slots in the area do not appear to have been related to the hollow. Hut 7 was also an oval hollow with a possible entrance at the north-west end. Two and perhaps all of the post-holes in the south-west side sloped inwards, but most on the north-east side lay outside the excavation. There was a central hearth. Hut 8 contained a rectangular floor with a central raised hearth. Hut 9 was a general area, marked by a general absence of pits. It included extensive, shallow, flat-based cuts into the surface of natural (one numbered hut 9A). Hut 10 comprised five post-holes and the 'stains of a plank' sealed by road 1. Hut 11 was probably a pit with a secondary clay-lined base and possible wicker lining. Hut 12 consisted of a rough north-west to south-east spread of post-holes with two short alignments stretching to the north-east. The whole was sealed beneath road 1. Hut 13 consisted of two superimposed floors, one or both of which were in the shape of an elongated rectangle with bowed long sides.[4] Post-holes formed three roughly transverse alignments and were also distributed unevenly along the long sides. A raised hearth lay on the upper floor. Hut 14 was an ill-understood general area at the southern end of the site. It included several post-holes, and a clay floor recorded only in section. There was no noticeable absence of pits, but much of the area between pits was cut over 1m into the natural.

The structural evidence on this site is somewhat disappointing, but the records do suggest a dense distribution of buildings along the road edges, although it is uncertain how many stood at any one time. In reality, the density may well have been greater because it is likely that many structural features may have been missed by the excavator, particularly post-holes not impinging upon the subsoil, and beaten or trodden earth-floor surfaces.

Fifty-nine pits were recorded. The average depth of those that were bottomed was 2.1m. Nine (or ten with the inclusion of hut 11) were thought to have had some form of wooden lining, either of planks or wickerwork (16, 19-22, 29, 37, 39-40 and 45). In no case was the recorded evidence sufficient to enable a reconstruction or an estimation of function to be made. Three non-bottomed pits (J, 41 and 45) were more than 5m deep. The deepest, pit 45, was emptied to a depth of 8.5m and was 'probed' a further 1.8m. It is tempting to presume these three may have been wells, although none reached the modern water table. The lack of construction pits for timber linings is difficult to explain unless the sides were revetted from the inside in some fashion, perhaps by a wicker framework. Rubbish found its way into almost all pits, but as on Site 1 it is uncertain how many were dug specifically to receive rubbish. Part of this uncertainty is the result of the non-retention of animal bones. They would have given a more accurate assessment of the quantity of rubbish in the various features than the pottery and small finds have done. Five pits (24, 29, 33, 37 and 62) had primary fillings described as 'sticky', 'puggy', 'greenish', or 'smelly', and these may well have been dug as cess pits. A soil sample from the smelly fillings of pit 33 (p. 196) was indicative of sewage. Pit 27 was recut and then filled with sticky soil, while pits 30, 41, 49 and 60 contained similar soil within their fillings.

Extensive ash deposits, the occurrence of iron slag, crucibles, textile manufacturing tools, pottery wasters north-west of hut 6 and other small finds testify to intensive industrial activity on and near this site. The evidence does not suggest areas of craft specialisation but rather a wide divergence of activities over the site throughout the span of occupation. There is no doubt that Site 2 South lay within a zone which in comparison with the excavated area in the north-west of the town (Davison 1967) and by present standards, was a slum. The distribution of structures, pits and roads was so overall, that there were no sizeable open spaces, and those gaps which did exist were covered by depths of ash-bearing soil.

Some activity earlier than road 1, sometime in the first half of the tenth century, was the first sealed occupation of the site. Thereafter, occupation was intense until soon after 1050. Besides a little medieval and later material both in the topsoil and occasionally intrusive in earlier features, there was no evidence of activity in or after the twelfth century.

Introduction

The site lay at *c.* 18m O.D. on level ground with a slight downward slope to the north and east. Work started on 28 June 1948 and finished on 5 April 1949. Initially a 4ft (1.2m) wide trench was excavated north-east to south-west partly through *R*1-3 and over *P*J. Further trial trenches were then dug to north and south, and eventually all were linked up to form one area. A grid system was used in the area of *H*6. The south-west edge of the excavation was dictated by a sewer trench. In the north-west part of the site, the north-east edge was marked by a field boundary bank, *c.* 10ft (3m) wide, *c.* 3ft (0.9m) high, and topped by Scots pines. South-east of *H*8, it was cut through in places so that much of this end of the site (*H*12 and 13) lay east of the bank.

THETFORD SITE 2 South & SITE 1, N.W. AREA

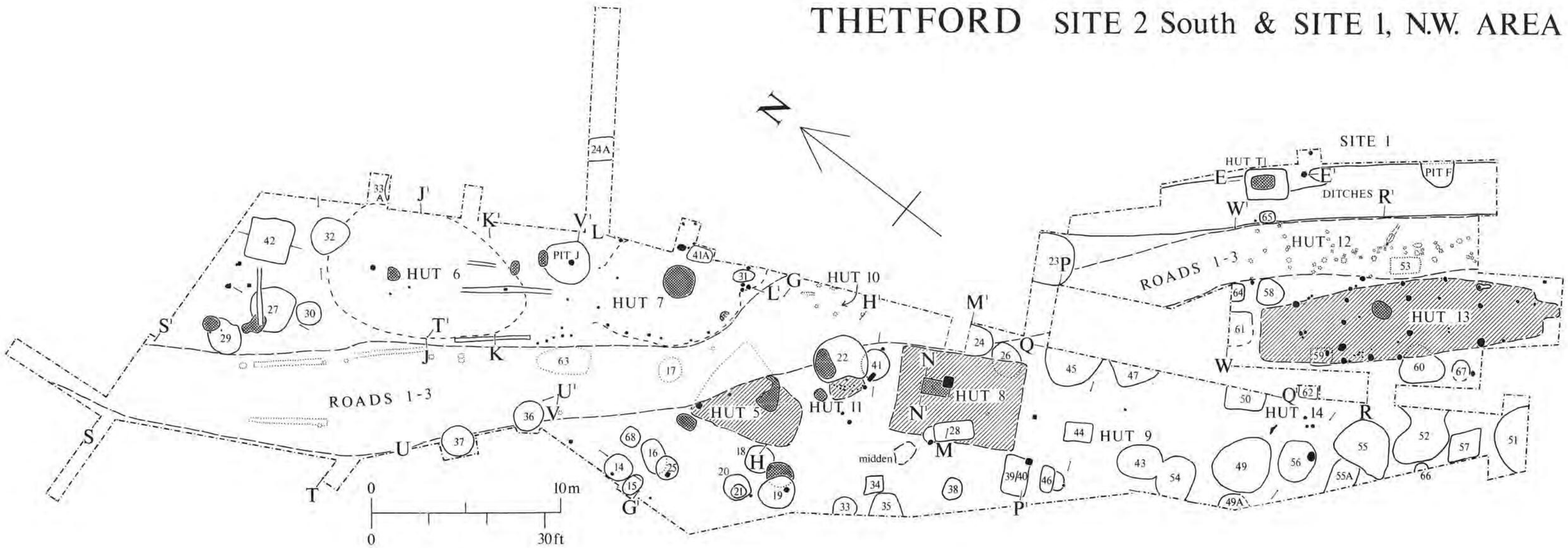


Fig. 21 Plan Site 2 South and Site 1, north-west area. Scale 1:200.

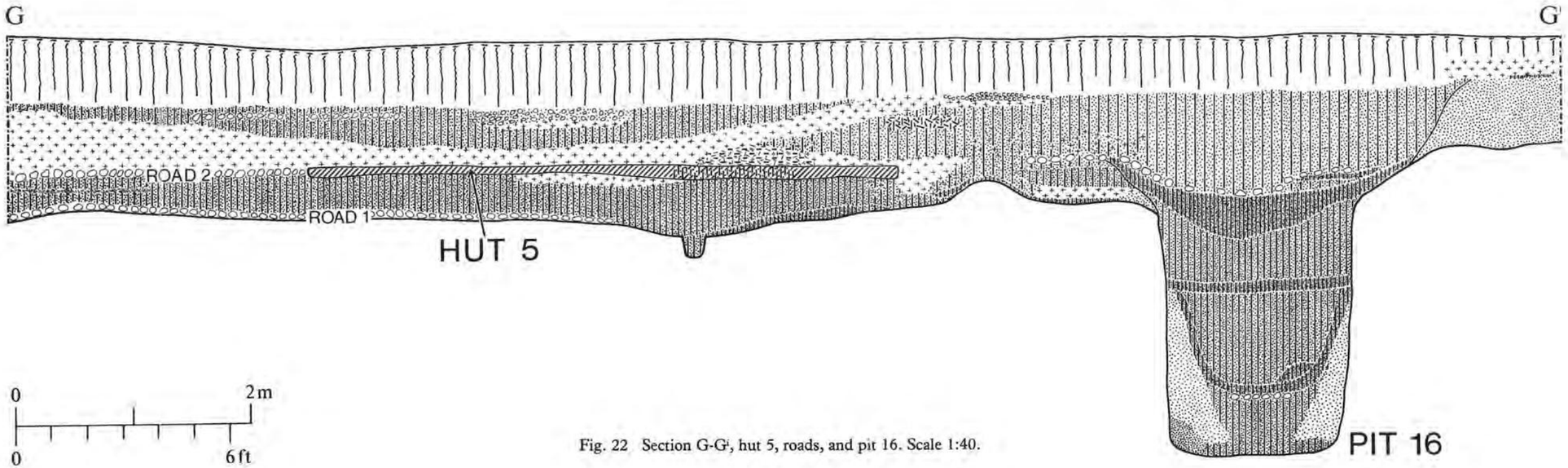


Fig. 22 Section G-G', hut 5, roads, and pit 16. Scale 1:40.

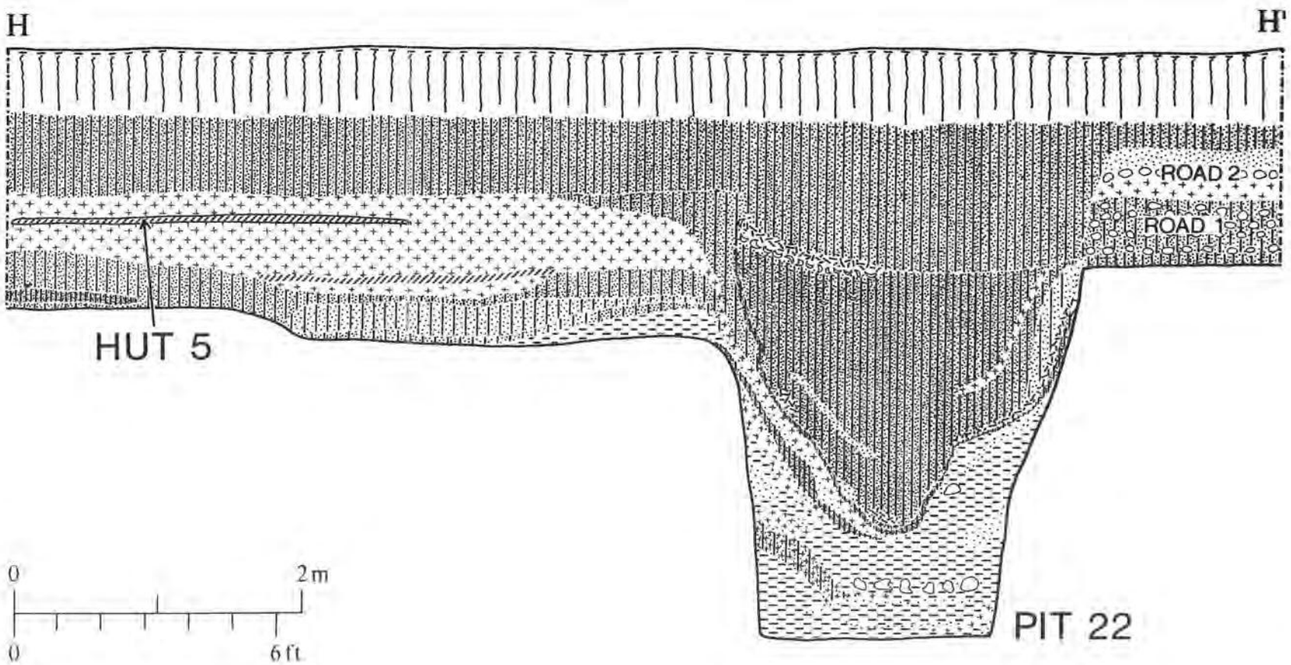


Fig. 23 Section H-H', hut 5, roads, and pit 22. Scale 1:40.

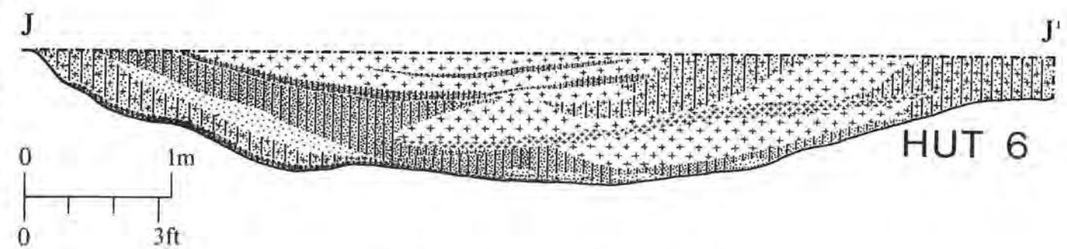


Fig. 24 Section J-J', hut 6. Scale 1:40.

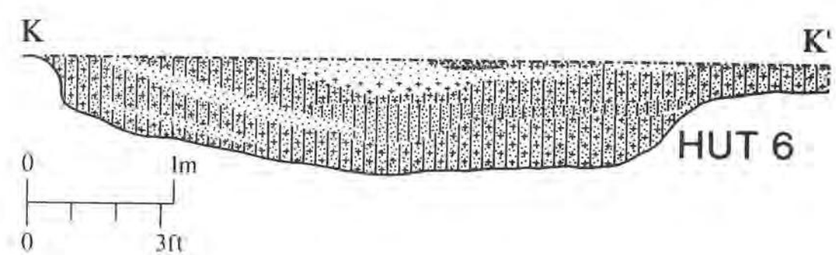


Fig. 25 Section K-K', hut 6. Scale 1:40.

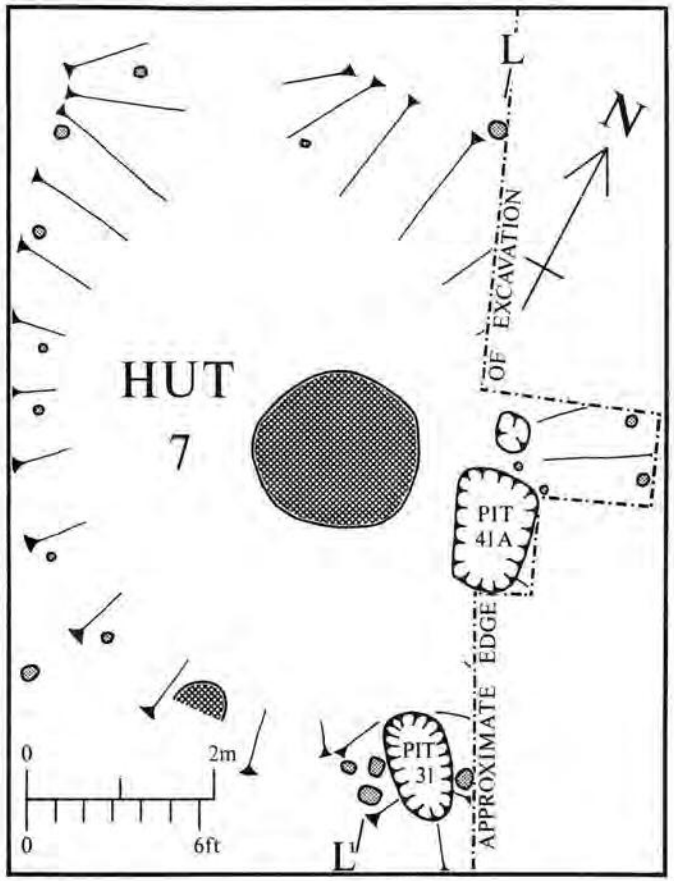


Fig. 26 Plan hut 7. Scale 1:125.

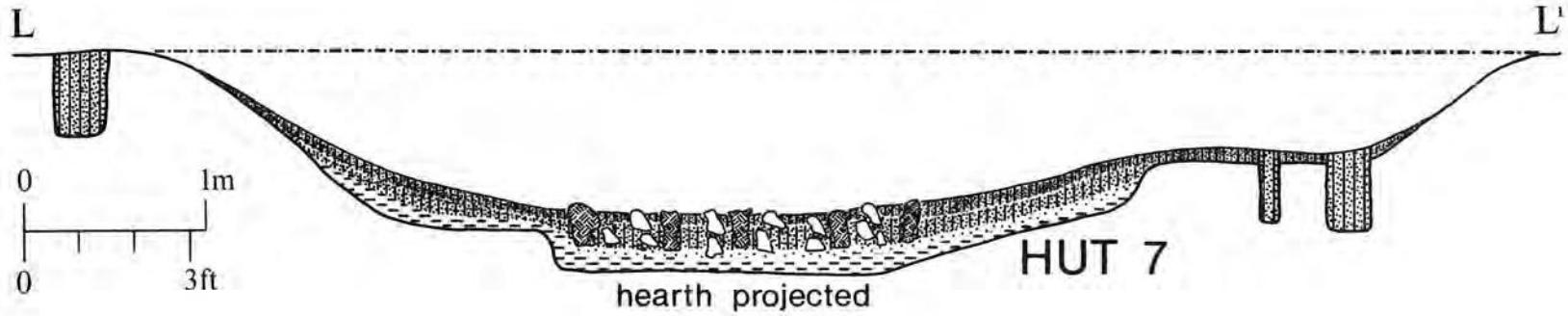


Fig. 27 Section L-L', hut 7. Scale 1:40.

Description

The Huts

H5—(Sect. G-G', Fig. 22, and Sect. H-H', Fig. 23). Immediately W of *R*1 several disturbed human bones (p.186) 'scratched into natural' (not on Fig. 21); bones and *R*1 sealed by dark brown soil below ash; ash and soil covered by floor of burnt silty material (soil sample p.194); part of *R*2 cut away to receive floor; odd-shaped hearth probably associated with floor and rebuilt at higher level; *R*2 and floor sealed by ash; at least one post-hole sealed by floor and two cutting it; hearths to W and S-W.

Pottery Below floor: 1 ST (A5, 900-1050), 28 SN, 390 TH, 1 Rhenish blue-grey.
Above floor: 2 ST (M5, A5, 1A5, 900-1050), 2 EM, 2 THS, 523 TH.

Small finds Below floor: bone comb (Fig. 186, No. 3). On floor: iron nail. General area: lead rod (Fig. 114, No. 71). Iron; chisel (Fig. 115, No. 6), five knives (Fig. 124, Nos. 74 and 87 and Fig. 125, Nos. 90, 99 and 100), arrowhead (Fig. 144, No. 296), staple (Fig. 127, No. 125), staples (not illus. nos. 116c and 127a), buckle (Fig. 137, No. 244), two heckle teeth, four nails. Three crucibles (bags 201, 257A and B, Table 3); two hones (lost); chalk spindle-whorl (Fig. 148, No. 2), chalk mould (Fig. 149, No. 2). Bone; needle (Fig. 189, No. 31), handle (Fig. 201, No. 111), two double-ended implements (Fig. 191, Nos. 49 and 51), spindle-whorl (lost). Topsoil above: Iron; spade iron (Fig. 121, No. 45), hook (Fig. 133, No. 199), staple, nail. Crucible (bag 83, Table 3); bone spindle-whorl (Fig. 194, No. 71), two others (lost).

H6—(Sect. J-J', Fig. 24, and Sect. K-K', Fig. 25). Oval feature; *c.*35ft (10.7m) by *c.*23ft (7m); dug *c.*3ft (0.9m) below natural; filled with layers of ash, sand and brown soil; feature cut by *P*32 and sealed by layers of soil and ash incorporating two hearths, four post-holes, and three ?slots; slots and post-holes along W edge possibly sealed by *R*1; slot and post-holes to N-W sealed by *R*2 thought to be 'western extension' of hut; post-holes to S (near *P*63) thought to be 'porch'; evidence of stratification in this area unsatisfactory.

Pottery Filling of sunken feature: 1 ST (A5, 950-1050), 29 SN, 348 TH. Above 1.45m below the ground surface: 200 sherds include all groups although predominantly TH, as well as ST dateable to *c.*1020-1060. More than 1000 sherds from north-west of sunken feature include groups of wasters and mis-fired sherds from storage jars and cooking pots of common types at the higher depth.

Small finds Filling of sunken feature: bone; double-ended implement (Fig. 191, No. 50), needle, skate (Fig. 195, No. 78).
Above sunken feature in general area: copper alloy; three unfinished hooks (Fig. 111, Nos. 34-6), another (not illus., no. 39g), hook (Fig. 111, No. 33), strip (Fig. 114, No. 64), sheet fragments. Iron; trowel (Fig. 118, No. 19), two heckle teeth (Fig. 119, Nos. 25 and 29), nine others, ferrule (Fig. 135, No. 217), two knives (Fig. 124, Nos. 77 and 86), two knives (not illus., nos. 78e and 103b), two staples (Fig. 127, Nos. 114 and 121), wallhook (Fig. 128, No. 135), sheet (Fig. 136, No. 234), ?padlock bolt rod (Fig. 131, No. 172), key (Fig. 132, No. 185), buckle (Fig. 137, No. 239), horseshoe (Fig. 142, No. 288), another, bar, strip and sheet fragments, eighteen nails. Two hones (Fig. 146, Nos. 8 and 9), three others (lost); unfinished shale spindle-whorl (Fig. 148, No. 3). Bone; handle (Fig. 201, No. 110), double-ended implement (Fig. 191, No. 48), fragment of RB *tegula*. Topsoil above: copper alloy sheet with iron rivets (Fig. 114, No. 65), iron key (not illus., no. 192b); bone pin (Fig. 190, No. 43).

H7—(Fig. 26, and Sect. L-L', Fig. 27). Oval feature; *c.*27ft (8.2m) by probably 23ft (7m); dug 4ft (1.2m) below natural; possible entrance to N-W; vertical post-holes at N-W and S-E ends; at least two on S-W side set at 45°-60° to horizontal; one contained birch charcoal, soil sample from one post-hole p.194; primary filling of sticky soil below black peaty layer especially in S (soil sample, p.194, suggests decayed rush or hurdle flooring); central hearth of stones and burnt clay and another hearth near S edge; upper filling dark brown soil, ash and sand; *P*31 and 41A thought to be contemporary with hut, but evidence uncertain; *R*1

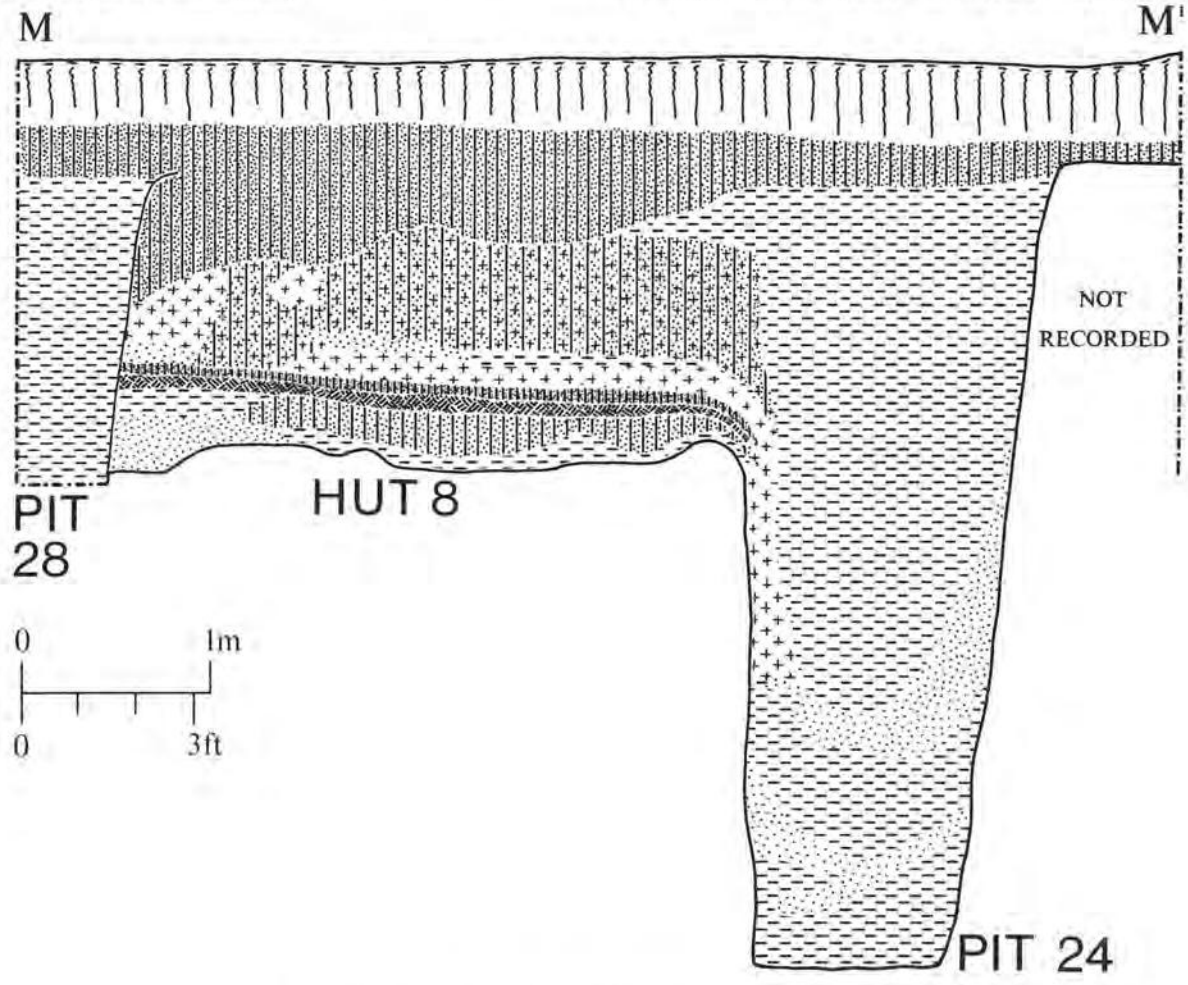


Fig. 28 Section M-M', hut 8, pits 24 and 28. Scale 1:40.

and 2 avoiding hut, but one post-hole thought to be sealed by *R*1;*R*3 thought to run over backfilled hut, but recorded evidence insufficient. An unrecorded disturbance is indicated by a late medieval knife found in the filling of the sunken feature.

Pottery Filling of sunken feature: 4 SN, 203 TH. Material from above includes THS.

Small finds Central hearth: bone tubular object (Fig. 194, No. 64). Filling of sunken feature: Lead; weight (Fig. 113, No. 61), off-cut (Fig. 114, No. 70). Iron; late medieval knife (Fig. 125, No. 104), four nails.
Above sunken feature: Iron; chisel (Fig. 115, No. 7), ferrule (Fig. 135, No. 219), two knives (Fig. 122, Nos. 49 and 53), heckle tooth. Two bone spindle-whorls. Topsoil above: hone (Fig. 146, No. 7).

***H*8**—(Sect. M-M', Fig. 28, Sect. N-N', Fig. 29 and Fig. 30). General area S-E of *H*5 and 11: several post-holes, including two probably stone-packed, cut into natural; rectangular 22ft (6.7m) by 16ft (4.9m) burnt clay floor; associated rectangular hearth with four planks of carbonised birch set into chalk overlying burnt clay and flints; cut by three stake-holes and large rectangular post-hole; W of floor, 'midden' of dark soil with concentrations of animal bones, lying on natural; floor contemporary with or earlier than *R*2 and partly sealing *P*26; cut by *P*24 and 28.

Pottery Within or below clay floor: 1 SN, 132 TH. Layers above floor and deeper than 1.2m below ground surface: 6 ST (2-35 AO, 19-01 AO, 1 AO, 3 AI, 950-1100), 13 EM, 40 SN, 290 TH.

Small finds Below clay floor: iron knife (Fig. 123, No. 54). Bone; double-ended implement (Fig. 191, No. 52), tubular object (Fig. 194, No. 67). Midden: iron hooked fastener (Fig. 111, No. 40) and nail, ring, sheet and wire fragments; bone spoon (Fig. 198, No. 90).
Above floor: iron; heckle tooth (Fig. 119, No. 22), three others, knife (Fig. 122, No. 52), two others, wallhook (Fig. 128, No. 134), ring (Fig. 134, No. 210), hinge (Fig. 129, No. 146), buckle (Fig. 137, No. 237); four hones; bone tubular object (Fig. 194, No. 65). Topsoil above: iron knife (not illus., No. 83a).

***H*9**—(Sect. P-P', Fig. 31 and Sect. Q-Q', Fig. 32). General area S-E of *H*8; 9in (23cm) deep N-E to S-W step cut into natural thought to form N-W edge of shallow feature; 'completely irregular and the E and W edges and boundaries could not be defined' (not on Fig. 21); step considered to stretch from *P*45 to *P*39/40, and hut thought to extend S-E to *P*54; within hut, between *P*45 and 50, W part of flat-based rectangular feature 20ft (6.1m) N-W to S-E, dug *c*.5ft (1.5m) into natural, numbered *H*9A; thin layer of 'burnt thatch' close to base cut by *P*47; not on Fig. 21; apart from four post-holes, no structural evidence recorded and no floor.

Pottery No distinction between *H*9 and *H*9A. Below 1.83m: 11 SN and 394 TH. Immediately above 1.83m depth: 2 EM, and EM becoming more frequent with decreasing depth as elsewhere.

Small finds Immediately above natural W of *P*45: Ethelred II cut farthing (Fig. 108, No. 5). Layers in general area: copper alloy strip (Fig. 114, No. 67). Iron; awl (Fig. 120, No. 37), two knives (Fig. 125, No. 95 and Fig. 123, No. 59), four knives (not illus. nos. 58b and c, 70c, 96b), spur (Fig. 141, No. 276), ?post-medieval bowl (Fig. 135, No. 222), two heckle teeth, two nails. Crucible (bag 324, Table 3); two hones. Topsoil above: copper alloy buckle and plate (Fig. 110, No. 26), iron knife.

***H*10**—SE of *H*7; 'stains of a plank' 3ft (0.9m) long, and 9in (23cm) wide, and five post-holes, including two 9in (23cm) square and 1ft 6in (0.5m) deep, cut into natural and sealed by *R*1; no section evidence recorded.

Pottery None in post-holes, but 7 TH below *R*1 in this area.

***H*11**—Irregular burnt clay surface set 2ft (0.6m) below natural; cut by double curving line of stake holes; sealing layer of sand over 'burnt black material'; cut by *P*22; no evidence of continuation of surface in E edge of *P*22; this feature presumably pit with secondary wicker lining(s) rather than structure.

Pottery None attributed to in, below, or over clay surface. Lowest layers in area produced *c*.200 TH.

***H*12**—(Fig.33, and Sect. R-R', Fig. 34). Complex of post-holes sealed by *R*1; uncertain relationship with Site 1 ditches; no associated floor or hearth, but layer of brown soil or sand and soil beneath *R*1; two post-holes SE of *HT*1 (site 1) thought to be associated; W to E female inhumation in shallow grave cut in natural; uncertain number of stake-holes (not on Fig. 33) surrounding burial (p.186).

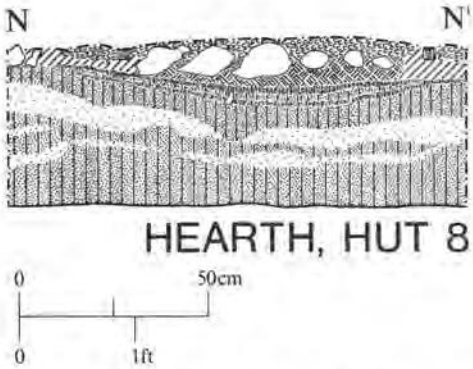


Fig. 29 Section N-N', hut 8 hearth. Scale 1:20.

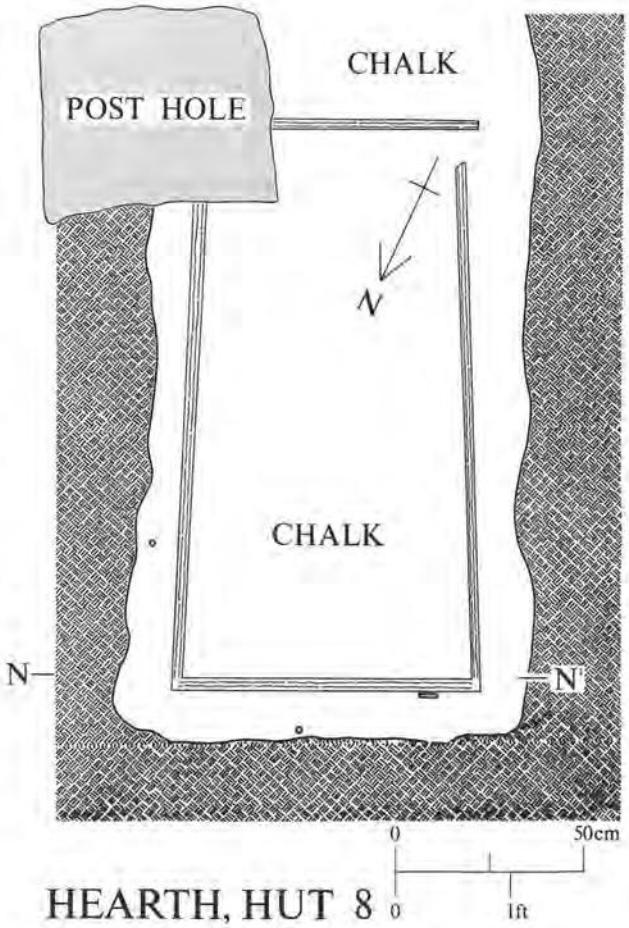


Fig. 30 Plan hut 8 hearth. Scale 1:20.

Pottery None from post-holes but from 'sand and soil' beneath *R*1, 3 ST(M25 A1 2AI, 900-1150) and 19 TH.

***H*13**—(Fig. 33, and Sect. R-R', Fig. 34). Two superimposed floors with associated post-holes; lower floor of 'chalk and burnt material' sealing layer of brown soil and sand above natural; this floor shown as dark soil in section; upper floor of burnt clay with roughly central hearth raised 1ft (0.3m) above floor; width of upper floor in section not tallying with bow-sided rectangle shown in plan; field plan showing burnt clay rectangle, but shape possibly representing lower floor; projection at SE end thought to be entrance; post-holes probably associated with lower floor; *R*2 apparently overlapping lower floor; floors probably sealed *P*59; uncertain relationship with *P*60. Provisional sequence: lower floor

contemporary with *R*1, upper floor contemporary with but probably continuing later than *R*2.

Pottery Earliest bags '*H*13, level of *R*1 to natural' do not mention lower floor and contain 39 TH. No other bags refer to lower floor and all are described as 'burnt clay' or 'clay floor and below'. This probably refers to upper floor. They contain 9 ST (4A1, 2A5 & 3G6, latest 1020-1080), 2 ?EM, 5 SN and 273 TH.

Small finds Because they were given specific depth measurements and greater description of provenance, slightly more certainty prevails with the small finds. Above lower floor: iron; awl (Fig. 120, No. 36), knife (Fig. 125, No. 97), binding strip (Fig. 130, No. 156), sheet (Fig. 136, No. 233), heckle tooth. Within upper floor: copper alloy finger or ear-ring (Fig. 110, No. 19). Iron; adze (Fig. 117, No. 11), knife (not illus. No. 58d), heckle tooth, nail, horseshoe (Fig. 142, No. 281). Bone; comb (Fig. 186, No. 5), double-ended implement (Fig. 192, No. 53), needle (Fig. 189, No. 34). Above upper floor: Iron; stoneworker's punch (Fig. 118, No. 18), awl (Fig. 120, No. 38), knife (Fig. 124, No. 75), three others (not illus. Nos. 95b, 90a and 95a), hasp (Fig. 131, No. 165), buckle (Fig. 137, No. 236), spur (Fig. 140, No. 270), horseshoe, five heckle teeth, nail. Glass linen-smoother (lost, p.116); two hones (Fig. 146, Nos. 17 and 18), three others (lost). Bone; spindle-whorl, tubular object (Fig. 194, No. 68).

***H*14**—(Fig. 47). General area between hut 9 and SE end of excavation; clay floor (not on Fig. 21) of uncertain extent above layers of soil and ash; sealing *P*55A and 56; cut by *P*49, 49A and 55; much of area cut 3-4ft (0.9-1.2m) below natural.

Pottery None specifically below floor. Bags from 'floor and below' contain 8 SN and 405 TH. Similar depth without mention of floor 11 SN and 532 TH.

Small finds General area: iron; knife (Fig. 123, No. 71), another (not illus. No. 58a), sword pommel (Fig. 144, No. 304), late medieval or later lock hasp (Fig. 131, No. 173), horseshoe, four heckle teeth, three nails, strip fragments. Crucible (bag 568, Table 3); two hones (Fig. 146, Nos. 14 and 15), one other (lost). Glass; bead (Fig. 151, No. 1), fragment (lost, p. 116). Pottery spindle-whorl (Fig. 152, No. 3). Bone; comb-tooth segment, three spindle-whorls, ox horn core with sawn-off distal and knife-trimmed proximal end.

The Roads

(Sect. G-G', Fig. 22; H-H', Fig. 23; P-P', Fig. 31; R-R', Fig. 34; S-S', Fig. 35; T-T', Fig. 36; U-U', Fig. 37; V-V', Fig. 38; W-W', Fig. 39). Three superimposed road surfaces, constructed of flint nodules and cobbles ran NW to SE across the site for a distance of *c.*80m.

*R*1 lay directly on natural over most of the excavated area, and was rarely more than 6in (0.15m) thick. SW of *H*6 it averaged 22ft (6.7m) wide, but further SE narrowed to 11ft (3.4m). It sealed some features: post-holes, slot and associated soil of *H*10, post-holes and soil of *H*12, *P*53 and *P*63. It was thought to overlap W edge of W ditch, Site 1, but section evidence is uncertain. In several places *R*1 merged with *R*2 but over most of site intervening soil was 1-2ft (0.3-0.6m) thick. No structural features recorded between *R*1 and *R*2 except dubious post-holes and slots thought to be W extension of *H*6; *P*17 cut *R*1.

*R*2 was more solidly constructed, averaging 6in (0.15m) thick and 11ft (3.4m) wide. It was covered by soil between 9in (0.23m) and 1ft 6in (0.5m) thick. Part of its SW edge was removed and replaced by the floor of *H*5, but otherwise it was continuous, except where cut by *P*22-4, and 36-7.

*R*3, 'a thin ill-made layer of flints' followed the same course as *R*1 and 2 except where it ran across *H*7. Its predecessors had diverted to avoid this feature. Because of uncertainties in plans and sections, *R*3 is not shown overlying *H*7 in Fig. 21, but the excavator was certain that it did, as the note-book makes clear. SE of *H*7 its width averaged 10ft (3m) while alongside *H*6 it broadened to 19ft (5.8m). It lay immediately below the topsoil at a depth of 1-2ft (0.3-0.6m). The likelihood of disturbance explained its apparently poor construction and its absence in some recorded sections. *R*3 was cut by *P*36 and 37.

Five sections across *R*1-3 were recorded and thirteen others impinged upon them to some extent. Some sections are quite detailed, but the field plans are vague so that it is often uncertain which road has been outlined. As a result Fig. 21 shows only the general line of all three, and does not attempt to distinguish between their various widths at different points. The continuation of *R*1-3 along the W side of Site 2N is described below (p. 33, Sect. DD-DD', Fig. 57).

Pottery Below *R*1 (excluding material assigned to *H*10 and 12): 1? EM and 60 TH. Below *R*2:1 HM, 3 EM, 2 ST (A1, A4 900-1030), 3 SN, 232 TH. Below *R*3: 10 EM, 3 ST (A0, A4, A5 900-1030), 9 SN, 244 TH. Probably below *R*3: 2 EM, 26 SN, 71 TH. Dating evidence for the road sequence is somewhat uncertain, but the few known relationships along with the ceramic evidence enable tentative dates to be suggested (these are later than those put forward by Knocker). *R*1 was not a primary feature (later than *H*10, *H*12 and probably *H*7). The ?EM sherd from below it is too tiny for certain identification. The 'St. Edmund Memorial' penny from above it may have been residual. *R*2 was cut by *P*22 and 23 which were later than A.D. 1020. If the eleventh-century material beneath *R*2 was genuinely in context the HM sherd must be intrusive. This would not give a long period of usage, because *R*3 was cut by *P*36 and 37, both containing mid-to-late eleventh-century ST. However, resurfacing towards the end of the life of *R*2 may have introduced contemporary material. The tentative dates for the periods of use are as follows: *R*1*c.*925/950-950/975; *R*2 950/975-1020; *R*3 1020-1070.

Small finds Below *R*1, W of *H*6: copper alloy sheet fragments. Iron; knife (Fig. 125, No. 93), and two nails. Flint scraper. Make-up of *R*1, NW of *P*29: copper alloy pin (Fig. 112, No. 46); lead lump; iron heckle tooth, nail, sheet and bar fragments; glass fragments; flint flake. Make-up of *R*1, S of *H*7: bone needle. Below *R*2 NW of *P*29: 'St. Edmund Memorial' penny (Fig. 108, No. 3); copper alloy sheet fragments; iron horseshoe and nails (Fig. 142, No. 279), three iron nails. Below *R*2 W of *H*6: silver brooch pin (Fig. 109, No. 10); iron heckle tooth, knife (not illus., No. 94a), three nails, bar fragments, horseshoe; bone tubular object (Fig. 194, No. 66); sawn red deer tine. Below *R*2, S of *H*7: iron nail. Below *R*2, N of *H*12: iron knife (Fig. 125, No. 101); bone mount (Fig. 200, No. 106). Make-up of *R*2, area of *H*12: iron horseshoe (Fig. 142, No. 282); bone pin (Fig. 190, No. 44). Below *R*3, NW of *P*29: iron ring (Fig. 134, No. 211), iron sheet; hone (Fig. 146, No. 6). Below *R*3, W of *H*6: iron; ferrule (Fig. 135, No. 216), staple (Fig. 127, No. 123), three heckle teeth, five nails, strip fragments. Three hones (lost). Below *R*3, S of *H*7; iron knife (not illus., No. 78f), nail. Below *R*3, N of *H*12: iron key (Fig. 132, No. 187). Below *R*3, area of *H*12: iron post-medieval fork, nail; bone needle (Fig. 189, No. 35), bone skate (Fig. 195, No. 79). Make-up of *R*3, W of *H*6: iron; bridle side link (Fig. 138, No. 261), key (Fig. 132, No. 188), two horseshoes (Fig. 143, Nos. 292 and 293), four others, five heckle teeth, three knives, four nails, bar fragment. Two hones (lost); stone spindle-whorl (Fig. 148, No. 4); flint core or scraper (Fig. 150, No. 2). Bone; handle (Fig. 201, No. 112), needle, strip. Make-up of *R*3, S of *H*7: iron knife (not illus., No. 78b); flint axe (Fig. 150, No. 4). Make-up of *R*3, area of *H*12: iron nail, strip fragment; three hones (lost).

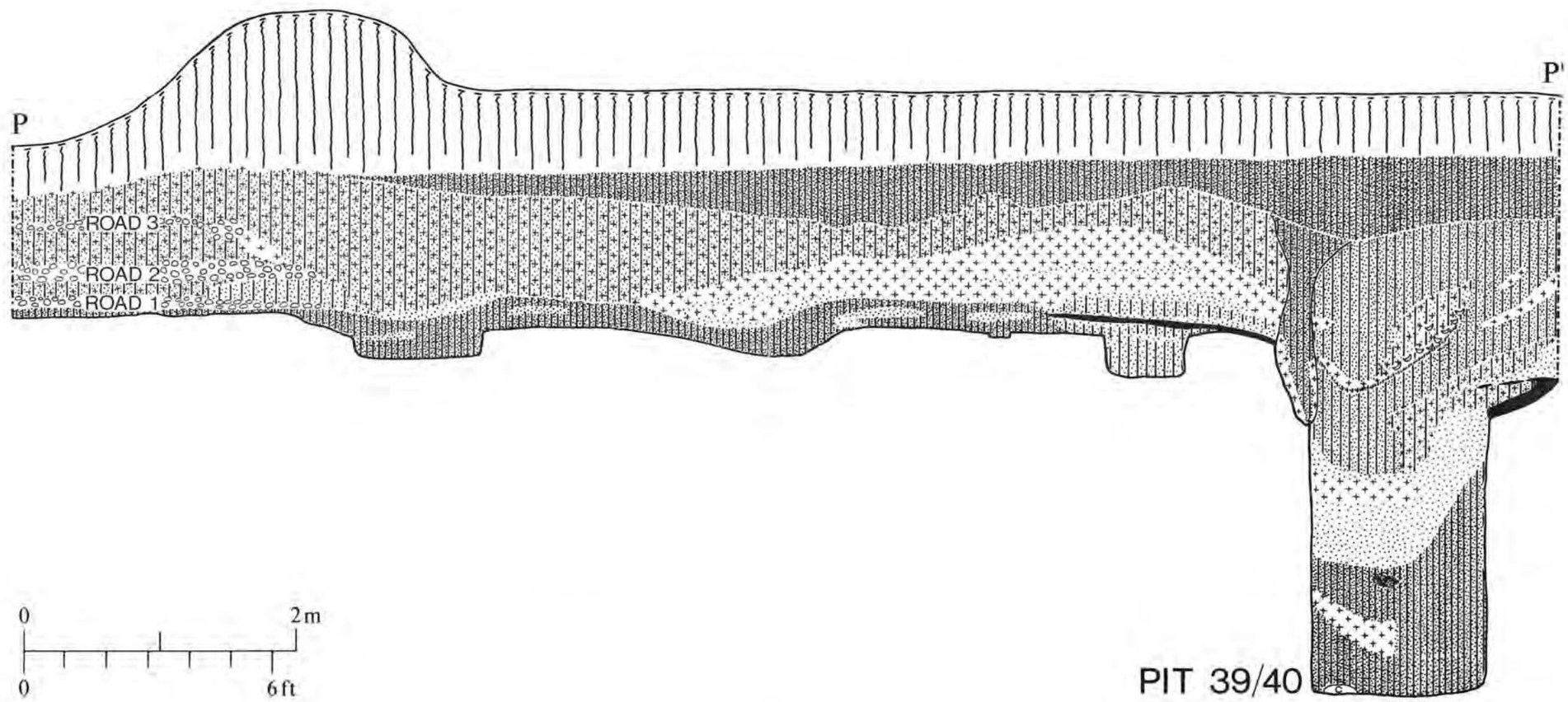


Fig. 31 Section P-P', road, pit 39/40. Scale 1:40.

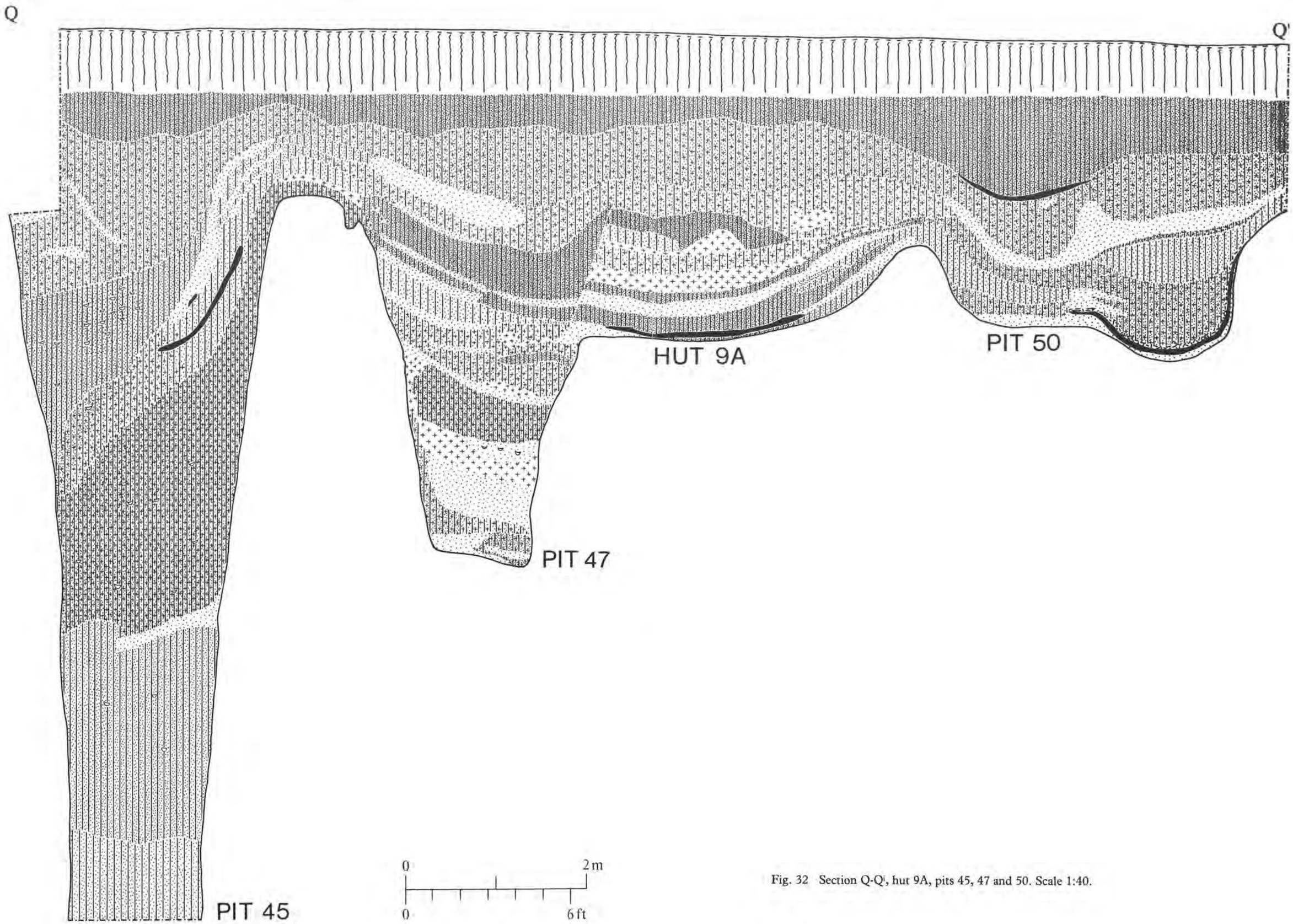


Fig. 32 Section Q-Q', hut 9A, pits 45, 47 and 50. Scale 1:40.

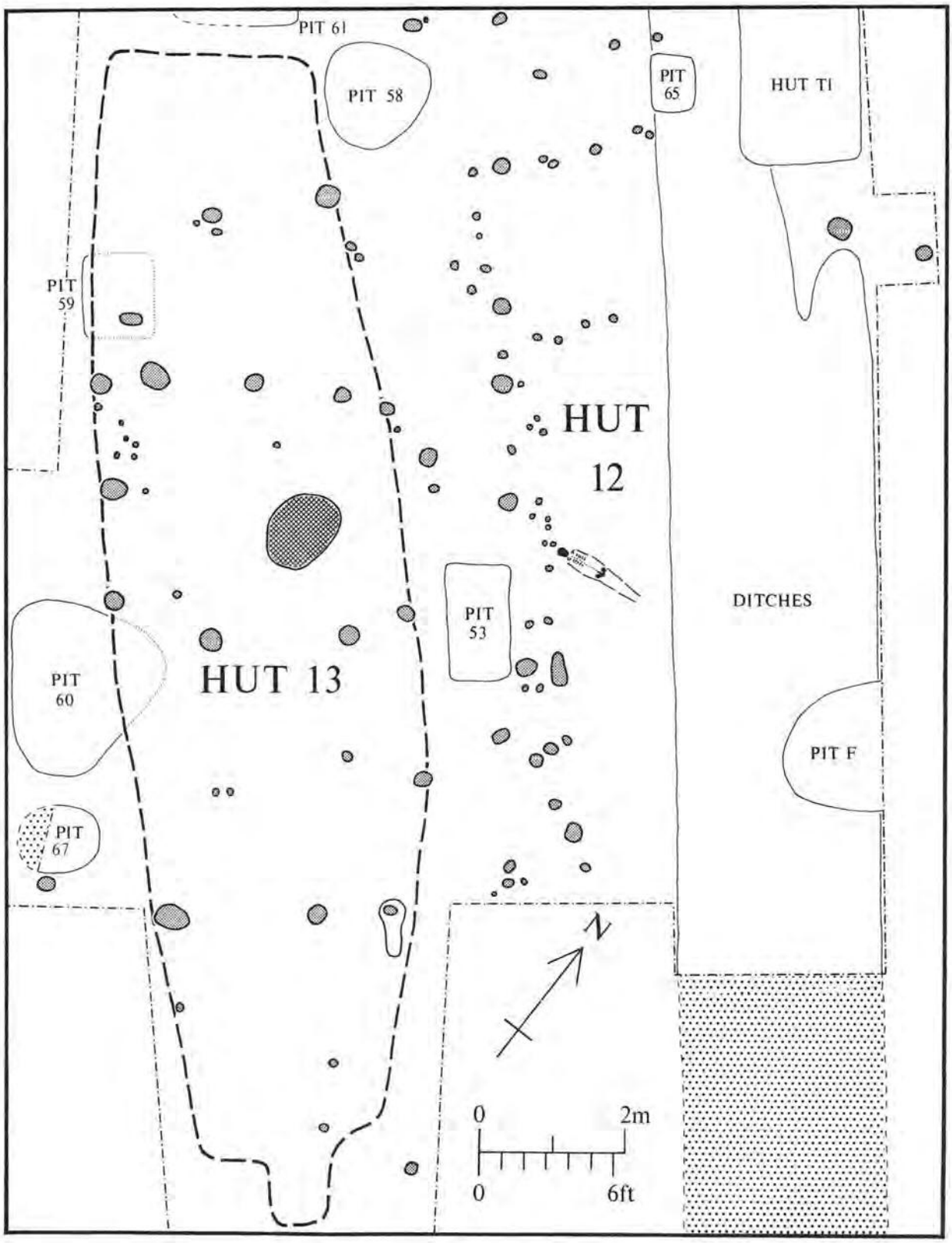


Fig. 33 Plan huts 12 and 13. Scale 1:125.

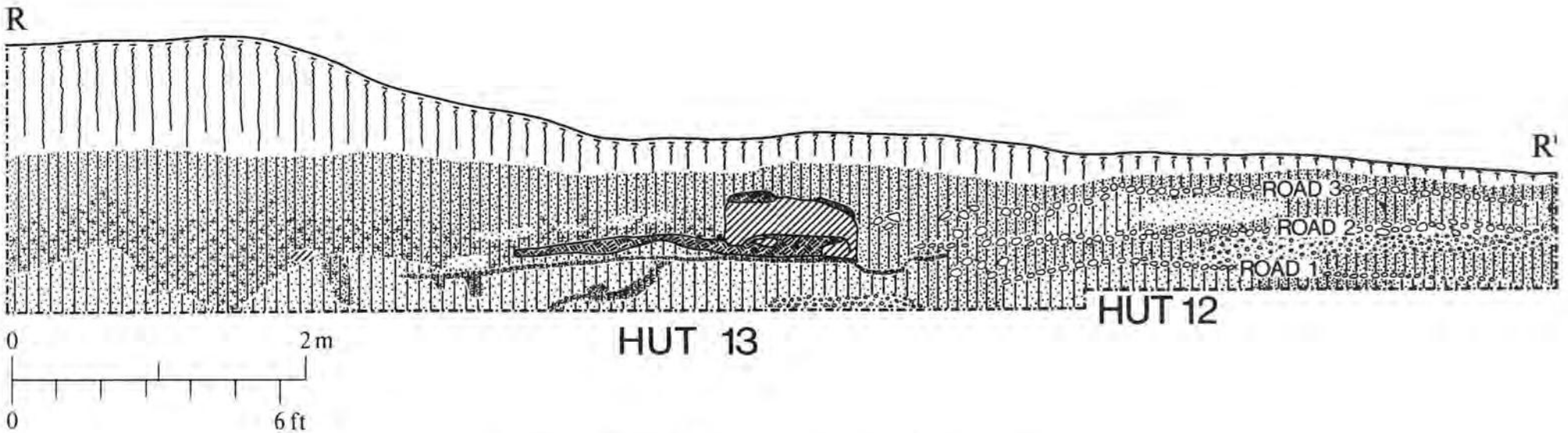


Fig. 34 Section R-R', huts 12 and 13 and roads. Scale 1:40.

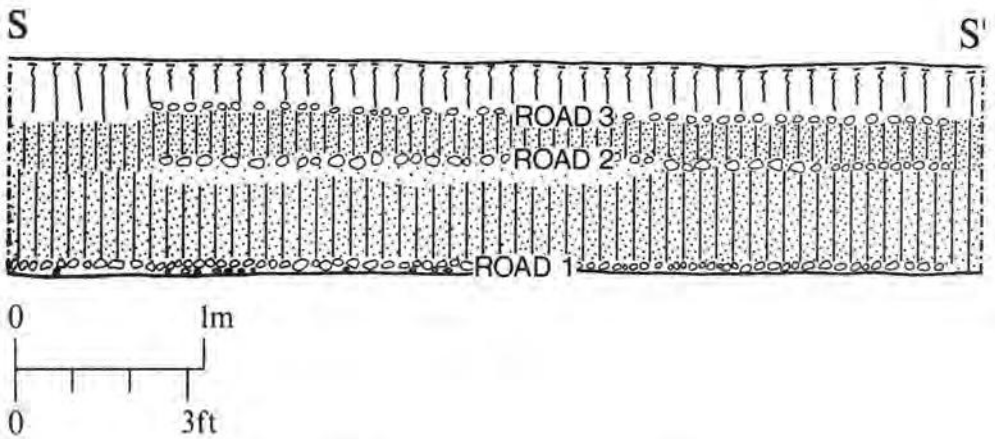


Fig. 35 Section S-S', roads. Scale 1:40.

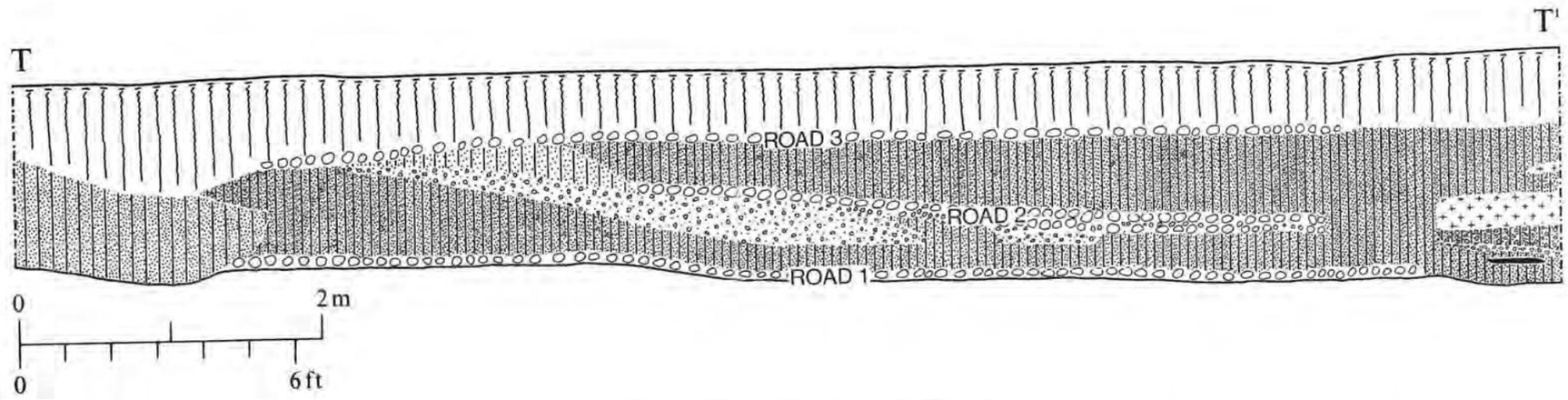


Fig. 36 Section T-T', roads. Scale 1:40.

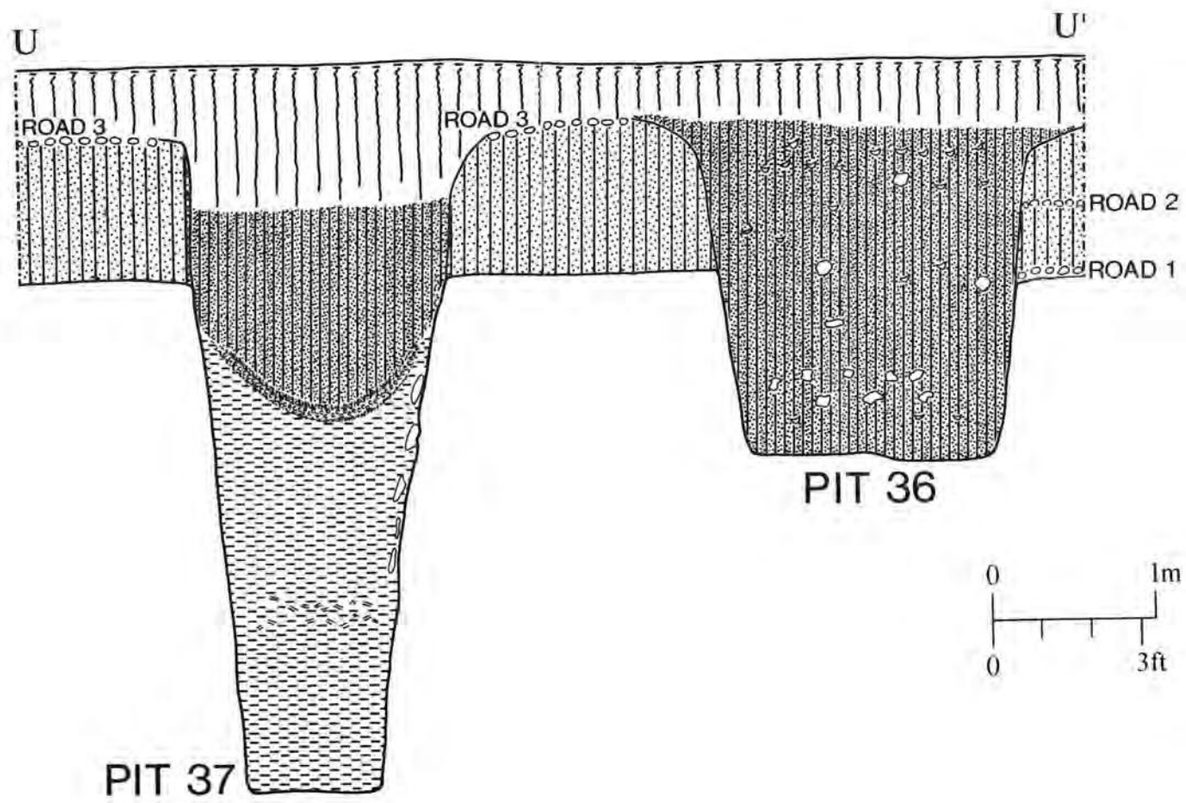


Fig. 37 Section U-U', roads, pits 36 and 37. Scale 1:40.

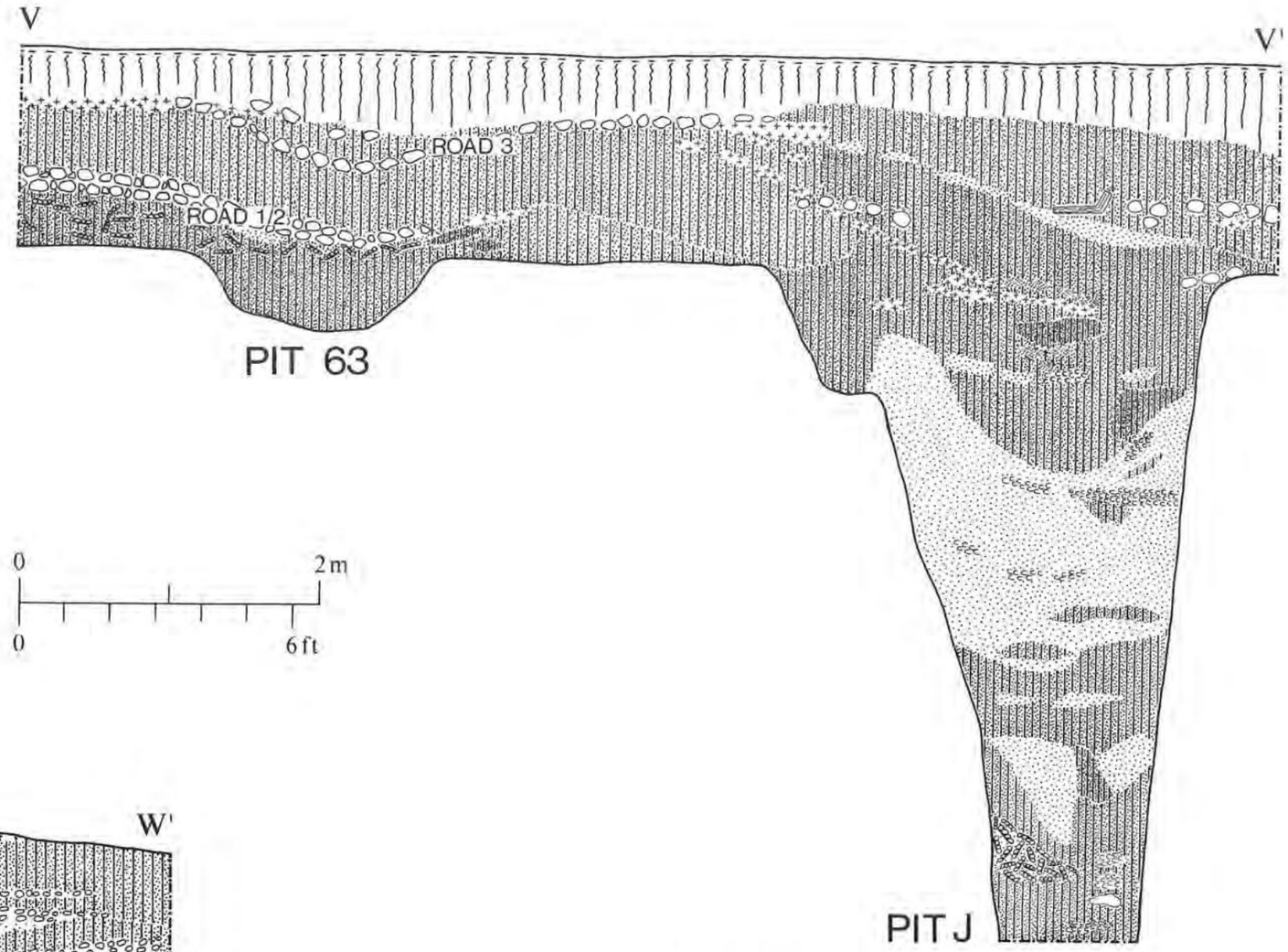


Fig. 38 Section V-V', roads, pits J and 63. Scale 1:40.

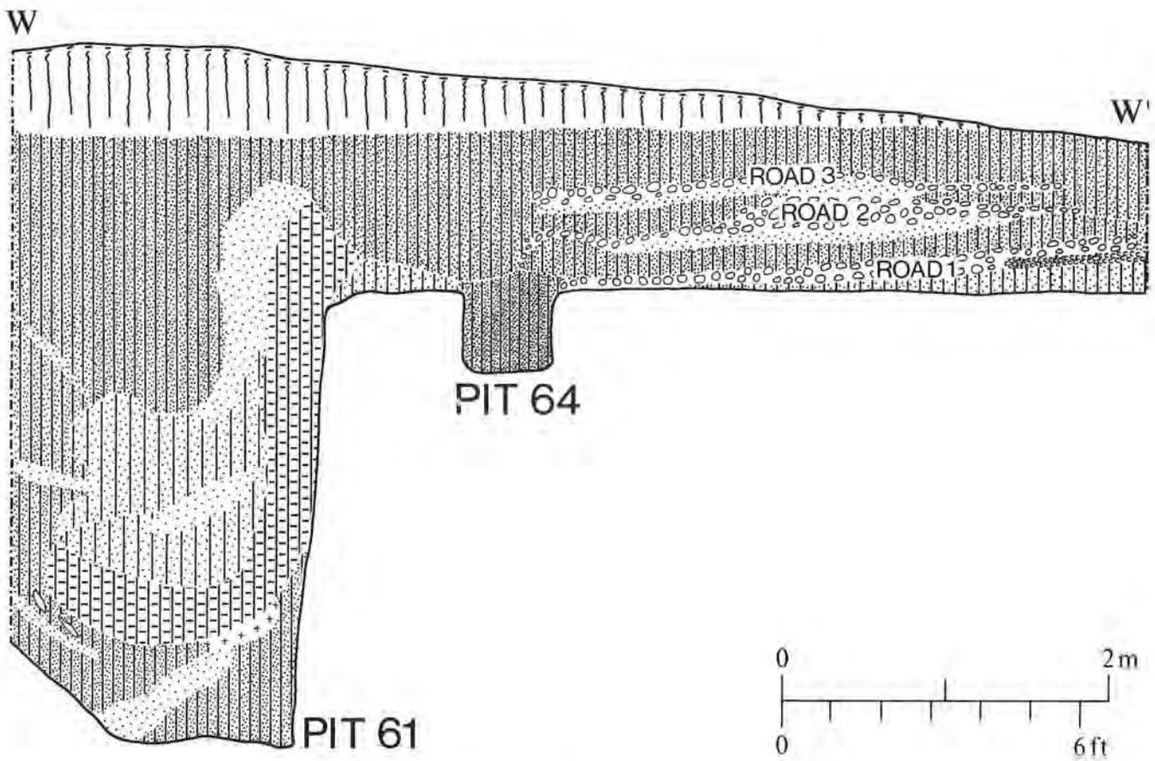


Fig. 39 Section W-W', roads, pits 61 and 64. Scale 1:40.

The Pits

PJ—(Sect. V-V[1], Fig. 38; N of *H7*). Roughly circular; diam. *c.*8ft (2.4m); excavated to 15ft 6in (4.7m) below natural; 'probed' 6ft (1.8m) deeper; soil sample from upper filling p.195; overlain by hearth and cut by post-hole; wood fragment in upper filling; soil above contained 'copper slag'.

Pottery 26 SN, 356 TH. Soil above included 2 ST (A0, A5 900-1050) ('Pit J down to 6ft').

Small finds Copper alloy hook (Fig. 111, No. 38). Iron; binding strip (Fig. 130, No. 158), eight heckle teeth, nail. Hone (Fig. 146, No. 4). Layers above: iron; punch (Fig. 116, No. 8), knife (Fig. 123, No. 72), four nails. Hone (Fig. 146, No. 3), another (lost); antler tine (Fig. 199, No. 97).

P14—(Fig. 40; NW of *H5*). Roughly circular; diam. *c.*5ft (1.5m); dug 7ft (2.1m) below natural; cut by *P15* and post-hole.

Pottery 1 ST (A5 900-1050), 5 EM, 1THS, 8 SN, 38 TH.

Small finds Copper alloy sheet object (Fig. 114, No. 63); iron shears (Fig. 126, No. 113); bone needle (Fig. 189, No. 30).

P15—(NW of *H5*). Oval; 4ft (1.2m) by 2ft 6in (0.8m); dug 6ft (1.8m) below natural; filled with dark soil; cutting *P14*.

Pottery 10 TH

Small finds Layers above: two iron heckle teeth, nail; hone (Fig. 146, No. 9).

P16—(Sect. G-G[1], Fig. 22; NW of *H5*). Roughly oval; 7ft 6in (2.3m) deep; possible secondary pit lined with 'one inch thick wooden boards down the sides and wattle twigs' (oak and hazel charcoal); cut by *P25* (probably represented in section by upper dark soil with burning).

Pottery 1 ST (A5, 900-1050), 1 EM, 15 SN, 90 TH.

Small finds Iron nail; bone spoon (Fig. 198, No. 88); sawn ox horn core.

P17—(N of *H5*). Roughly circular; diam. *c.*4 ft (1.2m); dug 6ft (1.8m) below natural; lower filling of loose 'chocolate' soil below light brown soil; upper filling of 'chocolate' soil with flints and shells; cutting *R1*; *R2* slumped into pit and covered by upper filling; finds not differentiated.

Pottery 5 ST (handle 31 G 6/6, M9 A5/5, A0, A1, A4 1020-1080), 10 EM, 11 SN, 40 TH.

Small finds Iron; lock bolt (Fig. 131, No. 177), heckle tooth, knife, three nails. Hone (lost).

P18—(SW of *H5*). Roughly circular; diam. *c.* 5ft (1.5m); dug 2ft 6in (0.8m) below natural; filled with dark soil with many animal bones and charcoal near lip below hearth; sealed by layer of black soil.

Pottery 6 SN, 100 TH.

Small finds Iron spur (Fig. 141, No. 272). Hearth above: iron shears (Fig. 126, No. 105).

P19—(SW of *H5*). Roughly circular; diam. *c.*6ft 6 in (2m); dug 8ft (2.4m) below natural, with profile of 'an odd inverted funnel shape'; filled with dark soil, ash and sand; thought to be wood-lined (oak charcoal identified); cut by post-hole; probably cutting hearth; sealed by black soil overlying *P18*.

Pottery 1 SN, 65 TH.

P20—(SW of *H5*). Roughly circular; diam. *c.*5ft (1.5m); dug 8ft 6in (2.6m) below natural; filled with dark soil with sand lenses; thought to be wicker-lined; cut by *P21*; void in filling below base of *P21*.

Pottery Mostly missing, surviving sherds SN and TH.

P21—(SW of *H5*). Roughly circular; diam. *c.*2ft 6in (0.8m); dug 4ft (1.2m) below natural; sides and base thought to be lined with 'neat wooden liner, 1in thick'; vertical marking, ?from planks, visible in photograph of pit edge; cutting *P20*.

Pottery 29 TH.

Small finds Bone strip with iron rivets.

P22—(Sect. H-H[1], Fig. 23; SE of *H5*). Irregular; averaging 8ft (2.4m) across; 11ft (3.4m) deep; thought to contain secondary lining of 'boards ½-¾in thick, set on end like barrel staves' but this layer very irregular in section; probable hearth of burnt material above shells in upper filling; soil samples from lower and upper fillings and from burnt material above claimed lining, p.195; cutting *P41*, floor of *H11* and *R2*; relationship with *R3* unknown; finds from above and below 'lining' not differentiated.

Pottery 4 ST (M16 G6, A1, A5, G6, 1020-1100), 46 EM, 14 probably EM, 1 THS, 32 SN, 264 TH.

Small finds Lead fragment; iron knife (Fig. 124, No. 89), another.

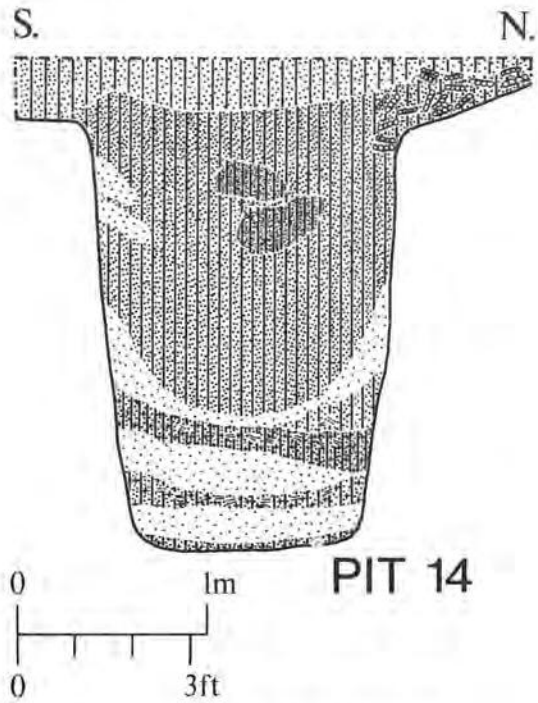


Fig. 40 Section pit 14. Scale 1:40.

P23—(E of *H8*). NW part not excavated, min. 9ft (2.7m) across; 10ft 6in (3.2m) deep; filled with 'chocolate' soil with ash below brown ashy soil with sand lenses; thought to have been redug after period of disuse; cutting *R2*; partly overlain by *R3*; uncertain relationship with ditches E of roads.

Pottery 1 Med.gl., 7 ST (1 A0, 5 A1, 1 GI 1020-1100), 2 EM, 9 SN, 525 TH.

Small finds Hone, three others (lost); flint scraper.

P24—(Sect. M-M[1], Fig. 28; *H8*). NW part not excavated; *c.*6ft (1.8m) wide; 14ft (4.3m) deep; base cut into or resting on natural chalk; lower filling of sticky soil and upper of 'chocolate' soil; cut from level of *R3* through edge of *R2* and floor of *H8*; earlier than *P28*.

Pottery Missing.

P24A—(Trial trench NE of *H7*). Uncertain shape and size; dug 9ft (2.7m) below natural; filled with dark soil.

Pottery Missing.

Small finds Bone spoon (Fig. 198, No. 89).

P25—(NW of *H5*). Circular; diam. 4ft (1.2m); *c.*5ft (1.5m) deep; filled with 'chocolate' soil and sand below dark soil; cutting *P16*; cut by post-hole. No finds except iron strip.

P26—(H8). Oval; 6ft 6in (2m) by 5ft (1.5m); 6ft (1.8m) deep; filled with ash and soil; partly sealed by clay floor of *H8*.

Pottery 1 samian, 9 ST (8 A1, 1 A4/4, group *c.*950-1050), 9 EM, 1 THS, 32 SN, 114 TH.

Small finds Iron heckle tooth; crucible (bag 230, Table 3).

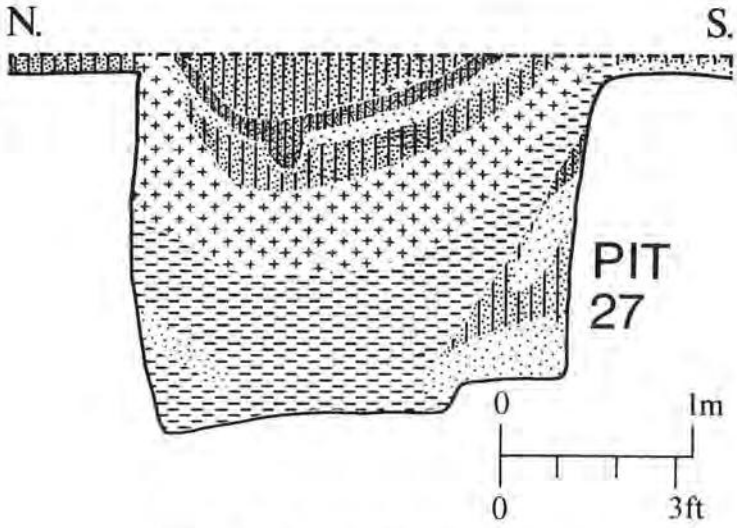


Fig. 41 Section pit 27. Scale 1:40.

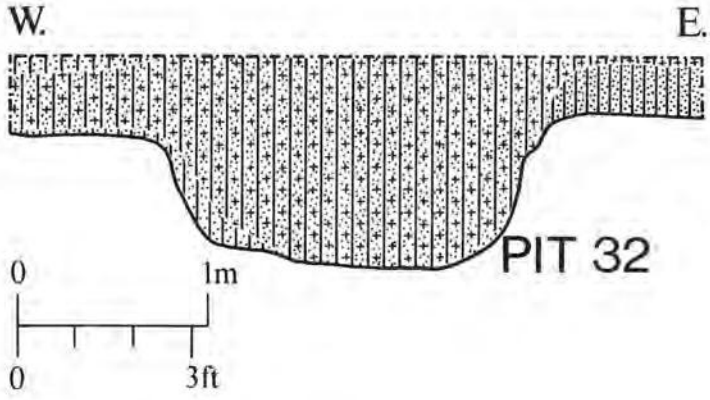


Fig. 42 Section pit 32. Scale 1:40.

P27—(Fig. 41; NW of *H6*). Irregular; *c.*8ft (2.4m) across; dug 6ft (1.8m) below natural; probably another pit to NE (not on Fig. 21); section shows recut to receive main filling of sticky soil; overlain by hearth and slot at higher level than on Fig. 41.
Pottery 7 SN, 163 TH.
Small finds Iron creaser (Fig. 120, No. 41). Hearth above: bone needle. Soil above: copper alloy plate (Fig. 114, No. 66); iron knife, nail; bone needle.

P28—(Sect. M-M[1], Fig. 28; *H8*). Rectangular; 7ft (2.1m) by 3ft 6in (1.1m); 11ft 6in (3.5m) deep; cutting *H8*; earlier than *P24*.
Pottery 1 ST (A4, 900-1050), 1 EM, 1 THS, 28 SN, 80 TH.
Small finds Iron knife.

P29—(NW of *H6*). Irregular; averaging 6ft (1.8m) across; dug 8ft 6in (2.6m) below natural; filled with sticky soil (sample p.196) below brown soil; above this, a 'hollow' containing or lined with 'wood planks' (oak or holly charcoal); gulley leading to SE (not shown on Fig. 21); pit partly overlain by hearth; cut by two post-holes.
Pottery 116 TH.
Small finds Two iron knives, ?pin fragment; pottery spindle-whorl (Fig. 152, No. 2); two bone needles (Fig. 189, Nos. 32-3).

P30—(NW of *H6*). Roughly circular; diam. *c.* 5ft (1.5m); dug 3ft 6in (1.1m) below natural; lower filling of dark brown soil below sticky soil and ash.
Pottery Probably none.

P31—(*H7*). Oval; 4ft (1.2m) by 2ft 6in (0.8m); dug 2ft (0.6m) below natural; filled with dark soil and shells near lip; thought to occupy 'recess' at SE end of *H7*.
Pottery Missing.

P32—(Fig. 42; *H6*). Irregular; averaging 6ft 6in (2m) across; dug 4ft (1.2m) below natural; cutting lower layers of *H6*; upper part not recorded.
Pottery 10 ST (handle 6 and M42 A4, handle 21 A5, M42 A1, 5 A1, 1 A4, group *c.*980-1030), 16 SN, 90 TH.
Small finds Hone (Fig. 146, No. 10); bone strip with iron rivets (Fig. 188, No. 21).

P33—(W of *H8*). Not completely excavated; probably circular; diam. *c.*4ft (1.2m); dug 10ft 6 in (3.2m) below natural; filled with dark brown sticky 'smelly' soil (sample p.196) with sand lenses below gravel capping.
Pottery 18 TH.

P33A—(N of *H6*). Not excavated; soil mark only; no finds.

P34—(W of *H8*). Irregular; *c.*4ft (1.2m) across; dug 4ft 6in (1.4m) below natural; filled with soil and burnt/unburnt sand below ash and soil.
Pottery Probably none.
Small finds Iron bridle mouthpiece link (Fig. 138, No. 256).

P35—(W of *H8*). SW part not excavated; min. 5ft (1.5m) across; dug min. 6ft (1.8m) below natural; filled with dark soil and some burnt daub.
Pottery 3 SN, 33 TH.
Small finds Iron bar; two hones. Above pit: crucible (bag 285, Table 3).

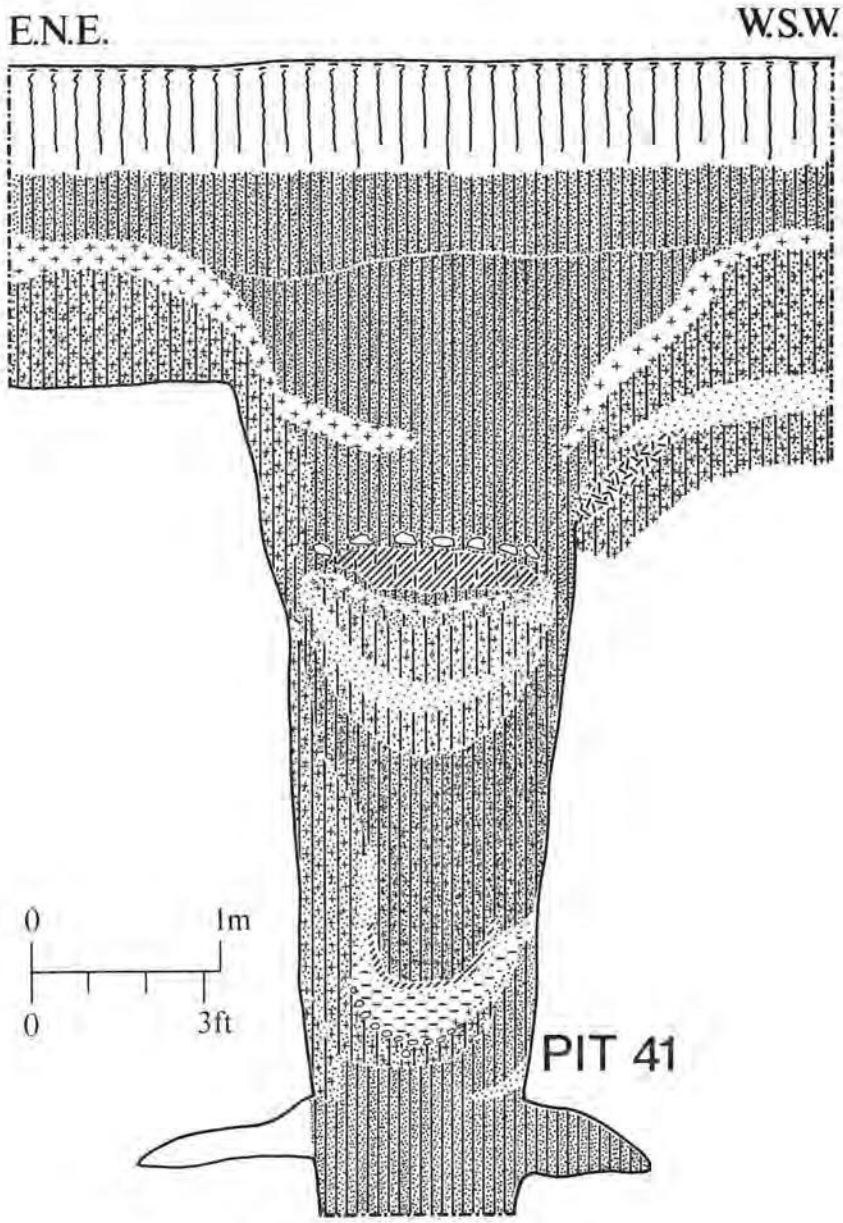


Fig. 43 Section pit 41. Scale 1:40.

P36—(Sect. U-U[1], Fig. 37; W of *H7*). Roughly circular; diam. *c.*5ft 6in (1.7m); 7ft (2.1m) deep; cutting *R3*.

Pottery 64 ST (2-33 A0, 8-06 + M62 + handle 3 A4, 12-13 A0, 16-09 A0, 19-06 A0, handle 35 A0, M43 A5, M62 A5/(1), 17 A0, 16 A1, 10 A4, 1 A5, 9 G[1], 1 G6, group 1020-1080), 5 EM, 2 THS, 18 SN, 199 TH.

Small finds Copper alloy wire (not illus. No. 70a); lead object (Fig. 110, No. 27), strip. Iron; shears (Fig. 126, No. 108), hinge pivot (not illus. No. 139a), wire (Fig. 136, No. 230), buckle plate (Fig. 137, No. 248), two knives, three heckle teeth, three nails, sheet and strip fragments. Five crucibles (bag 295 A-E, Table 3); two hones (Fig. 146, Nos. 11 and 12), another (lost); two chalk objects (Fig. 149, Nos. 4 and 5); flint scraper; bone needle, spindle-whorl (lost).

P37—(Sect. U-U[1], Fig. 37; W of *H7*). Circular; diam. 5ft 6in (1.7m); 13ft 6in (4.1m) deep; thin layer of dark soil above main sticky soil filling thought to represent wicker lining; cutting *R3*. A bone domino in the uppermost filling suggests some post-medieval disturbance.

Pottery 6 ST (1 DI, 2 A1, 3 G6, 1020-1100), 6 EM, 3 THS, 11 SN, 69 TH.

Small finds Bone comb tooth segment (Fig. 186, No. 4); domino.

P38—(W of *H8*). Irregular; averaging 4ft (1.2m) across; dug 9in (23cm) below natural; filled with dark soil, ash and sand.

Pottery 1 SN, 20 TH.

Small finds Iron nail.

P39/40—(Sect. P-P[1], Fig. 31; SW of *H8*). Two pits forming 'confusing jumble of dig-outs and redig-outs'; rectangular; 6ft 6in (2m) by 4ft 6in (1.4m); 11ft (3.4m) deep; both thought to be wood-lined; cutting through layers of *H8*; cut by post-hole.

Pottery 2 ST (A0, G6, 1020-1100), 5 SN, 60 TH.

Small finds Hone (lost).

P41—(Fig. 43; SE of *H5*). Roughly circular; diam. *c.*5ft 6in (1.7m); excavated to 17ft (5.2m); base not reached; cavity in edge at junction of natural gravel and chalk; samples of central filling of 'greenish-black' soil and light brown soil beneath clay capping, p. 196; cutting floor of *H11*; cut by *P22* and rectangular post-hole. Human frontal bone in upper filling (p.186).

Pottery 30 SN, 384 TH.

Small finds Copper alloy disc (Fig. 109, No. 2); pewter brooch (Fig. 109, No. 1). Iron; auger bit (Fig. 117, No. 17), staple (Fig. 127, No. 119), ferrule (Fig. 135, No. 215), two heckle teeth, horseshoe (Fig. 142, No. 278). Stone spindle-whorl (Fig. 148, No. 5). Bone; strip (Fig. 188, No. 22), spindle-whorl (Fig. 194, No. 72), three others.

P41A—(*H7*). Irregular; *c.*4ft (1.2m) by 3ft (0.9m); 5ft (1.5m) deep; filled with dark brown soil, iron slag, ash, burnt clay and shells below 'rusty'

iron-bearing soil; upper filling of light brown soil; thought to be contemporary with *H*7.
Pottery 1 EM, 1 SN, 35 TH.

***P*42**—(Fig. 44; N of *H*6). Roughly square; 8ft (2.4m) across; dug 6ft 6in (2m) below natural; layer of (oak) charcoal above lower filling thought to be 'liner'; probably cutting uncertain feature to SW (not on Fig. 21).
Pottery 1 SN, 90 TH.
Small finds Iron buckle (Fig. 137, No. 235), heckle tooth, two nails.

***P*43**—(*H*9). Roughly oval; 8ft (2.4m) by 6ft (1.8m); 12ft (3.7m) deep; filled with ash, sand and light brown soil; cutting 'burnt thatch' layer in *H*9A; sealed by ash layer in upper filling of *H*9; uncertain relationship with *P*54.
Pottery 2 SN, 252 TH.
Small finds Lead fragments; iron knife (Fig. 123, No. 63), heckle tooth, two nails.

***P*44**—(Fig. 45; *H*9). Rectangular; 5ft (1.5m) by 4ft (1.2m); 8ft (2.4m) deep; sealed by ash layer of *H*9.
Pottery 1 SN, 44 TH.

***P*45**—(Sect. Q-Q[1], Fig. 32; *H*9). E part not excavated; probably circular; diam. *c.* 10ft 6in (3.2m); excavated 28ft (8.5m) below natural; 'probed' 6ft (1.8m) deeper; samples of lower wet light brown soil filling, dark brown ashy soil central filling, and 'burnt patch' near lip (not on Fig. 32), p.196; thought to contain 'two concentric wood liners' near surface; uppermost filling (numbered *P*48) cut by *P*N47.
Pottery Lower filling: 8 ST (2-07 A0, 2-35 A0, 5-79 A1, 5-83 + M5 D5/5, 1 D5, 2 A0, 1 A1, group *c.*970-1030), 14 SN, 374 TH. Uppermost filling: 17 ST (3-12 A0, 9-30 D5/5, Form 1 A(1), Form 1 or 12 + M5 D5/5, 10 A0, 1 A1, 1 A5, 1 D5, group *c.*970-1030), 19 SN, 56 TH.
Small finds Lower filling: Iron; heckle tooth (Fig. 119, No. 26), strap (Fig. 130, No. 151), bridle cheekpiece (Fig. 138, No. 249), bridle side link (Fig. 138, No. 259), knife, nail. Hone, another (lost).

***P*46**—(*H*9). Rectangular; 4ft 6in (1.4m) by 2ft (0.6m); dug 6ft (1.8m) below natural; lower filling of dark brown soil with sand and clay lenses; upper filling of ashy light brown soil; capped by sand partly covered by large stones; subsidiary pit to S, 3ft (0.9m) deep, cut by post-hole.
Pottery 1 ST (DO, 900-1000), 2 SN, 101 TH.

***P*47**—(Sect. Q-Q[1], Fig. 32; *H*9). E part not excavated; probably rectangular; dug 13ft 6in (4.1m) below natural; base 'small and rectangular'; cutting *H*9A and upper filling of *P*45.
Pottery 23 TH.

***P*48**—uppermost filling of *P*45.

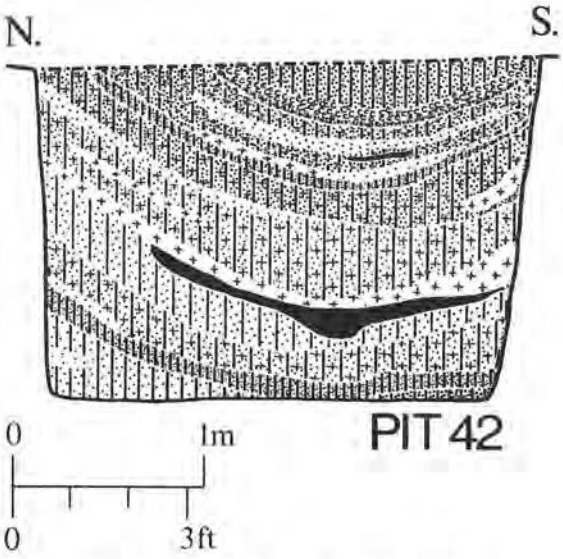


Fig. 44 Section pit 42. Scale 1:40.

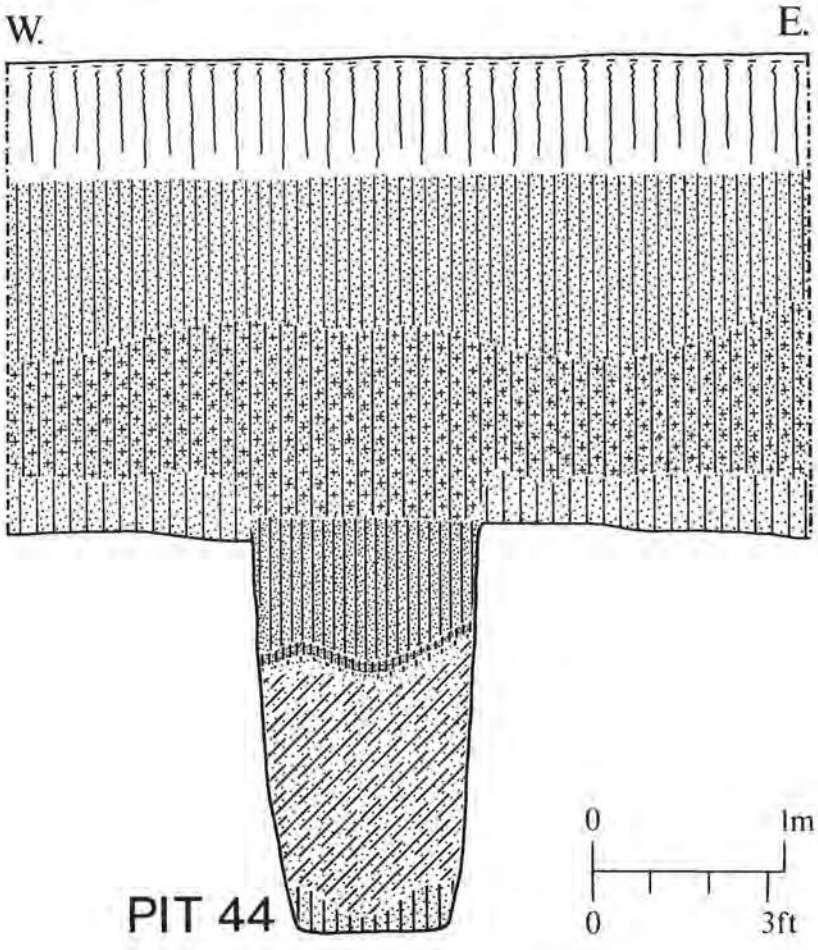


Fig. 45 Section pit 44. Scale 1:40.

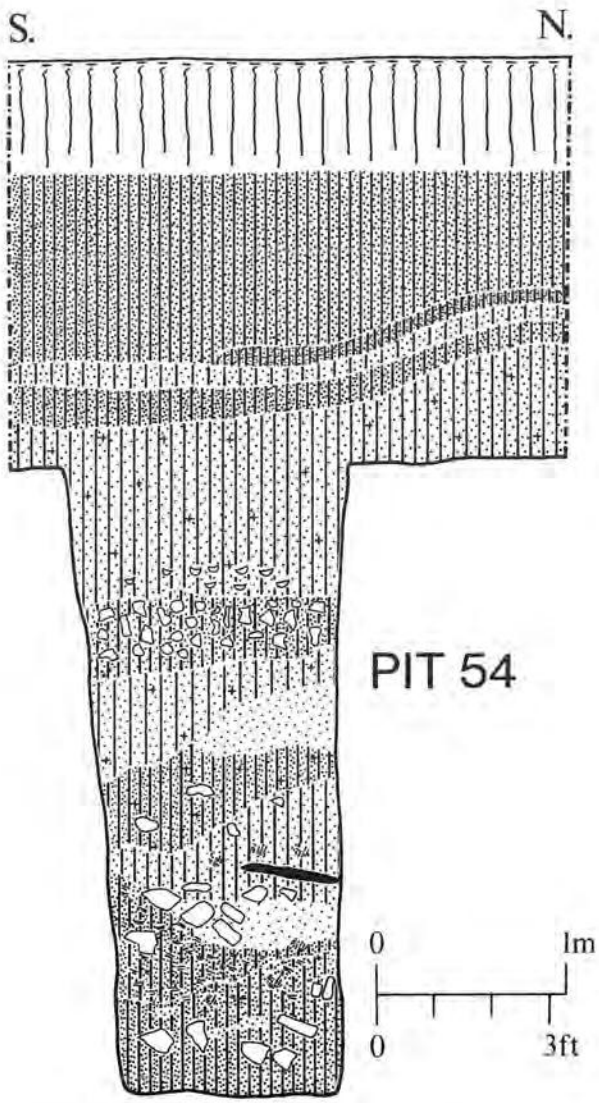


Fig. 46 Section pit 54. Scale 1:40.

P49—(*H*14) Irregular; averaging 10ft (3m) across; dug 9ft (2.7m) below natural; lower filling of ash and sand lenses below light brown soil; upper filling of ashy below sticky soil with many animal bones; sealed by mussel shell layer; cutting clay floor of *H*14; later than *P*49A.
Pottery 38 ST ('to 10ft', 19 sherds, 5-78 G6, Form 12 A1, M16 3 G6, 1 A0, 9 A1, 1 D4, 3 D5, group *c.*1020-1080. 'Below 10ft', 19 sherds 1-13 A0, 5-78 A5/5, 19-01 A0, Form 1 or 12 A0, 6 A0, 5 A1, 1 A5, 3 D5, group *c.*980-1030), 10 EM (below 10ft 1 ginger jar rim Fig. 185, No. 469), 103 SN, 309 TH.
Small finds Copper alloy sheet (Fig. 114, No. 69). Iron; lockbolt (Fig. 131, No. 176), awl (not illus., No. 40a), knife (not illus., No. 103a), heckle tooth, staple (not illus., No. 120a). Hone (Fig. 146, No. 16), two others.

P49A—(*H*14). W part not excavated; dug min. 5ft 6in (1.7m) below natural; filled with ashy soil and sand layers; cutting clay floor of *H*14; stratigraphically earlier than *P*49.
Pottery 4 SN, 127 TH.

P50—(Sect. Q-Q^{i}, Fig. 32; *H*9). E part not excavated; dug min. 6ft (1.8m) below natural.
Pottery 1 SN, 33 TH.

P51—(*H*14). S part not excavated; dug min. 13ft (4m) below natural; filled with sand, soil and ash, with patch of 'decayed vegetable matter'.
Pottery 4 ST (3D5, 1 A0, group *c.*900-1000), 22 SN, 292 TH.
Small finds Pewter brooch (Fig. 109, No. 6); iron heckle tooth; hone and two others (lost); bone strips with iron rivet (Fig. 188, No. 23), bone comb tooth segment.

P52—(*H*14). E part not excavated; ?two pits; dug *c.*6ft (1.8m) below natural; filled with dark brown soil, ash and sand; much burnt wattle-impressed daub towards base.
Pottery 13 SN, 43 TH.
Small finds Bone fitting (Fig. 199, No. 104).

P53—(*H*12). Rectangular; 5ft (1.5m) by 3ft (0.9m); dug 2ft 6in (0.8m) below natural; filled with very dark brown soil below layer of mussel shells; sealed by *R*1. No other finds.

P54—(Fig. 46; *H*9). W part not excavated; probably *c.*8ft (2.4m) by 4ft (1.2m); dug 11ft (3.4m) below natural; burnt wattle-impressed daub in lower filling; uncertain relationship with *P*43.
Pottery 48 SN, 1 ? TH, 191 TH.
Small finds Iron; hinge (Fig. 129, No. 150), four knives, nail, strip fragments. Sawn red deer antler.

P55—(*H*14). Irregular; *c.*8ft (2.4m) by *c.*10ft (3m) dug *c.*14 ft (4.3m) below natural; filled with dark soil, ash and sand; cutting clay floor *H*14 and *P*55A.
Pottery 2 SN, 313 TH.
Small finds Iron knife; bone gouge (Fig. 198, No. 92). Layers above: iron knife (not illus., No. 70d).

P55A—(*H*14). W part not excavated; uncertain shape; dug *c.*11ft (3.4m) below natural; filled with dark brown soil, ash, sand and some clay; cut by *P*55; sealed by clay floor of *H*14.
Pottery 2 SN, 118 TH.

P56—(Fig. 47; *H*14). Irregular; averaging 6ft 6in (2m) across; dug 7ft 6in (2.3m) below natural; sealed by clay floor of *H*14; cut by post-hole.
Pottery 48 TH.
Small finds Iron knife (Fig. 123, No. 56).

P57—(*H*14). Rhomboidal; 5ft 6in (1.7m) by 4ft 6in (1.4m); dug 5ft (1.5m) below natural; filled with dark brown soil and sand.
Pottery 106 TH.

P58—(between *H*12 and *H*13). Irregular; averaging 4ft 6in (1.4m) across; dug 3ft (0.9m) below natural; filled with dark brown soil and sand.
Pottery 8 TH.

P59—(*H*13). Rectangular; 4ft (1.2m) by 3ft (0.9m); dug 2ft (0.6m) below natural; contained many animal bones; sealed by 'wooden cover in S portion, and by sand and a three-quarter ring of clay in N'; probably sealed by floors of *H*13.
Pottery 1 RB, 23 TH.

P60—(*H*13). Irregular; averaging 8ft (2.4m) across; 7ft (2.1m) deep; filled with dark brown soil and sand lenses below two layers of 'greenish' soil; sealed by thin layer of burnt clay and black soil below light brown soil and ash; chalk layer near lip; uncertain relationship with *H*13.
Pottery 6 ST (19-O2 A0, M16 D5/5, 1 A0, 2 A1, 1 D5, group *c.*960-1030), 1 THS, 28 SN, 107 TH.
Small finds Iron; hinge pivot (Fig. 129, No. 140), hinge (Fig. 129, No. 148), heckle tooth. Bone double-ended implement and skate (both lost).

P61—(Sect. W-W^{i}, Fig. 39, NW of *H*13). NW part not excavated; dug 9ft 6in (2.7m) below natural.
Pottery 11 ST (1-04 A0, 5-79 A1, 8-06 A4, Handle 21 3 A1, 4 A1, 1 A4, group *c.*1000-1030), 3 THS, 13 SN, 79 TH.
Small finds Copper alloy strip fragments; lead fragment; iron heckle tooth, knife, nail, rod fragment; chalk mould (Fig. 149, No.1); hone; sawn sheep or goat horn core.

P62—(*H*14). E part not excavated; 6ft (1.8m) deep; filled with sticky soil and sand below dark brown soil with ash.
Pottery 19 TH.

P63—(Sect. V-V^{i}, Fig. 38; W of *H*7). Roughly oval; 8ft 6in (2.6m) by 5ft (1.5m); dug 1ft 9in (0.5m) below natural; sealed by *R*1/2. No recorded finds.

P64—(Sect. W-W^{i}, Fig. 39; NW of *H*13). N part not excavated. 2ft (0.6m) deep; partly sealed by *R*2. No recorded finds.

P65—(N of *H*12). Subrectangular; 2ft 6in (0.8m) by 2ft (0.6m); cut into upper filling of W ditch (excavated as part of site 1). No recorded finds.

P66—(*H*14). W part not excavated. No recorded finds.

P67—(S of *H*13). Roughly circular; diam. *c.*3ft 6 in (1.1m). No recorded finds.

P68—(NW of *H*5). Irregular, averaging 2ft 6in (0.8m) across; dug 1ft (0.3m) below natural; filled entirely with iron slag.

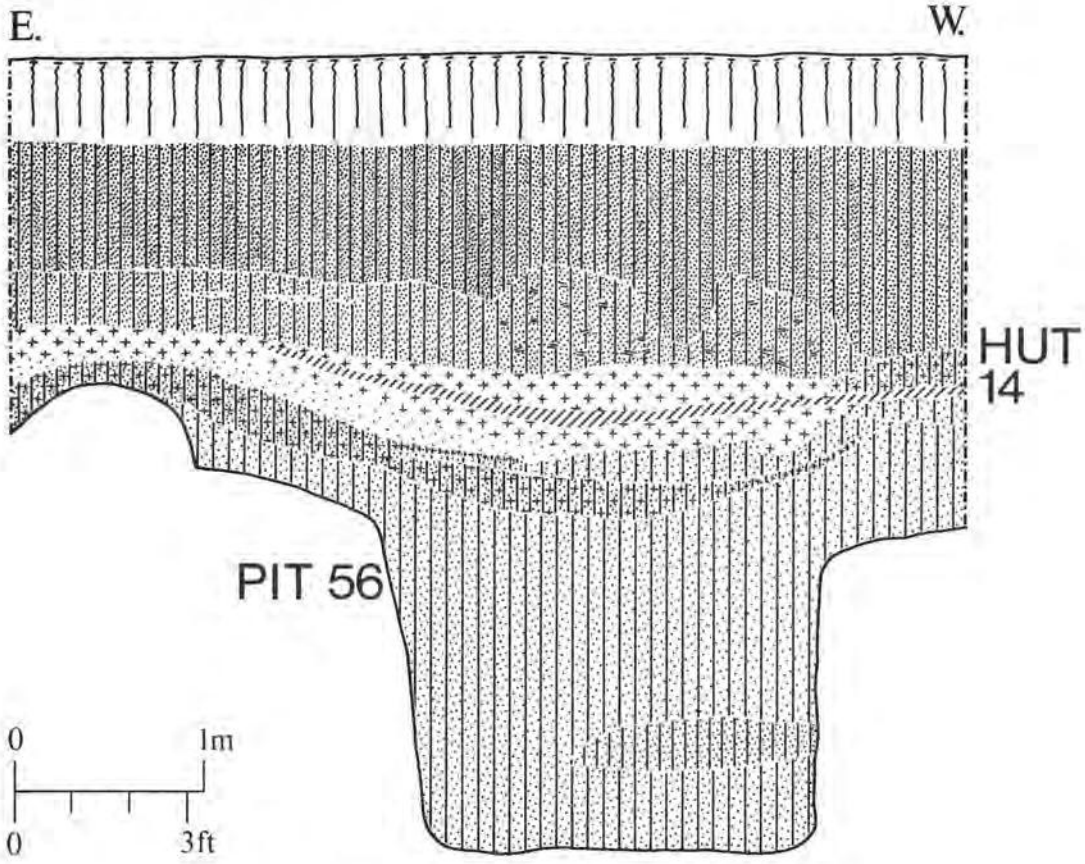


Fig. 47 Section pit 56. Scale 1:40.

IV. Site 2 North

(Figs. 4, 48 and 49)

Summary

Site 2 North was separated from Site 2 South by a narrow baulk and lay immediately north-east of the road excavated on Site 2 South, although the road itself was uncovered only in an extension of the site to the south-west. Another road, with three superimposed surfaces (roads 1A-3A), flanked the north end of the site, and was roughly aligned east to west. Unfortunately, the junction of the two roads lay outside the north-west corner of the excavation, so it is unclear whether the two routes are part of a non-rectilinear grid system, whether one is a branch road of lesser importance, or indeed whether they are the same road turned through an acute angle.

There is no doubt that the site was densely covered by a succession of buildings with the same density as Site 2 South. Recording and excavation methods have produced, from the nineteen features called huts, only one really credible plan, hut 21. Records are particularly inadequate for the area of huts 17, 18, 17/18, 24, and hut 32. The nineteen huts will be summarised in numerical order. Hut 15 was a flat-based feature cut into natural and lying partly outside the excavation. There were no associated floors. Huts 17 and 18 were possible rectangular features cut into natural with clay floors. They were both probably aligned with their long axes at right angles to roads 1-3. Hut 17/18, was a layer of uncertain extent containing a vast amount of pottery in black soil. Hut 19 was an ill-recorded and odd-shaped sunken feature with a filling partly sealed by a clay floor or floors. Hut 20 lay in the north-west corner of the excavation and was only partly excavated. A deep feature containing iron slag was overlain by two floors, one of which was surmounted by a hearth. Hut 21, a cellared structure, consisted of a rectangular pit, 4.6m by 2.7m, with a clay floor surrounded by thirteen post-holes. There was no hearth. Hut 22 was a pit floored with burnt clay and connected to a re-cut pit (N31) by a narrow feature containing a slag-bearing hearth. Hut 23 comprised part of a roughly rectangular clay floor aligned at right angles to roads 1-3. The pottery bearing layer, hut 17/18 was partly overlain by a peculiarly-shaped clay floor, hut 24. Also included in this hut was a feature of uncertain shape lying under the floor and partly outside the excavation. Hut 25 comprised seven post-holes and a hearth thought to represent a square structure earlier than, but surrounding, the pottery kilns. The recorded evidence does not suggest such a structure existed. Hut 26, a rectangular floor recorded in plan, but not readily apparent in section, had a hearth along one long side and may have been associated with some post-holes. Hut 27 consisted of patches of ? clay floor which were not recorded in plan. Hut 28 was a general area including a curving line of post-holes, a rectangular clay floor bearing no relationship to the former, and an overlying length of chalk rubble, thought to be a wall. The post-holes of hut 29, north-east of hut 21, appear to be a southerly continuation of those of hut 28. Hut 30, a rectangular clay floor, roughly at right angles to roads 1-3, lay partly outside the south edge of the site. Hut 31, another clay floor, lay parallel to hut 30, and had a hearth

at its east end. Much of the north-east part of the site was occupied by ill-understood and sparsely recorded chalk and clay floors, 'called by courtesy hut 32'. Hut 34 was a sub-rectangular clay floor possibly overlying kiln 2.

The central portion of the northern part of the site contained three pottery kilns of single-flue updraught type (Musty 1974, Type 1B). Little survived of the earliest, kiln 3, which was partly overlain by the fragmentary kiln 2. The latest and largest, kiln 1, was well-preserved below the lowest parts of the oven walls. The stoke-pit was largely excavated away without proper record. Over 9000 sherds were associated with the kiln, including a number of complete jars and cresset lamps which were found within two of the oven floor vent-holes and were probably remnants of the final firing.

Eighty-eight pits were recorded, and the average depth of those that were bottomed was 2.1m. Nine (N3A, N13B, N25, N39, N45-6, N54-5, N68) were thought to have had wooden linings. The records of pits N25 and N55 included references to wickerwork. Pit N39 had a wooden base and 'stave walls' in the lowest 0.3m. This could indicate the presence of a barrel. No further details of the other six were recorded. Two non-bottomed pits, N16 and N71, were deeper than 5.5m. The former contained possible cessy soil, and the latter a soil/ash/chalky filling. They may have been wells, but neither had signs of construction pits for timber lining nor of water.

Twelve pits contained fillings described as 'sticky', 'puggy', 'greenish', or containing vegetable matter. Five of these (N4B, N8, N18A, N25, and N55) had primary fillings of such soil, and were perhaps dug as cess pits. The others may have received secondary deposits of sewage, although vegetable matter (N63 and N64) may have derived from other sources.

Ash occurred throughout the site, but not in the vast quantities of Site 2 South. Small finds indicating textile production occurred without notable concentrations around the site, as did iron slag and crucibles. On the other hand, pottery production was shown to have been concentrated by the surviving structural evidence.

However, it should be stressed that kilns 1-3 were not a contemporary battery, but a succession of kilns in the same area. The immense concentration of pot sherds in hut 17/18 which contained only three wasters out of over 3500 pieces, but included many discoloured examples, was probably a dump from a kiln in the immediate vicinity.

The occupation of this site spanned the same period as Site 2 South, but there were no sealed deposits definitely of the earlier tenth century. In the extreme north-east of the site, pits N64, 67 and 68, some of which was known as hut 32 and perhaps the chalk wall of hut 28 show continuance of activity into the late twelfth century and perhaps beyond.

Introduction

The site lay at *c.* 17m OD immediately north-west of site 2 South.

Work started on 29 December 1948 and ended on 4 November 1949. From the start a grid system was used, but the grids were irregular in shape, many being rhomboidal. The cause of this irregularity is unknown, but may have resulted from the use of some nearby non-straight topographical feature as a base-line. First, *G*1-XVIII were excavated, and in the middle of May 1949 work began on *G*XIX-XXII. At the end of August *G*XXIIA was dug, and the remaining grids to the east were examined from the end of September.

Baulks were removed in spits when excavation of the grids had reached a depth of *c.* 1.1m. Baulk intersections named 'pillars' were not removed until the surface of natural had been exposed. They were then dug in spits, although some had, by then, collapsed.

In contrast to Site 2 South, where only two conjoining field plans were drawn, Site 2 North was planned seven times between a depth of 2ft 6in (0.8m) and the surface of natural. These plans show areas of burnt clay, cobbles, and soil discolouration. The fifth, sixth and seventh plans show outlines of pits and sunken features and post-holes. Some pits appear as soil-marks on an upper plan and re-appear in firm outline on a lower one. Other soil-marks disappear before natural is reached.

Nine north-to-south and thirteen east-to-west sections were drawn across the site as well as some individual pit sections. Many long sections are incomplete, and many carry projections of pits and layers over several feet. Comparison of sections at intersections is rarely satisfactory. In consequence of these shortcomings, choice of sections for inclusion in this paper has been very selective.

The use of the word 'hut' to describe the non-pit features was as arbitrary as on Site 2 South, only one, *H*21, being securely recognisable as a building. Unlike Site 2 South, the hut numbers allocated during the excavation were not retained, but were altered or swopped later. This has confused the interpretation of the primary records, especially in relationship to the provenance of small finds and pottery.

Description

The Huts

***H*15**—(Sect. X-X[1], Fig. 50; *G*III). NW part of feature dug *c.* 3ft 3in (1m) below natural; four post-holes in base; no recorded floor; cut by *P*N3A-C; uncertain relationship with *P*N32; area sealed by *H*30.

Pottery None attributable.

***H*17**—(Sect. Y-Y[1], Fig. 51; *G*VII and VIII). ? rectangular feature dug *c.* 3ft 6in (1.1m) below natural; shape uncertain, not on Fig. 48; part of base covered by clay floor continuing S into *H*24; uncertain relationship with *P*N21; sealed by *H*17/18.

Pottery None certainly attributable to feature, but in bags from appropriate depths in this area 12TH.

***H*18**—(Sect. Y-Y[1], Fig. 51 and Sect. Z-Z[1], Fig. 52; *G*VII, VIII, XI and XII). ? rectangular feature dug *c.* 3ft (0.9m) below natural; shape uncertain, not on Fig. 48; though to have 'patchy burnt clay floor on base', but no evidence in section; sealed by *H*17/18.

Pottery 32 TH

***H*17/18**—(Sect. Y-Y[1]; Fig. 51 and Sect. Z-Z[1]; Fig. 52; *G*VII, VIII, XI, XII). 'Black layer full of pottery'; extent uncertain; extending discontinuously from *P*N27 S to near *P*N11; overlying *H*17 and *H*18; partly sealing *P*N16, sealed by upper clay floor of *H*24; cut by *P*N4A, *N*4B and N27; uncertain relationships with *P*N18A, N18B, N21 and N24.

Pottery 1? EM, 1 THS, 5 SN, 3543 TH. Of 627 TH rims, *c.* 66% are wedge-shaped (AB13) and most of remainder triangular (AB7). Majority of latter are abraded. Only three sherds are wasters, but many more discoloured. Perhaps a dump from some nearby kiln activity.

Small finds General area of *H*17, 18, and 17/18: copper alloy balance arm (Fig. 113, No. 58). Iron; shearboard hook or ?harbick (Fig. 119, No. 31), two knives (Fig. 125, No. 92 and Fig. 123, No. 58), another (not illus., No. 95d), shears (Fig. 126, No. 112), hasp (Fig. 131, No. 166), spur (Fig. 140, No. 267), heckle tooth, four nails, and bar fragments. Glass linen-smoother (Fig. 151, No. 4); hone (lost); flint axe, flake. Bone; comb connecting plates (Fig. 186, No. 7), double-ended implement (Fig. 192, No. 56), spindle-whorl, ? unfinished needle (Fig. 189, No. 37).

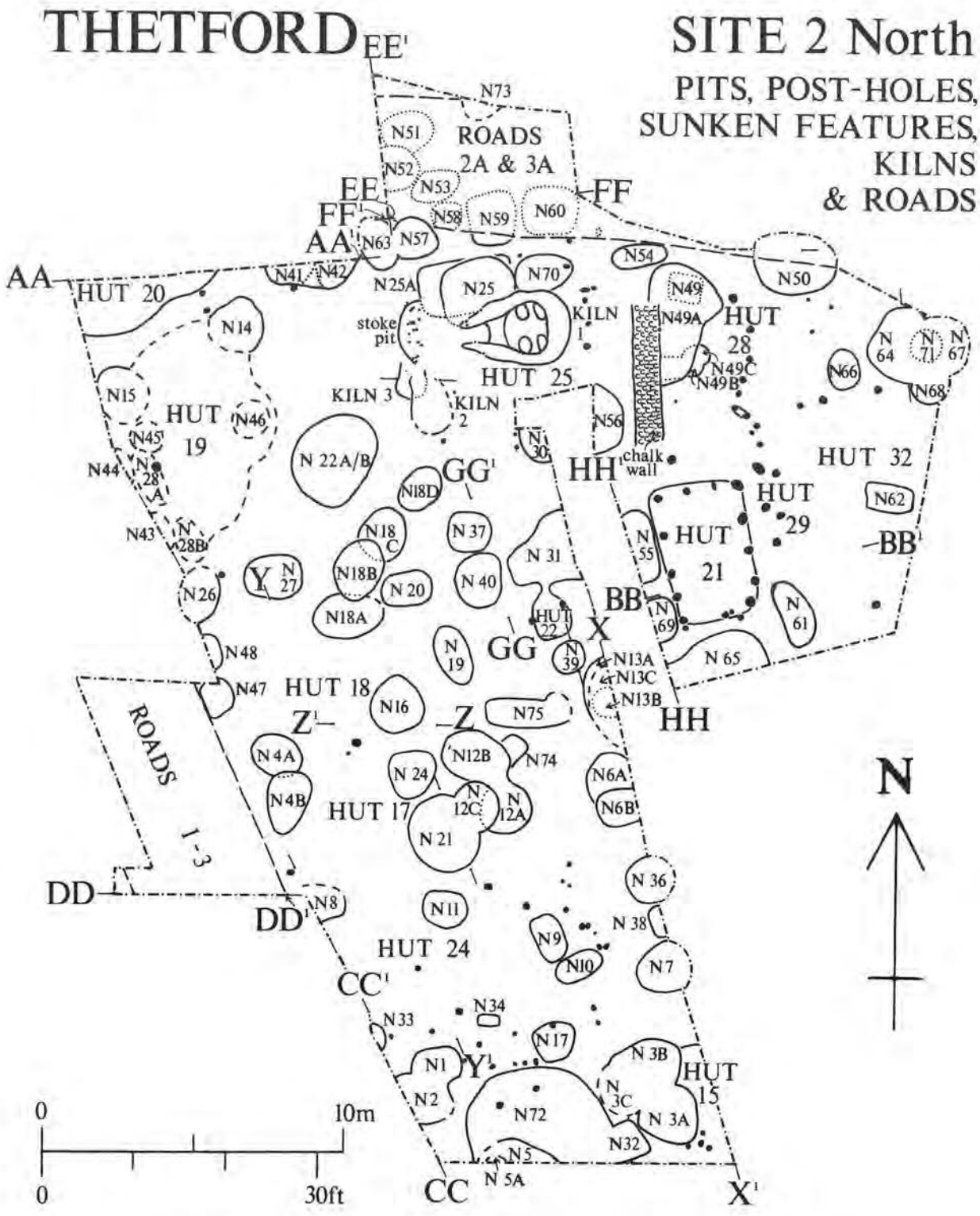


Fig. 48 Plan Site 2 North, pits, post-holes, sunken features, chalk wall, kilns and roads. Scale 1:200.

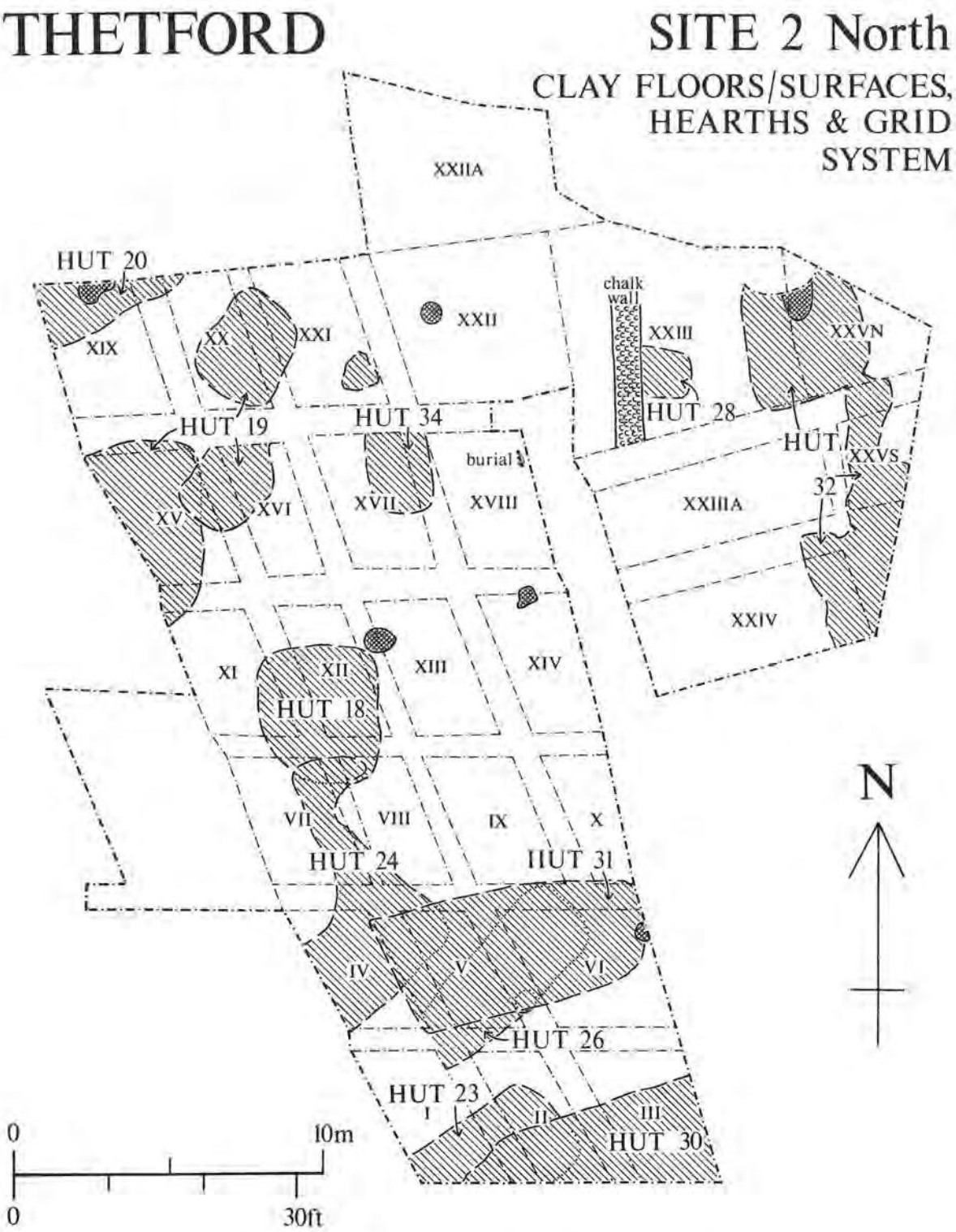


Fig. 49 Plan Site 2 North, clay floors/surfaces, hearths and grid system. Scale 1:200.

H19—(*G*XI, XV, XVI, XIX-XXI). Irregular feature; dug 3-4ft (0.9-1.2m) below natural; filled with layers of charcoal bearing soil between layers of sand and soil; lower layers sealing *P*N45; uncertain relationships with all other pits in area; probably clay floor or floors, of uncertain plan sealing part of sunken feature and all pits in area.

Pottery *G*XX: lowest layers 1 SN, 80 TH. Bag mentioning 'burnt floor' : 6 ST (Al, 900-1080), 7 EM, 27 THS, 2 SN, 187 TH. *G*XV 'black layers': 1 SN, 846 TH. Bags above depth *c*.5ft 6in (1.7m) contain THS. No certain evidence in *G*XVI and XIX.

Small finds Copper alloy; finger or ear-ring (Fig. 110, No. 20), hook (Fig. 111, No. 37). Iron; spade iron (Fig. 121, No. 44), hook (Fig. 133, No. 198), bell clapper (Fig. 135, No. 221), bridle mouthpiece link (Fig. 138, No. 254), buckle pin (Fig. 137, No. 246), spur (Fig. 141, No. 275), strip, knife (not illus., No. 78d), three nails, heckle tooth, miscellaneous fragments. Six crucibles (bags 770 A-E, and 960, Table 3); hone (Fig. 147, No. 21), two others (lost). Bone; toggle (Fig, 199, No. 100), spindle-whorl (Fig. 194, No. 74), two others, strip, needle, skate (Fig. 196, No. 82). Topsoil above: crucible (bag 963, Table 3).

H20—(Sect. AA-AA', Fig. 53; *G*XIX-XXI). SE part of feature dug min. 6ft (1.8m) below natural; two successive floors on upper filling; lower floor with hearth, extent uncertain, but partly sealing *P*N41; evidence in section of recut below lower floor in E 2/3 of feature.

Pottery Filling below recut: 1 ? THS, 2 SN, 1223 TH. Below upper floor: 3 EM, 1 THS, 11 SN, 142 TH including some kiln 1 material.

Small finds 'St. Edmund Memorial' penny (below and W of recut; Fig. 108, No. 4). Iron; heckle binding (Fig. 119, No. 20), heckle tooth, arrowhead (Fig. 144, No. 300), flesh hook (Fig. 133, No. 194), two knives, nail. Bone; double-ended implement (Fig. 193, No. 59), needle (Fig. 190, No. 38), another, strip (Fig. 188, No. 27), another, skate (Fig. 196, No. 83). Above lower floor: iron heckle tooth, two nails, strip fragment.

H21—(Fig. 54, and Sect. BB-BB', Fig. 55; *G*XXIIIA and XXIV). Roughly rectangular, flat-based feature; *c*.15ft (4.6m) by 9ft (2.7m); dug 3ft 6in (1.1m) below the natural; thirteen post-holes, average depth 1ft 6in (0.5m), around edges of possibly burnt clay floor on base of feature; post-hole cutting floor at S end; two more cutting natural S of S edge; post-holes cutting natural to NE thought to be associated with *H*29; 'shapeless' pieces of carbonised wood and lumps of burnt clay lying on floor; uncertain relationship with *P*N69; ashy soil filling above floor dipping into upper part of *P*N55.

Pottery Lower filling (below depth of 1.7m): 2 ? EM, 2 THS, 5 SN, 100 TH.

Small finds On floor: copper alloy finger-ring (Fig. 110, No. 11). Filling: two iron nails; stone mould (Fig. 110, No. 23).

H22—(*G*IX). Pit, 5ft 6in (1.7m) by 4ft (1.2m), dug 3ft 3in (1m) below natural; flat base lined with burnt clay below black soil; pit connected with *P*N31 to N by narrow 3ft 3in. (1m) deep feature containing hearth with iron slag at base; at same level horizontal horizon between two fillings of *P*N31 (Fig. 68); post-holes cutting natural on E and W edges.

Pottery None certainly attributable, but below 5ft (1.7m) in *G* XIV: *c*.150 TH.

Small finds Copper alloy disc, diam. 23mm (lost). Iron; heckle binding (Fig. 119, No. 21), staple (Fig. 128, No. 127), heckle tooth, sheet and strip fragments.

H23—(Sect. CC-CC', Fig. 56; *G*I and II). NE part of ? rectangular burnt clay floor; in places sealed by unburnt clay; overlying natural in SW corner of *G*I, and *P*N5 and N72 to E; cut by *P*N5A; soil overlying floor partly sealed by *H*30.

Pottery Above clay floor: 1EM, 21 TH.

Small finds On floor: iron auger bit (Fig. 117, No. 14).

H24—(Sect. Y-Y', Fig. 51; *G*IV, V, VII and VIII). Feature of uncertain shape, *c*.11ft (3.4m) N to S; W edge outside excavation; dug *c*.2ft (0.6m) below natural; partly sealed by floor of burnt clay, primary layer of *H*17; at higher level patchy clay floor of highly irregular 'dog leg' shape, extending to N over 'black layer full of pottery', *H*17/18; SE corner overlain by floor of *H*31; much of N part overlain by cobbles.

Pottery Filling of feature: 1 SN, 91 TH. Above floor: both SN and TH.

Small finds General area: copper alloy bar (Fig. 113, No. 54); lead lump and strip. Iron; awl (Fig. 120, No. 40), two knives (Fig. 123, No. 57 and Fig. 124, No. 85), shears (Fig. 126, No. 107), needle (Fig. 119, No. 33), flesh hook (Fig. 133, No. 193), two heckle teeth, nail. Two hones (Fig. 146, Nos. 13 and 19); bone comb (Fig. 186, No. 6).

H25—(*G*XVIII and XXII). Five post-holes E of *K*1, two more W of *P*N30 and hearth with iron slag above *P*N25, thought to form part of structure 22ft (6.7m) square, earlier than *K*1-3; no further evidence recorded.

Pottery Non attributable.

Small finds General area: iron staple (Fig. 127, No. 115), strip fragments; bone needle (Fig. 190, No. 40).

H26—(*G*V-VI). Roughly rectangular patchy burnt clay floor, *c*.20ft (6.1m) by 9ft (2.7m); hearth midway along SE long side; post-holes in area cutting natural possibly associated with floor; probably later than *P*N9 and N10; uncertain relationship with *P*N34; parts sealed by *H*31; no certain evidence of floor in sect. Y-Y', Fig. 51.

Pottery None attributable.

Small finds On floor: iron bar fragment. Bone; double-ended implement (Fig. 192, No. 55), unfinished spindle-whorl (Fig. 194, No. 73). Hone (Fig. 146, No. 20).

H27—(*G*IX). 'Patches of decayed floor' over *P*N12A-C; no recorded shape; omitted from Fig. 49. No associated finds.

H28—(*G*XXIII). Curving roughly N-to-S line of six post-holes with seventh at S end driven into natural at acute angle; clay floor above *P*N49A-C and under N-to-S alignment of unmortared chalk rubble; this 'wall' *c*.3ft (0.9m) wide, one or two 'courses' deep; N and S ends stopping 'in air'.

Pottery None from post-holes. Material below depth of 3ft 6in (1.1m) includes EM and THS.

Small finds Iron; heckle tooth (Fig. 119, No. 30), two knives (not illus. No. 60b and Fig. 124, No. 79), another, hinge (Fig. 129, No. 147), ? post-medieval bowl (Fig. 135, No. 223), four nails. Pottery spindle-whorl (Fig. 152, No. 4).

H29—(Fig. 54 *G*XXIIIA). Post-holes cutting natural NE of *H*21; thought to be later than *H*21, but section evidence contradictory. A burnt clay floor is visible in Sect. BB-BB' (Fig. 55).

Pottery None attributable.

Small finds General area: iron; knife (Fig. 124, No. 78), arrowhead (Fig. 144, No. 299), strap (Fig. 130, No. 153), lock bolt (Fig. 131, No. 178), key (Fig. 132, No. 186). Bone; needle, four spindle-whorls (lost).

H30—(Sect. X-X', Fig. 50 *G*I-III). 'Broken burnt clay floor' of uncertain length and width; partly sealing *H*23; later than all pits in area; recorded in section in N edge of Site 2S, but not drawn in plan.

Pottery Below floor: 2 EM, 2 THS, 1 SN, 17 TH. Bags mentioning depths lower than that of floor (but not stating that material was sealed by floor) contain late ST (Form 10 BO, 1060-1250) and mid twelfth-century HM.

Small finds On or immediately above floor: iron heckle tooth, four nails, bar fragment, horseshoe; three crucibles (bag 614 A-C Table 3).

H31—(*G*IV-VI). Roughly rectangular 'broken' burnt clay floor, *c*.27ft (8.2m) by 13ft (4m); hearth at E end (charcoal lenses above *P*N38, Sect. X-X', Fig. 50); partly sealing upper floor of *H*24 and floor of *H*26; no certain evidence of floor in Sect. Y-Y', Fig. 51.

Pottery None attributable.

Small finds Iron horseshoe; glass bangle (Fig. 151, No. 2); bone strips with iron rivets (Fig. 188, No. 24).

H32—'E of the wall and covering Grids XXIII E half, XXVN, XXVS, and E edge of XXIV, lay a jumble of clay and chalk floors which merged into one another in a confused fashion, interspersed with the usual pits. This collection of floors has been called by courtesy hut 32'. *P*N62 and N66 sealed by clay/chalk floors; *P*N64 and N67 sealed by chalk rubble; uncertain relationship with *P*N68.

Pottery Floor(s) only mentioned in *G*XXIV. 'Floor at 2ft 6in': 3 THS, 15 TH. 'Clay floor to natural': 3 THS, 4 TH.

Small finds Copper alloy key (Fig. 111, No. 44); lead lump. Iron; spur (Fig. 141, No. 273), buckle pin (Fig. 137, No. 247), knife (not illus. No. 95c). Glass linen-smoother (Fig. 151, No. 5); bone spindle-whorl (Fig. 194, No. 75). Topsoil above: hone (Fig. 147, No. 29).

H34—(*G*XVII). Subrectangular burnt clay surface, min. 8ft 6in (2.6m) by 7ft (2.1m) lying on brown soil above natural; shape of N end uncertain, but possibly overlying S part of *K*2; sealing *P*N18D; overlain by layer of slag, burnt clay and chalk spilling to W over top of *P*N22A/B.

Pottery None attributable to floor, but material from below 4ft (1.2m) comprises 1 ST (A0, 900-1150), SN and TH.

Small finds Topsoil above: iron bridle mouthpiece link (Fig. 138, No 257).

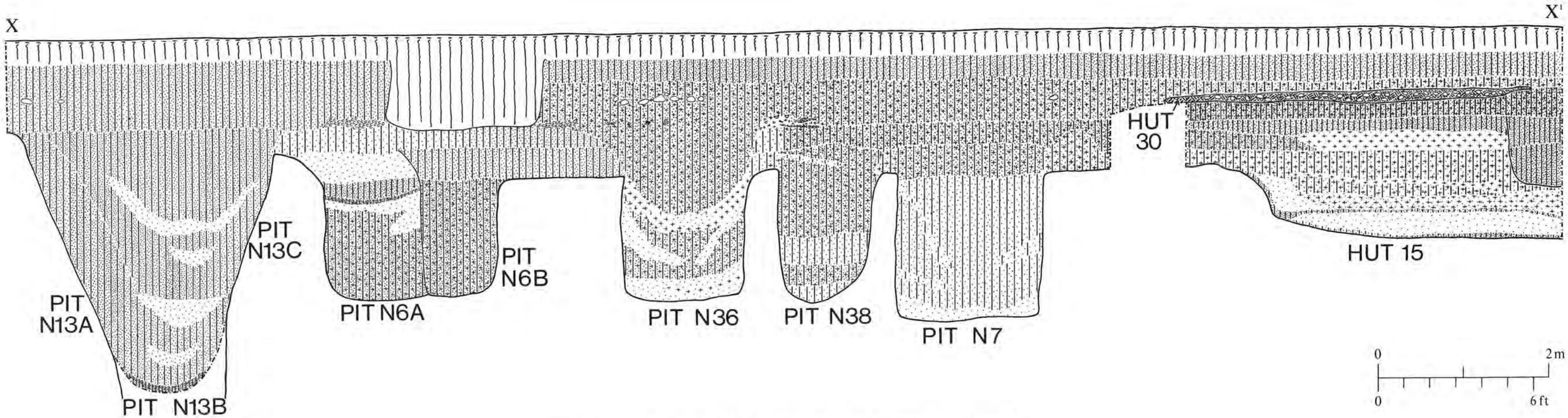


Fig. 50 Section X-X', huts 15 and 30, pits N6A and B, N7, N13A-C, N36 and N38. Scale 1:40.

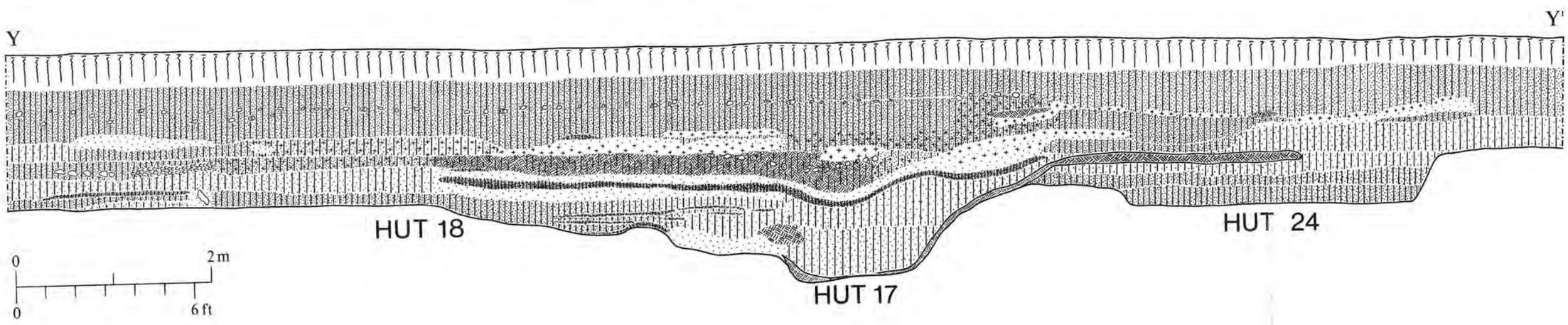


Fig. 51 Section Y-Y', huts 17, 18 and 24. Scale 1:40.

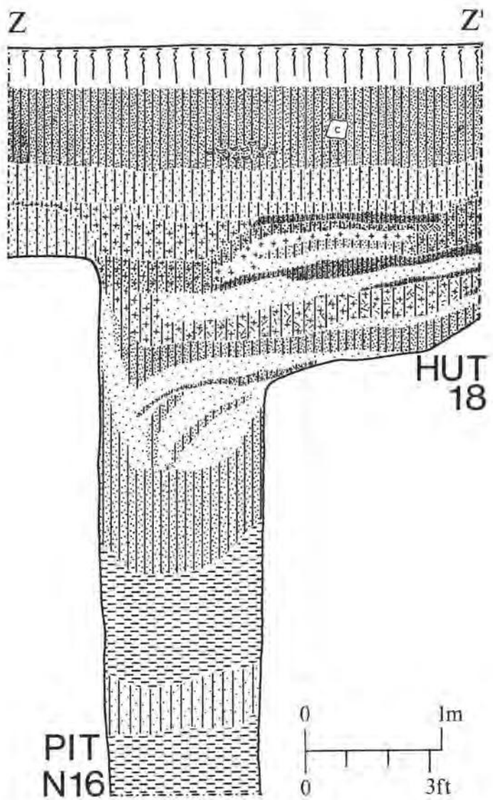


Fig. 52 Section Z-Z', hut 18 and pit N16. Scale 1:40.

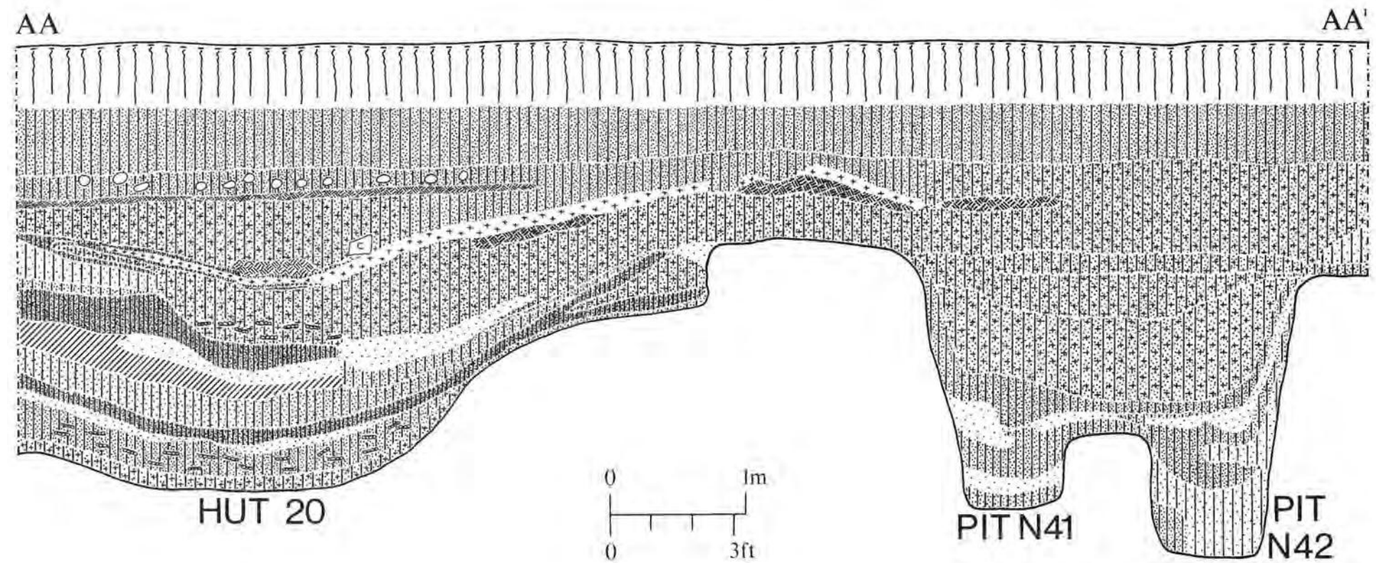


Fig. 53 Section AA-AA', hut 20, pits N41 and N42. Scale 1:40.

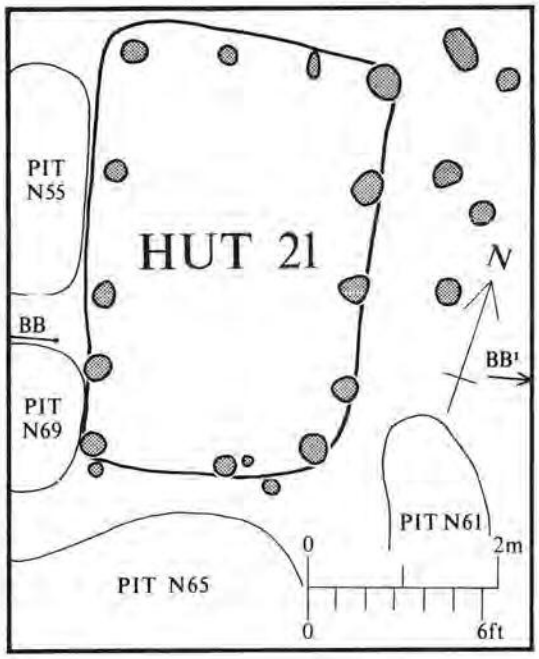


Fig. 54 Plan hut 21. Scale 1:125.

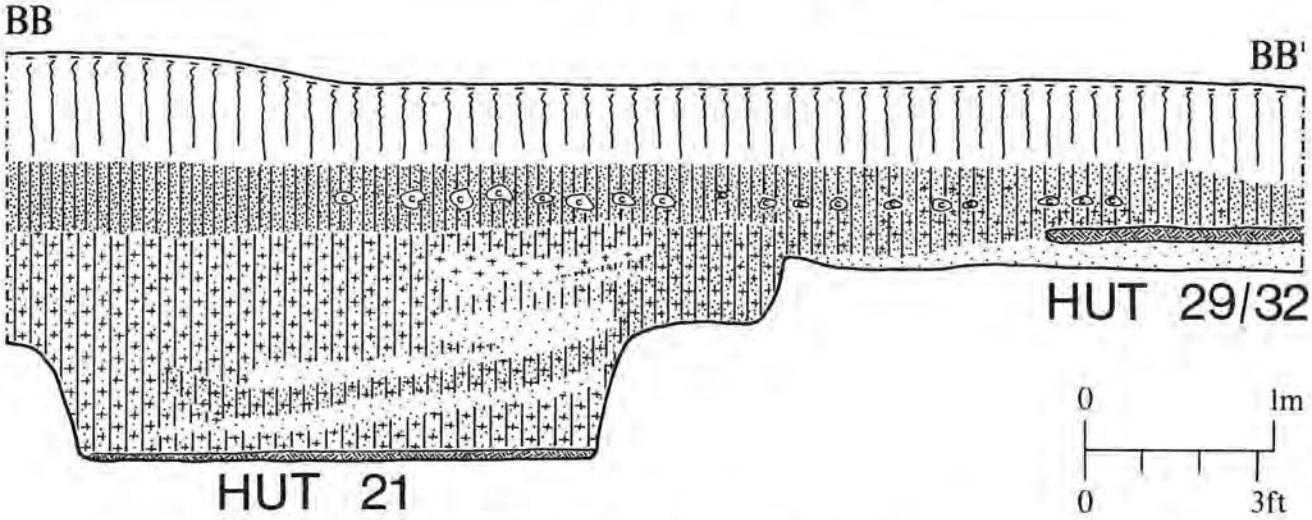


Fig. 55 Section BB-BB', huts 21 and 29/32. Scale 1:40.

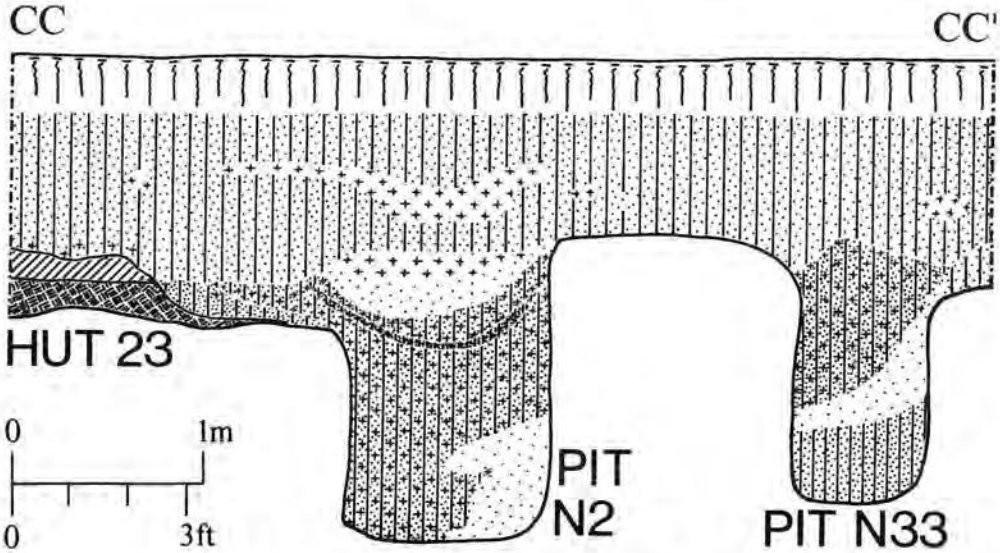


Fig. 56 Section CC-CC', hut 23, pits N2 and N33. Scale 1:40.

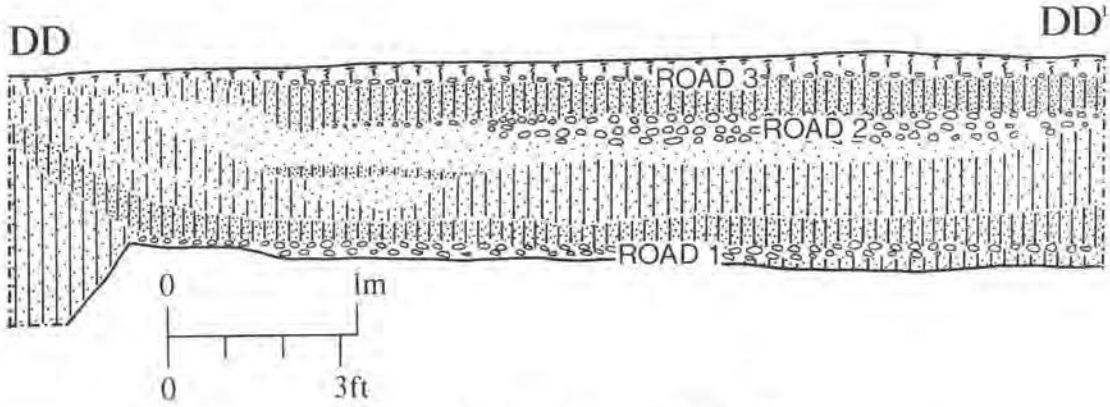


Fig. 57 Section DD-DD', roads. Scale 1:40.

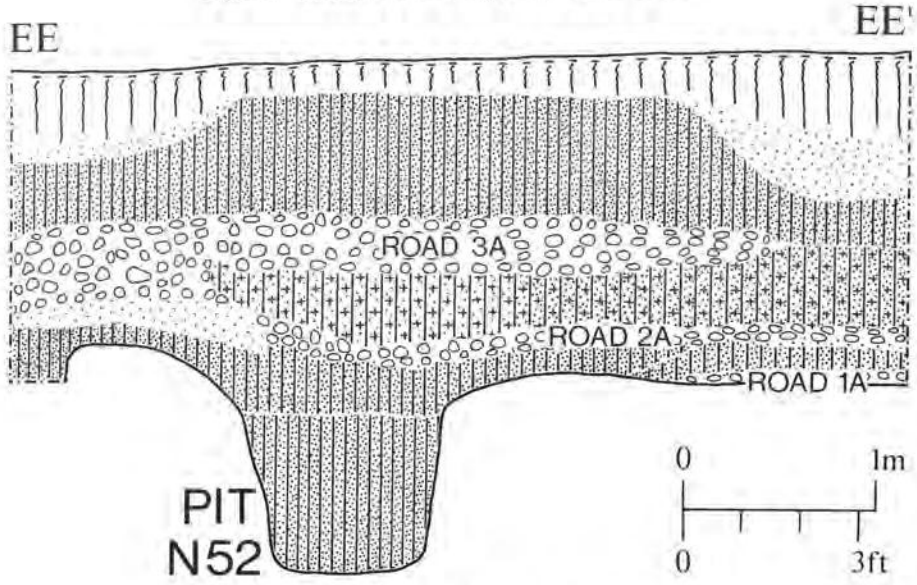


Fig. 58 Section EE-EE', roads 1A, 2A and 3A and pit N52. Scale 1:40.

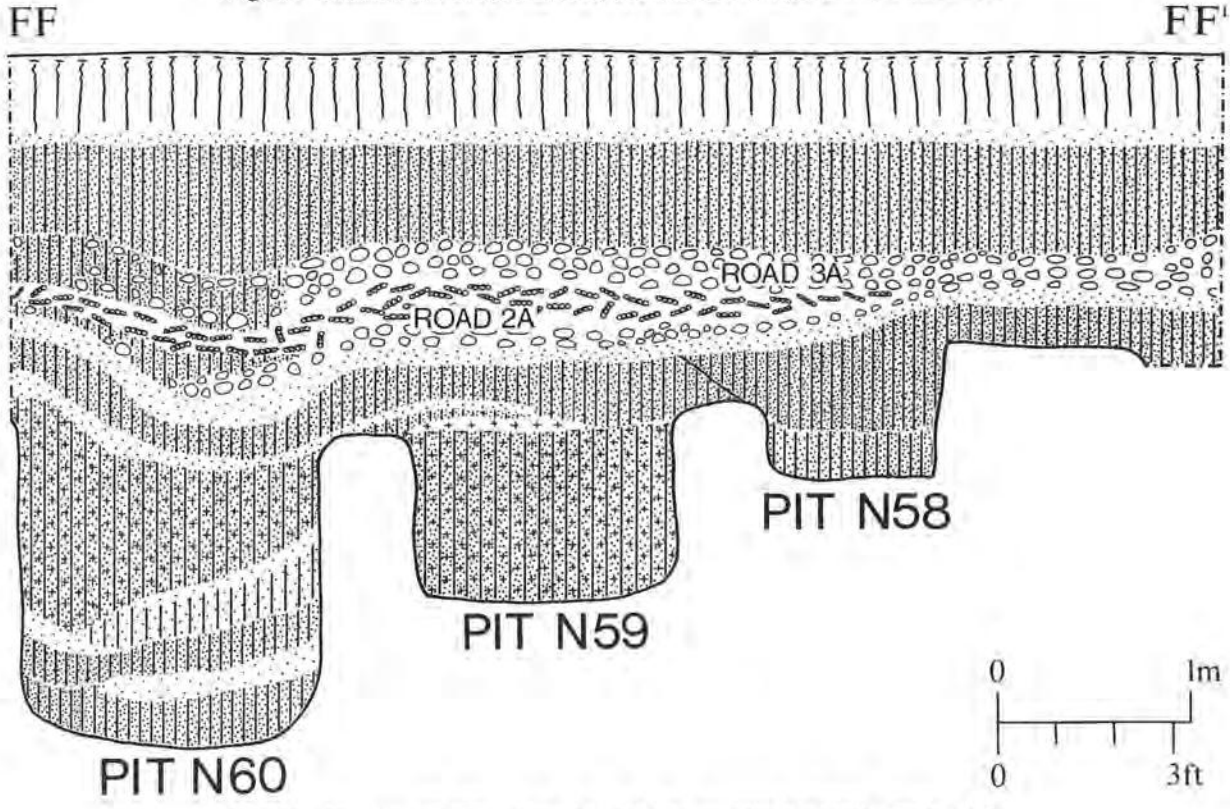


Fig. 59 Section FF-FF', roads 2A and 3A and pits N58-60. Scale 1:40.

The Roads

Roads 1-3 (Sect. DD-DD[1], Fig. 57).

*R*1-3 passed N from Site 2S along the W side of Site 2N. They were exposed in an extension W of *G*VII, and recorded in one section. Unfortunately, there was an unrecorded baulk, 0.6m wide, between this section and that drawn across *G*IV-VI. *R*1 lay on natural, E of a feature that only appears in section. *R*2 was laid on layers of sand and soil which appear to be within a feature cut almost from ground level. *R*3 lay under a topsoil less than 0.4m thick. A layer of rough cobbling extended NE from the roads across *G*VII at about the same depth as *R*2. Its extent was not certain and it is not shown on Fig. 49.

Small finds On *R*1, W of *G*VII: iron spur (Fig. 140, No. 266). Topsoil above *R*3, W of *G*VII: iron staple (Fig. 127, No. 118), nail.

Roads 1A-3A (Sect. EE-EE[1], Fig. 58 and FF-FF[1], Fig. 59).

Three superimposed road surfaces ran W to E at the N end of Site 2N. Although the S edges of *R*2A and 3A came within *G*XXIII and XXVN, they were adequately sectioned only in *G*XXIIIA.

*R*1A lay on natural and consisted of a thin layer of flints. Its width was more than 7ft (2.1m), but its northern edge lay outside the excavation. The southern edge is not shown on Fig. 48.

*R*2A was constructed of flints and iron slag. It sealed *P*N51-2, and N58-60, and probably sealed *P*N53. It was cut by *P*N73 and presumably by *P*N50.

*R*3A was almost 1ft (0.3m) thick and made of 'rammed' flints. In some places it directly overlay *R*2A, in others they were separated by soil and ash. *R*3A sealed *P*N50 and was probably cut by *P*N57.

Pottery Apart from 10 TH from make-up of *R*1A, there is no reliable series for these roads because bags carry unclear descriptions and probably include material from outside the road line.

Small finds Below *R*2A: iron strip. Make-up of *R*2A: iron knife, nail. Make-up of *R*2A and/or 3A: lead fragment. Iron; rod (Fig. 136, No. 231), heckle tooth, knife, horseshoe, nails. Make-up of *R*3A: Cnut penny (Fig. 108, No. 6); iron key (Fig. 132, No. 179), flesh hook (Fig. 133, No. 195). Above *R*3A: iron staple (not illus. No. 116a).

The Pottery Kilns

Kiln 3—(Fig. 60 and Sect. VI-VI[1], Fig. 61; *G*XXI). The surviving portion measured 4ft (1.2m) N to S and 3ft (0.9m) E to W; the northern part, including the flue and stoke-hole had been cut away, probably by the stoke-pit of *K*1. The burnt clay W wall of the combustion chamber was *c.*3in (8cm) thick and survived to a height of 2ft (0.6m). The incurving profile of the W wall on the line of Sect. VI-VI[1] suggests that an arch may have sprung from this point, although the E wall was noticeably less vertical. The kiln was cut *c.*1ft 3in (0.38m) into ? natural sand and was partly overlain by *K*2.

Pottery Material lost or muddled. Surviving TH sherds (Fig. 153, No. 23; Fig. 154, No. 45; Fig. 156, No. 93; Fig.163, No. 211).

Kiln 2—(Fig. 60 and Sect. VI-VI[1], Fig. 61; GXVII, XXI and XXII). The surviving portion of the combustion chamber measured 6ft (1.8m) N to S and 4ft (1.2m) E to W. The flue and stoke-hole did not survive. The W wall which ranged in thickness between 3in and 6in (8-15cm) stood to a maximum of 2ft 6in (0.8m) above the floor. To the S the upper part curved inwards and midway along the W side an internal thickening may represent the springing of an arch. The clay floor of the combustion chamber survived in the N part but not to the S where it was replaced by a thin layer of 'burnt black' soil. Above this a 4in (10cm) thick elongated lump of burnt clay overlay the presumed line of the E wall. North of the lump, the filling consisted of alternating layers of ashy light brown and 'burnt black' soil with lumps of burnt and unburnt clay, while to the S it was predominantly light brown soil. Part of an arch, a cylindrical lump of burnt clay pierced by holes ¾in (2cm) in diameter lay in the upper filling. The kiln lay on the surface of natural, and the S part was possibly overlain by a burnt clay surface (*H*34).

Pottery Filling of combustion chamber: 1 ST (A1, 900-1150), 3 EM, 226 THS, 7 SN, 1225 TH.

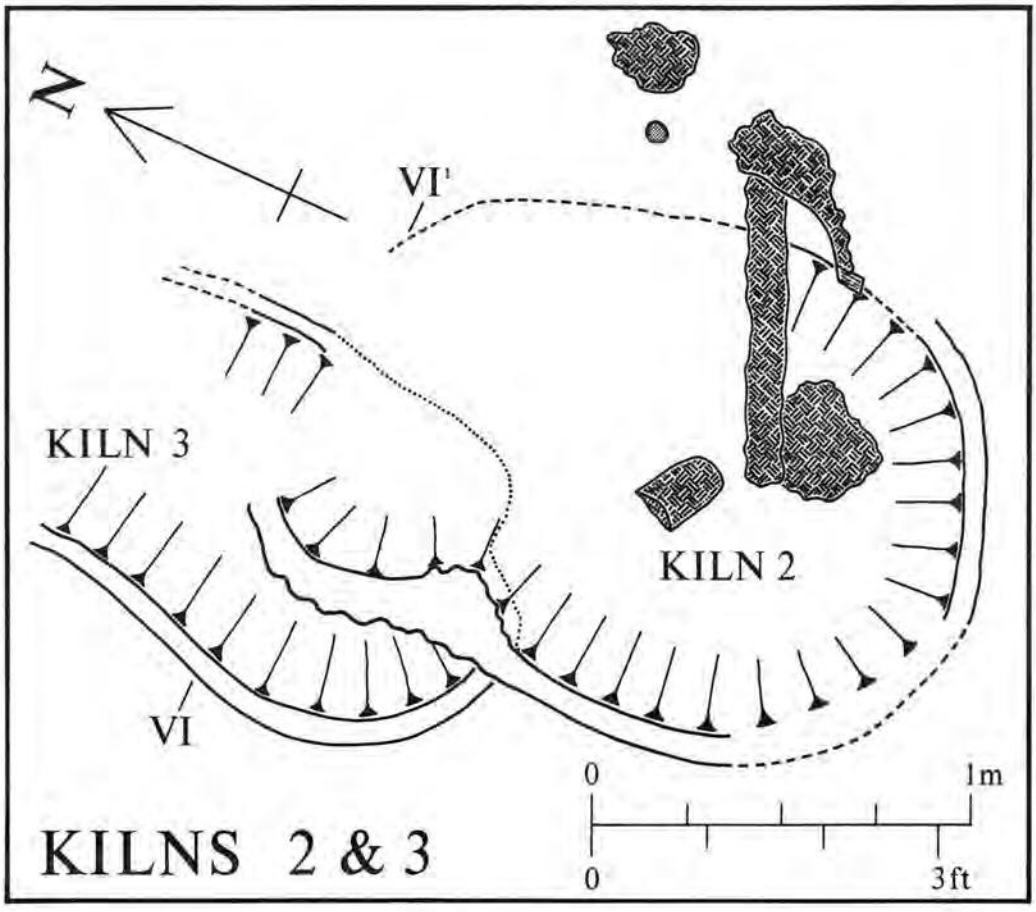


Fig. 60 Plan kilns 2 and 3. Scale 1:20.

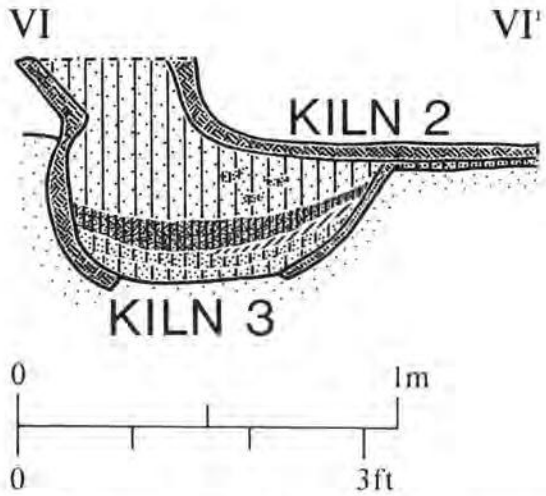


Fig. 61 Section VI-VI', kilns 2 and 3. Scale 1:20.

Kiln 1—(Fig. 62 and 63; *GXXII*). The remains of a single-flue updraught kiln in *GXXII* consisted of flue, flue arch, combustion chamber floor and walls, oven floor pierced by large vent-holes, and the lower parts of the oven walls. All these structural elements were built of chalky clay. The structure was aligned E to W, and the stoke-pit lay to the W.

Method of excavation. The top of the kiln was found 2ft-2ft 6in (0.6-0.8m) below the ground surface. An entry in the site notebook for the first week of June 1949 recorded that excavation had already exposed the oven floor and vent-holes, the tops of the walls and the base of the flue, and had reached well down into the eastern part of the stoke-pit. Excavation of the filling of the combustion chamber was extended 4ft 3in (1.3m) east from the west edge of the flue arch by Knocker, and he recorded four north-to-south sections. The filling between 4ft 3in and 5ft (1.3m and 1.5m) east of the arch was excavated by R.L.S. Bruce-Mitford and another north-to-south section was drawn at 5ft (1.5m). The remaining filling was removed by Knocker and further north-to-south and east-to-west sections were recorded. At the completion of work inside the combustion chamber, the remainder of the stoke-pit was emptied. At this point a series of plans, sections and elevations of the kiln structure were drawn by A. Crossley of the Science Museum. Finally the whole structure was carefully dismantled and six north-to-south sections were recorded through the walls and floor on the same lines as the sections drawn across the filling. Dismantling finished on October 27. Thus, the work was carried out intermittently over a period of almost five months.

The flue comprised two 'cheeks' of clay which extended 3ft (0.9m) west of the flue arch. On dismantling these were seen to be the result of two additions. The original 'cheeks' had projected only 9in (0.23cm) west of the arch. Stake-holes were recorded close to the outer edges of the original 'cheeks' and seem to have penetrated through the full height of the walls. A further stake-hole was found on the north side of the north 'cheek' at the junction between the first and second additions, and another was found within the second addition. Yet another was situated on the inner edge of the first addition of the south 'cheek'. The tops of the later additions sloped steeply down to the west at a fairly constant angle so that their westernmost points were only a few inches high. The uneven floor of the flue was of burnt clay. It extended slightly to the west of the 'cheeks' and continued east to form the floor of the combustion chamber.

The Combustion Chamber. Dismantling showed that the walls had been constructed in two phases. A skin of hard fired clay covered by the red burnt clay of phase 2 was recorded first within the north wall and then further east within the southern wall. The six north-to-south sections would enable a plan of phase 1 to be reconstructed which would show a kiln aligned with its flue *c.* 11° north of that of phase 2. The floor of both phases appears to have been at the same depth except beneath the west edge of the flue arch where the phase 1 floor was *c.* 7in (18cm) lower. At one point in the centre area of the chamber neither floor was present. The height of the phase 1 walls, to judge from their curvature, was considerably less than those of phase 2. The phase 2 walls, where not applied to the inside of those of phase 1, were 1ft (0.3m) thick. They were burnt hard grey on the inside, and behind this skin they were burnt soft red. The inner hard skin was not present below the flue arch, and was not recorded until 2ft 6in (0.8m) east of the arch. Their outermost parts were unburnt and were laid directly against the edge of the pit dug to receive the kiln. A narrow gap between the outside and underside of the west half of the south wall was filled by a layer of black and dark brown soil.

The Oven floor comprised four elements: a flue arch, 'dome', another north-to-south arch, and a short segment of longitudinal arch at the east end. The flue arch was flat-topped while its underside was curved. Beneath where it joined the walls, wedges of clay had been applied to the inside of the walls. These were thought to be the remains of an earlier arch, but as they were applied to an already burnt surface it is more likely that they served as added supports. Other signs of patching, applied with the fingers, were noted on the north wall. The flue arch was supported by 'multiple' internal withies.

The next element, called by Knocker the 'dome', sprung from the flue arch, the north and south walls, and the east arch. It was not supported by withies.

The eastern arch sprung from the north and south walls and contained two internal withies. At its junction with the walls, there was evidence of repair or patching.

The short segment of longitudinal arch sprung from the east wall and was attached to the east transverse arch. It was not supported by withies.

The oven walls were of one build with those of the combustion chamber, and survived to a maximum height of 11in (28cm) above the oven floor. The top terminated unevenly and had clearly been truncated or had collapsed.

Although the site records are not clear on this point, it seems as though the flue arch and the eastern transverse arch were constructed first, and perhaps fired to a reasonable hardness. Then the 'dome' and longitudinal arch were luted onto them. Large fragments of storage jars had been used to repair the oven floors, but it is not certain which parts were mended in this way.

The spaces between the dome, transverse arch and longitudinal arch served as vent-holes.

The filling above the oven floor. The records relating to the soil over the oven floor and in the vent-holes are very sparse, but it seems that burnt clay and large quantities of pottery were encountered immediately below the topsoil. The north-east and south-east vent-holes were 'stuffed' with cresset lamps and jars. The other two did not contain whole pots. The relationship between the fillings of the vent-holes and the upper filling of the combustion chamber is uncertain. Apart from the burnt clay on or above the oven floor no other evidence of the nature of the oven roof was retrieved.

The filling of the combustion chamber was recorded in six transverse and one partial longitudinal section. A longitudinal section extrapolated from the six transverse sections shows that all layers were relatively horizontal and in the main continued the whole length of the combustion chamber. As mentioned above, the filling of the flue was excavated without record, as was that of the stoke pit, so that the combustion chamber filling cannot be related to stratification further west. The site notes relating to the filling are particularly extensive, and an attempt was made to bag finds from each layer separately, even when the layers was very thin and/or discontinuous. A digest of Bruce-Mitford's notes which Knocker intended to publish as a resumé of the complex stratification is reproduced below with minor alterations.

'Layer A consisted of fine dark earth, containing little or no burnt clay or kiln structure material. It seemed to represent a secondary and more gradual infiltration of earth into the interior.

Layer B contained a considerable quantity of red clay, some soft and easily broken and some baked hard. A half-fired cooking-pot with loop handle, fired grey came from this layer, while just below the layer came the base of a soft unfired pot of red clay. A bronze finger-ring with a broad, bevelled hoop, unjoined, was also found (Fig. 110, No. 15).

Running through Layer B were three black layers, marked T.B.L., 2B.L. and 3B.L. on Section V-V' (Fig. 63). From the centre of 2B.L. came some soft red clay forming a pad 1-1½in (2.5-3.8cm) thick.

Stratification was difficult below 3B.L., the general character consisting of many short horizontal layers, below which was a fairly thick layer of light sandy soil, layer C, with a little charcoal and white ash.

Below layer C a thick black layer 4B.L. contained a large quantity of kiln construction material, perhaps split off from the walls and arch.

Layer D was another band of light sandy soil and lay below 4B.L.

5B.L. lay below layer D. One piece of unfired pot was found as well as a fair number of rims. A flat base, bevelled for attachment, but not joined to the walls of a pot also came from this layer.

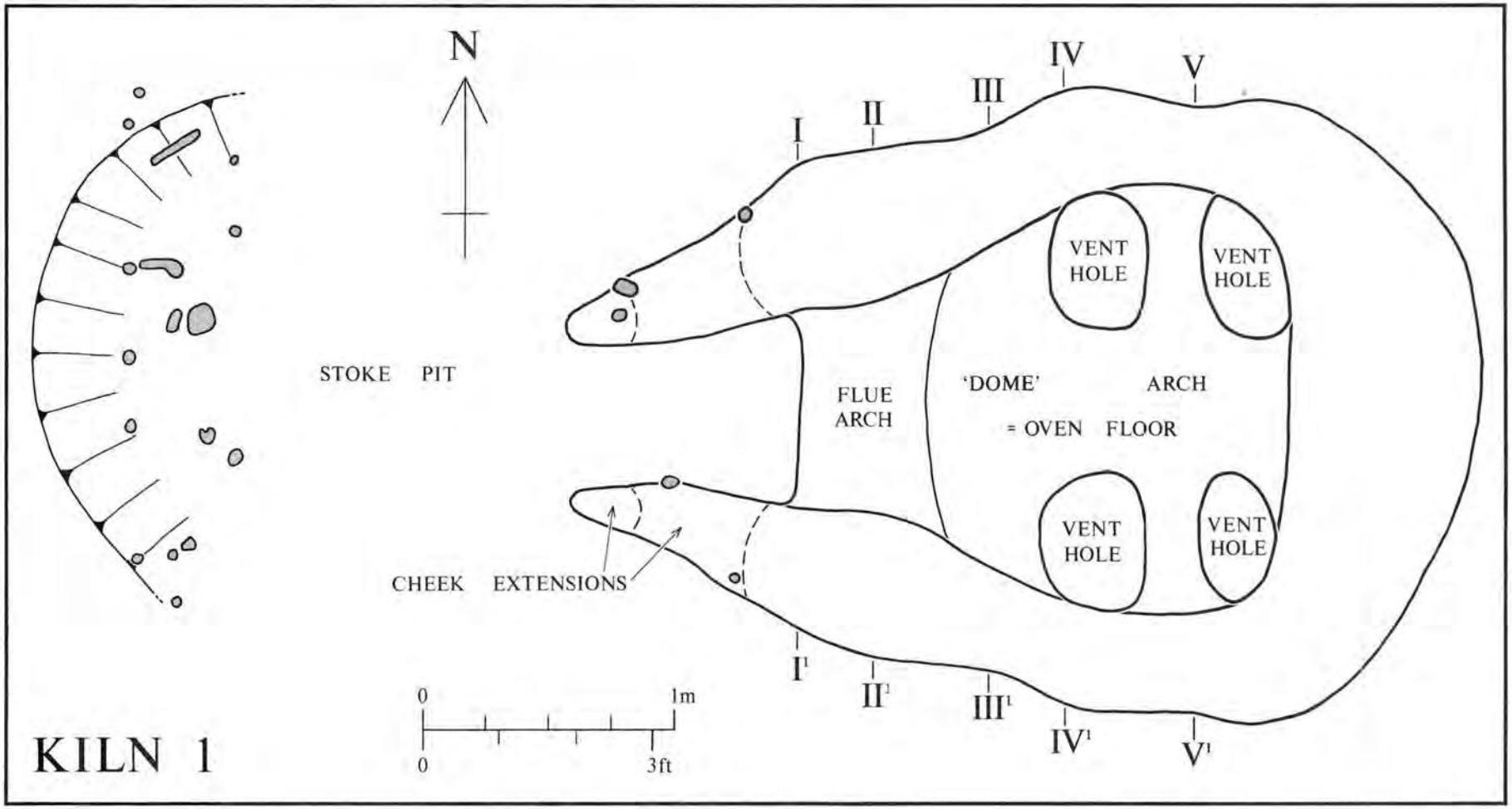


Fig. 62 Plan kiln 1. Scale 1:25.

Layer E and 6B.L. tended to merge together.

Layer F was composed of clay and ash rather than sand and included a band of soft, red clay, extending out from the N wall of the kiln.

7B.L. and layer G. The top of these two layers contained the most charcoal found in the kiln, but it quickly changed into grey-black ashy sand charged with carbon. It contained little soft clay.'

The stoke pit. As described above, a large part of the stoke pit had been excavated before the kiln was discovered. The W edge was 7ft (2.1m) W of the end of the flue cheeks, in the E edge of *G*XXI; and the base was *c.*2ft (0.6m) below the surface of natural. The N and S edges of the pit were not recorded. Numerous stake-holes ran N-to-S at the W end. The filling consisted of almost black soil with quantities of pottery.

The relationship of K1 to surrounding deposits. It is certain that all surviving parts of the kiln were below the ground surface at the time of its construction. From this it is clear that it was built relatively late in the occupation of the site; it cut through at least 2ft (0.6m) of layers above natural, and besides a small amount of 'top debris' it was sealed only by the topsoil. The N wall definitely cut *P*N25, N25A, and N70.

Pottery All contexts associated with the kiln including the stoke-pit produced the following totals: 2 Med. gl., 3 GMT, 1 ST (Form early V5 G6, 1020-1080), 8 EM, 2555 THS, 49 SN, 8617 TH.

Discussion. The fragmentary remains of *K*2 and 3 show that they were of Musty's (1974) Type 1B, single-flue updraught kilns with raised oven floors supported on arches.

*K*1 was also of this type and apart from the greater complexity of the oven floor, its main point of interest is the enormous volume of the combustion chamber.[5] This volume, the height of which is exceptional, exceeds that of any other Saxo-Norman kiln (as Hurst 1976, fig. 7.32 clearly demonstrates). The height cannot be explained by the fact that the kiln walls incorporated those of a predecessor because all layers within the combustion chamber are subsequent to the construction of the walls. Nor can successive heightenings of the walls as layers within the chamber accumulated, explain the height, because an inner skin of hard fired clay extended from the base to the top of the walls. No sign of such heightenings are visible in sections or photographs.

No answers to the technological problems which would surely be involved in the practical workings of this kiln are offered here, but it is hoped that the more than usually complete records will enable others to do so[6]. *K*1 was certainly extraordinary in terms of size and its products, both flat-based ugly jars and Smooth Ware (THS) are atypical and partly alien to the mainstream Thetford potting tradition.

The Pits

***PN*1**—(*G*I). Subrectangular; 5ft 6in (1.7m) by 4ft (1.2m); dug 7in (18cm) below natural; filled with ash; uncertain relationship with *P*N2.
Pottery 45 TH.
Small finds Iron ? knife (lost).

***PN*2**—(Sect. CC-CC[1]; Fig. 56; *G*I). W part not excavated; uncertain shape; min. 6ft (1.8m) across; uncertain relationship with *P*N1.
Pottery 39 TH.
Small finds Two flint flakes.

***PN*3A-C**—(*G*III). Dimensions of each pit uncertain; A and C, filled mostly with ash and 13ft 6in (4.1m) deep; B filled with sandy soil; A with vertical ? wood stain around edges from lip to base; all three cutting *H*15; sealed by *H*30.
Pottery 12 ST (2-30 A0, 2-33 A0, 5-72 D4/4, 1 D0, 1 D4, 5 A0, 2A1, group *c.*980-1030), 2 EM, 88 SN, 688 TH.
Small finds Lead strip and sheet fragment. Iron; two staples (Fig. 128, Nos. 129 and 130), strap (Fig. 130, No. 152), object (Fig. 135, No. 226), spur (Fig. 141, No. 274), two heckle teeth, knife, three nails, miscellaneous fragments. Stone spindle-whorl (Fig. 148, No. 6); hone (Fig. 147, No. 22). Bone; needle (lost), tubular object (Fig. 194, No. 69), strips with iron rivets (Fig. 188, No. 25).

***PN*4A**—(*G*VII). Roughly oval; 6ft (1.8m) by 4ft 6in (1.4m), 9ft 6in (2.9m) deep; filled with dark brown soil and sand layers below light brown ashy soil; cutting 'black layer full of pottery', *H*17/18; cut by *P*N4B. Human cranial fragments from *P*N4A or B. (p.186).
Pottery (Muddled with *P*N4B) 4 ST (5-01 A1, 1 A0, 2 G1, group *c.*1100-1130), 2 EM, 16 THS, 2 SN, 586 TH, 5 unident.
Small finds Lead strip. Iron; saw (Fig. 117, No. 13), knife. Bone; comb (Fig. 187, No. 9), comb connecting plate (Fig. 187, No. 10), gouge (Fig, 198, No. 93).

***PN*4B**—(*G*VII). Irregular; averaging 5ft 6in (1.7m) across; 9ft 6in (2.9m) deep; filled with sticky soil below dark brown soil with sand and ash; some burnt clay near lip; cutting *P*N4A and 'black layer full of pottery', *H*17/18.
Pottery See *P*N4A.
Small finds Iron sheet and rod fragments.

***PN*5**—(*G*I). S part not excavated; dug min. 5ft (1.5m) below natural; filled with light brown ashy soil with many sand lenses; cutting *P*N72; sealed by clay floor of *H*23.
Pottery 79 TH.
Small finds Iron knife (Fig. 123, No. 64), latch rest (Fig. 131, No. 168); sawn red deer antler tine.

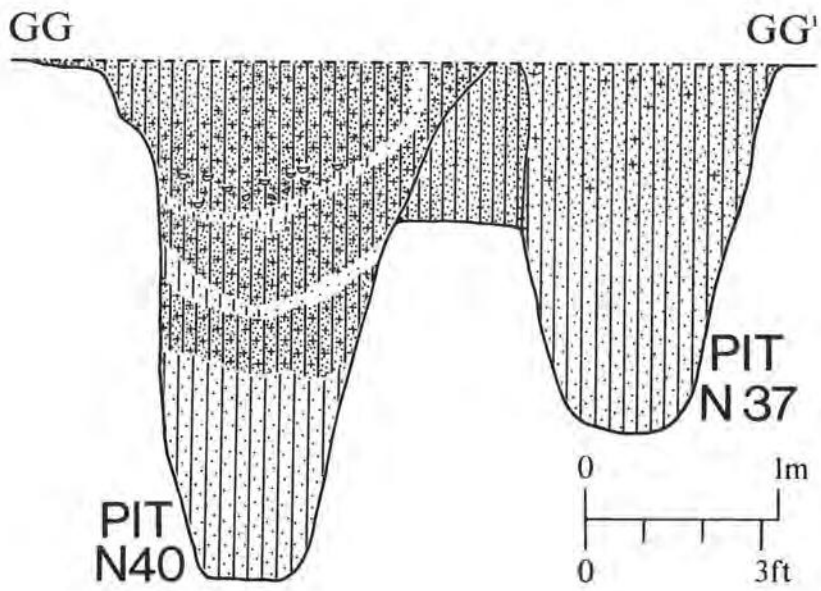


Fig. 64 Section GG-GG[1], pits N37 and N40. Scale 1:40.

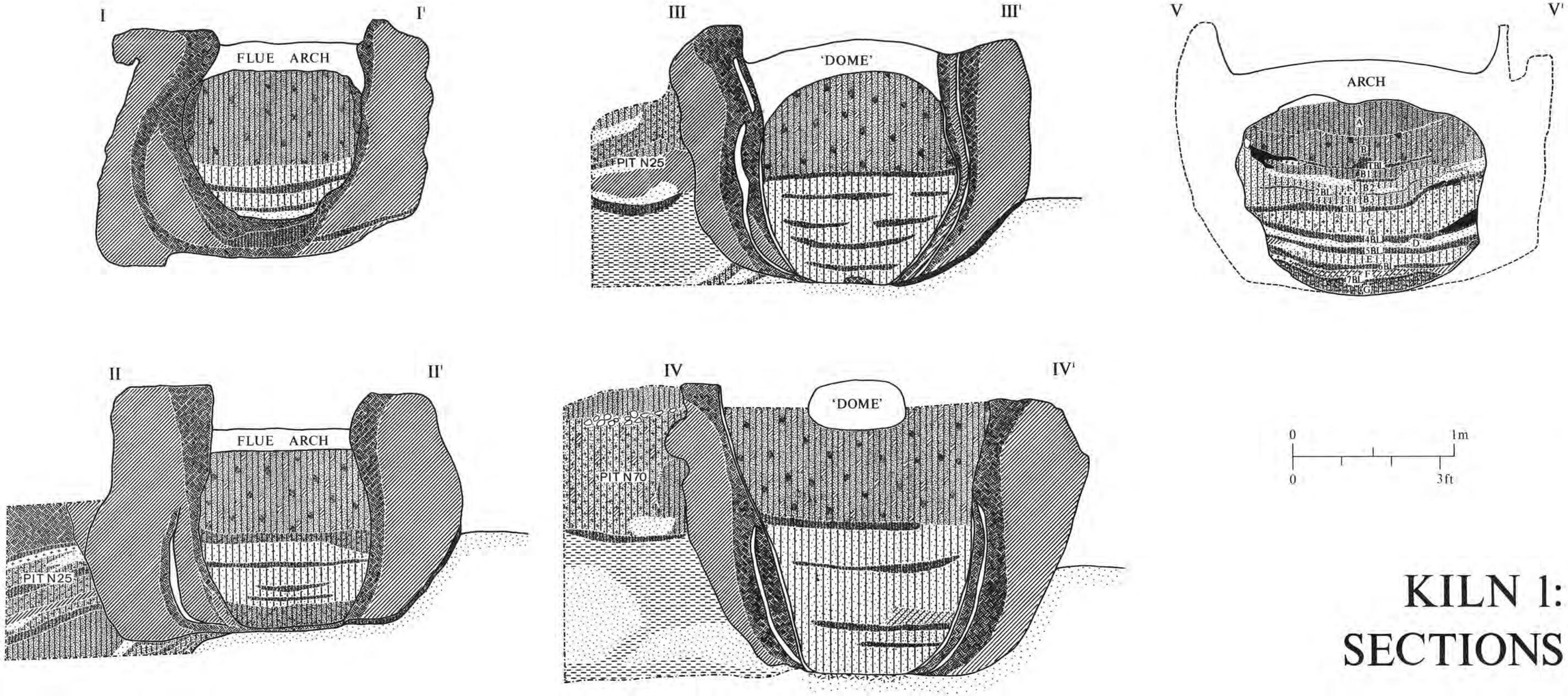


Fig. 63 Sections kiln 1. Scale 1:20.

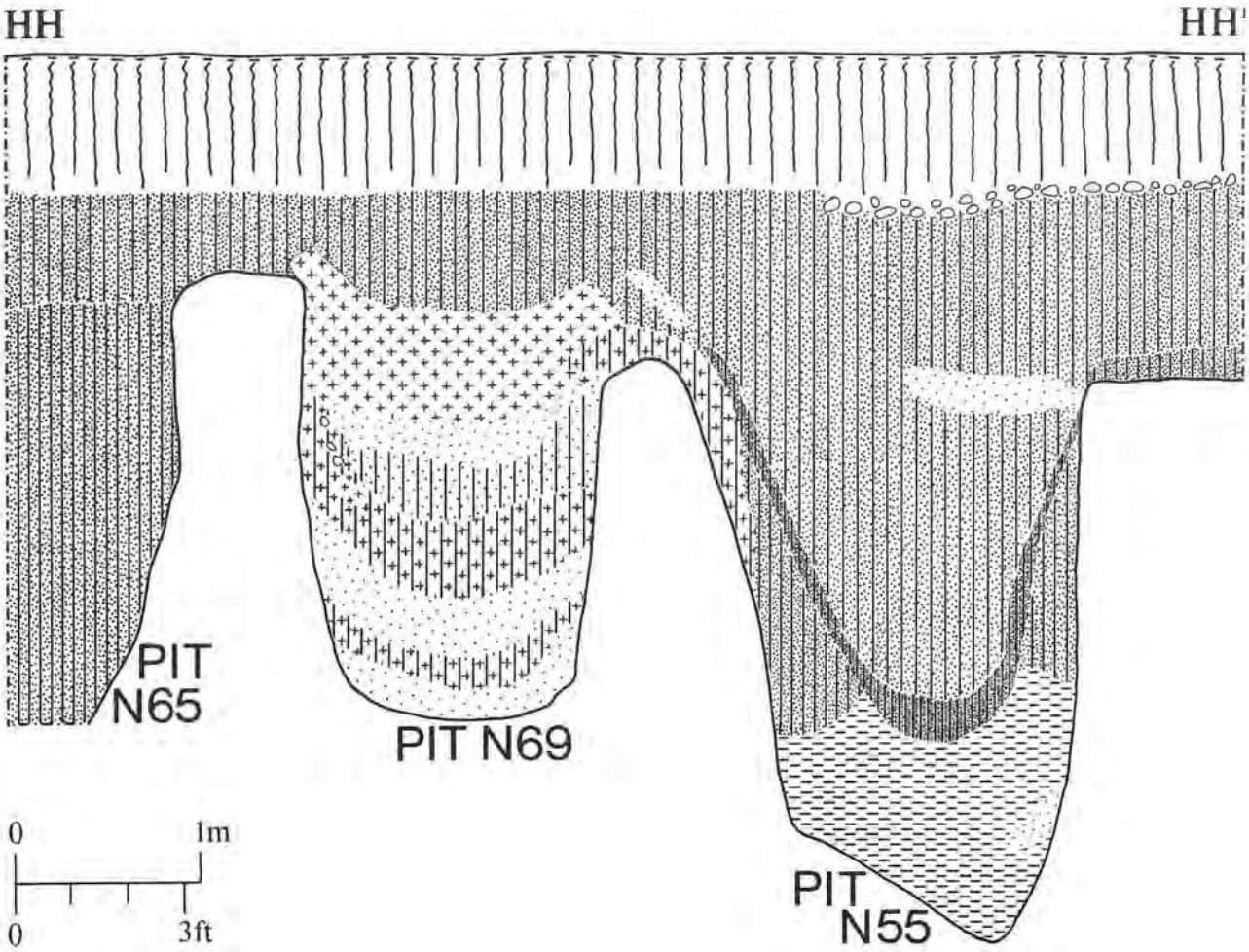


Fig. 65 Section HH-HH', pits N55, N65 and N69. Scale 1:40.

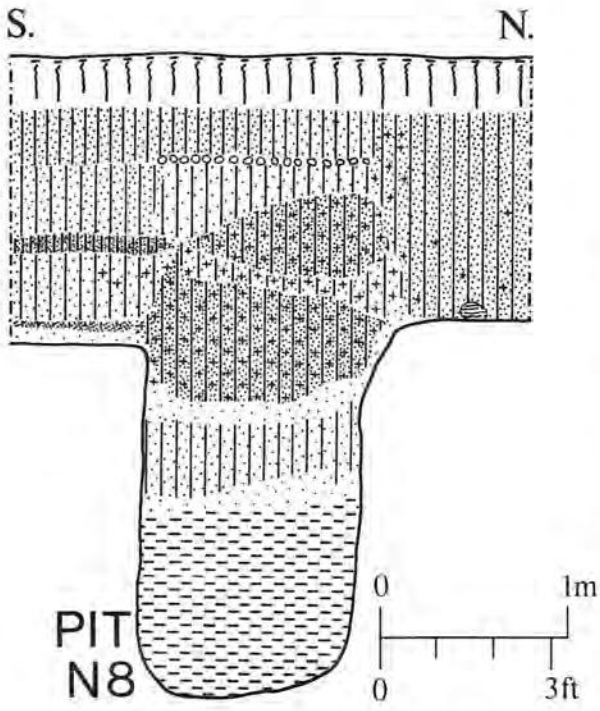


Fig. 66 Section pit N8. Scale 1:40.

PN5A—(*GI*). S part not excavated; min. 2ft (0.6m) deep; filled with soil and ash; cutting clay floor of *H*23; sealed by clay floor of *H*30.
Pottery 15 TH.

PN6A—(Sect. X-X', Fig. 50; *GX*). E part not excavated; min. 6ft (1.8m) across; 6ft (1.8m) deep; cut by *P*N6B.
Pottery (Mostly muddled with *P*N6B) 56 TH.
Small finds Iron knife (Fig. 123, No. 55).

PN6B—(Sect. X-X', Fig. 50; *GX*). E part not excavated; min. 4ft 6in (1.4m) by 4ft (1.2m); 6ft (1.8m) deep; earlier than *P*N36; cutting *P*N6B.
Pottery See *P*N6A.

PN7—(Sect. X-X', Fig. 50; *GVI*). Roughly circular; diam. *c.*6ft (1.8m); 7ft (2.1m) deep.
Pottery 1 THS, 2 GMT, 1 SN, 72 TH.
Small finds (Uppermost filling) Iron sledge hammer (Fig. 115, No. 4).

PN8—(Fig. 66; *GIV*). W part not excavated; 9ft (2.7m) deep; lower sticky filling included green soil; uncertain relationship with *R*1-3.
Pottery 35 TH.
Small finds Uppermost filling: iron punch (Fig. 116, No. 9), horseshoe. Lower filling: bone strips with iron rivets (Fig. 188, No. 26).

PN9—(*GVI*). Subrectangular; 5ft 6in (1.7m) by 3ft 6in (1.1m); dug 3ft 6in (1.1m) below natural; filled with dark brown soil; probably earlier than clay floor of *H*26.
Small finds Uppermost filling of *P*N9 or 10: hone (Fig. 147, No. 23).

PN10—(*GVI*). Oval; 5ft 6in (1.7m) by 3ft (0.9m); dug 3ft 6in (1.1m) below natural; filled with dark brown soil and sand; probably earlier than clay floor of *H*26.
Small finds See *P*N9.

PN11—(*GV*). Irregular; averaging 4ft 6in (1.4m); 3ft 6in (1.1m) deep; filled with dark brown soil and ash; cutting sunken feature of *H*24; sealed by clay floor of *H*24.
Small finds Iron file (Fig. 116, No. 10), knife (Fig. 123, No. 70).

PN12A—(*GIX*). Probably circular; diam. *c*.5ft 6in (1.7m); excavation down to 13ft (4m) below natural halted by collapse; filled with dark soil; layer of stones towards lip; cut by *PN*12C; probably earlier than *PN*12B; possibly sealed by 'decayed floor' of *H*27.
Pottery (Partly muddled with *PN*12C) 25 TH.

PN12B—(*GIX*). Oval; 7ft (2.1m) by 5ft (1.5m); dug 6ft 6in (2m) below natural; filled with layers of dark brown soil and ash below light brown soil with lenses of black soil; cutting *PN*74; cut by *PN*12C; probably later than *PN*12A; possibly sealed by decayed floor of *H*27.
Pottery Mainly missing, surviving sherds all TH.
Small finds Iron; heckle tooth (Fig. 119, No. 28), staple (Fig. 127, No. 120), nail, rod fragment. Hone (lost); chalk object (Fig. 149, No. 6); two bone needles.

PN12C—(*GIX*). Circular; diam. 5ft 6in (1.7m); dug 7ft (2.1m) below natural; filled with dark brown soil with ash; layer of sand near lip; cutting *PN*12A and B; uncertain relationship with *PN*21; possibly sealed by 'decayed floor' of *H*27.
Pottery 21 TH (others muddled with *PN*12A).
Small finds Bone double-ended implement (Fig. 192, No. 57).

PN13A and C—(Sect. X-X[1], Fig. 50; *GXIV*). E part not excavated; probably weathering cone of *PN*13B; 10ft (3m) deep.
Pottery *PN*13A. 1 ST(16-02 DO, 900-1020), 10 EM, 12 THS, 5 SN, 74 TH.
Small finds *PN*13A: Glass linen-smoother (Fig. 151, No. 3).

PN13B—(Sect. X-X[1], Fig. 50; *GXIV*). Circular; diam. 3ft 6in (1.1m); dug 18ft (5.5m) below natural into chalk; filled with chalky soil; traces of wood at base; below *PN*13A and C.
Pottery 3 THS, 14 TH, 3 unident.

PN14—(*GXX*). Roughly circular; diam. *c*.6ft (1.8m); dug 6ft (1.8m) below natural; uncertain relationship with sunken feature of *H*19; partly sealed by clay floor of *H*19.
Pottery Partly missing; surviving sherds 3SN, 108 TH.

PN15—(*GXIX*). Roughly circular; diam. *c*.6ft (1.8m); excavated to 10ft (3m) below natural; base not reached; upper filling of ash, charcoal, and burnt clay; uncertain relationship with sunken feature of *H*19.
Pottery 830 TH.
Small finds Bone spindle-whorl (lost).

PN16—(Sect. Z-Z[1]; Fig. 52; *GXII*). Roughly circular; diam. *c*.6ft (1.8m); excavated 13ft (4m) below natural; probed 6ft (1.8m) deeper; lower filling of sticky soil; partly sealed by 'black layer full of pottery', *H*17/18.
Pottery 1 SN, 87 TH.
Small finds Iron horseshoe (Fig. 142, No. 277).

PN17—(*GII*). Irregular; averaging 4ft (1.2m) across; dug 6ft 6in (2m) below natural; filled with dark brown soil and ash.
Pottery Missing.

PN18A—(*GXII*). Oval; 7ft 6in (2.3m) by 5ft (1.5m); 12ft (3.7m) deep; filled with dark sticky soil below alternating layers of charcoal and dark brown ashy soil; cut by *PN*18B; relationship with 'black layer full of pottery', *H*17/18 uncertain.
Pottery Mainly missing; surviving sherds are ?EM and TH.
Small finds Iron heckle, nail; bone needle.

PN18B—(*GXII-XVI-XVII*). Oval; 6ft 6in (2m) by 5ft (1.5m); 11ft (3.4m) deep; upper filling of dark brown ashy soil; cutting *PN*18A and C; relationship with 'black layer full of pottery' *H*17/18 uncertain.
Pottery 1 ST (V16 or 19 A0, 950-1100), 2 EM, 18 SN, 418 TH, 2 Rhenish blue-grey.
Small finds Copper alloy finger or ear-ring (Fig. 110, No. 17). Iron; knife (Fig. 124, No. 88), staple (Fig. 127, No. 124), nail. Bone; double-ended implement (Fig. 192, No. 58), spindle-whorl (lost), sawn and knife-cut red deer antler tine. Above pit: crucible (bag 954, Table 3).

PN18C—(*GXVII*). Roughly circular; 5ft 6in (1.7m) diam; excavated to 13ft (4m) below natural; base not reached; filled with ash and dark brown soil; burnt clay layer near lip; cut by *PN*18B.
Pottery 1? EM, 1 SN, 28 TH.
Small finds 2 iron nails.

PN18D—(*GXVII*). Oval; 5ft 6in (1.7m) by 4ft (1.2m); dug 3ft (0.9m) below natural; many shells in upper filling; sealed by clay floor of *H*34.
Pottery 27 TH.
Small finds Bone comb connecting plate (Fig. 187, No. 13) and double-ended implement (Fig. 193, No. 60).

PN19—(*GXIII*). Oval; 6ft 6in (2m) by 3ft 6in (1.1m); dug 3ft (0.9m) below natural; filled with dark brown soil; capped with stones.
Pottery 1 THS, 12 TH.

PN20—(*GXIII*). Roughly rectangular; 6ft (1.8m) by 4ft (1.2m); dug 3ft 6in (1.1m) below natural; filled with sand between two layers of dark brown soil.
Pottery 1 ST (A0, 900-1100), 10 THS, 51 TH.
Small finds Iron knife (not illus., No. 101b).

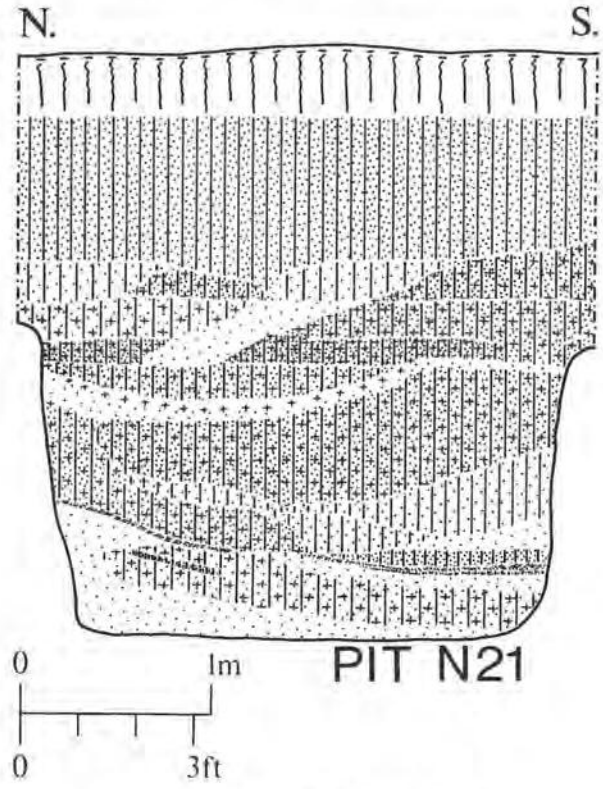


Fig. 67 Section pit N21. Scale 1:40.

PN21—(Fig. 67; *GVIII*). Roughly circular; diam. *c*.8ft (2.4m); dug 5ft 6in (1.7m) below natural; uncertain relationship with *PN*12C, *H*17, and 'black layer full of pottery' *H*17/18.
Pottery Mainly missing; surviving sherds all TH.

PN22A/B—(*GXVI-XVII*). Irregular; averaging 9ft (2.7m) across; dug 9ft (2.7m) below natural; thought to be double pit; filled with layers of sand, dark brown and light brown sand; capped by slag, burnt clay and chalk layer overlying clay floor of *H*34 to the E.
Pottery 12 SN, 136 TH.
Small finds Two iron knives; bone comb (Fig. 187, No. 12).

PN24—(*GVIII*). Irregular; averaging 5ft 6in (1.7m) across; dug 2ft (1.2m) below natural; filled with dark brown ashy soil with charcoal lenses; uncertain relationship with 'black layer full of pottery', *H*17/18.
Pottery Mainly missing; surviving sherds all TH.
Small finds Bone skate (Fig. 195, No. 81).

PN25—(Sect. II-II[1] and III-III[1], Fig. 63; *GXXII*). Sub-rectangular 8ft 6in (2.6m) by 7ft (2.1m); *c*.5ft (1.5m) deep; lower filling of sticky soil below ashy soil, ash, burnt and unburnt clay; thought to be wicker-lined; hearth with slag above SW corner; cutting *PN*25A; cut by *K*1.
Pottery 22 THS, 1 ?GMT, 1 SN, 202 TH.
Small finds Above pit: chalk? spindle-whorl or bead (Fig. 148, No. 7). Filling: Iron; knife (Fig. 122, No. 48), binding strip (Fig. 130, No. 159), nail. Bone comb tooth segment (Fig. 187, No. 11), skate.

PN25A—(*GXXII*). Sub-rectangular; 10ft 6in (3.2m) by 6ft (1.8m); dug 7ft 6in (2.3m) below natural; filled with brown ashy soil and layers of sand; cut by *PN*25.
Pottery 1 SN, 356 TH.

PN26—(*GXI-XV*). Oval; 6ft 6in (2m) by 5ft (1.5m); dug 6ft 6in (2m) below natural; filled with dark brown soil and layers of sand; sealed by clay floor of *H*19.
Pottery 2 ?THS, 1SN, 34 TH.
Small finds Iron knife (Fig. 123, No. 60), heckle tooth.

PN27—(*G*XV-XVI). Sub-rectangular; 6ft 6in (2m) by 5ft (1.5m); exavated to 10ft (3m) below natural; base not reached; filled with dark brown soil and ash towards lip; large void at 6ft (1.8m) from lip; cutting 'black layer full of pottery', *H*17/18.
Pottery 1ST (5-84 + M5 D5/5 950-1000), 3?THS, 9 SN, 375 TH. Many oxidised sherds.
Small finds Lead fragment; iron rod (Fig. 136, No. 232), miscellaneous fragments; hone (Fig. 147, No. 24), bone pin (Fig. 190, No. 45), knife-trimmed horse or ox metapodial. Above pit: crucible (bag 951, Table 3).

PN28A and B—(*G*XV). Pair with uncertain shapes; dug *c*.6ft (1.8m) below natural; uncertain relationship with all adjacent pits and sunken feature of *H*19; sealed by clay floor of *H*19; upper filling of A cut by post-hole. No recorded finds.

PN30-(*G*XVIII). Only SW part excavated, thought to be part of *P*N56 (*G*XXIII). human burial cut into upper filling (p.186). No finds.

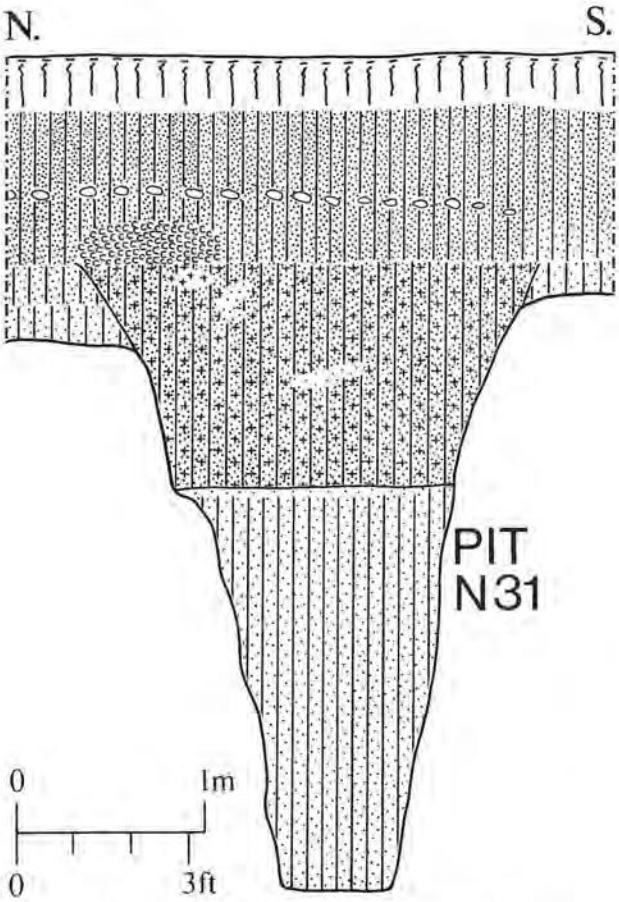


Fig. 68 Section pit N31. Scale 1:40.

PN31—(Fig. 68; *G*XVIII). Irregular; E part not excavated; 10ft (3m) deep; horizontal horizon between two fillings at same level as floor of *H*22.
Pottery Mainly missing, surviving sherds are SN and TH.
Small finds Chalk spindle-whorl (Fig. 148, No. 8).

PN32—(*G*II-III). Probably rectangular; 4ft 6in (1.4m) by 4ft (1.2m) dug 8ft (2.4m) below natural; filled with dark brown ashy soil; uncertain relationship with *H*15 and *P*N72.
Pottery Missing.

PN33—(Sect. CC-CC[1], Fig. 56; *G*I-IV). W part not excavated; dug 4ft 6in (1.4m) below natural.
Pottery Missing.
Small finds Iron knife.

PN34—(*G*II-V). Rectangular; 2ft 6in (0.8m) by 1ft (0.3m); uncertain relationship with *H*26.
Pottery Missing.

PN36—(Sect. X-X[1], Fig. 50; *G*VI and IX). E part not excavated; 7ft (2.1m) deep; later than *P*N6B.
Pottery 4 THS, 2 SN, 64 TH.
Small finds Bone double-ended implement (Fig. 192, No. 54).

PN37—(Sect. GG-GG[1], Fig. 64; *G*XVIII). Sub-square; 4ft 6in (1.4m) across; dug 6ft 6in (2m) below natural.
Pottery 1 EM, 1 THS, 42 TH.

PN38—(Sect. X-X[1], Fig. 50; *G*VI). E part not excavated; 7ft (2.1m) deep; overlain by hearth (scarcely visible in Fig. 50) associated with *H*31.
Pottery 1 ?THS, 24 TH.

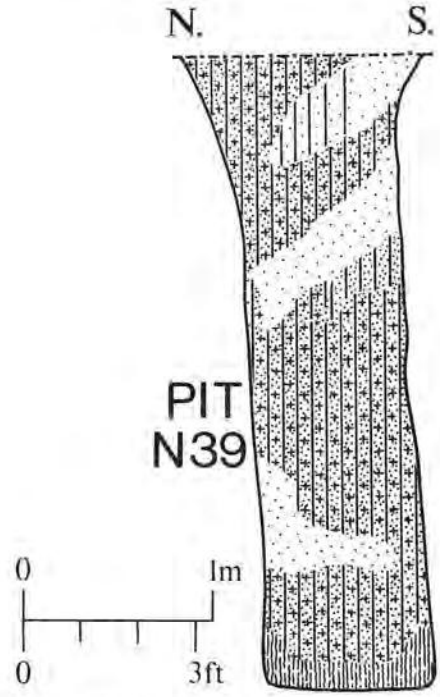


Fig. 69 Section pit N39. Scale 1:40.

PN39—(Fig. 69; *G*XIV). Roughly circular; diam. 4ft (1.2m); 11ft 6in (3.5m) deep; in lowest 1ft (0.3m) 'wooden bottom made of stout 3in thick planks with stave walls'; base cut into chalk.
Pottery 3 EM, 84 TH.
Small finds Iron hook (Fig. 133, No. 200), heckle tooth.

PN40—(Sect. GG-GG[1], Fig. 64; *G*XIII-XIV-XVII-XVIII). Irregular; averaging 5ft 6in (1.7m) across; dug 9ft (2.7m) below natural.
Pottery 10 ST (2-37 A0, 3 A0, 5 A1, 1 D5, 950-1100), 7 EM, 8 THS, 18 SN, 206 TH.
Small finds Iron horseshoe (Fig. 142, No. 287), strip; crucible (bag 934, Table 3).

PN41—(Sect. AA-AA[1], Fig. 53, *G*XX1). N part not excavated; dug 6ft 6in (2m) below natural; upper filling shared with *P*N42; sealed by ash/clay floor in *H*20.
Pottery 95 TH.
Small finds Iron knife (Fig. 124, No. 76).

PN42—(Sect. AA-AA[1], Fig. 53; *G*XX1). N part not excavated; dug 7ft 6in (2.3m) below natural; upper filling shared with *P*N41; contained 'some greenish soil'.
Pottery 17 TH.

PN43—(Fig. 70; *G*XV). W part not excavated; dug min. 8ft (2.4m) below natural; uncertain relationship with *P*N28B and *H*19; probably sealed by clay floor of *H*19 (floor not apparent in section, Fig. 70). No recorded finds.

PN44—(*G*XV). W part not excavated; dug min. 8ft (2.4m) below natural; filled with dark brown soil with sand layers; burnt clay and charcoal lenses near lip; uncertain relationship with *P*N28A; sealed by clay floor of *H*19.
Pottery Upper filling: 1 ?EM, 3 THS, 8 SN, 62 TH.
Small finds Upper fillings: iron awl (Fig. 120, No. 39).

PN45—(*G*XV). Circular; diam. 3ft 6in (1.1m); dug 8ft (2.4m) below natural; lower filling of dark brown soil and sand lenses sealed by dark soil with charcoal, lower filling of *H*19; upper filling of light brown soil, charcoal and sand lenses, and burnt clay; thought to be wood-lined, partly sealed by clay floor of *H*19.
Pottery 13 TH.

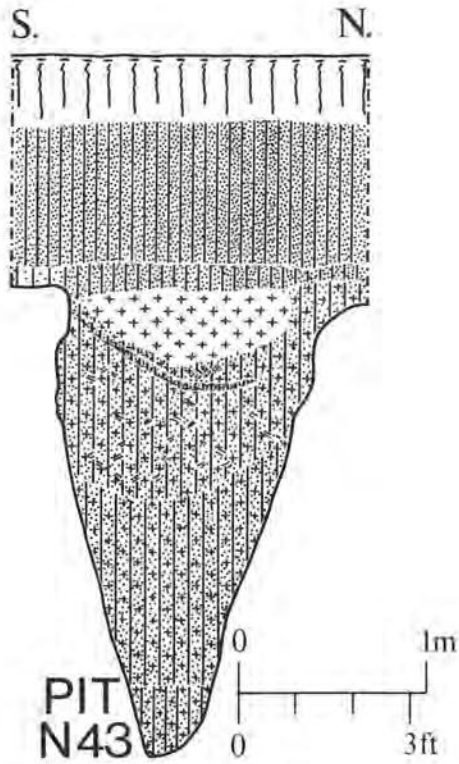


Fig. 70 Section pit N43. Scale 1:40.

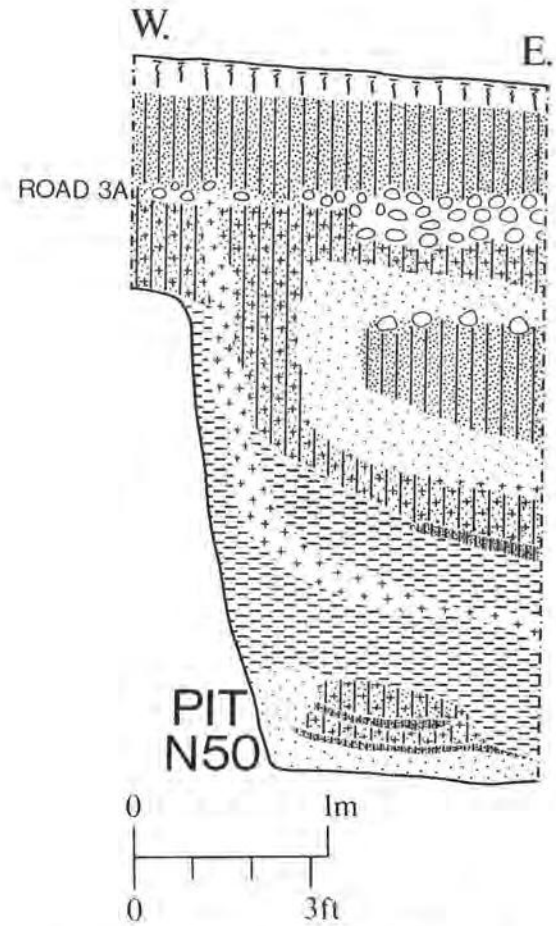


Fig. 71 Section pit N50. Scale 1:40.

PN46—(*G*XX). Circular; diam. 4ft (1.2m); dug 11ft (3.4m) below natural; filled with dark brown soil, sand, and ash; thought to have 'wooden bottom'; uncertain relationship with *H*19.
Pottery 35 SN, 190 TH.
Small finds Iron knife (Fig. 123, No. 69).

PN47—(*G*XI). Irregular; c.4ft (1.2m) across; dug 6ft (1.8m) below natural; filled with 'mostly ash' below dark brown soil with chalk as in upper filling or *P*N48; unknown relationship with roads.
Pottery 1 SN, 35 TH.
Small finds Bone strip (lost).

PN48—(*G*XI). W part not excavated; dug 5ft (1.5m) below natural; upper filling shared with *P*N47.
Pottery 9 TH.
Small finds Iron knife (Fig. 125, No. 96); bone double-ended implement (Fig. 193, No. 61).

PN49—(*G*XXIII). 3ft (0.9m) square; dug 8ft (2.4m) below natural; probably sealed by *P*N49A.
Pottery (Muddled with *P*N49A-C) 2 ?EM, 20 THS, 2 SN, 273 TH.
Small finds Copper alloy finger-ring (Fig. 110, No. 16). Iron; chain links (Fig. 134, No. 204), hinge pivot (Fig. 129, No. 139), bridle cheekpiece (Fig. 138, No. 251).

PN49A—(*G*XXIII). Irregular; c.14ft (4.3m) by max. 8ft 6in (2.6m); dug 4ft (1.2m) below natural; filled with brown soil, sand and lenses of charcoal; ashy soil above *P*N49; probably sealed by chalk wall and clay floor of *H*28.
Pottery See *P*N49.
Small finds Iron nail.

PN49B—(*G*XXIII). Probably rectangular; 2ft (0.6m) by min. 4ft (1.2m); dug 8ft (2.4m) below natural; filled with light brown soil and ash; probably cut by *P*N49A; sealed by clay floor of *H*28; uncertain relationship with *P*N49C.
Pottery See *P*N49.

PN49C—(*G*XXIII). Circular; diam. c.3ft (0.9m); dug 6ft (1.8m) below natural; probably cut by *P*N49A; partly sealed by clay floor of H28; uncertain relationship with *P*N49B.
Pottery See *P*N49.

PN50—(Fig. 71; *G*XXIII-XXVN). Roughly oval; 9ft (2.7m) by 7ft (2.1m); dug 8ft 6in (2.6m) below natural; filling contained two layers of sticky soil, sealed by *R*3A; uncertain relationship with clay floor of *H*32; probably not cutting floor as in plan (Fig. 49); floor probably slumped into partly filled pit, although not in section (Fig. 71).
Pottery 42 THS, 1 SN, 167 TH, 1 uncertain.
Small finds 'St. Edmund Memorial' penny (found 1m below surface of natural in ashy soil); iron heckle tooth, buckle, nail; crucible (bag. 1021, Table 3); flint hand axe (Fig. 150, No.1); bone comb (Fig. 187, No. 14), needle (Fig. 190, No. 39). Above pit: iron buckle (Fig. 137, No. 241); crucible (bag 982, Table 3).

PN51—(*G*XXIIA). Probably oval; c.6ft 6in (2m) by 4ft 6in (1.4m); filled with dark soil and ash; slag concentration near lip; sealed by *R*2A; cut by *P*N52.
Pottery 3 TH.
Small finds Bone skate (Fig. 196, No. 84); sawn red deer antler tine.

PN52—(Sect. EE-EE', Fig. 58; *G*XXIIA). Roughly circular; diam. 4ft 6in (1.4m); dug 3ft 6in (1.1m) below natural; sealed by *R*2A; cutting *P*N52.
Pottery 56 TH.
Small finds Iron clench bolt (Fig. 129, No. 136).

PN53—(*G*XXIIA). Roughly oval; 5ft 6in (1.7m) by 3ft 6in (1.1m); dug 2ft (0.6m) below natural; filled with dark brown soil and ash; probably sealed by *R*2A.
Pottery 9 TH.
Small finds Iron ? chain fitting (Fig. 134, No. 207).

PN54—(*G*XXIII). Oval; 6ft (1.8m) by 2ft 6in (0.8m); dug 4ft 6in (1.4m) below natural; filled with dark soil and ash; thought to have traces of 'wooden liner'.
Pottery 15 TH.

PN55—(Sect. HH-HH', Fig. 65; *G*XXIIIA). W part not excavated; dug 12ft (3.7m) below natural; lower 'sticky' filling thought to be cess; secondary 'wicker lining' represented by slumped layer of dark soil; ashy soil filling of *H*21 dipping into upper part of pit.
Pottery 1 SN, 41 TH.

PN56—(*G*XXIII). W part not excavated; dug min. 4ft 6in (1.4m) below natural; filled with dark brown soil; thought to be part of *P*N30 (*G*XVIII).
Pottery 2 ST (A1, B1, 1060-1200), 9 EM, 6 THS, 4 ?TH, 128 TH.

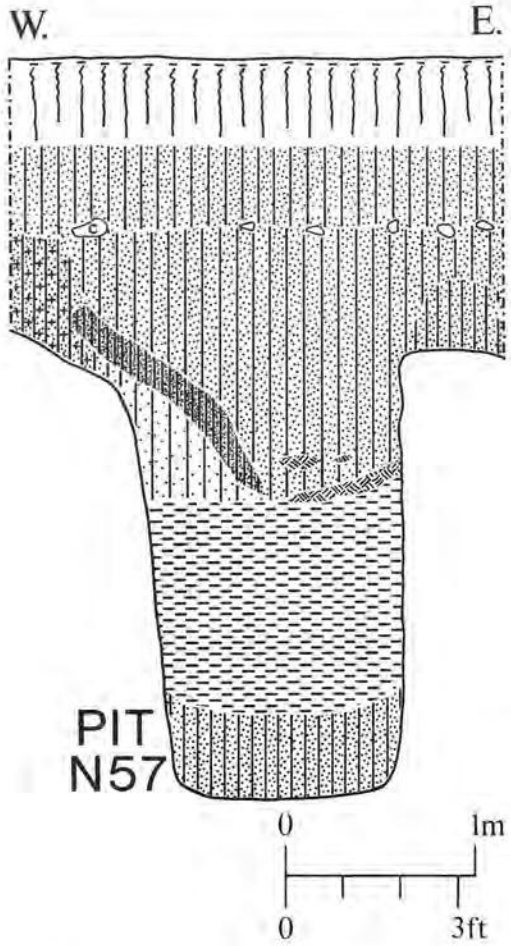


Fig. 72 Section pit N57. Scale 1:40.

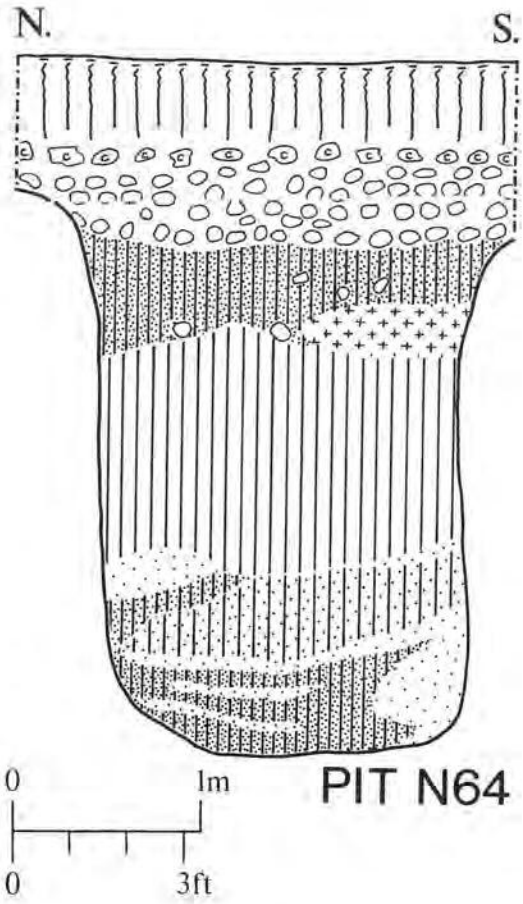


Fig. 73 Section pit N64. Scale 1:40.

PN57—(Fig. 72; *G*XXII-XXIIA). Irregular; averaging 4ft 6in (1.4m) across; dug 8ft 6in (2.6m) below natural; lowest filling numbered *P*N57A; central filling of sticky soil; upper filling of 'chocolate' or 'red brown soil'; probably cutting S edge of *R*3A.
Pottery Lower filling: probably none. Upper filling: 1 ST (A4 900-1050), 178 THS, 2 EM, 1 GMT, 124 TH.
Small finds Lower filling: bone tubular object (lost), flute (Fig. 200, No. 108). Upper filling: bone spindle-whorl.

PN58—(Sect. FF-FF[i], Fig. 59; *G*XXIIA). Sub-square; *c*.4ft (1.2m) across; dug 2ft 6in (0.8m) into natural; upper filling of 'dark greenish soil'; later than *P*N59; sealed by *R*2A. No recorded finds.

PN59—(Sect. FF-FF[i], Fig. 59; *G*XXII-XXIIA). Sub-rectangular; 6ft (1.8m) by 5ft (1.5m); dug 4ft 6in (1.4m) below natural; earlier than *P*N58; sealed by *R*2A.
Pottery 7 TH.
Small finds Iron nail; chalk spindle-whorl or weight (Fig. 148, No. 9).

PN60—(Sect. FF-FF[i], Fig. 59; *G*XXIIA). Sub-rectangular; 6ft (1.8m) by 5ft 6in (1.7m); dug 6ft 6in (2m) below natural; sealed by *R*2A.
Pottery 20 TH.
Small finds Iron buckle (Fig. 137, No. 243).

PN61—(*G*XXIV). Irregular; 7ft 6in (2.3m) by 3ft 6in (1.1m); dug 7ft 6in (2.3m) below natural; filled with dark soil and sand.
Pottery 48 TH.

PN62—(*G*XXVS). Roughly rectangular; 5ft (1.5m) by 3ft (0.9m); dug 6ft (1.8m) below natural; sealed by chalk and burnt clay layers of *H*32.
Pottery 2 ST (GO, 1020-1200), 4 EM, 2 THS, 76 TH.

PN63—(*G*XXI-XXII). Oval; 6ft (1.8m) by 4ft (1.2m); dug 9ft (2.7m) below natural; filled with 'lightly packed vegetable matter' below dark soil; uncertain relationships with *P*N42 and N57.
No recorded pottery.
Small finds Iron staple (Not illus., No. 116b), nail.

PN64—(Fig. 73; *G*XXVN). Irregular; averaging *c*.8ft (2.4m) across; min. 9ft (2.7m) deep; upper filling contained 'soft decayed vegetable matter'; overlying *P*N71; sealed by chalk rubble, possibly cut by *P*N67: uncertain relationship with *P*N68; ? weathering cone of *P*N71.
Pottery 31 EM, 3 GMT, 24 THS, 1 SN, 108 TH.
Small finds Iron weed hook (Fig. 121, No. 47), spur (Fig. 140, No. 268), thirty-four nails; hone (Fig. 147, No. 25).

PN65—(Sect. HH HH[i], Fig. 65; *G*XXIV). W part not excavated, dug 12ft (3.7m) below natural.
Pottery 1 ST (A0, 900-1100), 3 EM, 11 THS, 4 SN, 74 TH.

PN66—(*G*XXVN). Oval; 4ft 6in (1.4m) by 3ft 6in (1.1m); dug 4ft (1.2m) below natural; sealed by one or more clay/chalk floors of *H*32.
Pottery 19 THS, 29 TH.
Small finds Iron object (Fig. 136, No. 228).

PN67—(*G*XXVN). Probably circular; diam. *c*.7ft (2.1m); dug *c*.9ft (2.7m) below natural; lower filling of ash; many animal bones near lip; overlying *P*N71; sealed by chalk rubble; possibly cutting *P*N64; uncertain relationship with *P*N68; ? weathering cone of *P*N71.
Pottery 1 HM, 11 EM, 3 GMT, 14 THS, 1 SN, 66 TH.
Small finds Iron; key (Fig. 132, No. 180); ?awl, binding fragment, two nails.

PN68—(*G*XXVN & S). Probably circular; diam. *c*.5ft 6in (1.7m); dug 4ft (1.2m) below natural; filled with dark soil and stones; thought to have 'wood lining'; uncertain relationships with *P*N64, N67, and N71.
Pottery 2 Med. gl., 46 ST (M16 A1, M16 + 18 B1, M18 A4, 1 A0, 1 A5, 3 B0, 4 B1, 1 B2, 33 B3, group *c*.1150-1200), 94 EM, 10 GMT, 7 ?GMT, 9 THS, 52 TH.
Small finds Copper alloy binding strip (Fig. 112, No. 51); lead strip. Iron; staple (Fig. 127, No. 117), two hinge pivots (Fig. 129, Nos. 144 and 145), hinge (Fig. 129, No. 149), strap (not illus. No. 153a), strip fragments, thirteen nails; three hones (Fig. 147, Nos. 26-8); crucible (bag 1081 Table 3); bone peg and tube (Fig. 199, No. 105).

PN69—(Sect. HH-HH[1], Fig. 65; *G*XXIV). W part not excavated; dug 8ft (2.4m) below natural; upper ash filling later than *P*N55 and filling of *H*21.
Pottery 96 TH.

PN70—(Sect. IV-IV[1], Fig. 63; *G*XXII). Roughly oval; 6ft 6in (2m) by 4ft (1.2m); dug 4ft 6in (1.4m) below natural; cut by *K*1 and post-hole. No recorded finds.

PN71—(*G*XXVN). Circular; diam. 3ft 6in (1.1m); excavated to 16ft (4.9m) below natural; 'probed' 6ft (1.8m) deeper; cut through chalk at 12ft (3.7m) below natural; filled with dark soil, ash, and chalk; underlying *P*N64 and N67; uncertain relationship with *P*N68.
Pottery 1 ST (A5, 900-1050), 1 SN, 84 TH.

PN72—(GI-II). S part not excavated; *c.*15ft 6in (4.7m) across; dug 6ft (1.8m) below natural; filled with light brown soil with ash and sand lenses; cut by *P*N5 and two post-holes; uncertain relationship with *P*N32.
Pottery None recorded.
Small finds Iron bridle cheekpiece (Fig. 138, No. 250), two nails.

PN73—(*G*XXIIA). N part not excavated; only upper filling of dark brown ashy soil excavated; cutting *R*2A. No recorded finds.

PN74—(*G*VIII). Uncertain shape; dug min. 4ft 6in (1.4m) below natural; cut by *P*N12B. No recorded finds.

PN75—(*G*XIII-XIV). Irregular; *c.*9ft 6in (2.9m) by 3ft 6in (1.1m); dug 2ft (0.6m) below natural; filled with dark chalky soil. No recorded finds.

Finds not assigned to any hut or pit.
The following small finds have not been assigned to a hut area, but were found below topsoil: *G*IX, iron heckle tooth; between *G*XII and XVI, two iron heckle teeth, iron key (Fig. 132, No. 191); between *G*XIII and XVII, copper alloy spoon (Fig. 112, No. 48), iron horseshoe (Fig. 143, No. 290), two heckle teeth, bone toggle (Fig. 199, No. 101); *G*XIV, iron staple (Fig. 127, No. 122), bridle; *G*XX-XX[1], mouthpiece link (Fig. 138, No. 253), iron knife (not illus. No. 92a); *G*XXI, iron creaser (Fig. 120, No. 42), hasp (Fig. 131, No. 164), knife, two crucibles (bags 712 and 755, Table 3); *G*XXIIA, iron knife (not illus. No. 103c).

The following small finds were found in the topsoil: between *G*IX and X, iron horseshoe; *G*XV, iron knife (not illus. No. 83b); between *G*XV, XVI, and XX, Nuremberg counter, iron angle tie (Fig. 128, No. 133); between *G*XXII and XXIII, iron buckle (Fig. 137, No. 240); *G*XXIII, groat of Mary I; *G*XXIV, copper alloy finger or ear-ring (Fig. 110, No. 18), two crucibles (bags 1058 and 1093, Table 3).

V. Site 3
(Fig. 74)

Summary
The site lay at the south-east end of a large area which had produced human burials during building work. Four graves and two unexcavated features (also probably graves) were possibly cut through a layer of black soil containing a vast quantity of Thetford Ware. The burials are undated. A cobbled path was cut through the black soil and lay parallel to an alignment of four post-holes. A pottery assemblage, similar to that of hut 17/18, Site 2 North, included only two possible wasters and twenty discoloured sherds out of a total of over 4600, but is presumably a dump from nearby potting activity in view of its remarkable homogeneity. Knocker, noting the lack of sooted sherds and the unusually small quantity of animal bones, interpreted the site as part of a pottery shop. This explanation is unlikely in view of an almost complete absence of joining sherds which would be expected in a retail establishment.

Introduction
Following the discovery of a mass of pottery during the digging of a water mains trench, an area of *c.*50sq m was excavated between 1 and 8 December 1948. The site lay at *c.*21m OD on ground sloping downwards to the north-west and east.

Description
Four graves (H1-4) were cut into the natural and possibly dug through a layer of 'black' soil containing much pottery (soil sample p.196). H1 was dug 1ft(0.3m) below the natural which lay *c.*3ft(0.9m) below the ground surface. H2 was 2ft 6in (0.8m) deep, while the depths of H 3 and H4 were not recorded. Two unexcavated features north of H1 may have also been graves. The skeletal material was subsequently muddled (p.186). Four post-holes, *c.*6in(15cm) deep were aligned roughly north to south. Two others lay to the east and south-east. A cobbled surface was cut through the back layer and lay parallel to the post-hole alignment. It was more than 1ft (0.3m) thick and its surface tilted to the east. The cobbles apparently did not appear south of the mains trench. Immediately east of the surface a vertical-sided feature of otherwise unknown dimensions cut 2ft (0.6m) into natural. The black layer which averaged *c.*5in (13cm) thick probably extended over the whole site except the south-east corner and where cut by the cobbled surface. It incorporated a possible hearth of 'daub' south of H1.

Many of the uncertainties relating to this excavation were caused by the fact that the site was backfilled by the contractor before work was completed to the satisfaction of the excavator.

Pottery All pottery was entered under one bag number. This is unfortunate especially because the grave fillings certainly contained sherds: 1 ? HM, 2 EM, 1THS, 2 SN, 4665 TH. The proportion of TH is unusually high, and out of 1084 TH rim sherds, 945 (87.2%) are of similar triangular rim types (AB7). The TH pottery includes only two possible waster body sherds, and 20 oxydised sherds. The remainder are all standard TH although most are abraded.

Small finds Black soil layer: copper alloy strip (Fig. 114, No. 68); iron ring (not illus., No. 213a), sheet fragment, four nails, horseshoe; hone (lost); chalk ? loom weight (Fig. 149, No. 8); bone gouge (Fig. 198, No. 91).

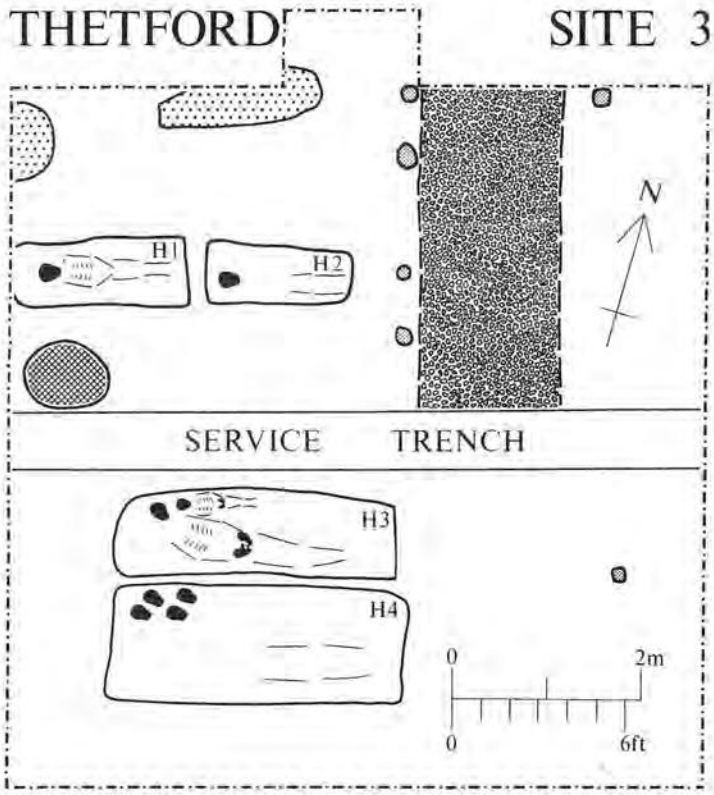


Fig. 74 Plan Site 3. Scale 1:125.

VI. Site 4
(Fig.75)

Summary
A cobble spread lay immediately below topsoil and was of uncertain extent to north and south. Fourteen horseshoes found on or within it, might suggest it was a road. The spread sealed four pits and was cut by another. There were five other pits, one of which lay below a rectangular burnt clay floor. The pits, with an average depth of 1.1m, produced no evidence of specialised function. Apart from the floor and a short slot, no other structural features were recorded. Small finds indicate textile production and copper working as well as domestic activity. The shallow stratification suggests less intense activity than that on Sites 2 North and South. The pottery indicates occupation in the tenth and eleventh centuries.

Introduction
The excavation began on 1 November and ended on 1 December 1949. The trench was laid out to avoid the positions of projected new houses, in the extreme north-east corner of an area which was still open land. The site at *c.*16m OD lay on almost level ground sloping downwards very gently to the east and north.

Description
Over the majority of the L-shaped trench a layer of dark brown soil and sand overlay the natural. This was overlain by topsoil, except in the east-to-west trench where it was covered by a rough layer of cobbling which occurred immediately below the topsoil. The cobbles, which contained many animal bones and oyster shells, sealed *P*E 2-5, a slot-like feature, 6in (15cm) deep and aligned north-east to south-west, and possibly eight post-holes of unrecorded depth. The following small finds were discovered within or immediately above the cobbles: copper alloy balance and pan (Fig. 113, Nos. 59 and 60), coin of Carausius. Iron; ferrule (Fig. 135, No. 218), buckle (Fig. 137, No. 238), five knives (Fig. 123, No. 61, Fig. 124, Nos. 80 and 81, Fig. 125, No. 102; not illus. No. 60a), shears (Fig. 126, No. 110), bridle cheek piece (Fig. 138, No. 252), five horseshoes (Fig. 142, Nos. 283-6 and Fig.143, No. 291), nine others, four heckle teeth, ring, six nails, strap fragments. Two crucibles (bag 1117 A and B, Table 3); chalk object (Fig. 149, No. 7). Bone; skate (Fig. 196, No. 85), two others, gouge (Fig. 198, No. 94), spindle-whorl.

The east end of a burnt clay surface, measuring 5ft (1.5m) north to south lay above *P*E8. A pair of iron shears (Fig. 126, No. 106) was found on this surface. The brown soil and sand east of the cobbles produced an iron horseshoe (Fig. 143, No. 294) and a hone (Fig. 147, No. 30).

The Pits
***P*E1**—Roughly rectangular; 10ft (3m) by 8ft (2.4m); 6ft 6in (2m) deep; filled with dark brown soil and sand lenses below alternate layers of dark brown ashy soil and sand; capped with cobbles; cut through sand and soil layer.
Pottery 33 TH
Small finds Soapstone vessel fragment (Fig. 150, No. 5); two bone needles.

***P*E2**—N part not excavated; 6ft 6in (2m) across; 3ft 6in (1.1m) deep; filled with dark brown soil; dug through sand and soil layer; sealed by cobble spread.
Pottery 7 TH

***P*E3**—N part not excavated; 5ft (1.5m) across; 2ft (0.6m) deep; filled with dark brown soil; dug through sand and soil layer; sealed by cobble spread.
Pottery 7 TH

***P*E4**—Irregular; 9ft (2.7m) by 6ft 6in (2m); dug 3ft 6in (1.1m) below natural; filled with sand and lenses of dark brown soil; cobble spread slumped into upper filling of dark brown soil.
Pottery 1 samian, 1 EM, 4 ST (base 2 + M36 G1, 1 A1, 2 G1), 25 SN, 90 TH.
Small finds Iron; auger bit (Fig. 117, No. 15), hasp (Fig. 131, No. 167), staple (Fig. 127, No. 116), four knives (including not illus. Nos.90d and 90c), three nails, strip. Bone needle.

***P*E5**—Irregular; 9ft (2.7m) by 6ft (1.8m); 2ft 6in (0.8m) deep; filled with dark brown soil below sand; sealed by soil and sand layer.
Pottery 1 ?GMT, 24 TH.
Small finds Iron padlock bolt (Fig. 131, No. 170), knife; bone needle (Fig. 190, No. 41), another. Soil above: Iron; arrowhead

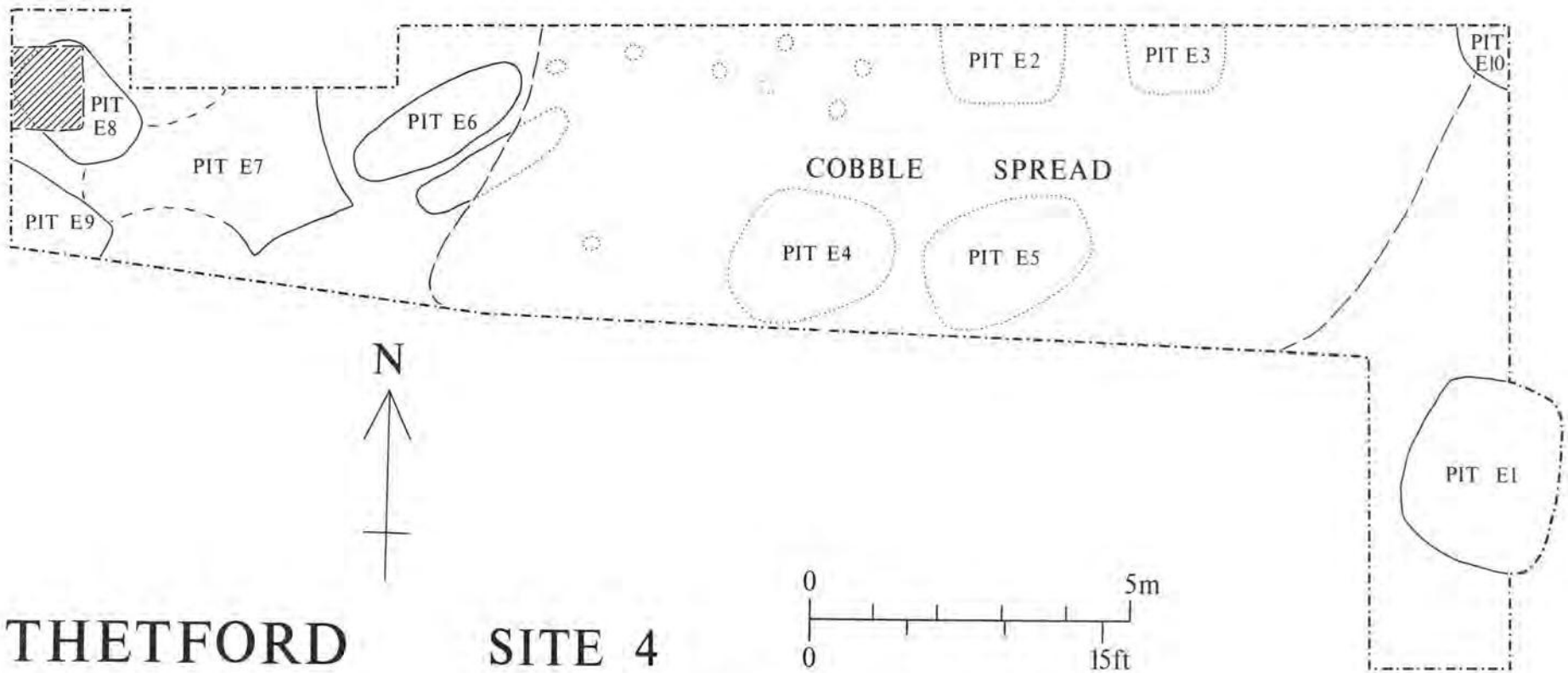


Fig. 75 Plan Site 4. Scale 1:100.

	Depth	*Remarks*	*Bones found* (complete burials omitted)	*Finds*
HS1	2ft (0.6m)		Skull and ?ribs only	
HS2	1ft 9in (0.5m)	Above HS4	Leg bones disturbed	
HS3	2ft 6in (0.8m)			
HS4	2ft 9in (0.8m)	Below HS5 & HS2		
HS5	2ft (0.6m)	HS6 within grave above HS4		
HS6	2ft (0.6m)	In grave of HS5	Skull only	
HS7	2ft (0.6m)			3 TH. Iron nail
HS8	2ft (0.6m)		Skull only, disturbed	
HS9	2ft (0.6m)		Skull only	
HS10	1ft 9in (0.5m)		Pelvis and leg bones only	
HS11	2ft (0.6m)			
HS12	1ft 9in (0.5m)			
HS13	2ft (0.6m)		Skull missing	10 TH
HS14	4ft (1.2m)	In grave of HS15	Skull only	
HS15	4ft (1.2m)	HS14 within grave	Leg bones missing	Iron ferrule (Fig. 135, No. 220)
HS16	4ft (1.2m)		Skull only; facing west	
HS17	2ft (0.6m)		Vertebrae and ?arm bones only	3 TH
HS18	3ft 6in (1.1m)	Grave outline recorded	Right leg bones missing	3 TH
HS19	2ft (0.6m)		Femurs only	
HS20	3ft 6in (1.1m)	Grave outline recorded		2 TH
HS21	4ft 6in (1.4m)	Grave outlined with chalk and flints		
		Cut into upper filling of *PII*		
HS22	5ft (1.5m)	Not located on plan, but probably north of HS13	'Skull and fragments'	Iron horseshoe (Fig. 142, No. 280)
HS23	4ft (1.2m)	Grave outline recorded		
HS24	3ft (0.9m)			
HS25	2ft 6in (0.8m)	? within occupation layer	Skull only	
HS26	3ft 6in (1.1m)	Grave outline recorded. Sealed below occupation layer		
HS27	3ft (0.9m)		Pelvis and leg bones only	
HS28	3ft (0.9m)	Grave outline recorded		4 TH 2 sawn red deer antler tines
HS29	3ft (0.9m)			
HS30	4ft (1.2m)	Grave outline recorded. Sealed below occupation layer		
HS31	2ft (0.6m)	? within occupation layer	Skull only	
HS32	3ft 3in (1m)	Grave outline recorded. Relationship with HS33 unknown		
HS33	3ft (0.9m)	Relationship with HS32 unknown	Skull only, but mostly outside excavation	
HS34	3ft (0.9m)		Pelvis and leg bones only	
HS35	3ft 6in (1.1m)		Arm and leg bones only	
HS36	2ft (0.6m)		?Leg bones missing	
HS37	3ft (1.1m)		Skull and lower leg bones missing	
HS38	2ft 6in (0.8m)			3 TH 1 uncertain
HS39	2ft (0.6m)		Skull only	
HS40	? 2ft (0.6m)			

Table 1 Site 5 Inhumations

(Fig. 144, No. 298), staple (Fig. 128, No. 131), hinge pivot (Fig. 129, No. 142), ring (Fig. 134, No. 213), horseshoe (Fig. 143, No. 295), three nails.

PE6—Oval; 10ft (3m) by 3ft 6in (1.1m); dug 3ft (0.9m) below natural; filled with dark soil.
Pottery 18 TH.

PE7—Uncertain shape; ? additional features to N and W; two rectangular 'troughs' dug 1ft (0.3m) into natural chalk base and connected by linear features (not on Fig. 75); filled with dark brown soil below 'brown powdery sand'.
Pottery 2 SN, 18 TH.

PE8—Roughly rectangular; 7ft (2.1m) by 4ft (1.2m); dug 6ft (1.8m) below natural; base cut into chalk; filled with dark brown soil and sand lenses below light brown soil; partly sealed by clay surface.
Pottery 3 EM, 2 SN, 74 TH.
Small finds Iron knife (not illus. No. 90b). Soil above *PE*8 and 9: iron hinge pivot (Fig. 129, No. 143); sawn ox horn core.

PE9—Only NE part excavated; dug at least 3ft 6in (1.1m) below natural; filled with 'dry powdery soil'.
Pottery 7 TH
Small finds Crucible (bag 1127, Table 3); soapstone vessel fragment.

PE10—Only SW part excavated; cut through edge of cobble spread. No recorded finds.

VII. Site 5
(Fig.76)

Summary
About forty inhumation burials aligned south-west to north-east were found within the southern and largest of three trenches. The small amount of finds associated with the burials was of Late Saxon date. A rectangular area of dark soil sealed two burials, while a grave outlined with chalk and flint was cut into the upper filling of a pit containing Thetford Ware. One other pit was recorded in the northernmost trench. The date(s) of the burials is not known, but it seems that there was little domestic occupation on the site at any time.

Introduction
Three trenches were excavated between 7 November and 1 December 1949 west of the area where R.W. Feacham had found Late Saxon occupation and burials in 1947. The site lay at *c.*21m OD on ground sloping downwards to the north-west and east.

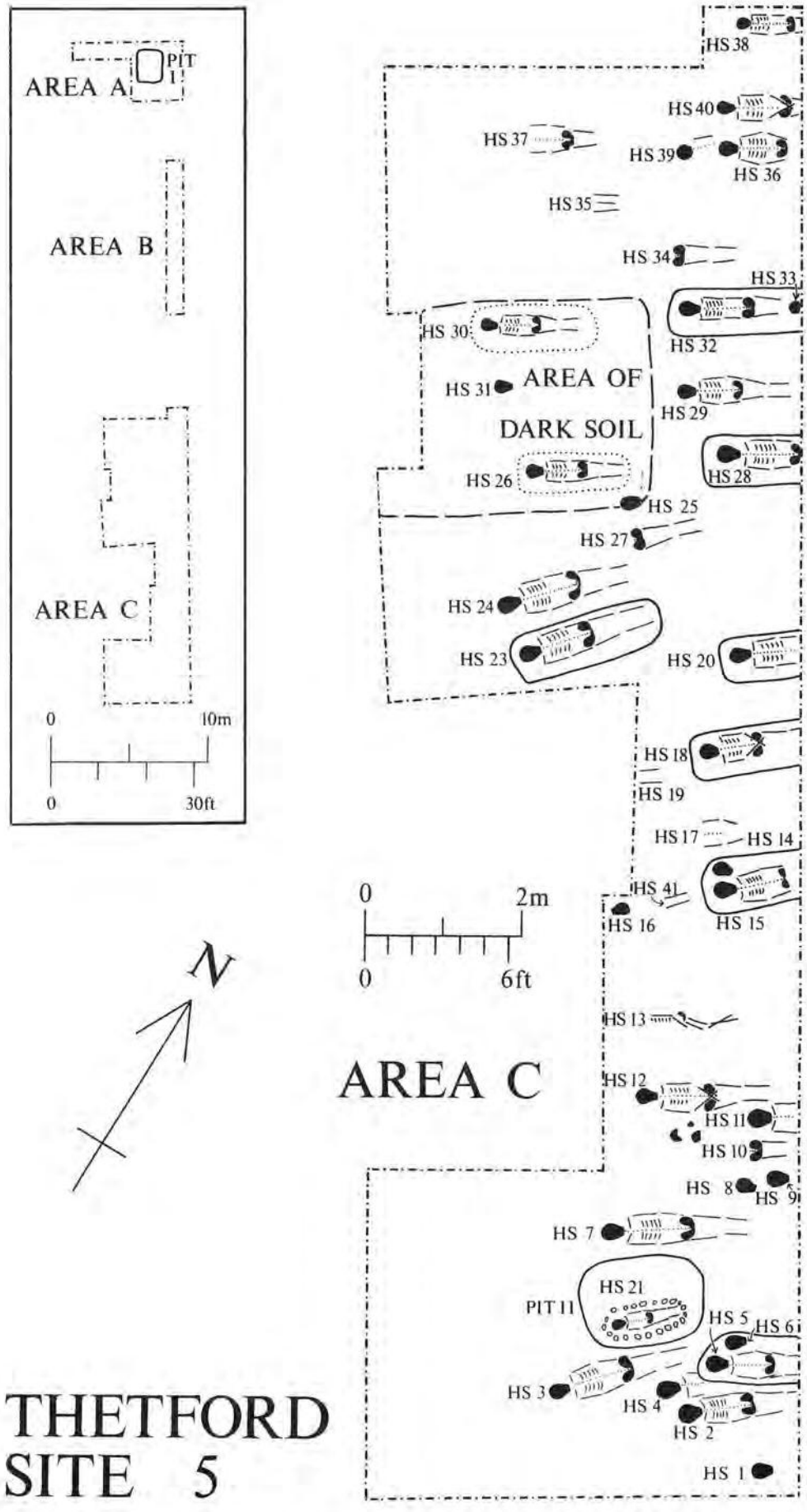


Fig. 76 Plan Site 5. Scale 1:125.

Description

Trench A contained *PI*. Trench B was 'blank' and there were no finds. Trench C produced inhumation burials divided into contexts HS1-40 (Table 1), *PII*, and an area of occupation soil. Only a plan has survived, but notes record that the stratification consisted of 2ft (0.6m) of blown sand above 6in (15cm) of 'humus' which overlay natural. Burials were found at depths between 1ft 9in (0.5m) and 5ft (1.5m) so that some must have been within the sand and humus layers. In ten cases features cut to receive burials were identified. The area of dark occupation soil, 2ft (0.6m) below ground surface, is shown in plan as a rectangle measuring 9ft (2.7m) north to south and at least 11ft (3.4m) east to west. It sealed HS 26 and 30, and may have contained stray skulls HS 25 and 31. The pottery is lost, but certainly included a TH bowl rim of form BB12. The only small find was an iron angle binding (Fig. 130, No. 155).

The Pits

PI—Subrectangular; 6ft 6in (2m) by 5ft (1.5m); dug 6ft (1.8m) below natural; filled with dark soil with sand lenses; capped with chalk and/or clay.

Pottery 8 TH

Small finds Iron staple (Fig. 128, No. 132), ring (Fig. 134, No. 209); bone decorated mount (Fig. 200, No. 107).

PII—Subrectangular; 5ft (1.5m) by 4ft (1.2m); dug 3ft 6in (1.1m) below natural, cut by inhumation HS 21.

Pottery 33 TH

The Inhumations

All burials were aligned approximately south-west to north-east. The recorded depths apparently refer to the distance from the ground surface to the top of the burial. Knocker's preliminary identifications i.e. 'Adult' and 'Child', as well as details of the position of bones, have been omited from Table 1. The excavated bones were subsequently muddled and partially lost. Dr. Calvin Wells was able to identify twenty-three individuals, but none could be reliably related to the HS number series (p.186).

VIII. Site 6

Summary

Huts S1 and S2 consisted of layers of burnt clay on either side of a road surface. Neither had any associated structural features. Hut S3 was a sunken feature building measuring 4.5m by 2.2m with wooden structural elements, walls of double horizontal planks enclosing vertical posts, and superimposed plank floors. The unusual survival of wood, the cause of which is unexplained, was not matched by the standards of recording so that the plan is far from complete. However, it is likely that this hut was a cellar. No other features were called huts, but numerous chalk and clay patches in Area B may have had structural associations.

A cobbled road, perhaps a continuation of that found on Site 2 South, was located in the four trenches, and had a total recorded length of 155m. It had only one phase of surfacing, although a second surface may have been ploughed away in TT2.

Of thirteen pits, two were thought to have been lined. While the claimed wicker lining of pit S3 may have been no more than a slumped tip-line of charcoal, the six stake-holes which cut the lowest filling of pit S6 show that there must have been some form of revetment as a secondary phase, perhaps of wickerwork. The average depth of the bottomed pits was 1.4m, but two (S3 and S4) were probed to depths of more than 4m.

There were no obvious concentrations of industrial activity apart from the enormous quantity of slag noted in TT3. Spindle-whorls and heckle teeth show textile production, the manufacture of madder dye is represented by a pot sherd, but pottery, bones, and shells indicate domestic activity as well.

Hut S3 appears to have been constructed in the tenth century and was later than three pits (S8, 9, and 13) and a ditch. One pit (S2) was probably earlier than the road. Occupation on the site as a whole does not appear to have extended past the end of the eleventh century. A human burial with head to the north in Area B was earlier than pit S6 but was otherwise undated.

Introduction (Figs. 77-8)

In 1949 'probing' had suggested the presence of a road running north-north-west to south-south-east across arable land east of Bury Road. Knocker considered this road a continuation of *R*1-3 found on Site 2 South and 2 North. In advance of building development, a series of trial trenches (TT1-4), areas (A and B) and trial holes (TH4-8) was excavated over six weeks between 8 September and 5 November 1952. TT1 and 2 and areas A and B lay at *c.*18m OD on ground sloping downwards to the north and east, while TT3 and 4 lay at *c.*16m OD.

Description

TT1 (Sect. JJ-JJ', Fig. 79) revealed parts of two clay surfaces (*HS*1 and S2), three pits (S1-S3) and a road. The latter was a 15ft (4.6m) wide layer of flints set on a bed of sand. Below this dark brown soil overlay the natural. Area A was opened up to expose the south extent of *HS*2. This it did, as well as revealing a sunken-feature structure (*HS*3), five pits (S8-S12), and a ditch. TT2 (Sect. NN-NN', Fig. 83) cut across the road, and produced a hearth and two pits (S4 and S5). The 9ft (2.7m) wide road lay on probably natural brown sand and was covered by brown soil with sand and ash patches. Above this and below the topsoil a layer of sand was thought to be the bedding for an upper ploughed-away road. Pottery includes one sherd of EM in 'make-up of lower road'. The following iron small finds were found in relation to the road. Lower road make up: binding strip (Fig. 130, No. 160). Below sand layer; knife (Fig. 123, No. 62). Topsoil above sand layer: chisel or wedge (not illus., No. 7a), knife (Fig. 124, No. 82).

The south-west end of TT2 was opened out into Area B. Little of this was excavated to the surface of natural, which lay at a depth of *c.*4ft (1.2m). Below topsoil at various depths numerous patches of chalk, 'broken clay', and ash formed 'a somewhat confusing plan'. The confusion remains. A human burial, head to the north, lay on natural (p.186). The pelvis and leg bones had been removed by *PS*6. A bone strip was found close to the burial. The following small finds were found at various depths in Area B: copper alloy brooch (Fig. 109, No. 4); iron knife (Fig. 125, No. 91), five others (including not illus. No. 78a), hinge pivot (Fig. 129, No. 141), horseshoe, heckle tooth, four nails; pottery spindle-whorl (Fig. 152, No. 5); bone double-ended implement (Fig. 193, No. 62), spindle-whorl (Fig. 194, No. 77), another, handle (Fig. 201, No. 113).

TT3 (location, see Fig. 2; Sect. PP-PP', Fig. 84), revealed an 8ft (2.4m) wide road, composed entirely of iron slag, and resting on a bed of sand. The road sealed an oval of burnt sand overlying a patch of iron slag. To the west, the surface of natural sloped upwards and above it a 4ft 6in (1.4m) depth of soil included an uneven burnt clay surface. East of the road, the stratification was 6ft (1.8m) deep and consisted of 'a confused mass of iron slag, stones, burnt clay, dark soil and sand'. The following iron small finds were found beneath the burnt clay, west of the road: chain link (Fig. 133, No. 203), key (Fig. 132, No. 189) and heckle tooth.

TT4 (location, see Fig. 2) located a road surface lying immediately above natural and apparently aligning with the roads found in TT1-3. No other details are known. There were no finds.

TH4-8 were dug in various locations west of the main areas of excavation. TH5 and 8 produced 'pottery and occupation material' while TH4, 6 and 7 were 'blank'. No other details are known.

The Huts

***HS*1**—(Sect. JJ-JJ', Fig. 79). 'Broken burnt clay floor' measuring *c.*13ft (4m) E to W; earlier than *PS*1. No finds.

***HS*2**—(Fig. 78, and Sect. JJ-JJ', Fig. 79). Layer of burnt clay as much as 1ft 2in (0.36m) thick with well defined north edge, measuring *c.*14ft (4.3m) east to west; three layers of burnt clay in sunken feature of *HS*3 and other patches south of *HS*3 not thought to be part of *HS*2; north edge cut by *PS*3.

Pottery Probably below clay, 3 ST (A0, 900-1150), 15 SN, 44 TH, 1? TH coarse storage jar. Material above clay includes 1 ST (B1, post 1060).

Small finds Below clay: iron fragments; two bone spindle-whorls. In clay: iron knife (Fig. 122, No. 50), lock bolt (Fig. 131, No. 175). Above clay: copper alloy buckle (Fig. 110, No. 24). Iron; adze (Fig. 117, No. 12), binding strip (Fig. 130, No. 161), object (Fig. 135, No. 227), hook (Fig. 133, No. 201), two nails and strip fragment. Bone; spindle-whorl (Fig. 194, No. 76), another, ?gouge (Fig. 198, No. 95).

HS3—(Fig. 78; Sect. KK-KK', Fig. 80; LL-LL', Fig. 81; MM-MM', Fig. 82). Post- and stake-holes, wooden planks, slots, and possible wooden floors set in base of roughly rectangular feature *c.* 17ft (5.2m) by 12ft (3.7m) and 4ft (1.2m) deep; feature cutting layer of light brown soil overlying natural, *PS*9 and S12 and a ditch; walls in places consisted of double row of wood planks set on edge within foundation trench and packed behind with flints; no planks at north end and irregular lengths of planking on east and west walls apparently not *in situ*; southern half of west wall evidenced only by a 'band of sand' (not on Fig. 78); one post-hole certainly earlier than south wall (Fig. 82); two others cut into filling of *PS*9; six others void when found; two horizontal voids or slots containing wood fragments in south wall beneath planking; thought to represent joists supporting timber floor; lowest layer of rammed chalk overlain by skin of white clay; clay overlain by horizontal timber thought to be plank floor and underlying planks of south wall; upper wooden floor above layer of 'burnt clay, broken chalk, and wood chips'; floor levels extended north as far as *PS*13 (Fig. 80); upper brown sandy

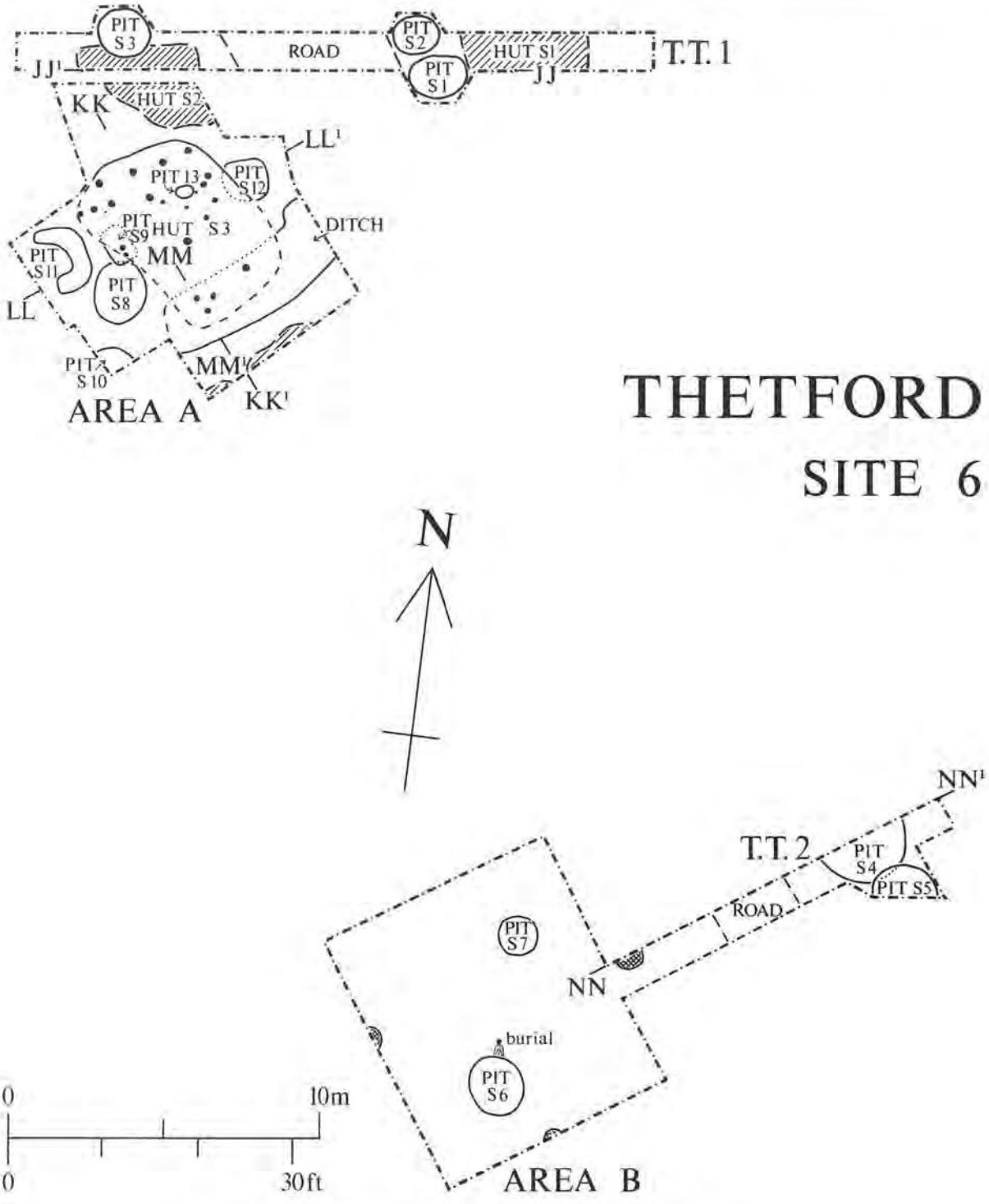


Fig. 77 Plan Site 6 areas A and B, TT 1 and 2. Scale 1:200.

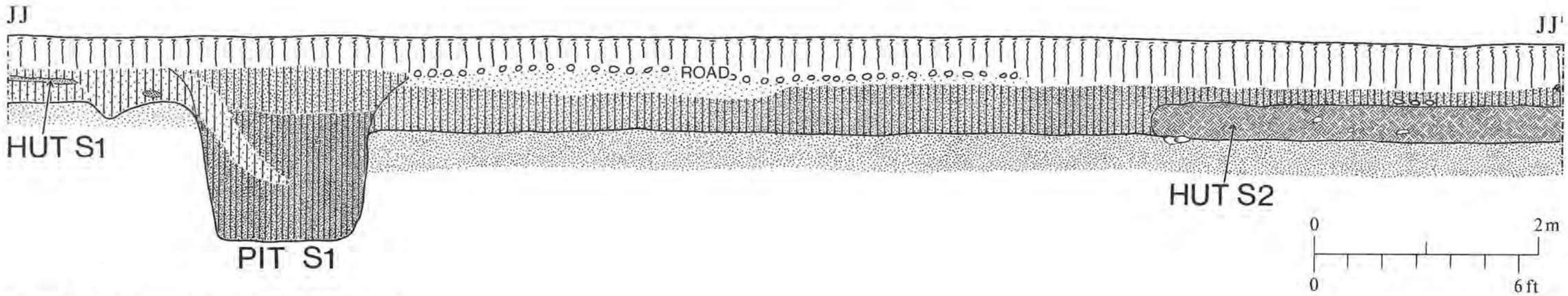


Fig. 79 Section JJ-JJ', huts S1 and S2, pit S1 and road. Scale 1:40.

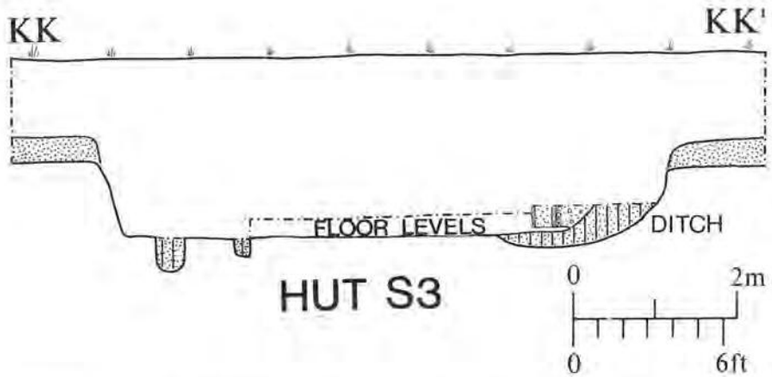


Fig. 80 Section KK-KK', hut S3 and ditch. Scale 1:80.

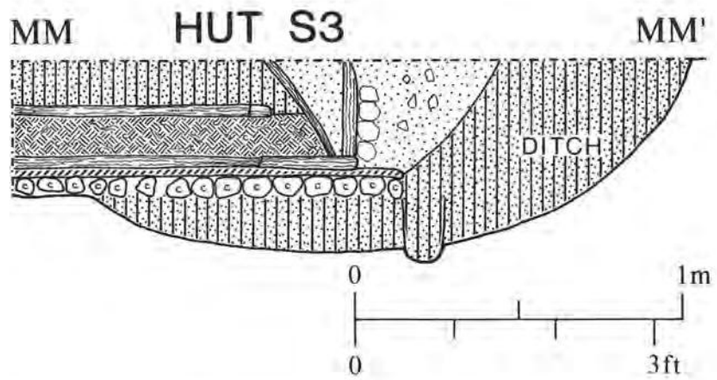


Fig. 82 Section MM-MM', hut S3 and ditch. Scale 1:20.

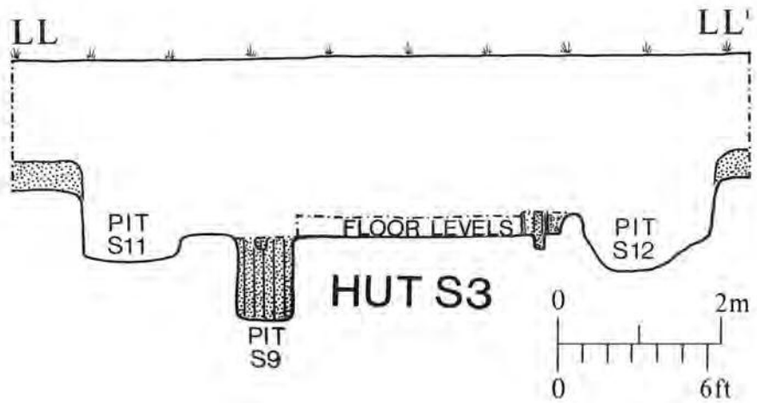


Fig. 81 Section LL-LL', hut S3, pits S9 and S11-12. Scale 1:80.

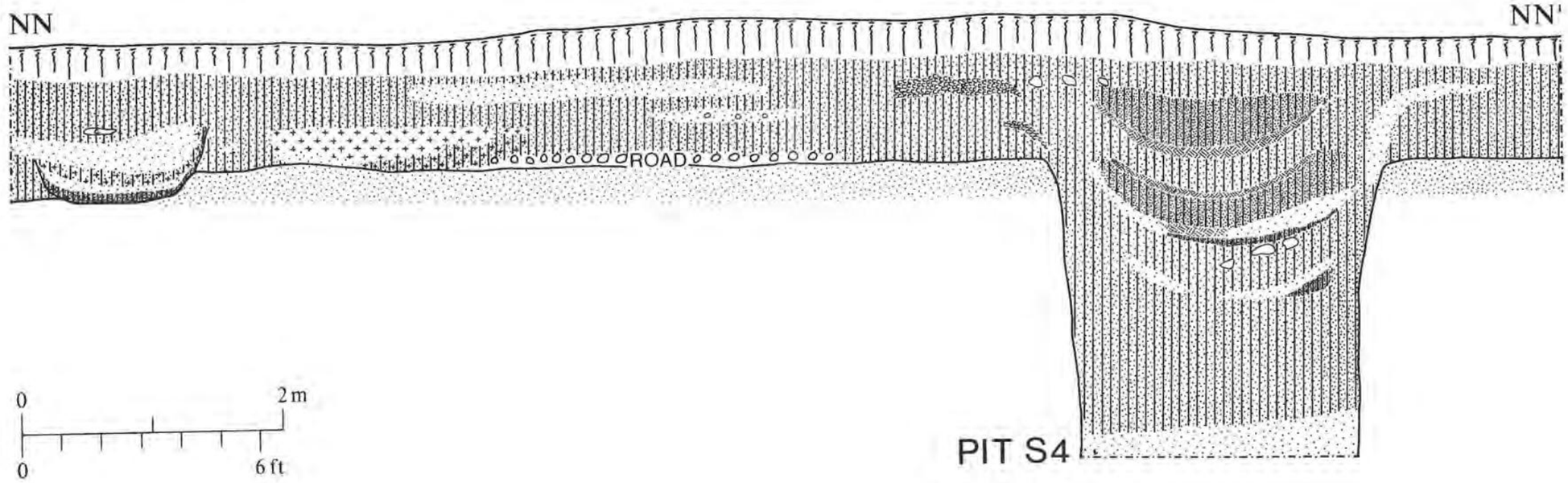


Fig. 83 Section NN-NN', pit S4 and road. Scale 1:40.

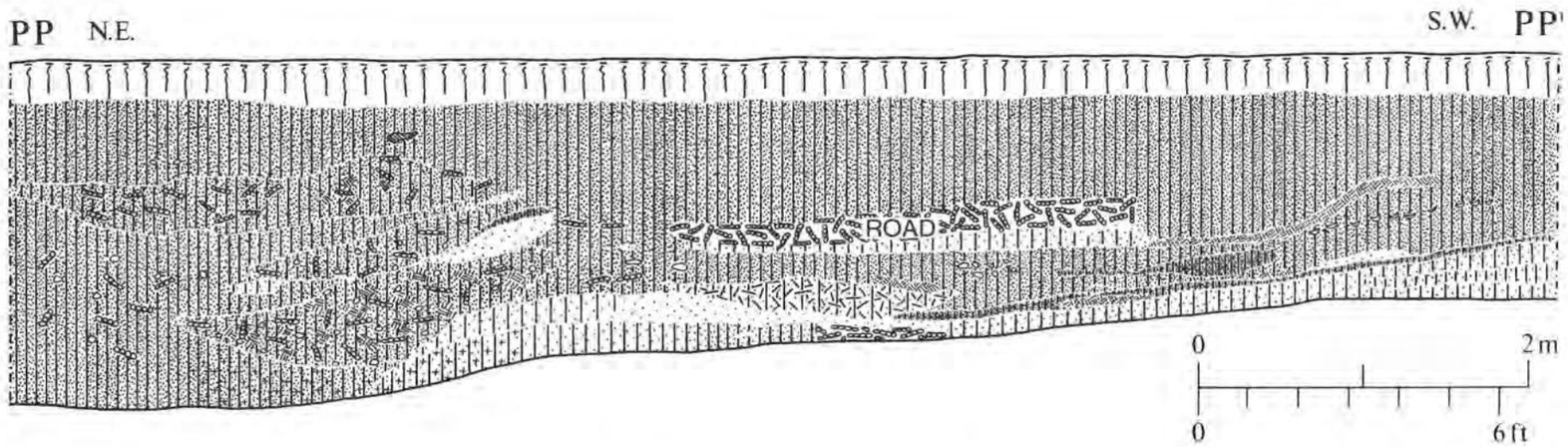


Fig. 84 Section PP-PP', road. Scale 1:40.

soil filling of rectangular feature with three layers of burnt clay and chalk.

Pottery Ditch: 1 TH. None certainly attributable to individual floor levels except 9 TH from 'on and in clay floor at 7ft 6in' (i.e. white clay layer), 1 ST (D1, tenth century) in west wall 'make-up'. Filling below *c.*3ft 9in (1.4m) all SN and TH. Total attributed to *HS*3: 22 ST (16 AO, 1 A1, 1 A4, 2 A5, 1 D1 and 1 D5), 7 EM, 1? THS, 3 GMT, 7 EM, 82 SN, 288 TH, 1 uncertain.

Small finds On or immediately above floors: seven fragments of melted lead sheet. Iron; bar (Fig. 115, No. 1), three knives (Fig. 123, No. 65 and not illus. Nos. 70a and b), chain link (Fig. 133, No. 202), hinge pivot (Fig. 129, No. 138), hasp (Fig. 130, No. 162), two bridle strap distributors (Fig. 139, Nos. 262 and 263), spur (Fig. 141, No. 271), nail. Filling of rectangular feature: iron; heckle tooth (Fig. 119, No. 23), another, knife (Fig. 123, No. 73), key (Fig. 132, No. 190), ring (Fig. 134, No. 212), horseshoe (Fig. 142, No. 289), another, four nails, sheet and rod fragments. West of rectangular feature: iron scythe blade tip (Fig. 121, No. 46). South of rectangular feature: iron knife (Fig. 122, No. 51).

The Pits

***PS*1**—(Sect. JJ-JJ', Fig. 79; TT1). Roughly oval; 6ft (1.8m) by 4ft 6in (1.4m); 5ft (1.5m) deep; later than *HS*1.
Pottery 36 TH.

***PS*2**—(TT1). Roughly circular; diam. *c.*4ft (1.2m); dug 4ft (1.2m) below natural; filled with dark brown soil; probably earlier than road.
Pottery 9 TH.

***PS*3**—(Fig. 85; TT1). Circular; diam. 5ft (1.5m); excavated to 9ft (2.7m); probed 8ft (2.4m) deeper; wood fragments in upper filling; thought to contain wicker lining with base 4ft (1.2m) from lip (i.e. on level with layer of burnt and unburnt clay), cutting *HS*2.
Pottery 1 SN, 28 TH.
Small finds Iron wire (Fig. 136, No. 229); hone (Fig. 147, No. 31); bone spindle-whorl.

***PS*4**—(Sect. NN-NN', Fig. 83; TT2). NW part not excavated; excavated 7ft 6in (2.3m) below natural; probed 7ft (2.1m) deeper; wood fragments in upper filling; cut by *PS*5.
Pottery 6 SN, 73 TH.
Small finds Iron; knife (Fig. 123, No. 67), strip (Fig. 130, No. 157), buckle (Fig. 137, No. 245), heckle tooth, staple, three nails. Hone; bone skate.

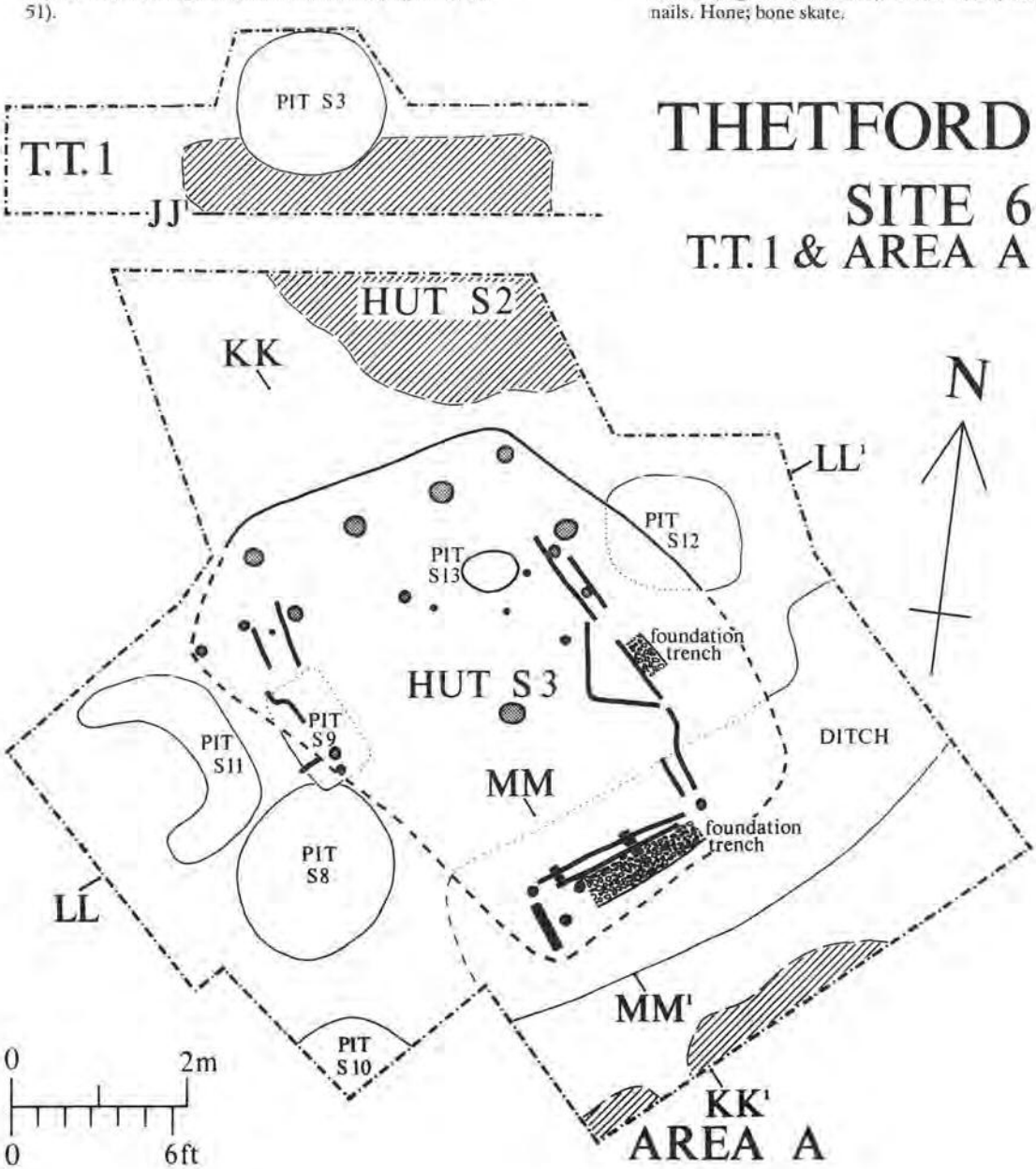


Fig. 78 Plan Site 6 huts S2 and S3. Scale 1:125.

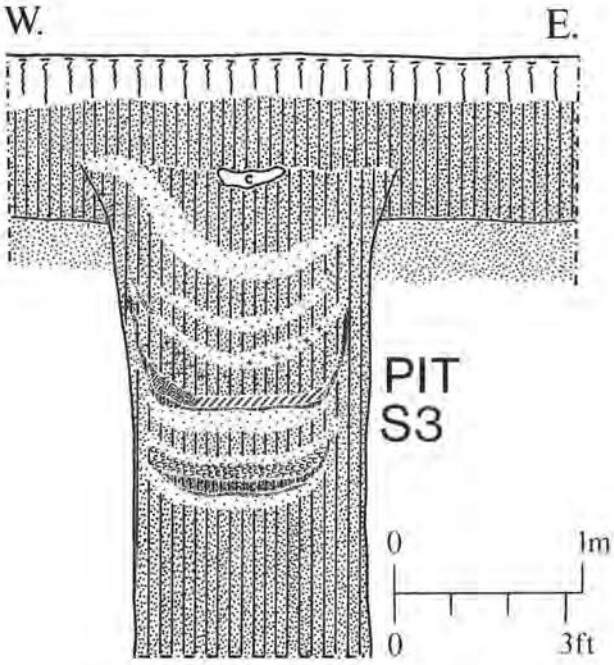


Fig. 85 Section pit S3. Scale 1:40.

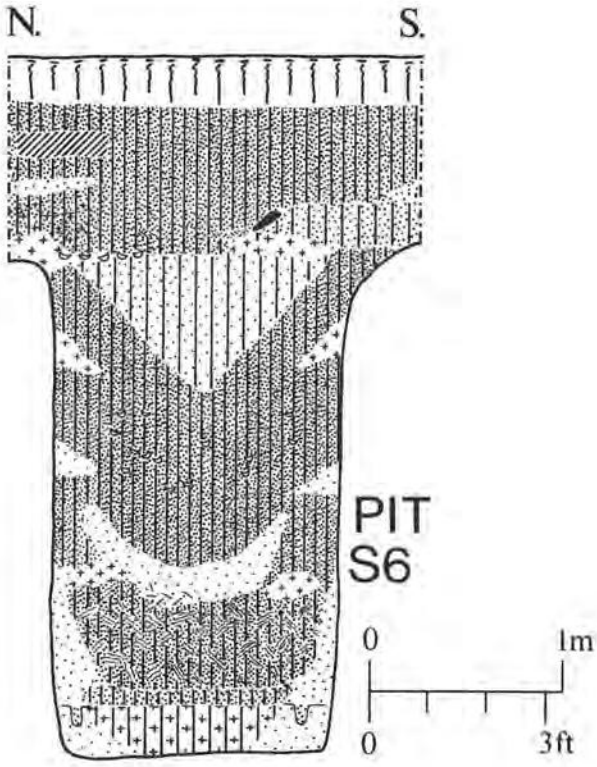


Fig. 86 Section pit S6. Scale 1:40.

PS5—(TT2). SW part not excavated; dug min. 8ft (2.4m) below natural; cutting *PS*4.
Pottery 7 SN, 101 TH.
Small finds Iron arrowhead (Fig. 144, No. 297), nail, strip; base sherd from pot used in the production of madder dye.

PS6—(Fig. 86; Area B). Roughly circular; diam. *c.*6ft (1.8m); dug 9ft (2.7m) below natural; six stake-holes cutting lowest filling (not on Fig. 77) below layer containing wood and 'faggots'; cutting inhumation burial.
Pottery 1 EM, 4 SN, 248 TH.
Small finds Iron; staple (Fig. 127, No. 126), bridle side link (Fig. 138, No. 260), knife.

PS7—(Area B). Circular; diam. 4ft (1.2m); not excavated; partly sealed by chalk and cobble layer.

PS8—(Area A). Oval; 6ft 6in (2m) by 5ft (1.5m); dug *c.*4ft (1.2m) below natural; possibly cut by *PS*9. No recorded finds.

PS9—(Sect. LL-LL', Fig. 81; Area A). Rectangular; 4ft (1.2m) by 2ft (0.6m); 6ft 6in (2m) deep; circular patch of slag and charcoal in upper filling; possibly cutting *PS*8; cut by two post-holes of *HS*3.
Pottery Missing.
Small finds Bone tool (Fig. 199, No. 99), skate (Fig. 197, No. 86).

PS10—(Area A). South part not excavated; dug min. 3ft (0.9m) below natural. No recorded finds.

PS11—(Sect. LL-LL', Fig. 81; Area A). 'Horseshoe-shaped depression'; 4ft (1.2m) deep; filled with dark soil. No recorded finds.

PS12—(Sect. LL-LL', Fig. 81; Area A). Sub-square; *c.*4ft 6in (1.4m) across; 4ft (1.2m) deep; filled with alternate layers of dark brown and black soil; cut by *HS*3. No recorded finds.

PS13—Oval; 2ft (0.6m) by 1ft 6in (0.5m); 1ft (0.3m) deep; cut into natural in base of *HS*3; filled with burnt clay, chalk and 'decayed wood', with many fragments and 'stains' of iron nails. No other recorded finds.

IX. Site 7
(Fig. 87)

Summary
Limited excavations recorded foundations best interpreted as parts of the west, north and east walls of a tower nave and a fragment of the north wall of the chancel of St. Edmund's Church. The masonry phase was preceded by occupation and burials, probably of Late Saxon or early medieval date.

Introduction
Three trenches excavated over two days in May 1957 within the precinct of the Gas Works, Bury Road, revealed parts of the foundations of St. Edmund's Church. The site lay at *c.*14m OD.

The 1883 edition of the 1:2500 Ordnance Survey map marks the site of St. Edmund's church in the area of this excavation. Blomefield (1805, 73) stated that the church had stood on the Suffolk side of the rivers, but was unaware of its exact location. Martin's inaccurately drawn map of *c.*1740 shows a church without certain dedication in an approximately similar position. A stone sarcophagus was found close by in 1907 and other burials had been found in *c.*1902. The church is not named in the Domesday Book and there is no documentary evidence of its foundation date. By the early fifteenth century it had become a chapel and was demolished at the Reformation or shortly before (Blomefield 1805, 73).

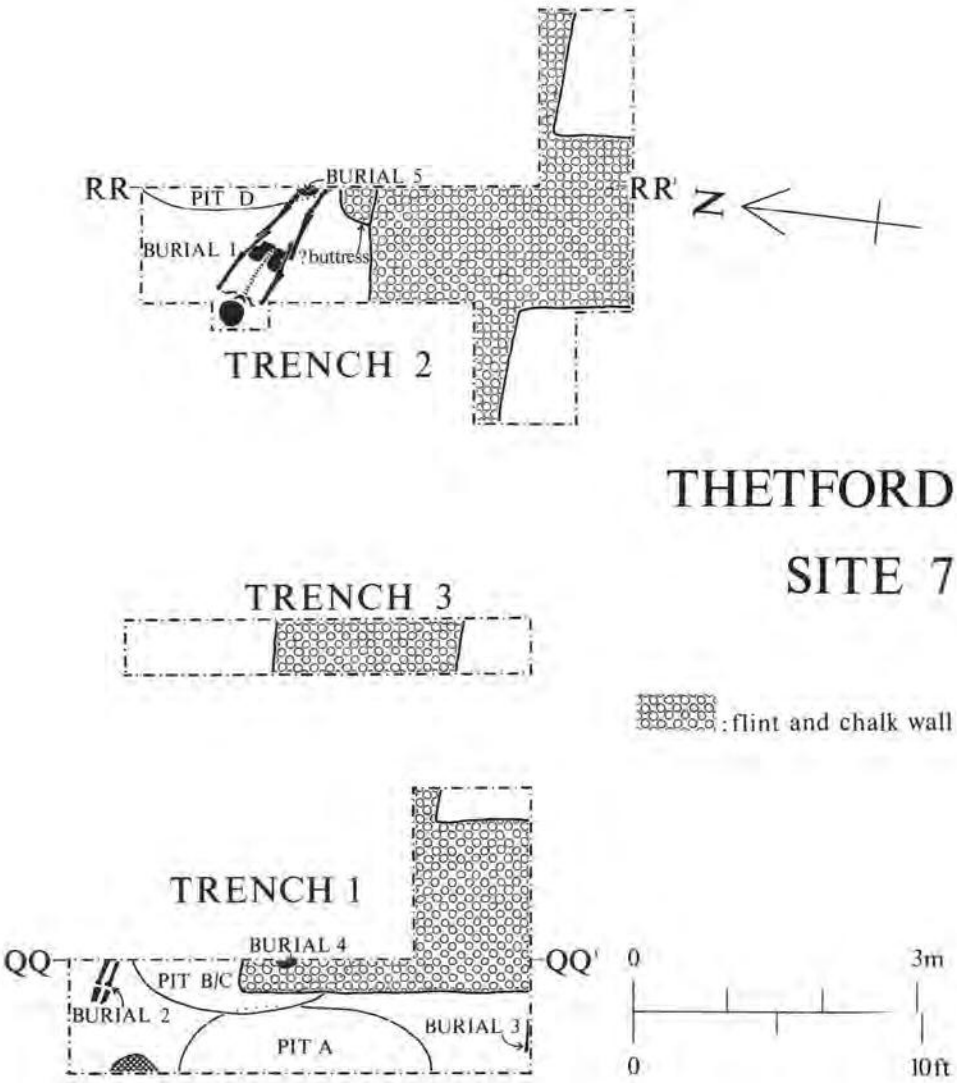


Fig. 87 Plan Site 7. Scale 1:125.

Description

Trench 1 (Sect. QQ-QQ', Fig. 88).
Chalk and flint foundations of a wall aligned north to south and turning at angle of less than 90° to the east were *c.*6ft (1.8m) thick. No evidence of a foundation trench was observed, but the masonry rested on a thin layer of soil which overlay natural. It also partly sealed a pit, B, which contained a human skull, burial 4, in its upper filling. The western edge of *P*B was cut through the eastern edge of *P*A. Parts of two inhumations, burials 2 and 3, were found within a layer of soil above natural at the northern and southern ends of the trench. In the same layer and immediately above natural, a 10in (0.25m) thick probably circular patch of burnt clay was associated with a quantity of iron slag.

Trench 2 (Sect. RR-RR', Fig. 89)
An east to west alignment of chalk and flint foundations, apparently a continuation of that found in trench 1, was bordered on the north by a projection (considered by the excavator to be of a buttress) and on the south by a north-to-south stretch of wall foundation. Except for the buttress, all this masonry rested on the surface of natural, as did a human burial, 1, lying to the north. The leg bones of burial 1 were overlain by a skull, burial 5. The former overlay the upper filling of a shallow pit, D. The pit and burials were covered by a layer of soil containing a localised patch of ash and sealed by a band of rubble which the excavator considered to be a destruction layer.

Trench 3
A short stretch of wall foundation, *c.*6ft (1.8m) thick and apparently running east-to-west was located between trenches 1 and 2.

Pottery Almost all the pottery has been lost, and of the thirty surviving sherds from below the topsoil, half are Post-medieval. Only SN and TH appear to have occurred in the lowest layers, but there was EM below the possible destruction layer in trench 2. The topsoil bags, unusually, contain no TH.

The Pits

***P*A**—W part not excavated; min. 8ft 6in (2.6m) across; cut by *P*B.
***P*B**—(Sect. QQ-QQ', Fig. 88). E part not excavated; min. 8ft (2.4m) across; uppermost filling of black sooty soil (*P*C) overlay a human skull, burial 4; partly sealed by wall foundations; cutting *P*A.
***P*C**—The uppermost filling of *P*B.
***P*D**—(Sect. RR-RR', Fig. 89). E part not excavated; min. 6ft (1.8m) across; dug min. 2ft (0.6m) below natural; partly sealed by burial 1.

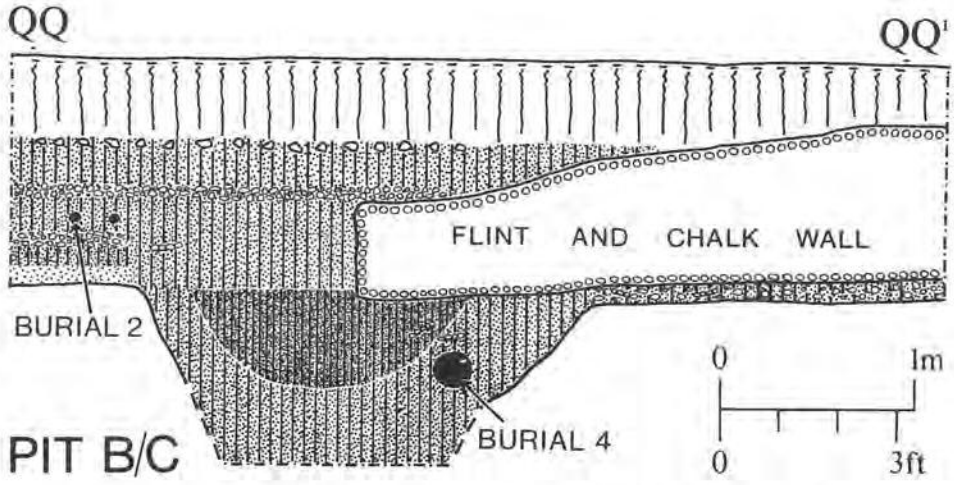


Fig. 88 Section QQ-QQ' wall, pit B/C, burials 2 and 4. Scale 1:40.

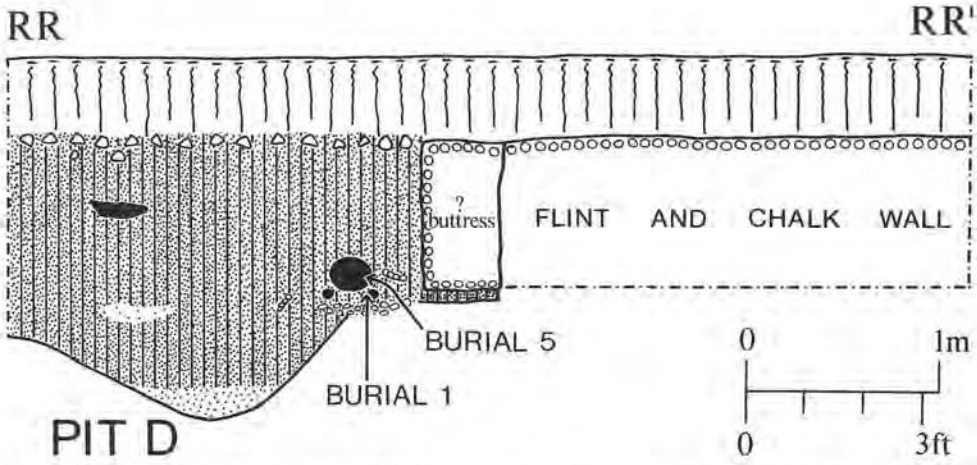


Fig. 89 Section RR-RR' wall, pit D, burials 1 and 5. Scale 1:40.

Discussion

by Stephen Heywood

The different areas of foundation uncovered evidently belong to a single building and are presumably of one period of construction, with the possible exception of the protrusion on the north side in trench 2. All the exterior faces exposed in the different trenches align reasonably well with each other except for the north face of the foundation in trench 2 which is out of alignment by about 50cm. A possible explanation may be that this part of the foundation was disturbed by nearby burials.

The great width of the foundations (*c.*1.75m) definitely suggests a tower. The length of foundation uncovered to the east of this tower was considered by the excavator to be the north wall of the nave, but this is unlikely, because, expecting the nave wall foundation to be no more than about 1m wide, this would produce the extremely improbable arrangement of the tower being wider than the nave. The only logical solution is that the piece of foundation in question is the north wall of the chancel. To choose a local example, this would produce a relationship similar to that which existed at Guestwick church. However, at Guestwick, as in the majority of cases, the tower rises above the choir and the nave extends to the west of it, whilst at St. Edmund's there is no evidence for such an extension. It would appear, therefore, that the church belonged to the tower-nave type i.e. simply a tower with a chancel attached to its eastern face. Churches of this type are rare; they existed at Barton-on-Humber and Broughton in Lincolnshire, at Earls Barton in Northamptonshire, and possibly at Singleton in Sussex. They range in date from about 1000 to about 1100. If the proposed interpretation is correct, St. Edmund's would represent a very significant addition.

An interesting final observation is the non-rectilinear layout of the church; the angles are about 10° out of true.[7] However, the east and west walls of the tower are perfectly parallel suggesting that the non-rectilinearity was deliberate, indicating a conflict between the space available for the construction of a church and the desire for an east-to-west orientation.

The limited extent of the excavation and especially the loss of much of the pottery make reliable dating impossible. However, the building was certainly later than occupation deposits and burials of apparently tenth- or eleventh-century date.

X. Minor Sites

Williamson Crescent (Fig. 90).

On 26 and 27 July 1949, 'many' graves were disturbed during building operations in Williamson Crescent (TL865 825, in the vicinity of Site 3). On the south side of a mechanically-excavated contractor's trench, an east-to-west line of five pieces of re-used limestone lay on the surface of natural gravel almost 4ft (1.2m) below ground level. Immediately to the south was a further line of four smaller stones. Stone A carried an interlace pattern on its south face and Stone B was similarly decorated on its north face. Stone C had a circular depression 2in (5cm) deep and 5in (13cm) in diameter on its south face. Disturbed human bones lay on and around the stones. Knocker considered that these blocks formed the south wall of a cist of unmortared re-used stones, the remainder of which had been mechanically removed. An extended female burial, legs crossed and hands together at the waist lay to the south. To the west of this burial further leg bones were recorded. The overlying soil contained an iron key (Fig. 132, No. 184) with SN and TH pottery which Knocker thought was probably earlier than the burials. Stones A and B will be described in Margeson forthcoming. In November 1948 in the same area, contractors had disclosed two burials, one of which, an adult male, was apparently associated with a Walsingham lead ampulla (Spencer 1980, 16, No. 39).

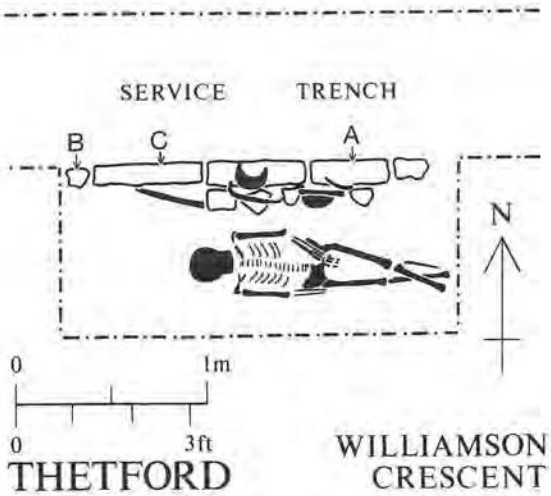


Fig. 90 Plan burial in Williamson Crescent. Scale 1:40.

Burials West of Bury Road

West of the Bury Road opposite the site of St. Barnabas' Hospital, a number of human burials were found during building operations in the 1950's and 1960's. Dunmore with Carr (1976, Fig. 3) show the locations of a number of these and describe them as 'Pagan' or 'Late' Saxon. These locations need redefinition and it should be noted that there is no firm evidence that any burials were pagan.

In July 1953 a skeleton was found at TL8677 8223. It lay at a depth of 4ft (1.2m) from the ground surface, head to the north-west, feet to the south-east, with a Late Saxon sword (Fig. 145, No. 305) lying along the left i.e. north-east, side. In 1964, on the site of Queensway Junior School at TL8672 8229, a skeleton minus leg bones was discovered by contractors. It was surrounded by stones and covered by a fine late tenth- or early eleventh-century limestone grave slab decorated with crosses in circles and interlace (Margeson forthcoming). Other burials were apparently disturbed at the same period. Three inhumations, including that of a child, all with heads to the south, were discovered at TL8680 8217 in 1962 and three more with heads to the west were found at TL8687 8218. During 1953 somewhere in this general area, three other burials were uncovered, one of which was accompanied by an undateable iron spearhead (Fig. 144, No. 303) and a knife (lost). One other, according to museum records, was associated with an iron spoonbit (Fig. 117, No. 16). However, Knocker's entry in his Small Find Log Book (probably written in 1953) states that it was found in the 'Bury Road site from drainage trench. Unstratified'.

The implications of the above and other burials from the town are discussed on page 198.

Haling Path

In March and April 1950, a contractor's trench was excavated along the south side of Haling Path, a tow path on the south bank of the Little Ouse (TL868 831). At a depth of 7ft (2.1m) below ground level a waterlogged layer of 'black alluvial mud' produced an iron ploughshare and two bar irons (Fig. 121, No. 43; Fig. 115, Nos. 2 and 3. This layer was sealed by a foundation trench filled with alternate layers of chalk and dark soil and overlain by the footings of a flint wall which Knocker considered medieval. This wall ran parallel to the river and appeared to be *c.*50ft (15.2m) in length. A line of six posts extended north-west from the wall, but their depth was not recorded. One post had 'traces of leather nailed to it'. To the south-east, the black alluvial layer contained fragments of leather and was sealed by a layer of cobbles at a depth of 6ft (1.8m). This was overlain by another layer of cobbles at 5ft (1.5m). Human bones, including skulls were found at 2ft 6in (0.8m).

Pottery Black alluvial layer: 12 TH surviving, and an everted rim in grey sandy ware with external knife-trimming, probably 12th century.

It is likely that many of the observations and finds mentioned above were made by the workmen on site, although it is clear that Knocker visited the work. The exact provenance of the ploughshare is, therefore, uncertain. The foundation trench overlying the layer in which the find was thought to have been made, was undated, while the layer itself may have been early medieval.

No. 7 Newtown

In 1951 a large quantity of pottery, including wasters, was discovered during excavation for a rubbish pit in the garden of No. 7 Newtown (TL8652 8272) *c.*50m north-west of the north edge of Site 2N.

Very limited examination revealed a clay floor at a depth of 3ft 6in (1.1m) from the ground surface. On the floor were signs of burning, a hearth and burnt wattle-impressed daub. 'Traces of earlier occupation' were sealed by the floor. It is not clear whether the pottery was found above or below the floor, or both. More pottery had been found in the same garden during excavation for a cesspit in 1939.

For a discussion of the pottery see p.122. A selection is shown on Fig.182.

Test-Holes NB1-29 (Fig. 2)

In April and May 1957 twenty-nine test holes were dug in various locations in the south-east area of Thetford in order to assess the extent of Late Saxon occupation and to recover evidence of a former ford in the area of Nuns' Bridges. Each trench measured *c.*8ft × 6ft (2.4 × 1.8m), with the exception of NB9, 28 and 29.

NB1 (TL8735 8247) Wet gravel at a depth of 1ft 3in (0.38m); no finds.

NB2 (TL8733 8244) Wet sand and gravel at a depth of 1ft 8in (0.51m); no finds.

NB3 (TL8729 8240) Depth of natural not recorded; late and post-medieval pottery in soil above a small pit containing roof tiles.

NB4 (TL8727 8239) Natural sand at a depth of 2ft 6in (0.8m); no finds.

NB5 (TL8730 8241) 'Blank'.

NB6 (TL8732 8243) Natural sand at a depth of 1ft 6in (0.5m); no finds.

NB7 (TL8726 8240) Natural sand and gravel at a depth of 1ft 9in (0.53m) below a 9in (0.23m) thick layer of 'old turf'; no finds.

NB8 (TL8727 8242) Natural gravel at 1ft 9in (0.53m); Post-medieval potsherd and tiles.

NB9 (TL8724 8241) 52ft (15.5m) long trench through the edge of the field once known at Weevers' Close (1807 Plan of Thetford by G.B. Burrell; Dunmore with Carr 1976, 5, 8 and Fig. 3). This D-shaped field is marked on its north and east boundaries by a scarp as much as 1.8m deep down to the relatively level meadow bordering the river. Blomefield (1805, 7-9) refers to a 'Roman fortress' at the east end of the town defences close to Nuns' Bridges ford. The fortress was 'very visible', although much of it was 'now lately lost, great quantities of it being carried away to improve the adjacent low meadows'. Trench NB9 was dug from the low meadow up into the interior of the field. A surviving sketch section shows that the surface of the natural gravel rose, partly sloping but mostly in three steps, by *c.*5ft (1.5m) from base to the top of the

scarp. The steps appeared to be artificial. There was some late medieval and recent pottery in the topsoil within Weevers' Close (lost).

NB10 (TL8739 8245) Dark grey sand with bones at a depth of 4ft 2in (1.3m) below black alluvium with many shells.

NB11 (TL8722 8232) No details recorded; some bones and two sherds of 'late' pottery (lost).

NB12 (TL8728 8244) 'Very blank with sand immediately below the turf'.

NB13 (TL8722 8234) 'Blank, very hard stony gravel with a few bones'.

NB14 (TL8708 8252) 'Rubbish dump'.

NB15 (TL8717 8230) 'Just a rubbish dump'.

NB16 (TL8709 8253) Natural sand at a depth of 4ft (1.2m) below dark soil containing a disturbed human burial; no other finds.

NB17 (TL8708 8228) Natural gravel at a depth of 3ft (0.9m) below soil with chalk, large flints and some burnt clay; no finds.

NB18 (TL8720 8238) Natural gravel at a depth of 3ft (0.9m) below sandy loam; no finds.

NB19 (TL8720 8231) Natural gravel at 1ft 6in (0.5m); no finds.

NB20 (TL8717 8233) Natural gravel at 1ft 6in (0.5m); no finds.

NB21 (TL8707 8249) Recent rubbish pit at least 5ft (1.5m) deep containing five sherds of TH.

NB22 (TL8720 8247) 'Blank'.

NB23 (TL8706 8250) 'Blank and disturbed'.

NB24 (TL8700 8249) and Both disturbed; two sherds of 'late saxon' pottery in NB24.

NB25 (TL8700 8249)

NB26 (TL8717 8254) Water at a depth of 3ft (0.9m) below made-up soil; no finds.

NB27 (TL8708 8253) Natural sand at a depth of 1ft 6in (0.5m); no finds.

NB28 (TL8728 8229) 45ft (13.7m) long north-to-south trench across a bank south of St. George's Nunnery; natural gravel below apparently recent bank at a depth of *c.*2ft (0.6m); north of bank an east-to-west ditch, 5ft (1.5m) wide and 5ft 6in (1.4m) deep containing 'late medieval' tiles (lost).

NB29 (TL8700 8218) Natural sand at unrecorded depth; no finds.

These small and scattered holes are obviously of limited value for assessing the extent of Late Saxon activity in the south-east area of Thetford. However, they do suggest that there was little or no occupation along the southern bank of the Little Ouse, in the field formerly known as Weevers' Close and in the low-lying meadow south-west of Nuns' Bridges, where no certain evidence of a ford was found. A similar lack of activity was indicated in 1978 by a series of contractor's trial holes mechanically excavated in a vacant plot on the south bank of the river at Site 5761 (centre TL8706 8263) which produced no evidence of Late Saxon occupation. Holes NB1-6, 11, 13 and 15 were all excavated close to the possible line of the town defences as indicated by the 1977 excavations on Site 1092. In view of the small size of the holes it is not surprising that they failed to locate evidence of bank or ditches, and as the filling of the ditches located in 1977 was, in places, not dissimilar to the natural subsoil, this difficulty may have prevented the recognition of such major features.

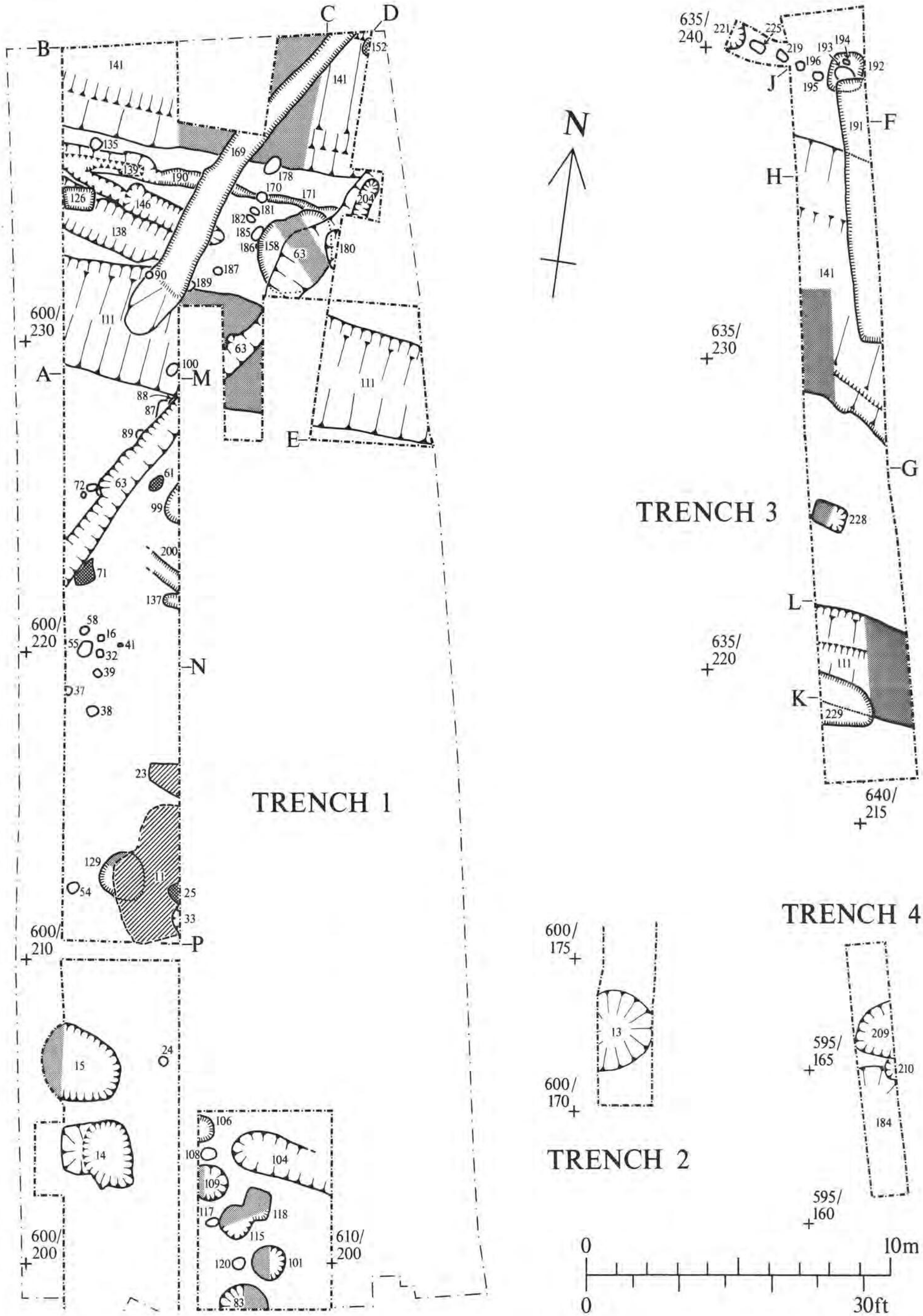


Fig. 92 Trench plans Site 1092. Trenches are not shown in correct spatial relationship. Scale 1:120.

Part II
Excavations and Observations on the Town Defences, 1959-1977

I. Summary

On Site 1092, excavated in 1977, two parallel ditches, one *c.*8m wide and *c.*2m deep, the other 3.4m wide and 1.5m deep, formed part of the town defences. There was slight evidence of a bank on the inner (north) edge of the larger ditch. The lower fillings of each contained few finds. After they had largely filled up they were covered by eleventh-century industrial activity, iron, bone and horn working, associated with ditches on an entirely different alignment. There was less Late Saxon occupation at the south end of the site (i.e. away from the town). Knocker's 1959 town ditch excavations are also described, as are B.K. Davison's 1964 trial trenches and his 1966 observations.

II. Introduction

In contrast to the interior of Late Saxon Thetford, its defences have been noticeably neglected. Blomefield (1805, 7-8) and Martin (1779, 8-9) saw parts of the defences which they thought ran from the Redcastle to Nuns' Bridges. In January 1959 a service trench along the edge of London Road (TL8635 8265) cut through a feature *c.*30ft (9.1m) wide and 8ft (2.4m) deep. Realising this to be the town ditch, Knocker excavated several trenches across a bank on the presumed line of the defences further to the north-west in April of the same year. His results are summarised below.

Green and Clarke (1963) suggested that a possible Late Saxon and Norman settlement north of the rivers was enclosed within a defensive perimeter along Water Lane, Painter Street, Earl's Street and Guildhall Street. This conjectural line is shown by Dunmore with Carr (1976, Fig. 3).

This same drawing shows the line of the town defences as certain for *c.*130m south-east of London Road and thereafter as possible to within 90m of Bury Road. No attempt was made to continue the line further east on this plan, but, after a gap, Nuns' Bridges Road is overprinted to suggest the possible route of the Icknield Way. The 1977 excavation (Site 1092) lies between these two conjectural lines.

B.K. Davison, excavating immediately north of Site 1092 in 1969-70 on and around the site of St. Michael's Church (Site 5759, Wilson and Moorhouse 1971, 130-1) demonstrated that the town defences did not pass through this area. This negative evidence suggested that the defences lay to the south, probably passing through the grounds of St. Barnabas' Hospital (Site 1092).

III. St. Barnabas' Hospital, Site 1092, Norfolk Archaeological Unit Excavations, 1977

(Figs. 91 and 92)

Introduction

The site lies at *c.*13m OD on the west slope of the Little Ouse valley. The subsoil is freely drained sand and gravel overlying chalk. The walled property formerly contained the Thetford Workhouse (built 1836[8] and later converted into St. Barnabas' Hospital) and St. Barnabas' Chapel (built 1863).

Prior to excavation, a geophysical survey (resistivity and magnetic) was conducted by the Ancient Monuments Laboratory in the eastern part of the walled area. No anomalies relating to the town defences were recorded (Griffiths 1977).

After agreement with the owners, Breckland District Council, the area available for excavation was restricted to a 20m wide north-to-south strip across the property. Consequently 0.75m of topsoil was mechanically stripped from 520 sq m (trench 1). At the south end of this area the foundations of St. Barnabas' chapel necessitated the narrowing of the excavation into trench 2. Because more foundations prevented trench 2 from reaching the south wall of the property, trench 4 was excavated further west to within 1.5m of the south wall.

In trench 1, immediately north of the chapel, the surface of the natural was mechanically exposed, but further north machining revealed Late Saxon features cut by numerous nineteenth-century features (Fig. 103). When the extent of these recent disturbances had been appreciated, hand excavation was concentrated along the west side of trench 1. After the alignment of the defensive ditches *111* and *141* had been established, permission was given for further excavation (trench 3) along the east edge of the property so that a full section across ditch *141* could be obtained. Trench 3 was mechanically excavated down to the surface of natural.

Pottery and small find summaries for pits, post-holes, slots and ditches are entered in the excavation description. Pottery summaries for general layers have been omitted.

Site co-ordinates are given in the lists of pits and post-holes.

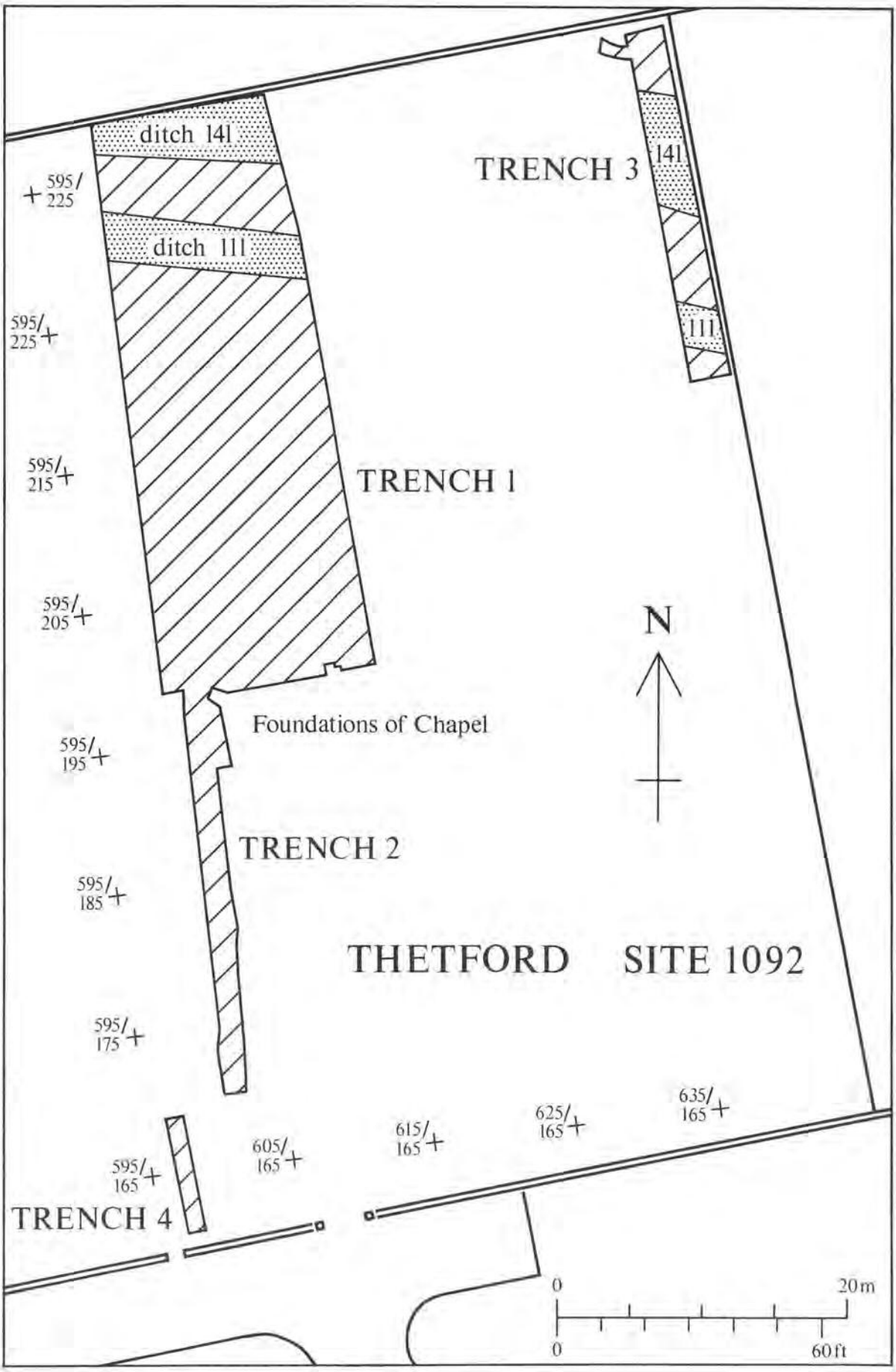
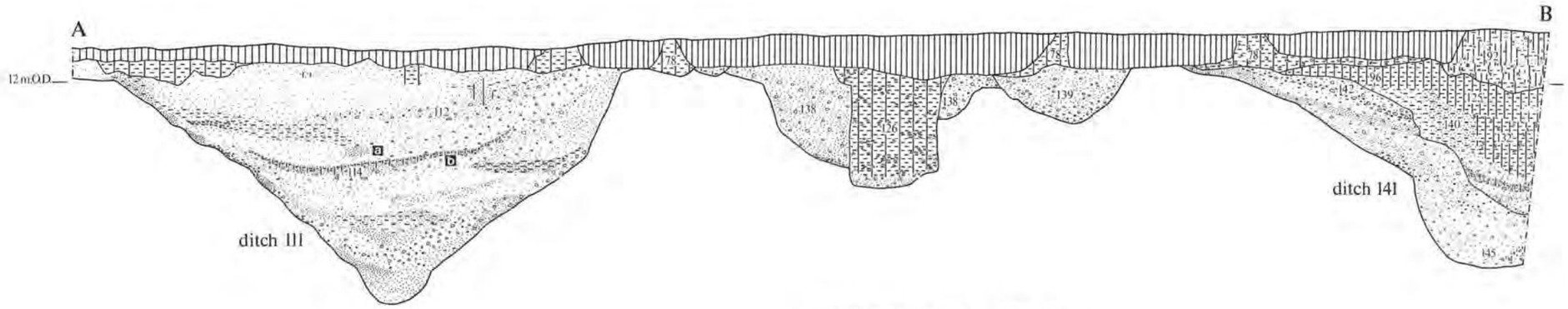
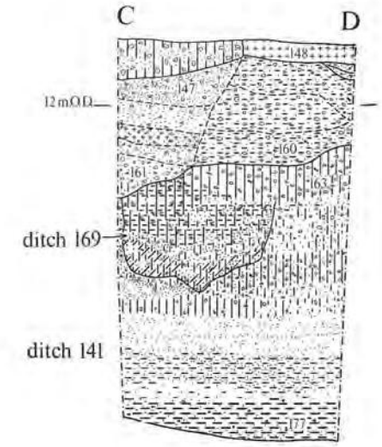


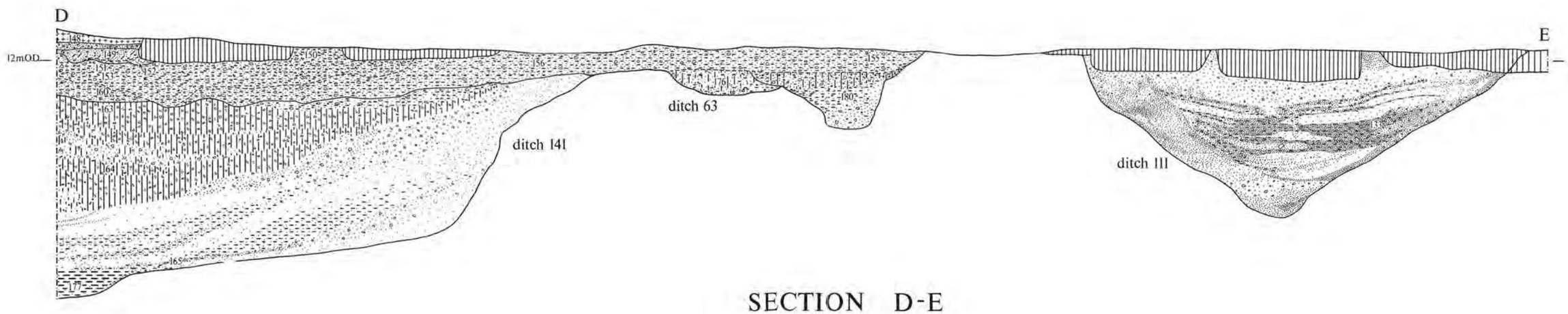
Fig. 91 Location plan of trenches at St. Barnabas' Hospital, Site 1092. Scale 1:400.



SECTION A-B



SECTION C-D



SECTION D-E

THETFORD SITE 1092

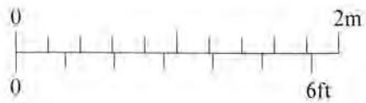


Fig. 93 Sections A-B, C-D, D-E. Scale 1:40.

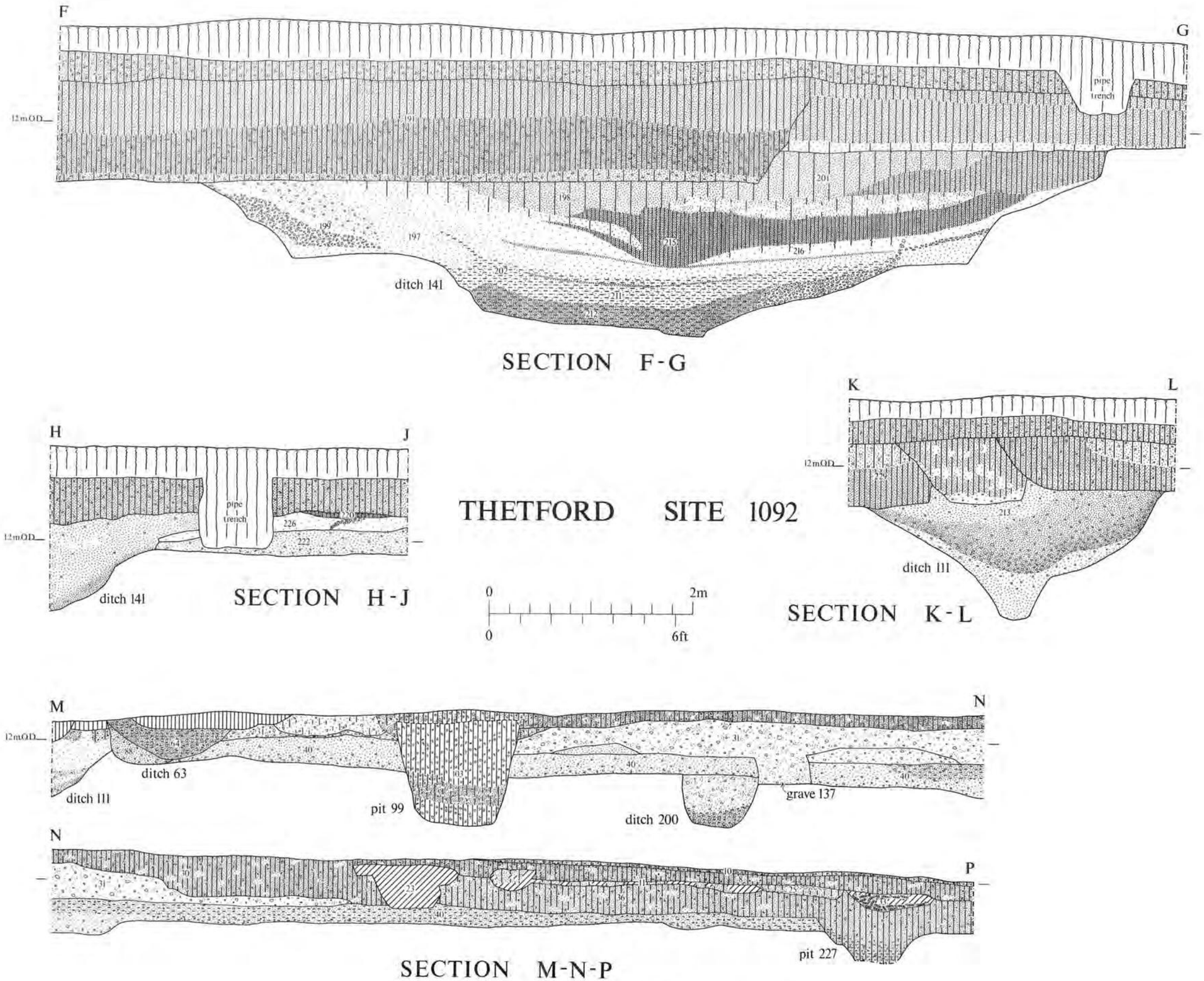


Fig. 94 Sections F-G, H-J, K-L, M-N-P. Scale 1:40.

Description

Ditch 200 and Buried Soils 40 and 222

Ditch 200 was the earliest recorded feature. It was not traced further north-west than is shown on Fig. 92. It contained no finds, and was sealed by layer *40* (Section MNP, Fig. 94). The latter overlay natural and consisted of purplish sand and silty sand with gravel. It extended S from ditch *111*, but was absent from the S end of trench 1. On field inspection W.M. Corbett considered it to be a Redlodge series soil (Corbett 1973, 69), a humus podsol including some wind-blown sand in its upper layers. Layer *40* produced four flint flakes, and was sealed by layers (*31* and *36*) containing Late Saxon material. *222*, a layer similar to *40* overlay natural N of ditch *141* in trench 3 (Section HJ, Fig. 94). It survived only where protected by an overlying layer, possibly the remains of a bank (*226*).

Ditch 141

This ditch was partially exposed in trench 1 (Sect. AB, CD and DE, Fig. 93) and completely sectioned in trench 3 (Sect. FG and HJ, Fig. 94). In the latter it was 7.7m wide and dug 1.95m below natural. The lower fillings in each section were similar, consisting of small amounts of basal silty material below sand and gravel, probably derived from the weathered sides and perhaps from a bank to the N, and wind-blown sand. Layers *177* and *212*, the primary fillings in trenches 1 and 3 were both wet; the botanical evidence (p.194) shows that whilst open, the base of the ditch was periodically waterlogged. Apart from some leather fragments (p.185) and a bone skate (Fig. 197, No. 87) from layer *212*, the only finds were occasional human and animal bones. Cultural material was plentiful only in the uppermost layers of the ditch, the sparsity of finds in the lower layers contrasting with the quantity from most Late Saxon contexts in the site. Ditch *141* was cut by ditches *63* and *169*, pit *132* and post-hole *178* in trench 1 and by recent pit *191* in trench 3. In the NW corner of trench 1, layers *92* and *96*, the final fillings over the ditch and pit *132*, produced large quantities of bone-working residue (p.190) and bone comb fragments (Fig. 187, Nos. 17-20).

Pottery Layer *142* (Sect. AB): 4 TH. Layer *215* (Sect. FG): 2 TH. Layer *198* (Sect. FG): 9 TH. Layer *201* (Sect. FG): 2 EM, 3 SN, 21 TH.

Possible Bank 226 (Sect. HJ, Fig. 94; Fig. 95)

Uncertain evidence for a bank N of ditch *141* in trench 3 consisted of a layer (*226*) of yellow and brown sand with gravel overlying buried soil *222* and extending over the whole of the N end of the trench. Unfortunately both these layers were mechanically removed and thus seen only in section. Post-holes *195* and *196* were cut into natural, their relationships with both layers being unknown. On the W section evidence was limited by collapses and a pipe drain trench, and on the E it had been entirely destroyed by recent pit *191* and a pipe drain. However, a hand-dug extension to the W revealed two more post-holes (*219* and *225*) cutting the upper surface of layer *226*. These four post-holes were approximately aligned with ditch *141*. Pit *221* cut layer *226*. Pit *192*, itself cut by two post-holes (*193* and *194*) could be seen in the disturbed E section to cut through buried soil *222*, but its relationship with *226* was obscured.

Both buried soil and possible bank extended to the N lip of ditch *141*, but it is difficult to envisage how a bank of sand and gravel could have been prevented from spilling into the ditch without a front revetment and no berm. With the present evidence of only one section and that disturbed, the interpretation must remain vague. Similarly it is uncertain how the four post-holes were associated with a bank, if indeed they were.

Ditch 111 (Sect. AB and DE, Fig. 93; KL and MNP, Fig. 94)

In the W, ditch *111* was 3.4m wide and dug 1.7m below natural, while in trench 3 it had narrowed to 3m and was 1.35m deep. The primary fillings were sands and gravels derived from the weathered sides, and the upper fillings in trench 1 (but not in trench 3) consisted of yellow, wind-blown and perhaps water-sorted sand layers interdigitated with brown loamy sands. Two samples of filling (Sect. AB) were taken by W.M. Corbett (p.196). The ditch was cut by ditches *63* and *169* and post-holes *100* and *189*. Apart from a flint flake, a few animal bones and molluscs in the upper fillings, the only finds were six sherds of pottery.

Pottery Layer *112* (Sect. AB): 2 TH. Layer *114* (Sect. AB): 1 TH. Layer *133* (Sect. DE): 2 TH. Layer *213* (Sect. KL): 1 TH.

The Area between Ditches 111 and 141 (Sect. AB and DE, Fig. 93)

The W end of the area was taken up by a series of E-to-W linear features filled with discoloured gravelly sand (*138*, *139* and *146*). They were probably ditches, although *138* and *146* had, at least in parts, flat-based slot-like profiles. *138* and *146* were cut by pit *126* and ditch *169*. *139* continued to the E as a slot (*171* and *190*) which was cut by ditches *63* and *169*, post-hole *170* and pit *158* (Fig. 101). On the northern edge of *139* a small pit (*135*, Fig. 100) contained a tightly packed group of selected human bones. On the E edge of the trench lay parts of a linear feature (*240*) and a pit (*180*). E of ditch *169* a number of post-holes formed no coherent pattern.

Pottery Ditch *146*: 1 TH. Slot *171/190*: 2 TH. Linear feature *204*: 1 ST (A4 900-1050), 13 EM, 5 SN, 17 TH.

Ditch 169 (Sect. CD, Fig. 93)

This feature, aligned NE to SW, began as a sloping-sided scoop in the upper sandy filling of ditch *111* but for the most part was almost vertically sided and flat based. Once over ditch *141* it sloped markedly downwards and it was covered by layers forming the upper filling of the hollow of ditch *141*. The filling of *169* was a fairly uniform hard but crumbly silty loam with sand lenses and more clayey towards the base. A dog skeleton was found in the lower filling above the S edge of ditch *141*.

Pottery 1 EM, 1 SN, 30 TH.

Ditch 63 (Sect. DE, Fig. 93; MNP, Fig. 94; Fig. 101)

Neither end of this ditch, which ran roughly parallel to *169* was located within trench 1. To the SW it cut into layer *31* and through the edge of a hearth (*71*). NE from the vicinity of post-hole *72*, it was recut to a greater width but similar depth, and was cut through post-holes *87-9*, ditches *111* and *141*, pit *158*, and slot *171*. It was cut by pit *180* and linear feature *204*.

Pottery 5 ST (2 AO, 1 D4, 2 G6, *c.* 1020-1080), 28 EM, 63 SN, 152 TH.

Small finds Bone flute (Fig. 200, No. 109) and burnt limestone.

The Area South of Ditch 111 (Sect. MNP, Fig. 94)

This area was excavated down to the surface of buried soil *40* in the northern part and down to the natural in the southern part and in a narrow strip W of the line of Sect. MNP. *31*, a layer of mottled yellow/brown sand and fine gravel extended S from ditch *111* as far as immediately N of pit *22*. It sealed layer *40* and perhaps represented a much spread counterscarp bank built with material derived from ditch *111*. Apart from linear feature *200*, only burial *137* was sealed by *31*. A vertically-sided grave-pit cut into layer *40* contained an extended male skeleton with head to the W. There were no finds in the pit filling except a fragment of a child's skull and twelve vertebrae. All other features, post-holes *16*, *32*, *37-9*, *41*, *55*, *58*, *72* and *87-9*, hearths *61* and *71*, pit *99* and ditch *63* were cut into the upper surface of layer *31*.

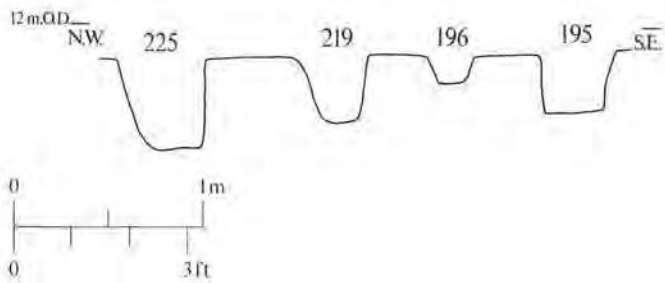


Fig. 95 Profile post-holes 195, 196, 219, 225. Scale 1:40.

Where undisturbed, layer *31* was overlain by sandy loam (*30*). This extended S to a rough surface of pale yellow clay (*11*) which was associated with a hearth (*25*) and a depression filled with iron slag (*33*). Layer *8*, the soil above the surface, was almost indistinguishable from *30* and from *36*, the soil below. A post-hole filled with iron slag (*54*) was probably cut from layer *36*. Pit *227* (not on Fig. 92) lay beneath depression *33*, and pit *129* (Fig. 99) was partly sealed by surface *11*. Pit *23*, filled entirely with yellow clay, was cut through layers *30* and *36*.

S of surface *11* there were only slight traces of buried soil *40* and little stratification survived, as the surface of natural rose. Pits *14* and *15* (Figs. 97 and 98) and post-hole *24* were covered by soil only 15cm thick, the overlying deposits having been mechanically removed. An area E of pit *14* was excavated to natural and produced below a soil of similar thickness (*94*), six shallow pits (*101, 104, 106, 109, 115, 118*) and three post-holes (*108, 117, 120*).

Small finds Layer *8*: iron awl (not illus. No. 40b), 3 nails, sheet fragment; hone; bone comb connecting plate (Fig. 187, No. 15); crucible (table 3). Layer *36*: copper alloy pointed object (Fig. 111, No. 31); iron knife (Fig. 125, No. 98), staple, hinge pivot (not illus. no. 138a); flint arrowhead (Fig. 150, No. 3). Post-hole *16*: copper alloy unfinished hook (Fig. 111, No. 39), six others (not illus. Nos. 39a-f).

Trench 2

The only feature cut into natural was pit *13* at the S end. The soil above natural and below a top layer of rubble was clean, light brown loamy sand not encountered elsewhere on the site.

Trench 4

Below much recent disturbance and layers of loamy sand were two shallow pits (*209-10*) and a flat-bottomed scoop (*184*). All were apparently Post-medieval.

The Pits

13—(Fig. 96; 601/172). Circular; diam. 2.6m; dug 2.65m below natural.
Pottery 1 Med. gl. (layer *5*), 1 SN, 15 TH, 1 unident.

14—(Fig. 97; 603/204). Irregular; averaging 2.2m across; dug 1.45m below natural.
Pottery 7 ST(1AO, 1A1, 2A4, 2A5/5, 1D5/5 900-1050), 20 EM, 42 SN, 79 TH, 1 unident. hand-made.
Small finds Layer *53*: Styca of Ethelred of Northumbria (Fig. 108, No. 7); iron nail.

15—(Fig. 98; 602/206). Irregular; averaging 2.4m across; dug 1.7m below natural; wet primary filling (*62*) contained oak and hazel fragments.
Pottery 34 ST (5-74 A1, 5-75 + handle 26 A4/4, 4AO, 8A1, 4A5, 1D1, 1D4, 4GO, 10G1 1020-1080), 109 EM, 229 SN, 68 TH, 2 unident.
Small finds Copper alloy strip fragment; iron heckle tooth, knife (Fig. 125, No. 103), another; hone.

22—(604/216). Rectangular; 1.2m by 0.8m, 0.5m deep; filling of grey-brown loamy sand with yellow chalky clay lumps; upper filling indistinguishable from linear feature *10*; cutting pit *23*.
Pottery 1 willow pattern, 4 tin glazed earthenware, 2 TH.
Small finds Clay pipe stem; human cranial fragment.

23—(Sect. MNP, Fig. 94; 604/216). E part not excavated; 0.44m deep; filled with yellow chalky clay; cutting layers *30* and *36*; cut by pit *22* and linear feature *10*. No finds.

83—(607/199). Probably circular; diam. 0.8m; dug 0.75m below natural; filled with brown loamy sand over dark brown silt loam; S part removed by foundation trench of N wall of nineteenth-century chapel.
Pottery 4 SN, 5 TH.

99—(Sect. MNP, Fig. 94; 605/225). E part not excavated; at least 1.05m deep; cutting layer *31*.
Pottery 14 SN, 20 TH.
Small finds Iron nail.

101—(608/200). Circular; diam. 1.15m; dug 0.5m below natural; filled with grey-brown loamy sand.
Pottery 2 SN, 2 TH.

104—(607/203). Scoop-like feature, ? shallow ditch terminal; 1.3m N to S, and at least 3.25m E to W; dug 0.46m below natural, but shallowing to E; filled with very dark greyish brown sandy loam.
Pottery 1 EM, 6 SN, 2 TH.
Small finds Iron rod fragment.

106—(606/204). W part not excavated; 0.88m across; dug 0.46m below natural; filled with dark greyish brown sandy loam.
Pottery 2 SN, 1 TH.

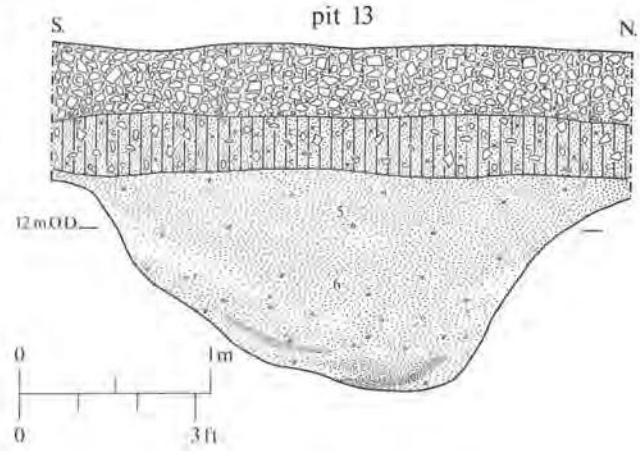


Fig. 96 Section pit 13. Scale 1:40.

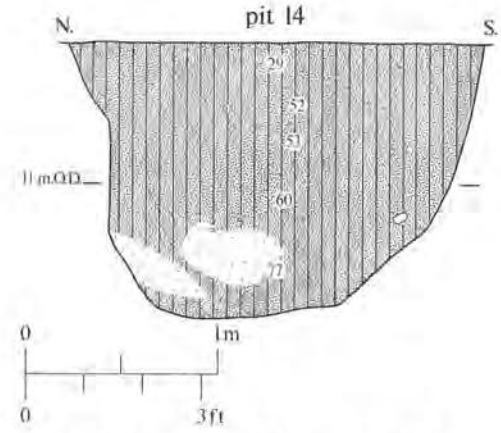


Fig. 97 Section pit 14. Scale 1:40.

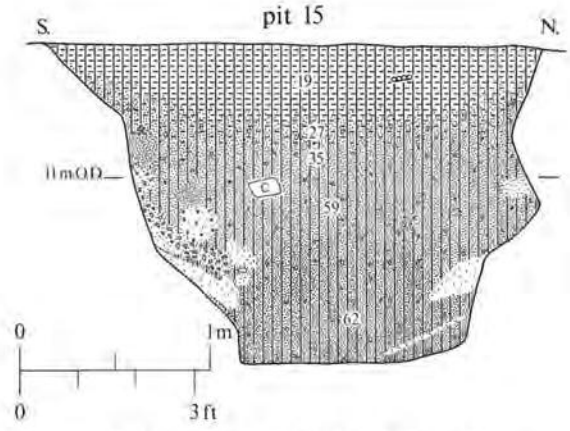


Fig. 98 Section pit 15. Scale 1:40.

109—(606/203). Probably circular; diam. 1.18m; dug 0.3m below natural; filled with dark greyish brown loamy sand.
Pottery 1 TH.

115—(607/201). Irregular; averaging 1.1m across; dug 0.6m below natural; filled with dark greyish brown sandy loam; uncertain relationship with pit *118*.
Pottery 4 TH.
Small finds Iron knife.

118—(607/202). ? sub-rectangular; 1m by 0.8m; dug 0.28m below natural; filling indistinguishable from pit *115*. No finds.

126—(Sect. AB, Fig. 93; 601/234). Roughly rectangular; 1m by 0.7m; dug 0.9m below natural; cutting linear features *138* and *146*.
Pottery 1 EM, 3 SN, 22 TH.

129—(Fig. 99; 603/212). Irregular; averaging 1.55m across; dug at least 1.3m below natural; cutting buried soil *40*, partly sealed by surface *11*.
Pottery 1 EM, 6 SN, 10 TH.

132—(Sect. AB, Fig. 93, not on Fig. 92; 601/239). Uncertain dimensions; at least 1.85m deep; sealed by layers *96* and *125* and cutting upper filling of ditch *141*; vertical E edge 1.4m E of point B on Fig. 92 suggesting not a ditch recut.
Pottery 1 TH.

135—(Fig. 100; 602/236). Circular; diam. 0.38m; dug 0.31m below natural; orange sand filling with olive-grey patches; contained tightly packed and selected human bones; uncertain relationship with linear feature *139*.
Small finds Two retouched flints.

158—(Fig. 101; 608/233). Irregular; averaging 2.6m across; dug 1.9m below natural; lower filling of wet organic brown/yellow sand and silt coincident with narrowing of profile; collapsed before recorded; cutting slot *171* and post-hole *186*; cut by ditch *63* and pit *180*.
Pottery 11 ST (10DO, 1D1, 900-1000), 42 SN, 222 TH, 1 unident.

180—(Sect. DE, Fig. 93; 610/233). E part not excavated; at least 1.5m across and 0.74m deep; cutting ditch *63* and pit *158*.
Pottery 9 TH.

184—(597/163). Uncertain dimensions; dug 0.4m below natural with flat base; filled with brown sand; cut by pit *210*.
Pottery 3 post-medieval, 14 med. gl. and coarse, 7 EM, 11 SN, 31 TH.

191—(Sect. FG, Fig. 94; 640/235). E part not excavated; 9.5m N to S and 1.05m deep; cut from below top soil into pit *192* and upper filling of ditch *141*.
Pottery Includes tin glazed earthenware and post-medieval brown glazed ware.
Other finds Include pan-tile, post-medieval glass, slate and coal.

192—(Fig. 102; 639/239). Sub-rectangular; 1.25m by 1.1m; dug 1.25m below natural; cut by post-holes *193* and *194* and pit *191*.
Pottery 4 ST (1 A1, 1 A4, 2 D4, 900-1025), 3 SN, 24 TH.
Small finds Lead strip fragment.

209—(597/166). E part not excavated; dug 0.3m below natural; filled with brown sand; cutting *210*.
Pottery 3 med. coarse, 2 EM, 5 TH.

210—(598/165). E part not excavated; dug 0.25m below natural; filled with dark brown sand; cut by *209*, cutting *184*.
Pottery 1 ? med. coarse, 1 TH.

221—(636/240). W part not excavated; at least 0.5m deep; filled with olive-brown sandy loam; cutting layers *222* and *226*; upper filling (*220*) of dark brown sandy loam with many mussel shells trailing E over possible bank *(226)* (Sect. HJ, Fig. 94).
Pottery Lower filling: 2 ST (AO V16 or 19, M62 A6/(6), 1020-1080), 10 EM, 2 SN, 4 TH. Layer *220*: 3 ST (1G1, 2G6/(6), 1020-1100), 18 EM, 3 SN, 3TH.
Small finds Crucible (table 3).

227—(Sect. MNP, Fig. 94, not on Fig. 92; 605/211). E part not excavated; min. 1.1m N to S and 0.4m deep; layer *36* dipping into upper filling. No finds.

228—(639/225). Rectangular; 1.1m by 0.8m; dug 0.2m below natural; filled with brown sandy loam. No finds except lumps of coal.

229—(Sect. KL, Fig. 94; 639/219). W part not excavated; at least 1.7m N to S, and 0.63m deep; cutting ditch *111*; cut by unnumbered pit to N; no finds except recent brick fragments.

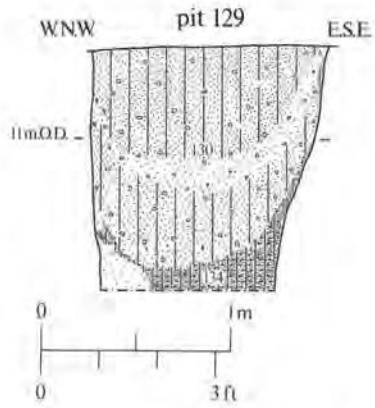


Fig. 99 Section pit 129. Scale 1:40.

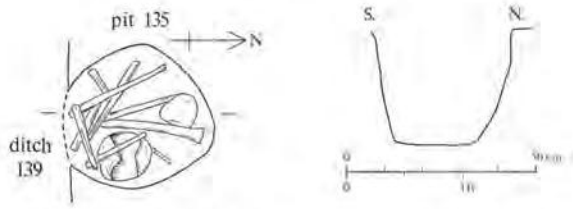


Fig. 100 Plan and profile of pit 135. Scale 1:20.

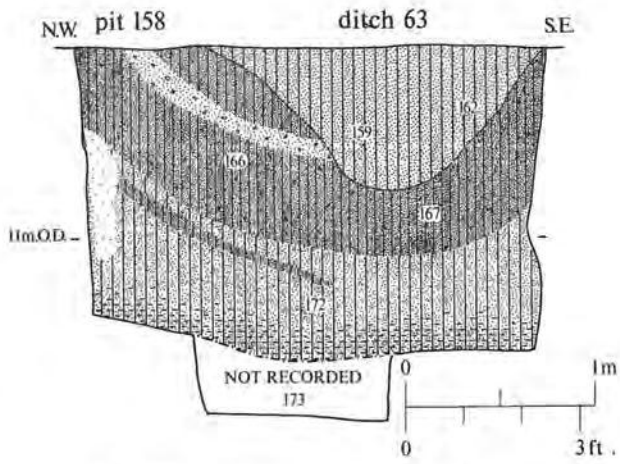


Fig. 101 Section pit 158. Scale 1:40.

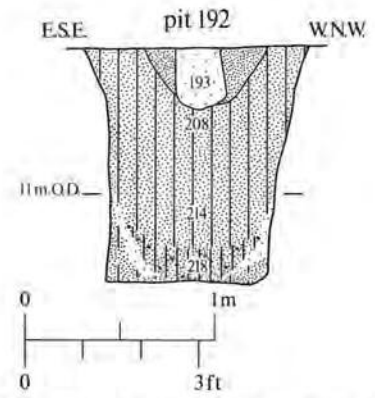


Fig. 102 Section pit 192. Scale 1:40.

Context Number	Location	Diameter	Depth	Pottery
16	602/220	20cm	9cm	2 EM, 1 SN, 3 TH
24	604/206	30cm	12cm	
32	602/220	25cm	22cm	1 SN
37	601/218	27cm	23cm	1 TH
38	602/218	33cm	8cm	1 SN, 1 TH
39	602/219	24cm	14cm	1 SN
41	603/220	Rectangular 20×13cm	8cm	
54	601/212	27cm	12cm	2 SN, 3 TH
55	602/220	Average 45cm across	30cm	7 TH
58	601/220	28cm	5cm	9 EM, 7 SN, 19 TH 2 unident.
72	602/225	Maximum 30cm	30cm	1 ST (AO), 3 TH
87	604/228		18cm	2 SN, 6 TH
88	605/228		43cm	1 EM, 3 TH
89	603/227	30cm	21cm	
90	604/232	22cm	32cm	
100	604/229	Oval 44×30cm	25cm	
108	606/204	33cm	32cm	
117	606/201	Oval 42×29cm	10cm	1 TH
120	607/200	41cm	44cm	1 TH
170	607/234	32cm	22cm	
178	608/235	Oval 60×35cm	12cm	
181	607/234	20cm	10cm	1 TH
182	607/233	18cm	20cm	
185	607/233	Oval 46×28cm	25cm	
186	607/233		8cm	
187	606/232	26cm	31cm	
189	605/231	32cm	24cm	31 TH
193	639/239	65cm	33cm	
194	639/239	Rectangular 20×18cm	15cm	
195	638/239	34cm	30cm	
196	638/239	24cm	14cm	
219	637/239	Rectangular 38×30cm	35cm	
225	636/240	Rectangular 52×33cm	46cm	

Depths given are the maximum observed. This normally refers to measurements from the surface of natural. The depths of *219* and *225* were measured from the upper surface of layer *226*.

Table 2 Site 1092: Details of Post-holes.

Nineteenth-Century Features (Fig. 103)

Machining in trench 1 revealed the lower parts of two sets of carefully laid-out features, all cut from below the base of modern topsoil. The south set consisted of parallel north-to-south flat-based trenches filled with greyish brown loamy sand and fine gravel. To the north they terminated in a straight line, and probably had also done so to the south where the ends of the five westernmost trenches had shallowed out to disappear at machined level. Part of one trench appears as layer *10* on Section MNP (Fig. 94). It produced part of a late fourteenth-century Walsingham lead pilgrim badge at 604.70/214.90 (Spencer 1980, 13, No. 26). The northern group comprised north-to-south rows of roughly rectangular flat-based pits filled with uniform very dark grey-brown slightly sandy loam, similar to a garden or topsoil. In the edges of the machined area they could be seen to be as much as 0.75m deep. The lower parts of some pits appear on Sect. AB and DE (Fig. 93) and at the north end of Sect. MNP (Fig. 94).

The fillings of both sets were very easily distinguished from the underlying deposits and it is obvious that the features had been open for a very short time. They must have formed part of an horticultural system, perhaps divided by an east-to-west path, but it is not now possible to indicate their precise gardening functions. Their fillings suggest that the pits had contained organic material, while the trenches were intended to be freely draining.

Although the majority of finds were Late Saxon (bone comb tooth segment, Fig. 187, No. 16), both sets produced nineteenth-century pottery and brick. The trenches were cut by several features including pit *22* and a brick sump (614/202) associated with St. Barnabas' Chapel (built 1863) and shown on a plan of 1914.

Trench 3 contained numerous recent features, only three of which (*191, 228-9*) were cut into natural (Sect. FG and KL, Fig. 94).

IV. Knocker's Excavations 1959

Introduction

Following the observation of a major feature near London Road in a service trench, Knocker excavated five trial trenches (TT1-5) across or close to the presumed line of the town defences in open ground north-west of London Road and south of Red Castle, a ring-work of probable twelfth-century date (Knocker 1967)[9]. A substantial ditch was traced to within *c.*25m south of the Castle (Fig. 104).

Description

TT1 (Fig. 105) was laid out across a 5ft (1.5m) high bank which ran from London Road NW to just S of the Red Castle. The bank was shown to be probably Post-medieval and to overlay a Late Saxon ditch, *c.*42ft (12.8m) wide and dug 11ft 6in (3.5m) below natural. The recorded section indicates that two-thirds of the ditch's width towards the SW was the result of a major recut which deepened the feature by *c.*1m. Within this recut the lowest filling contained 'black flints' above which were layers of sandy soil. The NE edge was remarkably vertical and its alignment was far from parallel with the line of the overlying bank. The adjacent filling contained a mass of weathered flints. Above the ditch a horizontal layer of gravel thickened into a low bank towards the east.

Pottery 128 sherds were recovered: 1 post-medieval, 5 medieval, 1 GMT, 1 ST (1-37 AO, 985-1100), 1 THS, 18 EM, 28 SN, 68 TH, 5 unident. Material from the primary phase of ditch filling includes EM, SN, and the ST sherd. The lower filling of the recut contained only TH and unident. (Material from near the uncertain area of the base (dashed on Fig. 105) includes EM). Medieval sherds were sealed by the gravel bank, while the make-up of the overlying bank produced a post-medieval sherd, tile and glass.

TT2 was positioned to test the relationship of the town ditch found in TT1 to that known to surround the castle, on the assumption that the ditch followed the line of the earthwork bank which swung to the N, *c.*60m S of the Red Castle. No trace of the town ditch was evident. Beneath the bank a ditch, 4ft (1.2m) wide and 2ft 6in (0.8m) deep, aligned NE to SW was recorded. At the NW end of the trench the SE part of a flat based ? ditch, 2ft (0.6m) deep, was apparently aligned NE to SW.

Pottery The features produced none, but the following were recorded from below topsoil: 3 medieval, 4 EM, 1 SN, 2 TH, 1 hand-made Early Saxon.

TT3 was divided into four portions. At the E end, part of a N to S ditch *c.*3ft (0.9m) deep, was found. The two W portions comprised a NW to SE ditch. It was *c.*35ft (10.7m) wide, dug 7ft 6in (2.3m) below natural.

Pottery No material can be confidently assigned to either ditch. From the whole trench came 14 SN and TH, and 1 body sherd of pimply Ipswich-type Ware.

TT4 was dug entirely within a large feature, presumably the ditch found in TT1 and 3. No base or sides were found, and excavation was halted at a depth of 6ft (1.3m) from the ground surface.

Pottery Topsoil: 2 medieval. Below topsoil: 2 EM, 1 SN, 3 TH.

TT5 was completely taken up with a ditch at least 22ft (6.7m) wide. The base was not located, and the field section drawing shows the sides, particularly the north-eastern, to be uncertain. The alignment, also uncertain, was probably NW to SE.

Pottery Upper filling: 2 EM, 3 TH.

V. The 1961 Observation

(Fig. 104)

R. Rainbird Clarke noted in the edges of a sewer trench at TL 8619 8308 'the upper part of the infilling of a ditch approximately 30ft (9.1m) wide and at least 8ft (3.4m) deep . . . This ditch was running north and south . . .' (letter to Knocker, October 1961).

VI. The 1964 Observation

(Fig. 104)

A contractor's trench was mechanically excavated through the earthwork bank south of TT3. Barbara Green observed the underlying ditch and recovered Late Saxon pottery.

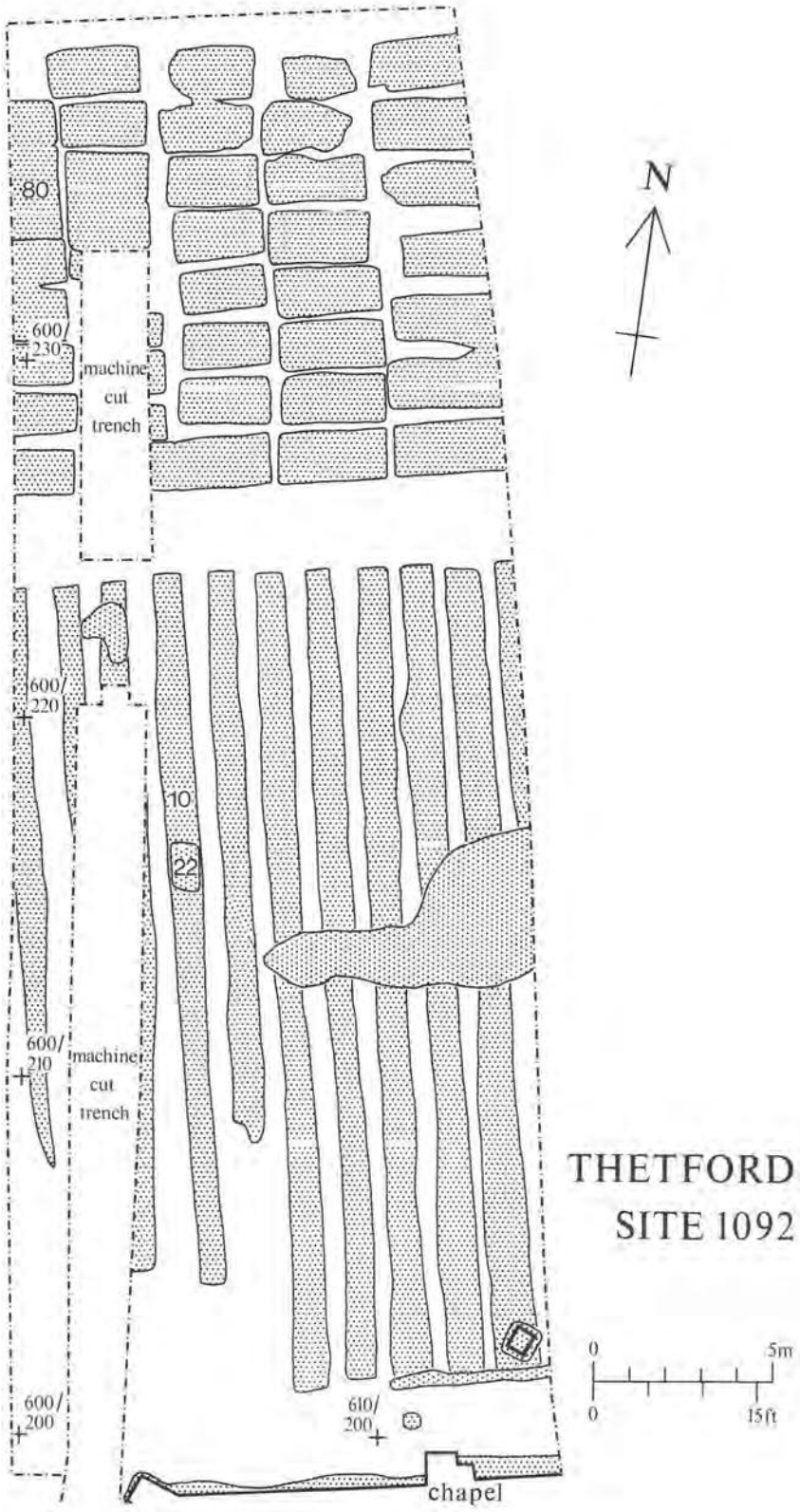


Fig. 103 Plan nineteenth-century features. Scale 1:200.

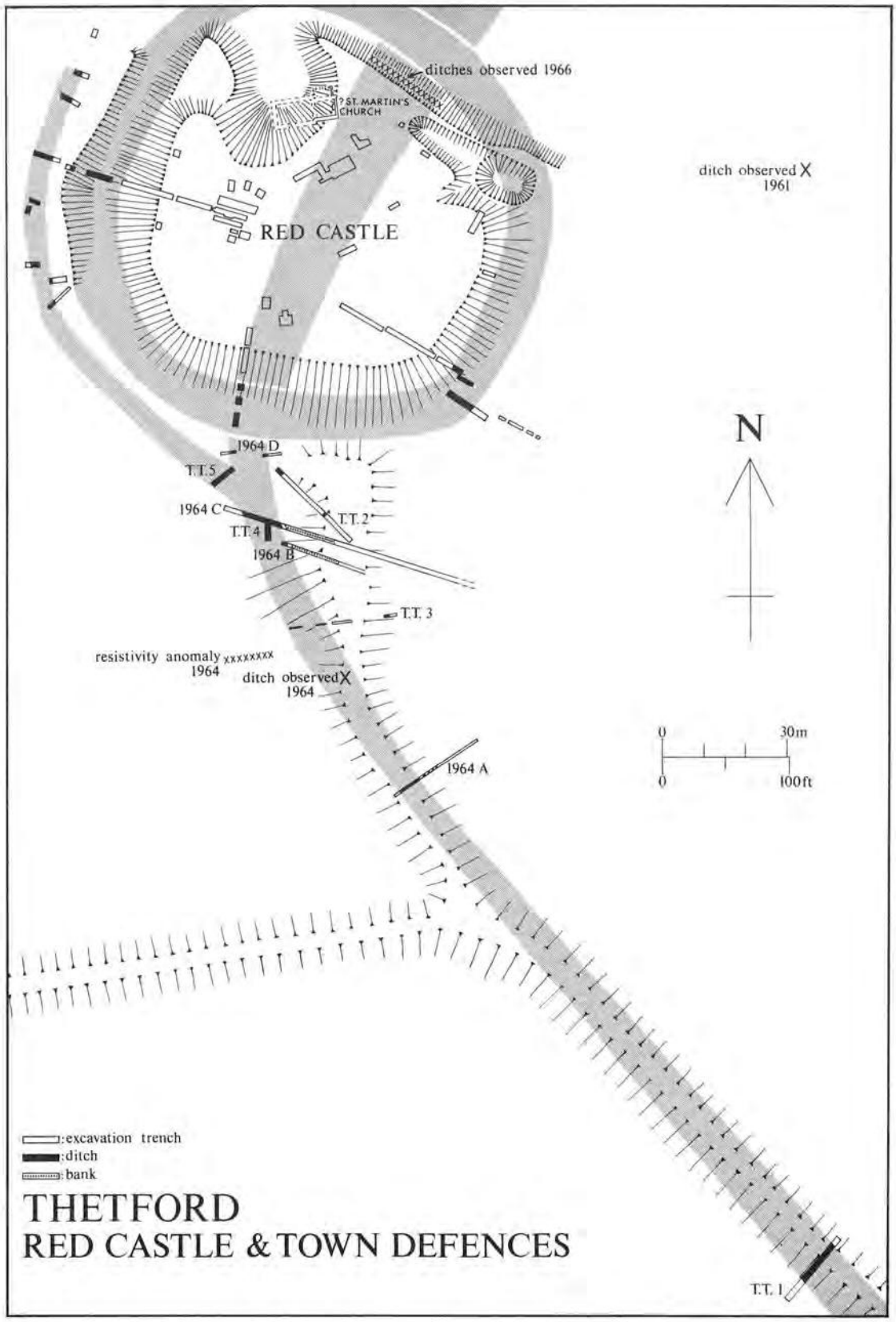
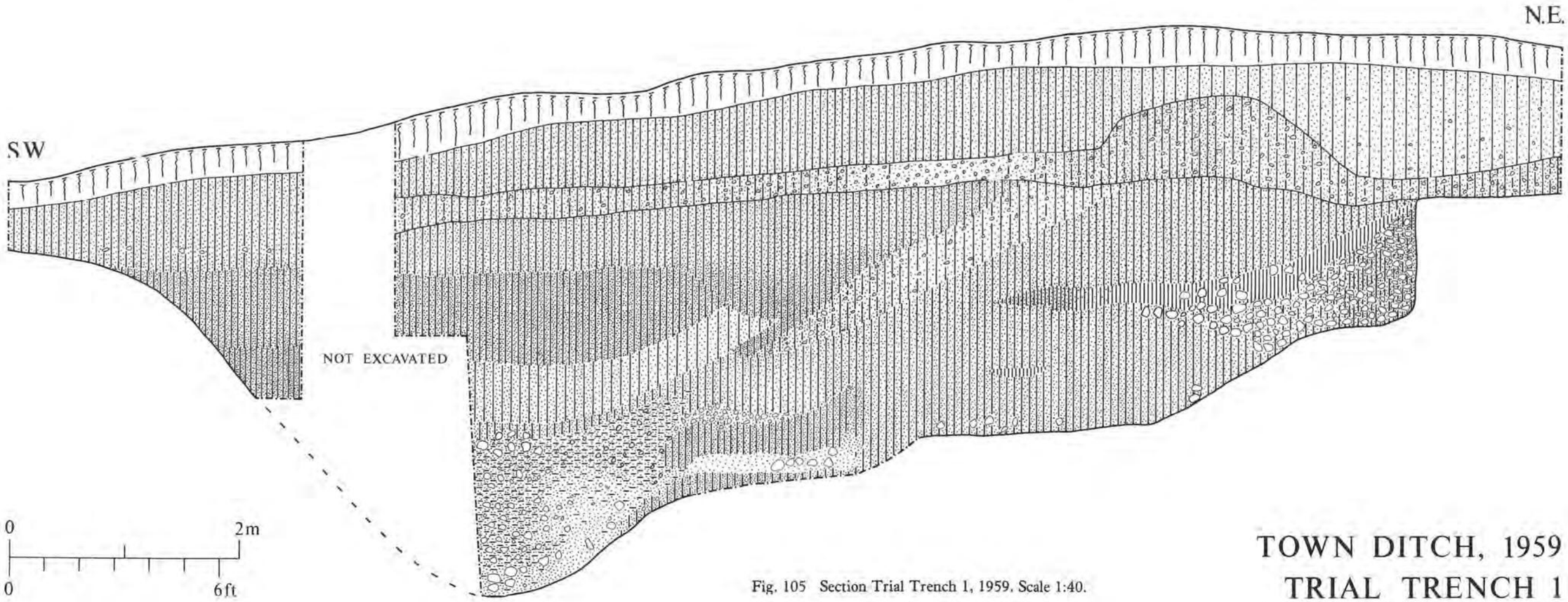
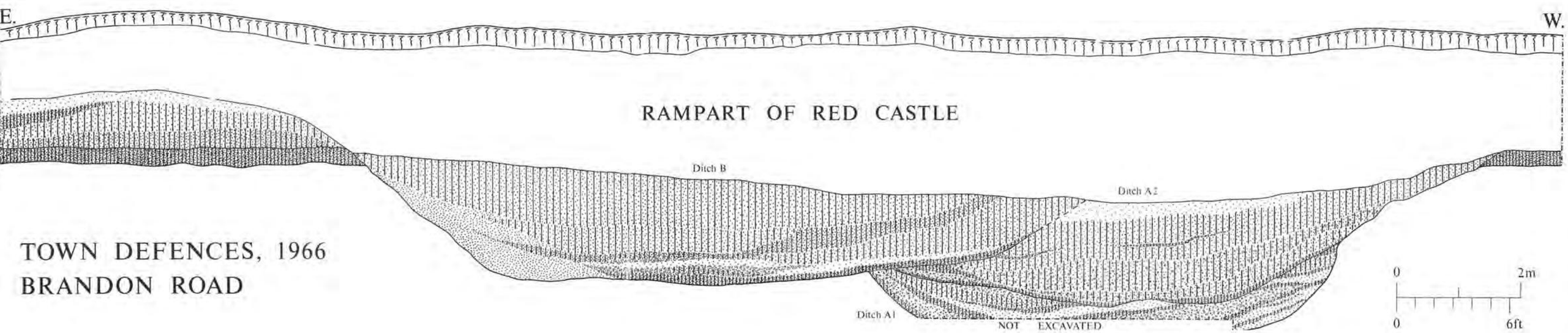


Fig. 104 Location plan Red Castle excavations, 1959 and 1964 trenches, resistivity anomaly, and observations of town defences. Scale 1:1500.



TOWN DITCH, 1959
TRIAL TRENCH 1

Fig. 105 Section Trial Trench 1, 1959. Scale 1:40.



TOWN DEFENCES, 1966
BRANDON ROAD

Fig. 106 Section ditches beneath rampart of Red Castle, 1966. Scale 1:60.

VII. The 1964 Trial Trenches
(Fig. 104)

B.K. Davison excavated mechanical trial trenches in four areas. Each trench was stripped to the surface of natural, but no features were emptied.

Description

Trench A, between Knocker's TT1 and 3, was sited immediately north of a resistivity anomaly (not on Fig. 104) which had suggested a feature measuring *c.*12m across north-east to south-west. The trench showed this to be a ditch 7.6m wide flanked to the north-east by four smaller ditches.

Trench B, between Knocker's TT3 and 4, picked up the eastern edge of a ditch as well as section evidence of a bank to the E, measuring *c.*10m E to W.

Trench C, immediately N of Knocker's TT4, produced a 7.6m wide ditch flanked to the E by a 10m wide bank.

Trench D, in two parts, disclosed the E and W edges of presumably one ditch, *c.*8m wide.

A resistivity anomaly south-west of TT3 suggested another possible ditch lying W of that found in the 1959 and 1964 trenches. This feature was not located elsewhere, although it lay in a position comparable to that of ditch *111* on Site 1092.

VIII. The 1966 Observation
(Figs. 104 and 106)

B.K. Davison observed road-widening along the south side of Brandon Road in October 1966. The outer tail of the Red Castle rampart was cut back by *c.*2m and scarped to 45°. At this point the surface of the modern road was *c.*2m below the old ground surface and overlay the partly filled castle ditch. Three successive ditches, each running north to south, were sealed by the rampart, which ran north-west to south-east at this point.

Ditch A, originally *c.*9m wide and dug 2.9m below the old ground surface, was filled with alternate layers of dirty sand, dirty gravel and soil. It was cut by ditch A2.

Ditch A2 was wider and more shallow, and its filling was very different from that of A1, consisting of sandy soil with some gravel in the lower part and clean blown sand at the top.

Ditch B was *c.*12m wide and had completely removed the ramparts associated with A1 and A2. Above a primary filling of wind-blown sand on the east side, layers of sand and gravel contrasted with the upper filling of light brown, mainly ? wind blown sand. This ditch was accompanied by a rampart to the east which was *c.*1m high and at least 5.5m wide. There were no clear signs of a turf line over it, and there were no structural details. It is clear that ditch B had filled up naturally, and that the rampart had not been levelled back into the ditch. The layers of the Red Castle rampart (which was only seen in longitudinal section) ran horizontally over the ditches and sloped up over the rampart associated with ditch B.

IX. Discussion

The composite plan (Fig. 104) shows that excavation and observation have not fully clarified the town defences at their northern edge, and subsequent building development has rendered most outstanding problems permanently insoluble. It is certain that a ditch, with at least one recut, and a bank to the east, extended as far north as trench C. Thereafter, in the unexcavated triangle between trenches C and D and TT2 and 5 the system appears to have bifurcated, one ditch continuing north through trench D and under Red Castle, while the other branched north-west through TT5 perhaps to join with the *c.*6m wide ditch found by Knocker (1967, Figs. 2 and 7a) in a series of trenches west of the castle. This branch could be explained as an additional defence to the castle on its exposed western side. However, the bifurcation may show that the superimposed ditches recorded in TT1 may have pursued different courses.

The published section through the castle's encircling ditch north of trench D (Knocker 1967, Fig. Fd) does not show the castle ditch cutting through the town ditch but rather through natural sand and gravel. This was probably an error of observation in view of Davison's 1966 observation, although the west edge of the town ditch could have narrowly missed the extreme south-east corner of Knocker's trench. The recuts observed in 1966, but not apparent south of the Red Castle, were probably caused by their close proximity to the flood plain where ditch maintenance would have been more difficult, although the point of observation is well above the flood plain. The ditch-like feature observed by Rainbird Clarke in 1961 to the east of Red Castle is difficult to account for unless it was unrelated to the town defences or was part of an earlier perimeter. If the latter, it could have been on a branch leaving the main line somewhere in the region of TT1. Development in the late 1960's covered most of the area south of the Red Castle so that the incomplete evidence outlined above cannot now be augmented. The possibility remains that north of trial trench 1964A, the defences may have pursued four or five different lines in the Late Saxon and early medieval periods.

If the ceramic evidence from the first phase ditch filling in TT1 is trustworthy, then silting must have occurred in the eleventh century. However, on the St. Barnabas' Hospital site (1092), ditches *111* and *141* survived as only slight earthworks when they were covered by late-tenth to early-eleventh century occupation. This suggests that the northern sector was kept in repair after the southern had been abandoned.

The main fillings of *111* and *141* on Site 1092 contained so little cultural material that it is likely that at the time of their abandonment they were not close to intense occupation and were allowed to silt gradually. If this is true, then the defences may have been built long before the overlying occupation commenced in *c.*1000. It should be noted that there is no firm evidence that ditches *111* and *141* were dug at the same time or that one was later than the other. If *111* was defensive and not just serving as a boundary, this would imply that there may possibly have been two distinct phases of ditch digging before the late tenth century. There is insufficient dating evidence from Site 1092 to indicate whether the one or two phases of construction were the result of Danish activity in the years after 869 or of Edward the Elder's reconquest in 917. Further excavation across the defences on a scale large enough to include bank and ditches with areas within and without their line would be highly desirable. At present, generalisations from small trenches in only two areas of a defensive perimeter that is over 1.5km in length can only be regarded as tentative. However, further discussion of the layout and date of the defences in relation to the development of the town is contained in Part VI (p.197).

Part III
Site 1022
Norfolk Archaeological Unit Excavations 1973 and 1980

I. The 1973 Excavations

(Figs. 2 and 107)
by R.D. Carr

Introduction

In September 1973, 110sq.m were excavated at TL 8693 8264 in advance of redevelopment by Thetford Moulded Products Ltd. (Site 16 in Dunmore with Carr 1976, fig. 3). After mechanical topsoil removal, the natural gravel surface was revealed, except in a strip along the north edge where a *c.* 15cm thick layer of very dark grey sand with wood ash underlay the topsoil. All features, except *9* were cut into the natural. The project was carried out over three days by the author with the assistance of S. Dunmore.

Description

1—Linear feature; *c.* 10cm deep; filled with dark grey sandy loam and sand lenses; numerous stake- or post-holes between 5 and 30cm deep along base; overlain by hearth *9*; cut by post-hole *5* and probably by gully *3*.
Pottery 1 TH.
Other finds Iron slag and burnt clay.

2 and ***3***—Double gully; *c.* 25cm deep; filled with soil similar to *1*; overlain by hearth *9*; cut by post-hole *5*, and probably cutting feature *1*.
Pottery ***2:*** 5 EM, 1 SN, 4 TH.
3: 1 SN, 1 TH.
2 & 3: 1 ST (handle, 17A1).
11 EM, 1 SN.
Other finds Iron slag and burnt clay.

4—Post-hole; uncertain depth; filled with brown sandy loam; cutting unnumbered post-hole. No finds.

5—Post-hole; uncertain depth; almost black sandy loam filling; cutting gully *3*.
Pottery 3 EM.
Other finds Burnt clay.

6—Post-hole; uncertain depth; filled with grey sandy loam. No finds.

7—Feature of uncertain shape; at least 30cm deep; filled with dark brown sandy loam.
Pottery 2 ? HM, 2 EM, 3 TH.

8—Probable pit; 30cm deep; filled with almost black sandy loam.
Pottery 1 TH.

9—Hearth; roughly circular; 10cm thick; burnt clay bordered on two sides by chalk blocks, with area of unburnt yellow chalky clay to NW; overlying linear features *1-3*; yellow clay cut by post-hole *11*. No finds except iron slag and burnt clay.

10—Post-hole; uncertain depth; filled with dark grey sandy loam; cutting linear feature *1*. No finds except iron slag.

11—Post-hole; uncertain depth; filled with almost black sandy loam; cutting yellow clay associated with hearth *9*.
Pottery 1 TH.
Other finds Iron buckle, iron slag, burnt clay, flint flake.

12—Circular depression; 3cm deep; grey sand filling with burnt flints and charcoal.
Other finds Two flint flakes.

13—Feature of uncertain shape; at least 30cm deep; filled with grey brown sandy loam.
Pottery 1 SN, 31 TH.
Other finds Iron slag.

Topsoil.
Pottery 3 post-medieval, 1 Med. gl., 6 HM, 4 ST (1 17 AO, 2 A1, 1 A4), 5 SN, 51 TH.
Other finds Copper alloy folding balance (Fig. 113, No. 56); small amounts of pantile fragments and mortar.

Conclusions

This small-scale excavation must only be regarded as a sample of this region of the town. The pottery evidence indicates that occupation continued into the early thirteenth century, and that the main period of activity, perhaps with associated iron working, lay in the eleventh. The lack of deep stratification and large pits, so characteristic of Knocker's main sites, is noteworthy as is the recovery of evidence, admittedly slender, for timber buildings in the form of post-holes. That such a small sample may be misleading is born out by observations during the same period of construction work immediately to the south where the only features noted were substantial pits producing TH and SN pottery with iron slag.

II. The 1980 Trial Trench

In January 1980 a trench measuring 28m × 1.60m was mechanically excavated at TL 8694 8269 immediately south of the reputed site of St. Ethelred's Church and *c.* 50m north of the 1973 site. The whole trench was taken up with west-to-east inhumation graves above and cut into the natural gravel. No other features were noted. Only ten pot sherds (2 EM and 8 TH) were found, and more significantly no animal bone, shell or iron slag was recovered. This suggests that there was little or no occupation before the development of the cemetery. St. Ethelred's has been identified, on dedication evidence, as a pre-Conquest foundation (Dunmore with Carr 1976, 17). The church was demolished at the Dissolution (Blomefield 1805, 70).

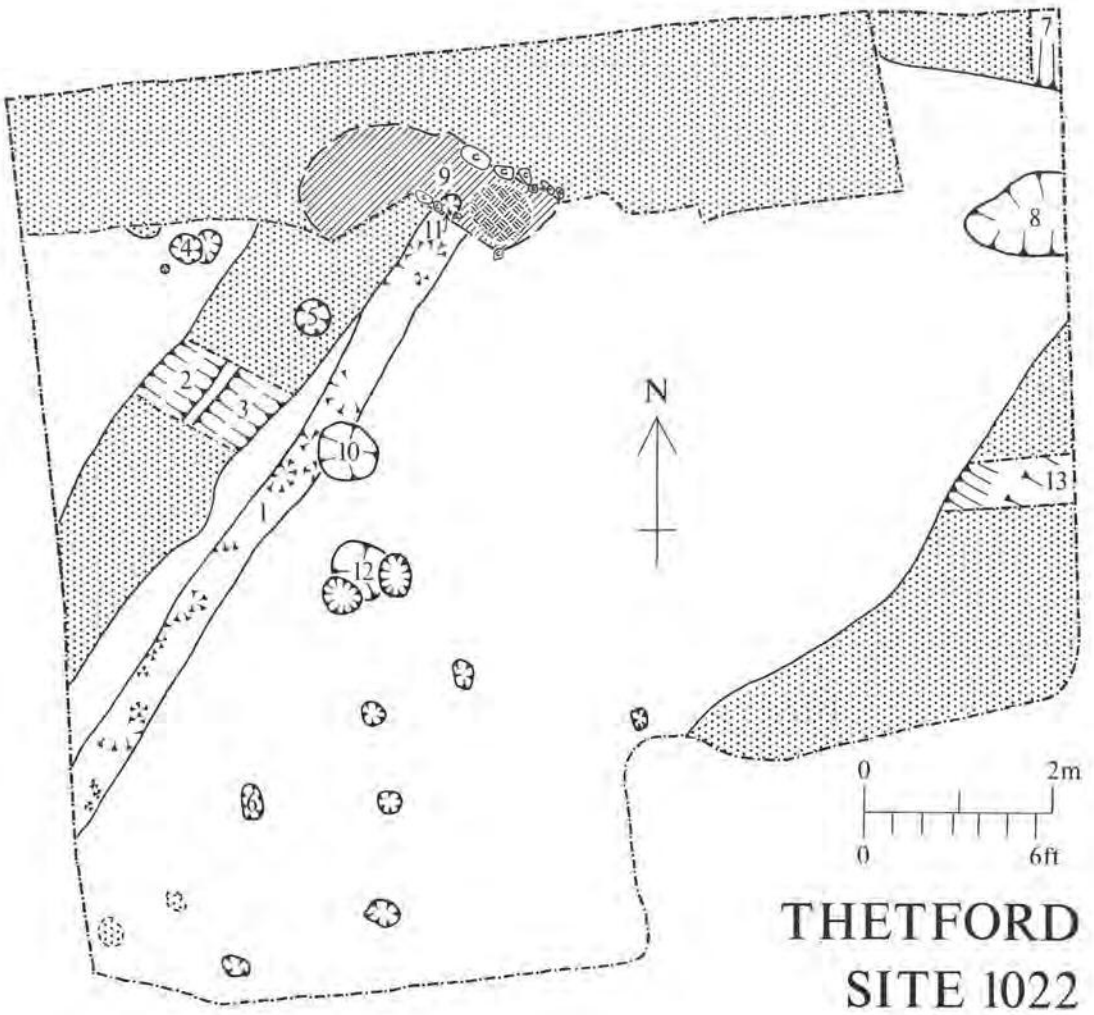


Fig. 107 Plan Site 1022. Scale 1:80.

Part IV
The Artefacts

I. Introduction

Artefacts other than pottery and quernstones were in most cases given small find numbers by Knocker; these were entered in small find books with a cross reference to pottery bag numbers, and then in a card index which carried life-size rough drawings of each object. Small finds were located by co-ordinates, trench, pit, hut, or relationship to road surfaces, and usually a depth measurement from the ground surface was noted. Objects found outside the excavations were also given small find numbers. The published finds are ordered under material, and within that, under function or class of object. To facilitate access to future researchers, the original small find numbers are entered at the end of each entry in brackets. Where one number was allotted to more than one object, each find has been given a low case letter which follows the number. On a few occasions the same number was applied in error to entirely separate finds, and Knocker corrected this duplication by following one number with an upper case A. On Site 1, small find numbers were not used, but objects were noted as being 'with' a particular pottery bag number. In such cases objects have been designated by the bag number preceded by 1. and followed by a lower case letter where necessary. Published objects not numbered by Knocker have been allotted numbers from 1400 upwards.

The degree of selection employed in the publication of small finds varies with the class of object. For example, iron nails, many of which have now disintegrated, are neither listed nor described, although their occurrence in pits and huts is noted. On the other hand, bone objects sometimes lost, but identifiable from their record cards, are listed. Knocker intended to publish a number of important objects found outside his excavations either before or during his time in Thetford. These finds were mostly held in Thetford or Norwich museums. This policy has in most cases been maintained because it is felt that they would otherwise forever remain obscure. Where possible their provenance is indicated by a grid reference.

The large quantity of finds from Knocker's excavations is surprising especially in view of the use of shovels rather than trowels. However, it can be assumed that the percentage of artefacts recovered was considerably lower than that achieved in most modern excavations. In this context and with a view to present controversies it is interesting to note that on 21 October 1948, during work on Site 2 South, 'The mine detector arrived by Army truck from Cambridge in a strong wooden box'. Knocker later wrote that 'it has a certain limited value in detecting the presence of iron objects especially in the sides of test trenches and grids which would not otherwise have been examined. Unfortunately, metals other than iron do not produce a reaction in the instrument.' No records were kept of which objects were located with the assistance of this instrument.

II. Coins and Jettons

Abbreviated references:

B.M.C.	Keary 1887, and Greuber and Keary 1893
Brooke	Brooke 1950
Hild.	Hildebrand 1881
R.I.C.	Mattingly and Sydenham 1923

The Coins from Sites 1, 2 South, 2 North and 4.
by the late S.E. Rigold

Seven Anglo-Saxon coins[10] were found of which two are regular English regal issues and the remaining five are of the so-called 'St. Edmund Memorial' series, reading properly SCE. EADMUND REX. This was a prolific issue beyond the area of direct West Saxon rule in the decades before and after A.D. 900. Almost all bear no indication of a place of mintage, but Thetford itself must be considered a candidate for one of the mints. The names of the moneyers on the more legible examples are remarkable for the high proportion of apparently Frankish, rather than Saxon or Danish names.

The date, *c.*870-905, given by Brooke, clearly needs revision. Mr. C. E. Blunt has drawn attention to the large number of fresh specimens of the neater and more legible sort in the Cuerdale hoard (*c.*905), and the absence there of the more corrupt coins[11]. This implies that the neater coins are, as would be expected, the earlier and must date from *c.*885 or 890 to *c.*905 and the rougher coins must come in the ten or fifteen years following, probably not extending beyond 918. All those from Thetford, except one halfpenny (Fig. 108, No. 2), can be ascribed to the later group, though the other halfpenny (Fig. 108, No. 1), could best be regarded as a transitional example.

The halfpennies are of extreme rarity: the British Museum Collection, when the catalogue was made (Keary 1887), though admittedly disturbed by the high proportion of pennies from Cuerdale, contained only five halfpennies, as against nearly 600 pennies of this issue.

Recorded finds of 'St. Edmund Memorial' coins from East Anglia are very few, in spite of the fact that, on *a priori* grounds, they must have been struck and used there between the pacification of the Danelaw, *c.*886, and the reconquest of *c.*918. A wider circulation can only be gauged by single finds and 'currency' hoards. These latter must be distinguished from 'loot' hoards of miscellaneous composition, which cannot be taken as evidence for circulation in the place of discovery.

The earliest and largest hoard, *Cuerdale,* Lancashire, *c.*905, (Thompson 1956, 39, No. 112), contained about 1800 St. Edmund pence and eleven halfpence out of about 7000, the coins showing a precision in execution lacking in most coins from other, and later, sources. The hoard does not include the parallel series of St. Peter of York, which evidently began after the date of deposit and is present in all the other hoards, both 'loot' and 'currency', which are all of approximately the same date — towards 920. Of these *Dean,* Cumberland (Strudwick 1955-7), with three

St. Edmund out of thirty-four, *Lugga*, Co. Meath (Thompson 1956, 101, No. 263) and *Harkirke*, Lancashire (Thompson 1956, 67, No. 184; Dolley 1955) with three out of thirty-five recorded, appear to be 'loot', while St. John's, *Chester* (Thompson 1956, 28, No. 83), with one St. Edmund and nine St. Peter, and Walmgate, *York* (Thompson 1956, 152, No. 392), with two pence and a halfpenny and with ninety St. Peter, represent currency in the more settled parts of the northern Danelaw, with St. Edmund coins accepted as equivalent to St. Peter coins. The compliment is returned in the East Anglian currency hoard from *Morley St. Peter*, Norfolk, with nineteen St. Edmund to fourteen St. Peter (Dolley 1958; Clarke and Dolley 1958), besides, as at Chester, royal West Saxon pence and the later special issue of West Saxon type that may be considered to have supplanted the St. Edmund coins. Hoards of this period are, unfortunately, unrecorded from the West Saxon area and it cannot be stated categorically that St. Edmund coins did not pass there.

I am grateful to Mrs. J.S. Martin of the British Museum for confirmation of the list of hoards and for provenances claimed for single examples from Long Wittenham and Cholsey on the Berkshire banks of the Thames, within West Saxon control[12]; also to Mr. C.E. Blunt for notices of two or three (? part of a hoard) from Bowbeck Heath, Bardwell, Suffolk (Blunt 1969, 238; Golding 1868, 3) and of a single example from East Kirby, Lincolnshire (Anon. 1884), and to the late R.R. Clarke for one from Narford Hall, Norfolk.

Examples from deliberate excavations are those from the unfortunately inadequate examination of Northampton Castle before its destruction to make way for the railway in the 1880's (Dolley 1966, No. 58; V.C.H. 1902, 255), one from Witham, Essex (1934) and a pierced specimen from a late thirteenth-century pit at Barn Road, Norwich (Hurst 1963, 142 and 170). For commentary on all this find-material see Blunt 1969[13].

1. *'St. Edmund Memorial' Halfpenny (Fig. 108).*
Assigned by Mr. Blunt to the late group, but certainly early in the group; toothed rings, but neat inscription; towards 905; unworn; Moneyer: OTBERT; weight 8.64 grains (0.56 grammes); no halfpennies of his in B.M.C. but several pennies, including early-looking specimens of the later group, comparable to this halfpenny and of Cuerdale provenance.
Obv: Ā + ꝏCEADIIP
Rev: + + OTBRMON
Lower filling of *H*3, Site 1 (1.142b).

2. *'St. Edmund Memorial, Halfpenny (Fig. 108).*
Neat earlier group; c.890-905; unworn; Moneyer: ADMA= ADRADUS, possibly; weight 8.02 grains (0.52 grammes); no comparable halfpence known.
Obv: Large Ā + SCER–PBMNDRE
Rev: + + ADMAIVTDNVE
Filling above steps, *H*3, Site 1 (1.67).

3. *'St. Edmund Memorial' Penny (Fig. 108).*
Later, untidy group; c.905-920; toothed rings, but fairly neat; unworn; weight 16.36 grains (1.06 grammes). The apparent moneyer's name clearly repeat of obverse inscription but differently garbled; no exact parallels among the more corrupt coins in B.M.C.; compare similar coins from the Morley St. Peter, Norfolk, hoard.
Obv: Ā + ꝏCEAID
Rev: + + ꝏCEADO
Below *R*2, NW of *P*29, Site 2S (440).

4. *'St. Edmund Memorial' Penny (Fig. 108).*
Later, untidy group; c.905-920; toothed rings; rougher workmanship than No. 3, but little worn; much below weight owing to internal corrosion. Moneyer: ? IAOCD. c.f. B.M.C. 438-43, all more complicated inscriptions: for both this and No. 3 c.f. B.M.C. 572.
Obv: Ā + ꝏC–IDI
Rev: + + IA–CIO\IO
Filling of *H*20, Site 2N (842).

'St. Edmund Memorial' Penny
Later untidy group; c. 905-920; toothed rings; fragmentary.
Obv: Ā ꝏ (– –) CAI(– –
Rev: + – –) CU(– –
*P*N50, Site 2N (990), (not illus.)

5. *Ethelred II (978-1016) Cut Farthing (Fig. 108).*
*B.M.C. type iii; Hild. C; Brooke 3. c.*995.
Moneyer: probably GODA; Hild. gives Goda as moneyer for other types at London; there are other Godas, e.g. at Lydford, for this type, but none at Thetford; presumably lost, on Professor M. Dolley's hypothesis, before September 997.
*H*9, near *P*45, Site 2S (374).

6. *Cnut Penny (Fig. 108).*
Quatrefoil type; B.M.C. type viii; Hild. E; Brooke 2. c.1020; unworn. On this die, of typically London manufacture, according to Professor Dolley, the obverse quatrefoil has become a circle (c.f. Carson 1949 Pl. XII, 14). Moneyer: EDWINE. Thetford mint. Carson 1949 only gives DEOD (F) for this issue, but gives a comparable inscription for the next type (No. 79); an important coin found near its place of mintage.
Obv: +CVT RIX ANGLOR:
Rev: EDP/INE/ON Đ/IOT
Make-up of *R*3A, Site 2N (970).

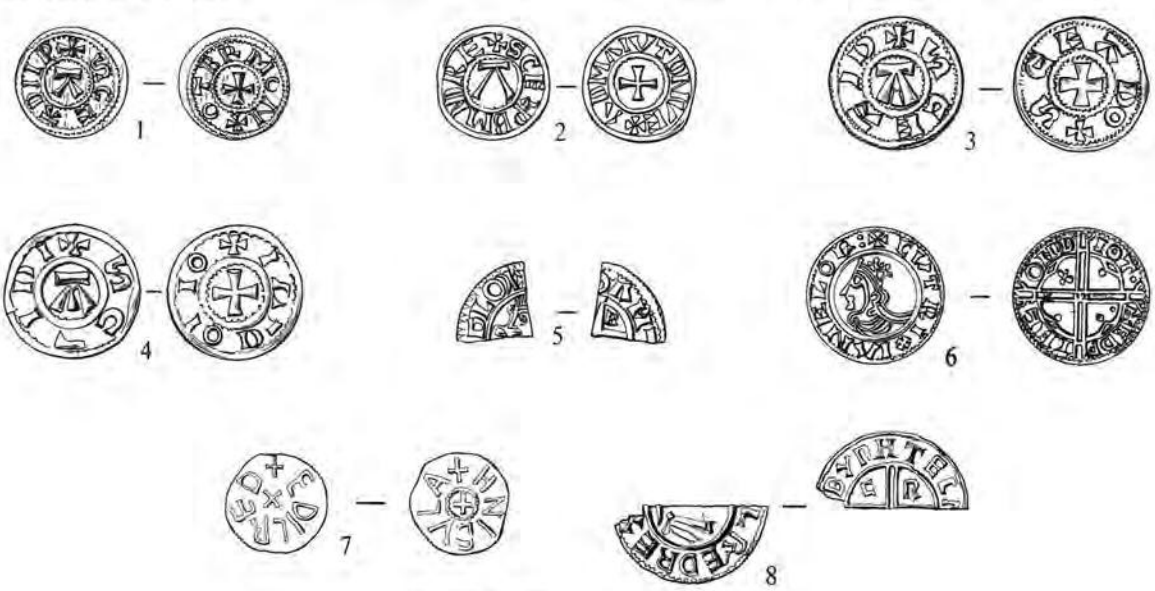


Fig. 108 The coins. Scale 1:1.

Carausius, base *antoninianus*, PAXAVG, mint Colchester/Clausentum, R.I.C. 303.
Above cobbles, Site 4 (1078), (not illus.).

Mary I Groat
Normal, pomegranate. Very worn; could have been lost any time up to late seventeenth century.
Topsoil, *G*XXIII, Site 2N (978), (not illus.).

Nuremberg counter
21mm (for obv. c.f. Barnard 1916, pl. XXIX, 18). Early-to-mid sixteenth century.
Obv: Reichsapfel in trilobe.
Rev: Alternate crowns and lys. Garbled Lombardic legend.
Topsoil, *G*XI-XII, Site 2N (893), (not illus.).

Nuremberg counter of Franco-Flemish derivation 29mm (as Barnard 1916, pl. XXIX, 9, except for inscription) sixteenth century.
Obv: Lozenge with four Fleurs de lys.
Rev: Ship. Garbled inscription. Gothic G above yard.
Topsoil above *P*D, Site 1 (1.164), (not illus.).

The Coins from Site 1092
by Hugh Pagan and Marion Archibald

7. *AETHELRED, king in Northumbria (? late 820's). Styca.*
by Hugh Pagan
Obv: EDILRED around central cross. Rev: HNIFVLA, circle of dots enclosing cross. Die-duplicate of B.M.C. 429.

This coin of a king Aethelred by a moneyer Hnifula, as well as being wholly unexpected in the context of an eleventh-century pit from Thetford, is of notable interest and rarity in its own right.

Its ninth-century date and Northumbrian origin is sufficiently established by the fact that there were two coins of this character in the 1832 Hexham hoard, comprised solely of Northumbrian coins and deposited very early in the second reign of King Aethelred II (whose reigns in Northumbria are traditionally dated 841-4 and 844-9, with a short interval in 844 for the reign of a rival king Redwulf). Unexpectedly, all the indications are that coins of Aethelred by Hnifula do not belong to either of the two recorded reigns of Aethelred II, but to an earlier period, for their appearance and metallic content set them apart from Aethelred II's coins and from coins struck in the later part of the reign of Aethelred II's predecessor Eanred (traditional dates 806-841), all of which are very debased. The likelihood is that these coins, and coins of similar metallic content and style in the name of a king Aethelred by the moneyers Ceolbald, Cuthhard and Tidwulf, in fact predate those of Eanred.

This does not mean that they should be dated before 806, for there is good reason to think that the dates given for Eanred's reign in documentary sources are wrong, and the best guess possible is that the Aethelred coins belong to the late 820's. Whether they belong to the reign of a king Aethelred unknown to history or to an earlier unrecorded reign of Aethelred II is debateable, but one's inclination is to plump for a new king (not the known Aethelred I because he reigned as early as 789-796).

The Thetford coin itself is not obviously of good metallic content, but traces of silver can be seen on its surface and it is likely that analysis will reveal that it contains a good proportion of silver. In this it will differ from the Aethelred II styca (die duplicate of B.M.C. 345) already discovered at Thetford in 1975 as a surface find in an allotment at TL 8699 8247 (Site 5759), 235m N of *P*14, which belongs firmly to the debased series.
Layer 53, *P*14 (28).

8. *Ethelred II (978-1016) Cut Halfpenny*
by Marion Archibald.
Unworn; Crux type; Moneyer: BYRHTELM; Mint: Southwark; 991-7+; on mechanically-excavated surface of dark grey-brown sandy loam between nineteenth-century linear features, co-ordinate 210/609.90(68).

III. Non-Ferrous Metal Objects
by Alison R. Goodall

Non-illustrated objects are entered under their context in the excavation description. Nos. 7, 8, 14, 25 and 62 were found, probably in the 1950's, on Mr. R.C. Clarke's chicken farm in an area centred TL 8635 8285. Their present whereabouts is unknown, but they are probably in private possession. Nos. 30, 32, 41-3 and 53 were found by Mr. Dixon, one time Curator of St. Margaret's Cemetery (centre TL 864 825), and are now housed in Thetford Ancient House Museum. Two lead objects already published are not included below: a Walsingham ampulla found with a male burial in the area of Williamson Crescent (Spencer 1980, 16, No. 39), and a fragment of a late fourteenth-century Walsingham Annunciation badge from a nineteenth-century context (Layer 10) on Site 1092 (Spencer 1980, 13, No. 26). A stone mould for a pendant cross (Fig. 110, No. 23) and an iron hooked fastener (Fig. 111, No. 40) are included in this section.

Fig. 109

1. **Pewter disc brooch.** The decoration consists of a cross with a central boss and surrounded by a multiple border; the two outer rows of the border are divided into cells, as are the arms of the cross, while the inner row of the border has pellets within the cells. On the back is a catch-plate and a loop on which the iron pin pivots. A similar multiple hatched border occurs on the back of a tenth century pewter brooch probably from London (Wilson 1964, 155, pl. XXVI, 52). *P*41, Site 2S (350).

2. **Ae disc** with white metal plating. On the front is a cross with a dome-headed stud at the centre and at the end of each arm; the areas between the arms have alternate interlace and zoomorphic decoration. There is no attachment on the back or the edge of the disc, so it seems unlikely to have been a brooch or a pinhead. The ornament is similar to that on a brooch said to have come from Ixworth, Suffolk, and dated to the eighth century (Wilson 1964, 137, pl.XIX, 25), although this has a more symmetrical arrangement of animals and interlace in the quadrants. *P* 41, Site 2S (351).

3. **Pewter disc brooch** decorated with a cross, the arms of which consist of groups of four lines; the centre is approximately oval; there is an outer border of large pellets. Knocker states in a draft text that before cleaning, groups of three pellets were visible in the areas between the arms of the cross. On the back are the remains of a hinge and catch-plate. Found during building work at TL 8651 8248 (1425).

4. **Ae disc brooch** showing an animal within a pelleted border. On the back are the remains of the catch-plate and of the iron pin and hinge. Area B, Site 6 (1202).

5. **Pewter disc brooch** with a backward-facing beast within a double border of oval beads; the representation of the animal is stylised and degenerate. On the back are the remains of the hinge and catch-plate. The animal may be likened to one on a tenth-century brooch from London (Wilson 1964, 146-7, pl. XXII, 37), which Wilson compared with a series of East Anglian finds (Wilson 1964, 36-7). The Thetford example presumably belongs to this same regional group. Found in garden on London Road, NE of Site 2N (506).

6. **Pewter disc brooch** with geometric design. Remains of hinge and catch-plate on the back. The ornament is similar to that on a pair of pins in the Talnotrie hoard from Scotland, dated *c.*875 (Wilson 1964, 7, pl. IVd). *P*51, Site 2S (485).

7. **Ae disc brooch.** Raised lines outline a recessed cross against a recessed field; some traces of enamel remain in the sunken areas. The iron pin is missing. A similar brooch was found at Threxton, Norfolk (Atkin 1978, 134, Fig. 3). Found in area centred TL 8635 8285 (1363, private collection).

8. Thin **Ae disc** with no means of attachment. It has a crudely incised cross within a border and there are convex bosses at the centre and at the points of the cross. Found in area centred TL 8635 8285 (1369, private collection).

9. **Pin from an annular Ae brooch** probably dating to the thirteenth or fourteenth century. Hearth above *P*11, *H*2, Site 1 (1.219a).

10. **Brooch pin of white metal.** Below *R*2, W of *H*6, Site 2S (420).

Fig. 110

11. **Finger-ring,** made from three plaited strands of **Ae wire.** Where the ends join and overlap they are wound into a spiral bezel. Simpler forms of this type occur quite commonly on Viking age sites, such as York (MacGregor 1982, 91, Fig. 47, 455) and larger versions were worn as arm-rings, like the tenth-century silver examples from Birka, Sweden (Graham-Campbell and Kidd 1980, 49, pl. 18). On floor of *H*21, Site 2N (1019).

12. **Finger-ring of sheet gold.** The bezel has stamped decoration, probably made using a number of similar but not identical stamps, and the long tapering ends are twisted round each other. Stamped decoration was very popular in the Viking period (Graham-Campbell and Kidd 1980, 145, pl. 80). From Thetford (1427), and found June 1905 (N.C.M. 25.05).

13. **Ae Finger-ring,** with decoration of stamped circles. Contractor's find in area centred TL 8672 8282 (1428).

14. **Ae Finger-ring,** with ring-and-dot decoration. Found in area centred TL 8635 8285 (1364, private collection).

15, 16. Triangular-sectioned **Ae finger-rings** without decoration. Layer B, *K*1, and *P*N49, Site 2N (925 and 1008).

17-21. **Penannular Ae rings** with tapering ends; probably finger or ear-rings. *P*N18B and topsoil *G*XXIV Site 2N; within upper floor *H*13, Site 2S; *H*19 Site 2N; chance find in area centred TL 8688 8232 (907, 1017, 500, 624, and 1111).

22. **Ring made from Ae wire** with the ends butted together. *H*T1, Site 1 (1.250a).

23. **Stone mould for a pendant cross** decorated with pellets and a raised border. The stone has been identified by Mr. S.E. Ellis of the Department of Mineralogy, British Museum (Natural History) as probably a Jurassic limestone; it has patches of red staining which may result from heating. *H*21, Site 2N (997).

24. **Ae Buckle,** with highly stylised zoomorphic decoration on the frame and pin. Above clay, *HS*2, Site 6 (1160).

25. **Moulded Ae buckle-frame** with simple sheet metal buckle-plate; probably of thirteenth or fourteenth-century date. Found in area centred TL 8635 8285 (1366, private collection).

26. **Ae Buckle and plate:** the plate has a shaped end. Post-conquest. Topsoil above *H*9, Site 2S (143).

27. **Object of lead or an alloy.** It most closely resembles a buckle-frame but two dome-headed studs were set into holes near the ends of the narrow bar which, if they were not merely decorative, preclude use as a buckle. The crude decoration was probably intended to be zoomorphic. *P*36, Site 2S (271).

Fig. 111

28. **Pewter strap-end** with cast and pierced ornament of foliage and a pair of birds. The upper end is split and has two rivet-holes for attachment to the strap. A similar tenth-century strap-end is described by Wilson (1964, 207, pl. XLIII, 148; also Kendrick 1938, 380-1, pl. LXXIV, 2). 'From a barrow at Thetford' (1426, Fitch Collection, N.C.M. 76.94).

29. **Ae strap-end,** of similar type to No. 28, with scroll ornament and rings and dots. It has been cut down for some secondary purpose but the beginning of the split end can be seen. Filling of ditches, Site 1 (1.18).

30. **Ae strap-end** having two plates riveted on to a central spacer plate which has an ornamental terminal. A somewhat similar strap-end, though lacking the spacer plate, came from a fourteenth-century context at Goltho, Lincs. (I.H. Goodall in Beresford 1975, 91, Fig. 43, 4) and a single plate from a context of the early fifteenth century at Wharram Percy, North Yorks (A.R. Goodall in Andrews and Milne 1979, 111, Fig. 55, 13). Possibly from St. Margaret's Cemetery (1151a).

31. **Pointed Ae object** with a round, perforated head, the perforation surrounded by concentric stamped grooves. This may have been intended to be a hooked fastener like No. 32. Small hooks with approximately round or triangular heads often occur in Saxon contexts: several forms were found at Whittington, Gloucs. (G.C. Dunning in O'Neil 1952, 79-80, Fig. 13, 2-5) and others were found near the hands or wrists of skeletons on Meon Hill, Hants. (T.D. Kendrick in Liddell 1934, 154, Fig. XV. M5) and Stockbridge Down, Hants. (Hill 1937, 250, pl. Ic). Layer 36, Site 1092 (16).

32. **Ae hook** with four perforations; on one side all the holes are surrounded by stamped rings, on the other side only the top three have rings. Possibly from St. Maragaret's Cemetery (1139a).

33. **Ae hook** similar to No. 32 but incomplete. *H*6, Site 2S (160).

34-36. **Unfinished Ae hooks.** The heads are roughly cut out and the points have not been bent; all have two perforations, but on one these are incompletely punched. *H*6, Site 2S (71a-c).

37-
-39a-g. Probably **unfinished Ae hooks.** All are very roughly cut from sheet metal and have no perforations. *H*19, Site 2N; *P*J Site 2S; post-hole 16 Site 1092 (780, 18 and 9). Six other examples (39a-f, not illus.) were found in post-hole 16, Site 1092, and one other (39g, not illus.) in *H*6, Site 2S.

40. **Iron hooked fastener** with two rivet-holes and the beginning of a hook; small hooks are unusual in this metal. Midden, *H*8, Site 2S (250a).

41. **Ae belt-plate** of post-Conquest date. It has a large central perforation and decoration of two 'a's against an engraved background; there is an iron rivet at one end and a rivet-hole at the other; there is a suggestion of plating. Possibly from St. Margaret's Cemetery (1151b).

42. **Repoussé Ae disc** showing a lion mask surrounded by radiating lines: ? a button cap. Possibly from St. Margaret's Cemetery (1151c).

43. Part of a crudely cast **Ae object** with two round-ended prongs. Possibly from St. Margaret's Cemetery (1136a).

44. **Ae key** with looped bow and moulding at head of stem; the stem tapers and has a hollow tip. *H*32, Site 2N (1015).

Fig. 112

45. **Ae pin** of common, Middle and Late Saxon form having a faceted head; there are rings and dots on twelve faces but the top is plain. Dredged from River Little Ouse at *c.* TL 966 807 (511).

46. **Ae pin** with small collar below the head which is decorated with rings and dots and has an incised cross on the flattened top. Two pins with heads which are similar except for having rings and dots on their tops, come from York (Waterman 1959, 78, Fig. 11, 5 and 10). Make-up of *R*1 NW of *P*29, Site 2S (448).

47. **Ae pin** with a domed head and a shank with a central expansion. Surface find, Site 1092, found in 1950's (1279).

48. **Ae spoon** with six stamped rings and dots on the inside of the leaf-shaped bowl; rectangular-sectioned, shouldered stem. Between *G* XIII and XVII, Site 2N (684).

49. Openwork **ornament of lead or an alloy,** with three possible attachment points on the back. Surface find in a garden on Icknield Way Road (660).

50. **Gilt Ae mount,** of post-Conquest date, with *fleur-de-lys* terminal and an incised cross; there is a hooked shank on the back for attachment. Drainage trench in area centred TL 870 827 (1222).

51. **Length of gilt Ae binding strip** with two dome-headed rivets passing through washers or the remains of a piece of thin sheet metal at the back; the narrow sections of the strip have transverse gadrooning. It may be related to the binding strips occurring on such sites as Framlingham Castle, Suffolk (Knocker 1956, 80, Fig. 11.3) and Ipswich (West 1963, 276, Fig. 56 1-5) and which, like this example, date to the twelfth and thirteenth centuries. *P*N 68, Site 2N (1047).

52. **Hollow Ae ball** with two perforated lugs. Surface find, area centred TL 824 863 (637).

53. **Strip of Ae sheet** decorated with groups of punched rings and dots. Possibly from St. Margaret's Cemetery (1139b).

Fig. 113

54. **Ae bar** with seven deeply recessed rosettes on one side, their centres apparently made by drilling. They may have been used as moulds for shaping thin sheet metal or foil. *H*24, Site 2N (665).

55. **Off-cut of thick Ae sheet** probably used as a trial piece. On one side are three punched or drilled pits and rows of parallel short incised lines; on the other side are superimposed lines of roulette decoration. Lower filling *H*3, Site 1 (1.187a).

56. **Part of Ae folding balance** with decoration of punched triangles and the remains of the iron suspension arrangement. Most of one arm is missing. Folding balances are also known from the Danish sites of Hedeby (Jankuhn 1943, 188, Abb. 87) and Trelleborg (Norlund 1948, pl. LIV, 3 and 4) as well as from a post-Conquest context at Goltho, Lincs. (I.H. Goodall in Beresford 1975, 95, Fig. 44, 37). Topsoil, Site 1022 (1).

57. **One arm from Ae balance** exactly similar to No. 56. *P*L, Site 1 (1.45).

58. **Arm from Ae folding balance** with a faceted collar near the hinge. *H* 17/18, Site 2N (894).

59. Simply-made **Ae balance.** In or above cobbles, Site 4 (1077).

60. Probably an **Ae scale pan.** In or above cobbles, Site 4 (1076).

61. Drum-shaped **lead weight.** Filling of *H*7, Site 2S (318).

62. **Disc-shaped Ae weight** stamped with a crowned 'h'. Found in area centred TL 8635 8285 (1367, private collection).

62a. Bun-shaped lead weight with large perforation, possibly a loom weight. Possibly from St. Margaret's Cemetery (not illus. 1155).

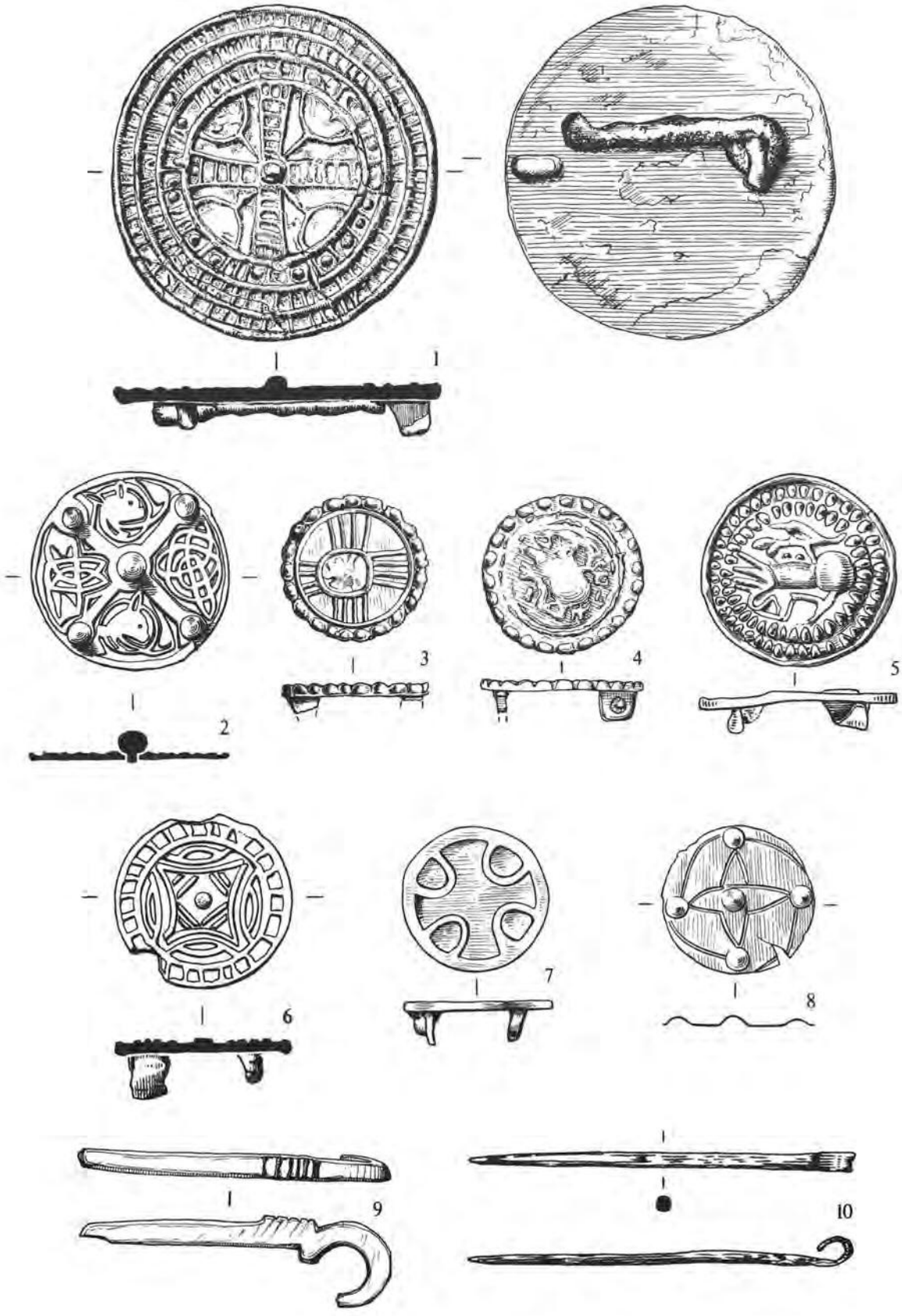


Fig. 109 Non-ferrous metal objects. Scale 1:1.

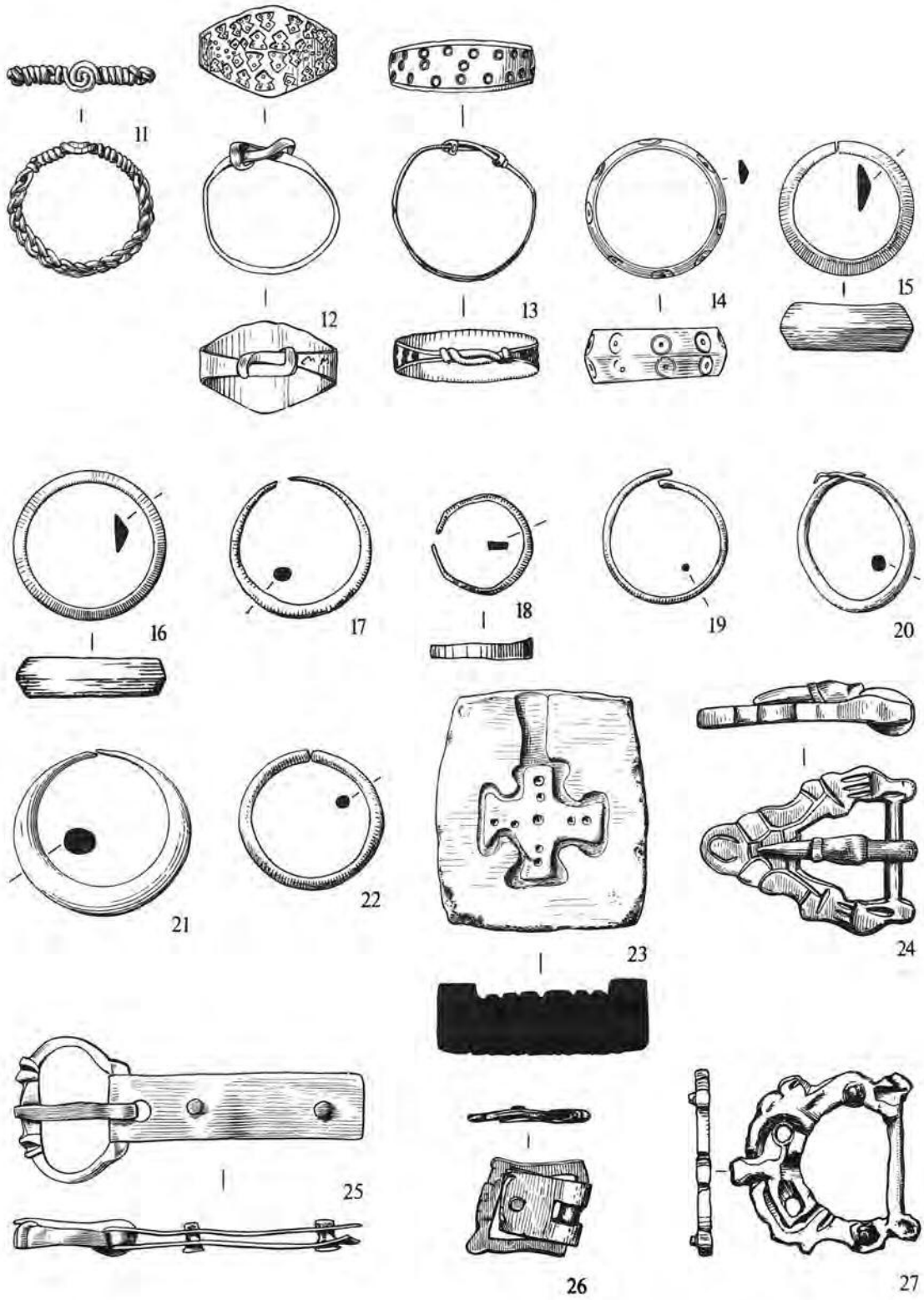


Fig. 110 Non-ferrous metal objects. Scale 1:1. No. 23, stone mould. Scale 1:2.

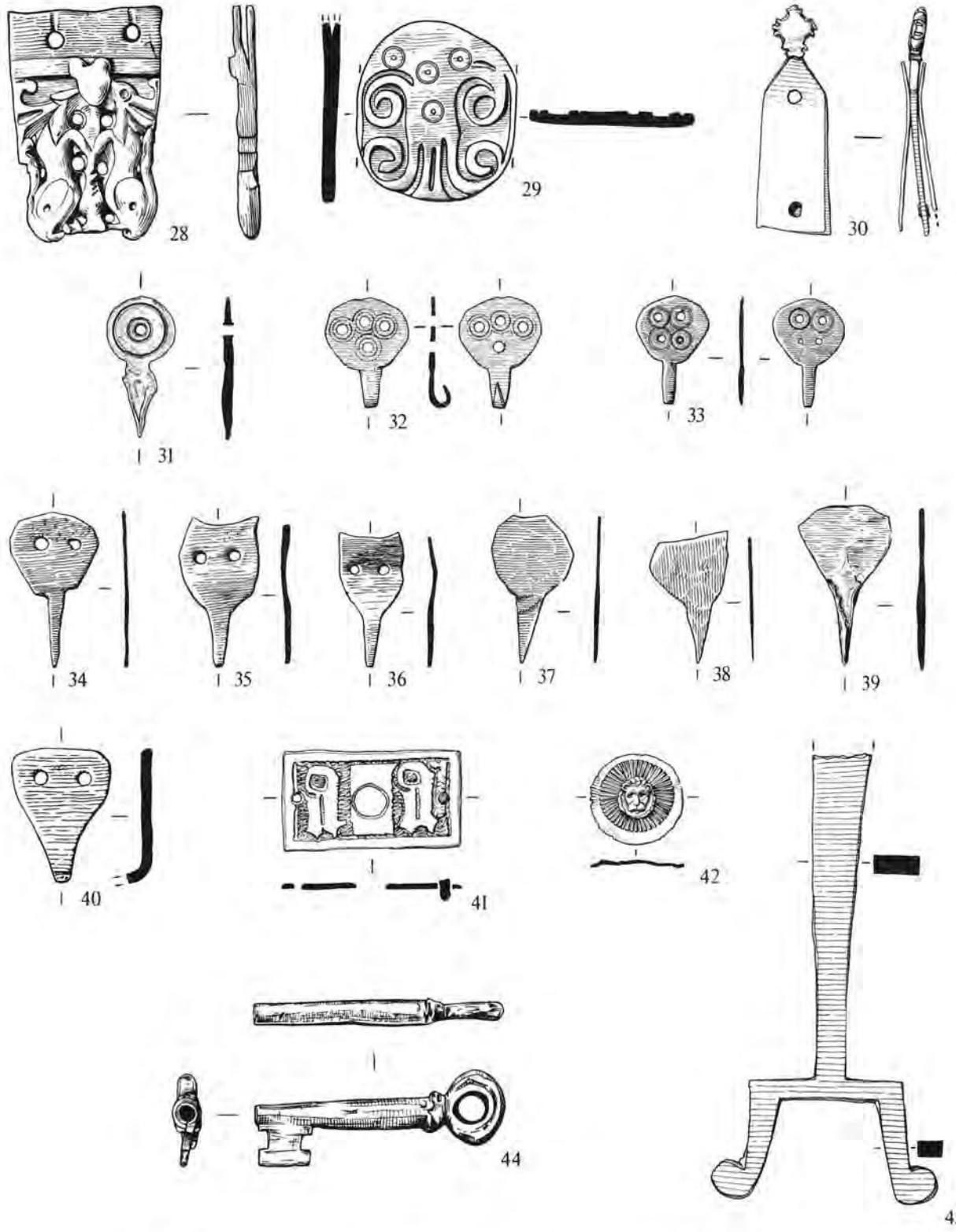


Fig. 111 Non-ferrous metal objects. Scale 1:1. No. 40, iron fastener. Scale 1:1.

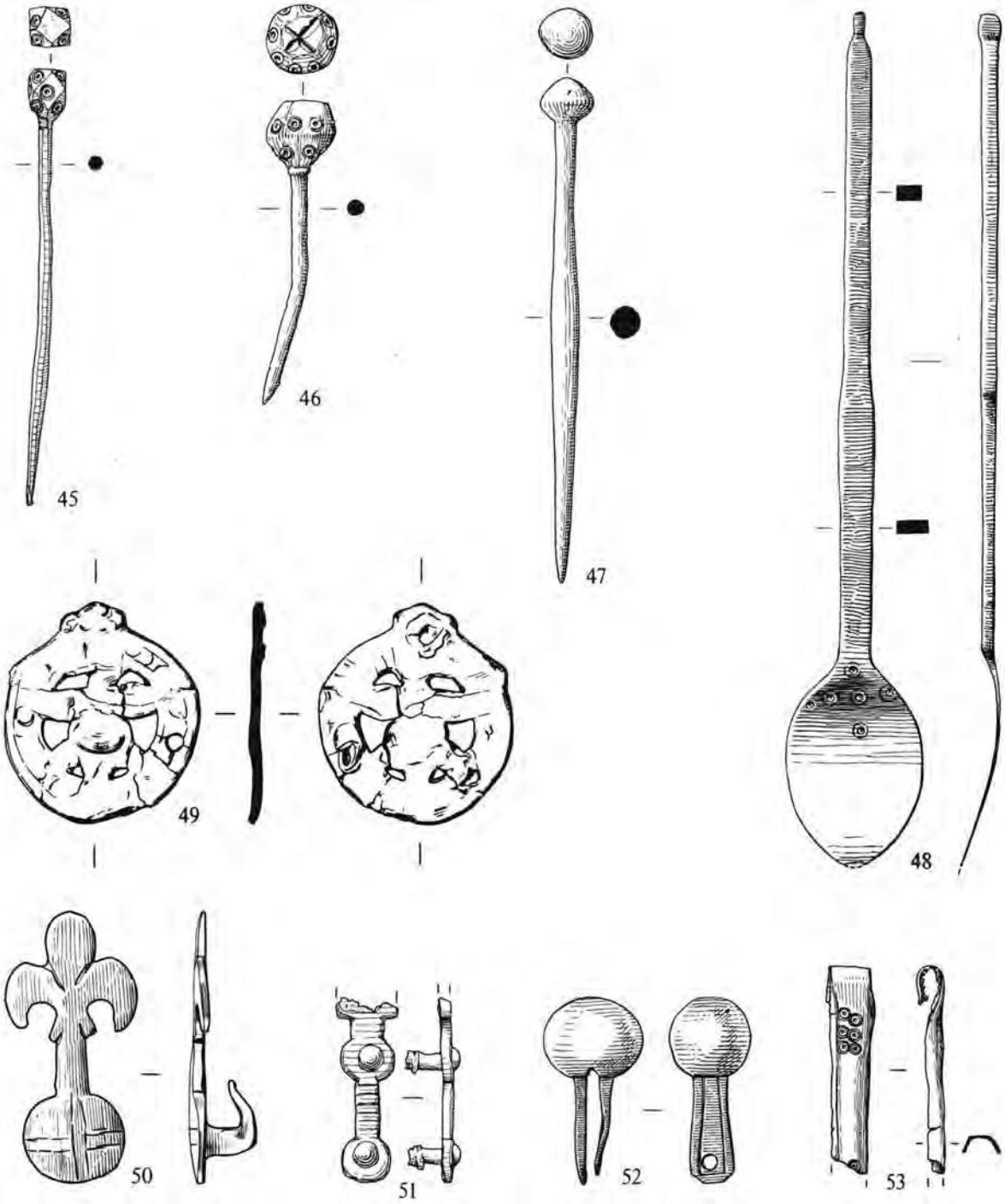


Fig. 112 Non-ferrous metal objects. Scale 1:1.

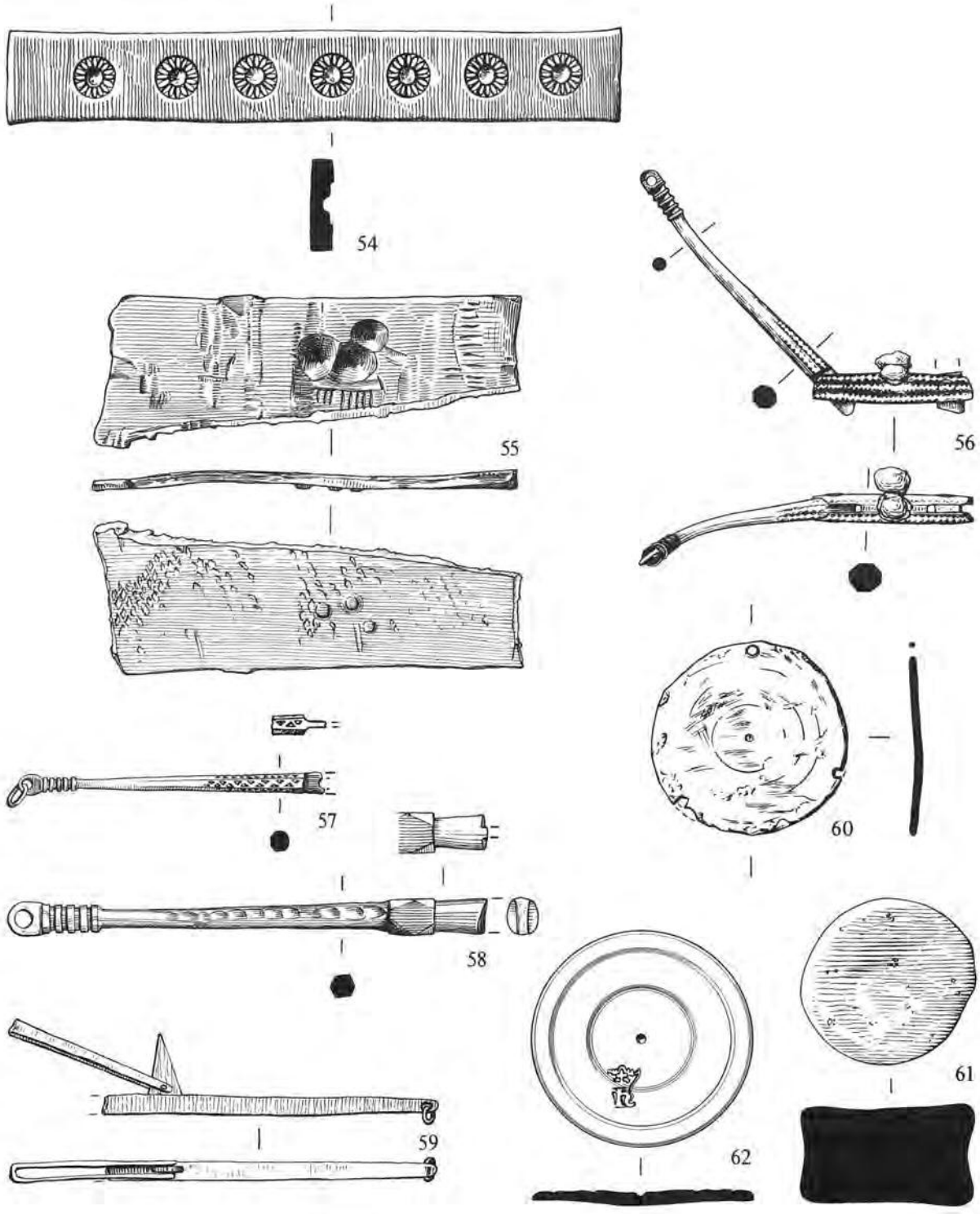


Fig. 113 Non-ferrous metal objects. Scale 1:1.

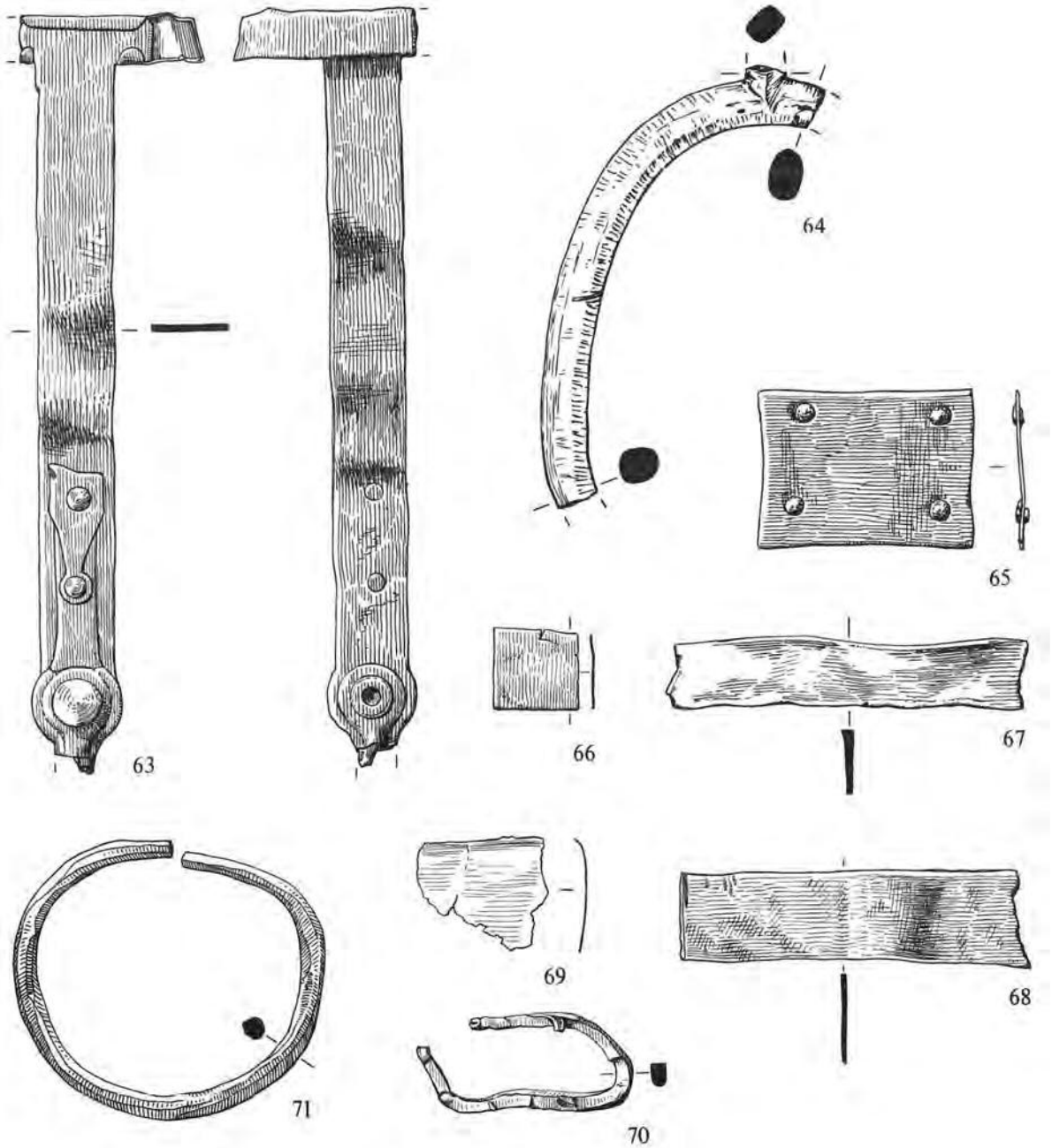


Fig. 114 Non-ferrous metal objects. Scale 1:1.

Fig. 114,

63. **Object of Ae sheet** of uncertain date. *P*14, Site 2S (25).
64. **Curved brass strip** of round to oval section, incomplete at both ends. Towards one end is the start of a 'branch'. *H*6, Site 2S (165a).
64a,b. **Two Ae rings** of irregular cross-section. Possibly from St. Margaret's Cemetery (not illus. 1136 b-c).
65. **Rectangular Ae plate** with an iron rivet in each corner. Topsoil above *H*6. Site 2S (97).
66. **Square Ae plate,** possibly a small weight. Above *P*27. Site 2S (116).
67. **Ae strip,** possibly a vessel rim fragment. *H*9, Site 2S (289).
68. **Ae strip.** Black soil, Site 3 (404).
69. **Ae sheet.** *P*49, Site 2S (492).
70. **Lead offcut.** Filling of *H*7, Site 2S (321).
70a. **Length of Ae wire** wound up and bound together using the free end. *P*36, Site 2S (not illus. 270).
71. Irregular sectioned **lead rod**; probably scrap. *H*5, Site 2S (46).

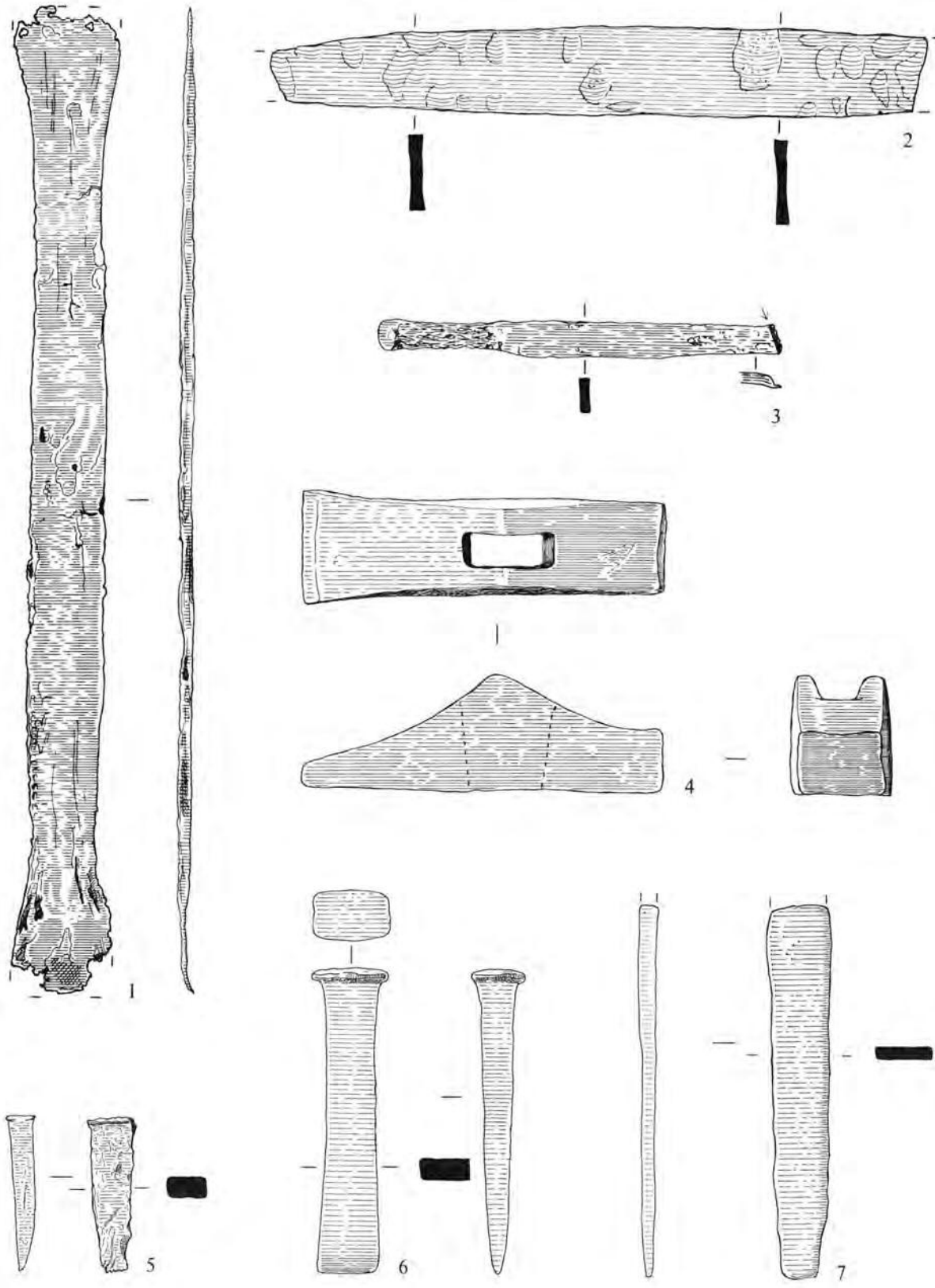


Fig. 115 Iron objects. Nos. 1-3. Scale 1:4. Nos. 4-7. Scale 1:2.

IV. Iron Objects

by Ian H. Goodall, with contributions by Blanche Ellis and Brian Gilmour.

Objects are numbered consecutively; a,b,c, after a number indicates that an object is not illustrated. One iron object (a hooked fastener) is described with the non-ferrous objects (p.69, No.40).

Metalworking Tools (Figs. 115 and 116)

1-3. Pieces of **bar iron** of hollowed rectangular section. No. 1, with its flattened and expanded ends, is similar to a piece found with many metalworking and carpentry tools in a wooden chest at Mastermyr, Sweden (Graham-Campbell 1980, 125-6, Nos. 415-6). Nos. 2 and 3, found with the fractured ploughshare (43) have multiple hammer blows on each side and one end of 3 is chisel cut.
1. On floor of *HS*3, Site 6 (1252).
2,3. Haling Path (TL 868 831) (1432-3).

4. Cross-pane **sledge-hammer** with flat underside and cheeks rising beside the eye, used to draw down iron on an anvil. This hammer, which weights 605gm, is probably a hand sledge rather than a swing sledge. *P*N7, Site 2N (788).

5-7. **Chisels** of varying size and completeness, No. 5 possibly used to cut non-ferrous ingots or scrap, Nos. 6 and 7 used to cut hot iron.
5. Lower filling of *H*3, Site 1 (1.187b).
6. *H*5, Site 2S (91a).
7. Above *H*7, Site 2S (77a).

7a. **Chisel or wedge,** 51mm long, 17mm wide.
Topsoil, TT2, Site 6 (1165).

8, 9. **Punches.** No. 8, which has a rectangular eye for a wooden haft and a head burred by hammer blows, would have been used to punch countersunk nail holes in horseshoes similar to Nos. 277-95. No. 9, intended for hand holding, would have punched rounded holes in iron.
8. Above *P*J, Site 2S (28).
9. *P*N8, Site 2N (668).

10. **File with tang** for wooden handle and gently tapering body with teeth on all four faces. Similar files include those from Viking-period contexts in Norway (Petersen 1951, 513, Fig. 68).
*P*N11, Site 2N (805b).

Woodworking Tools (Fig. 117)

11, 12. **Adzes** with flaring blades of a type paralleled throughout Europe (Wilson 1976, 257). No. 12 is broken across the base of the eye, but No. 11 is complete and has cheeks either side of the eye. The burred butt may result from its use as a wedge in splitting timber or in hammering joints together during construction work.
11. Within upper floor of *H*13, Site 2S (560).
12. Above *HS*2, Site 6 (1168).

13. **Two-edged saw,** the edges tapering slightly and the teeth, which are not raked, finer on one edge than on the other. Saws are rare finds at any date, but antecedents of this type are known (Wilson 1976, 257).
*P*N4A (887).

14-17a. **Auger bits.** Nos. 14-16 are spoon bits, Nos. 17 and 17a broken lanceolate terminals. No. 17a is 41mm long, 11mm wide.
14. *H*23, Site 2N (810).
15. *P*E4, Site 4 (1085).
16. Bury Road, drainage trench (1267).
17. *P*41, Site 2S (363).
17a. *P*C, Site 1 (1.132).

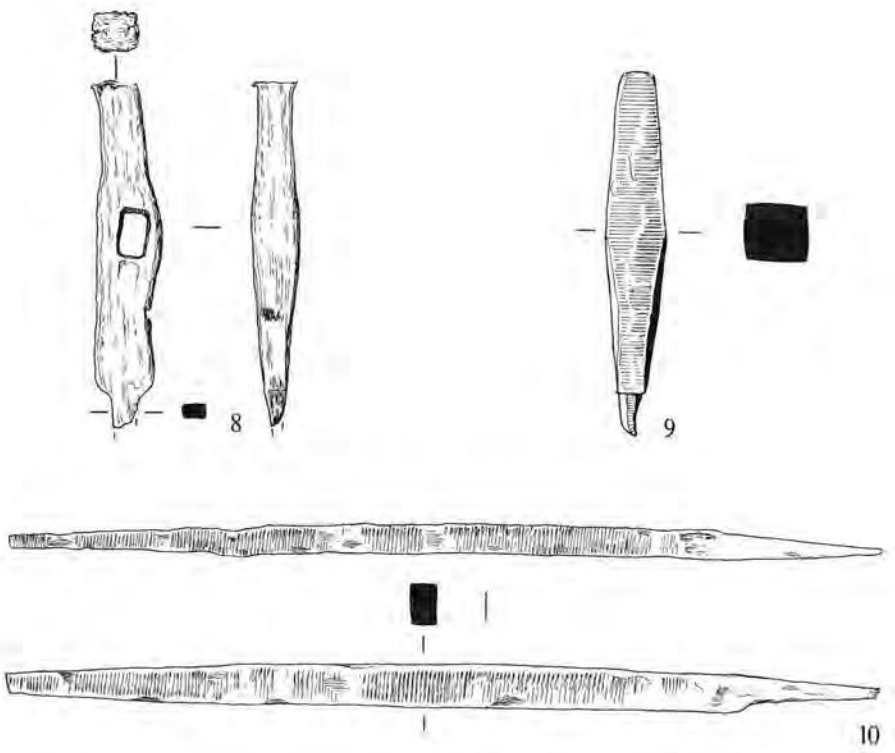


Fig. 116 Iron objects. Scale 1:2.

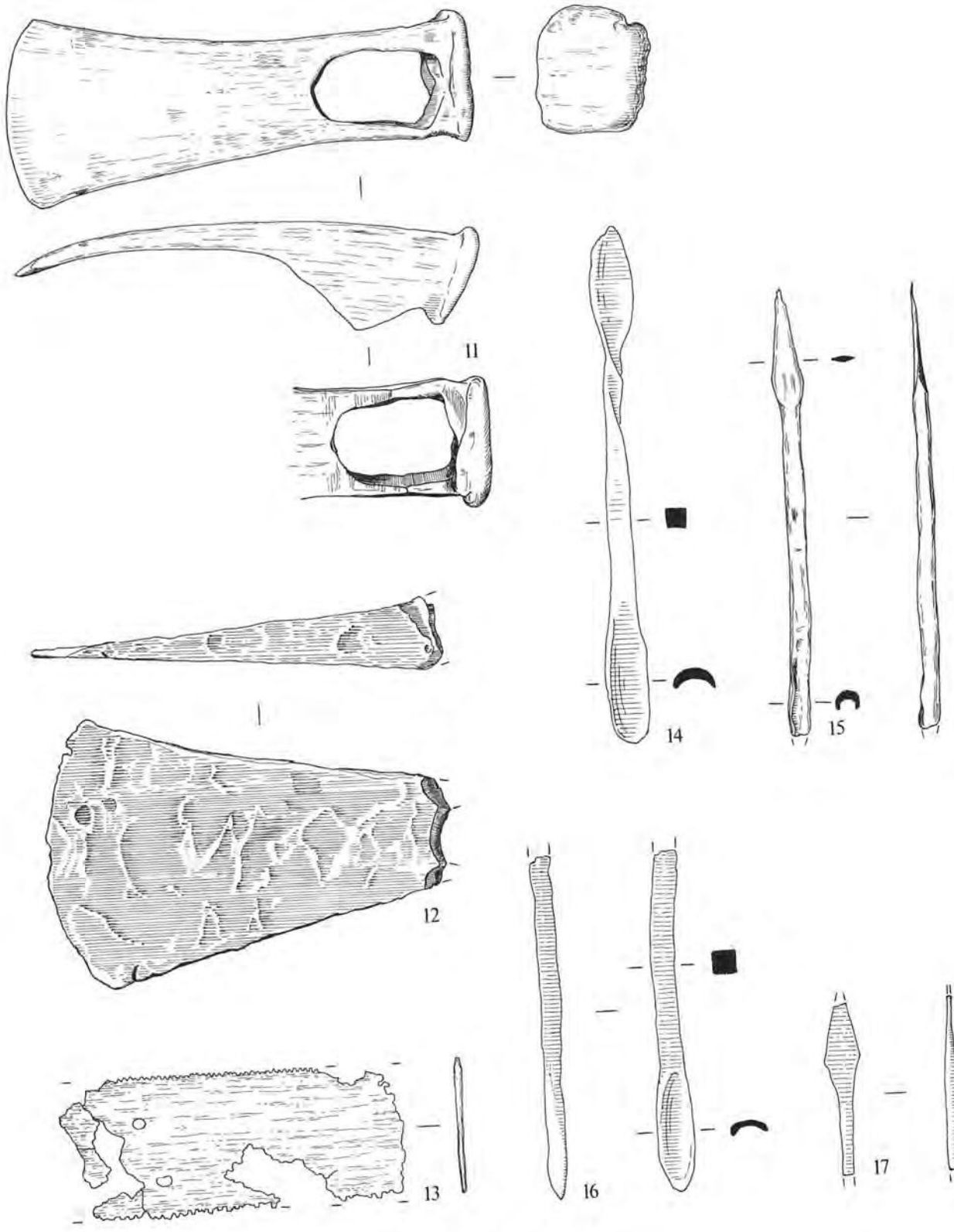


Fig. 117 Iron objects. Scale 1:2.

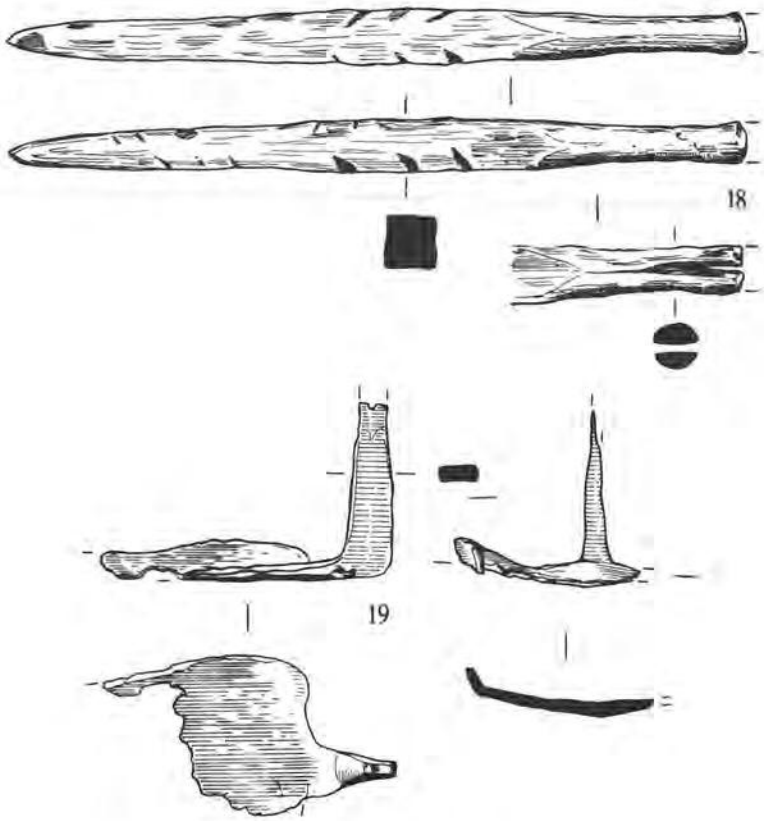


Fig. 118 Iron objects. Scale 1:2.

Stoneworking Tools (Fig. 118)

18. **Punch.** Head broken, stem waisted; the body feathered to prevent it jumping when driven into stone.
Above upper floor of *H*13, Site 2S (538).

19. **Trowel** with flanged blade and broken, originally cranked, tang.
*H*6, Site 2S (190).

Textile Manufacturing and Clothworking Tools (Fig. 119)

Wool combs and heckles used to prepare wool and flax fibres for spinning, took the form of a wooden block, sometimes bound with sheet iron, supporting two or more rows of iron teeth. Individual teeth or groups of teeth are frequently found; iron binding is more rare.

20, 21. **Iron binding from combs.** No. 20 is substantially complete and bound one face and three sides of a comb with two rows each of sixteen and seventeen teeth. No. 21 is a small fragment.
20. *H*20, Site 2N (937).
21. *H*22, Site 2N (889a).

22-30. Representative sample of complete **comb teeth** ranging in size from 88mm to over 154mm in length. The teeth are either rounded or rectangular in section, and several have simply-shaped heads.

A total of 117 teeth, including sixty-four complete examples, were recovered on Knocker's excavations. Totals by site are as follows: Site 1, twenty-two; Site 2S, sixty-six; Site 2N, twenty; Site 4, four; Site 6, five.
22. *H*8, Site 2S (218).
23. *H*S3, Site 6 (1229a).
24. *H*2, Site 1 (1.68b).
25. *H*6, Site 2S (165b).
26. *P*45, Site 2S (452b).
27. *P*D, Site 1 (1.167).
28. *P*N12B, Site 2N (829).
29. *H*6, Site 2S (63).
30. *H*28, Site 2N (964).

31. **?Harbick.** Harbicks or shearboard hooks are double-ended hooks used to secure cloth to a cropping board. Although medieval examples are of similar length to No. 31, they have long slender bodies rather than a broad flat plate.
*H*18, Site 2N (718).

32,33. **Needles** with broken tips.
32. Hearth above *P*5, *H*2A, Site 1 (1.163b).
33. *H*24, Site 2N (439).

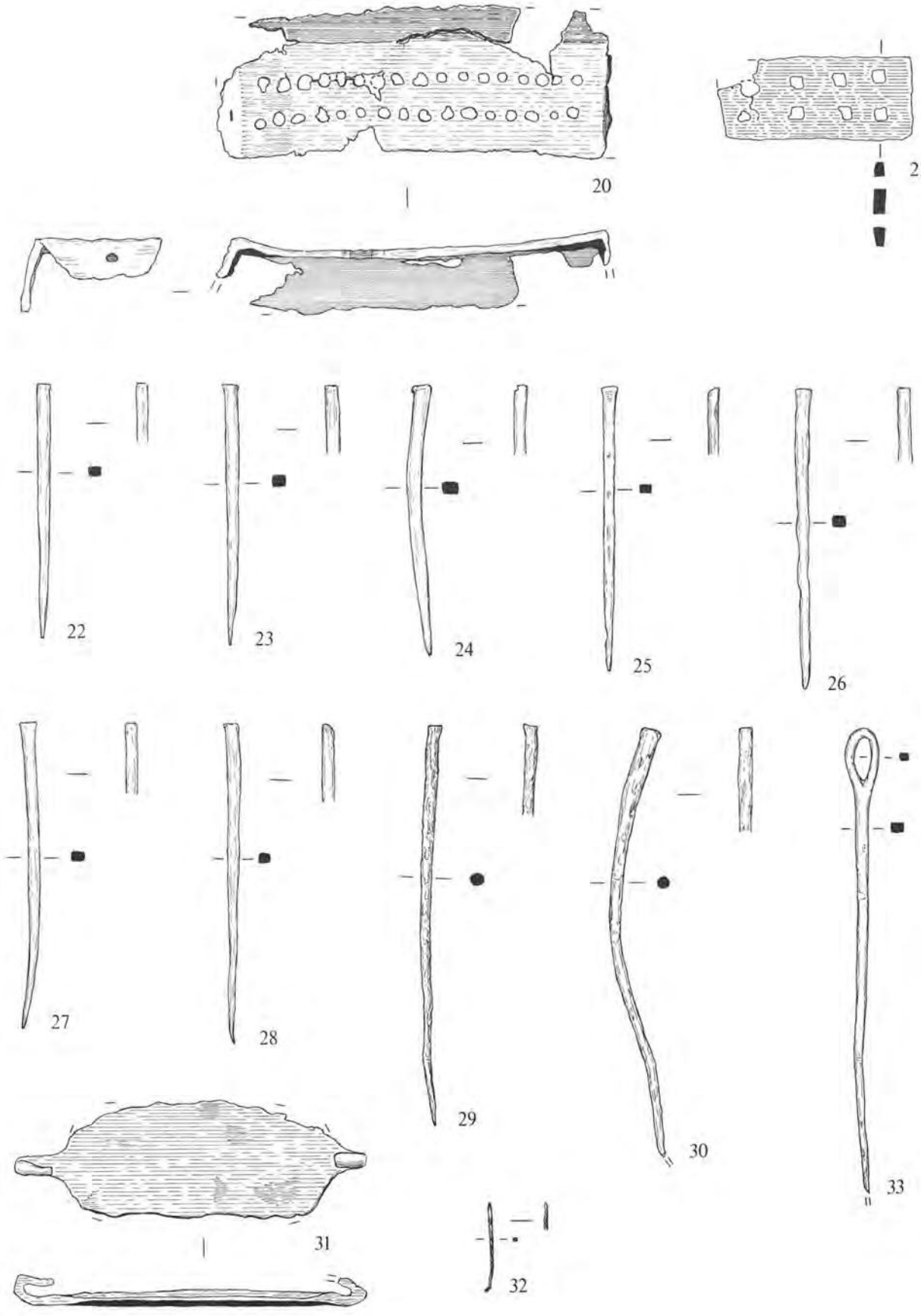


Fig. 119 Iron objects. Scale 1:2.

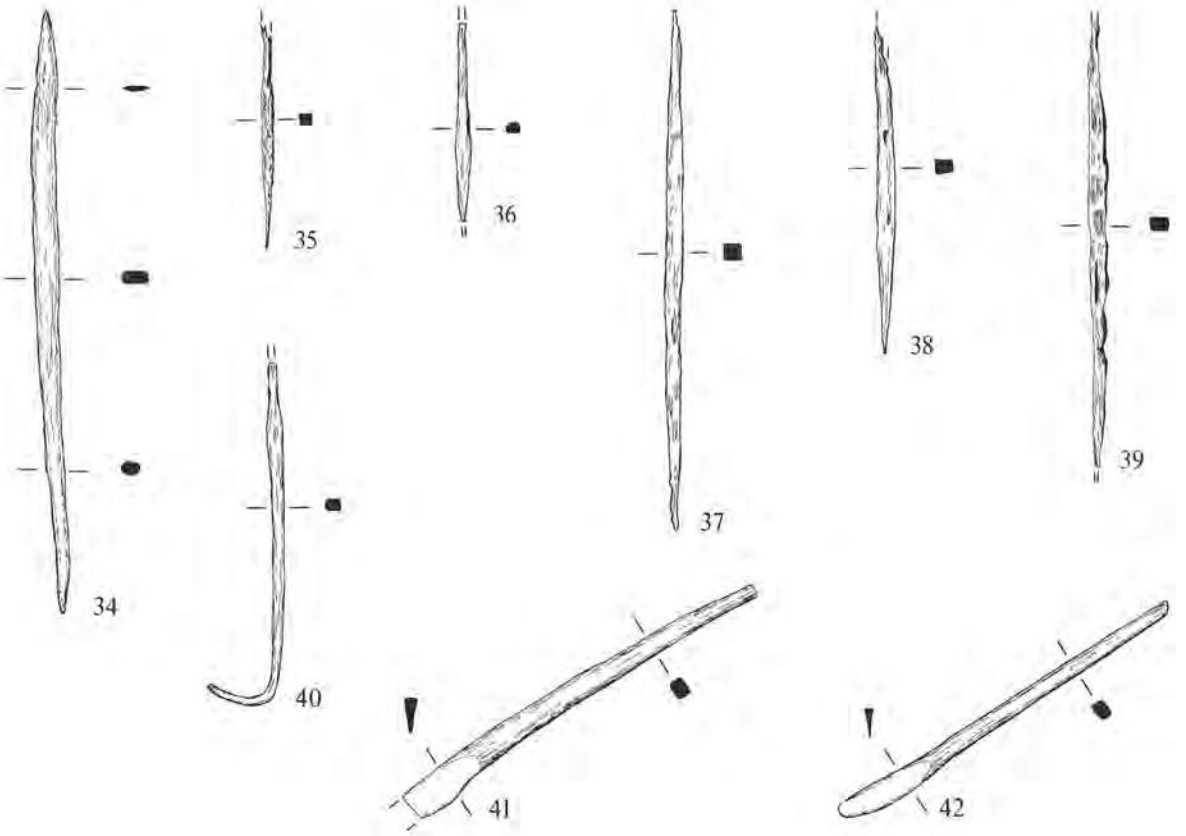


Fig. 120 Iron objects. Scale 1:2.

Leatherworking Tools (Fig. 120)

34-40b **Awls,** generally of rectangular section, all tapering evenly from a central expansion. Nos. 40a and 40b, both broken, are 87mm and 99mm long.
34. *P*K, Site 1 (1.34).
35. *P*6, Site 1 (1.195).
36. Above lower floor of *H*13, Site 2S (539b).
37. *H*9, Site 2S (530a).
38. Above upper floor of *H*13, Site 2S (602c).
39. *P*N44, Site 2N (741).
40. *H*24, Site 2N (666).
40a. *P*49, Site 2S (470).
40b. Layer 8, Site 1092 (91).

41, 42. **Creasers** with tangs for hafting in wooden handles. The blades were heated and used to crease a line on leather.
41. *P*27, Site 2S (223).
42. *G*XXI, Site 2N (725).

Agricultural Tools (Fig. 121)

43. **Ploughshare,** fractured across junction of blade and socket and found consigned as scrap with pieces of bar iron 2 and 3. The share, with a triangular blade and open socket, resembles others of Late Saxon date including those from St. Neot's and Westley Waterless, Cambridgeshire. (Addyman 1973, 94, Fig. 19.30, and reference).
Haling Path (TL 868 831) (1431).

44, 45. **Spade irons,** grooved throughout to receive square-ended wooden spade blades.
44. *H*19, Site 2N (646).
45. Topsoil above *H*5, Site 2S (8).

46. **Scythe blade tip.**
W of *H*S3, Site 6 (1248).

47. **Weedhook** with broken tang; the semicircular blade most like another from St. Neot's (Addyman 1973, 93-4, Fig. 19.26).
*P*N64, Site 2N (1045a).

Knives (Figs. 122-5)

Pivoting-bladed knives

Nos. 48 and 49 are **knife blades** with a perforated M-shaped indentation in the cutting edge which enabled them to pivot in their handles. Complete examples of such knives, both with bone handles, are known from Northampton (Goodall 1979a, 268, Fig. 118.31) and Canterbury (Graham-Campbell 1978; Graham-Campbell 1980, 135, No. 473); they and other examples are mainly of tenth to eleventh-century date.
48. *P*N25, Site 2N (1129).
49. Above *H*7, Site 2S (79).

Whittle-tang knives

Nos. 50-103d are **knives** which, but for a few blade fragments, all have whittle tangs. They have been grouped by blade shape, Nos. 50-3 having rising backs which angle down to the tip, Nos. 54-62 horizontal backs which similarly angle down. Nos. 63-92a, which form the largest group, have parallel backs and cutting edges which both taper to the tip, whilst Nos. 93-102 taper evenly from tang to tip. No. 103 has a stepped back.

Although many of the knives are incomplete, the majority appear to have had tangs similar or shorter in length than their blades. Nos. 63-102, however, the two most common types of blade, include many (Nos. 84-92a and 96-102) which have, or had, tangs greater in length than their blades, and which have cutting edges heavily sharpened to an elongated S-curve. This latter type of knife is a characteristic Viking type recognised on such Continental sites as Birka (Arbman 1940, pls. 181-2) and Trelleborg (Norlund 1948, pl. XXVIII), and in England on such contemporary sites as York (Waterman 1959, 73, Fig. 7.4-11; Richardson 1959, 83, Fig. 18.8,9) and Great Paxton (Lethbridge and Tebbutt 1935, 97, Fig. 2.7). Unlike the other knives with shorter tangs, whose blade types can be paralleled in Scandinavia, these long-tanged knives did not continue in use in post-Conquest England.

A number of knives have complete tangs, but only two of these, Nos. 85 and 96, have clenched tips. Nos. 67, 76, 83 and 96 have the most complete wooden handles, although several others retain traces of iron-impregnated wood from otherwise lost handles.

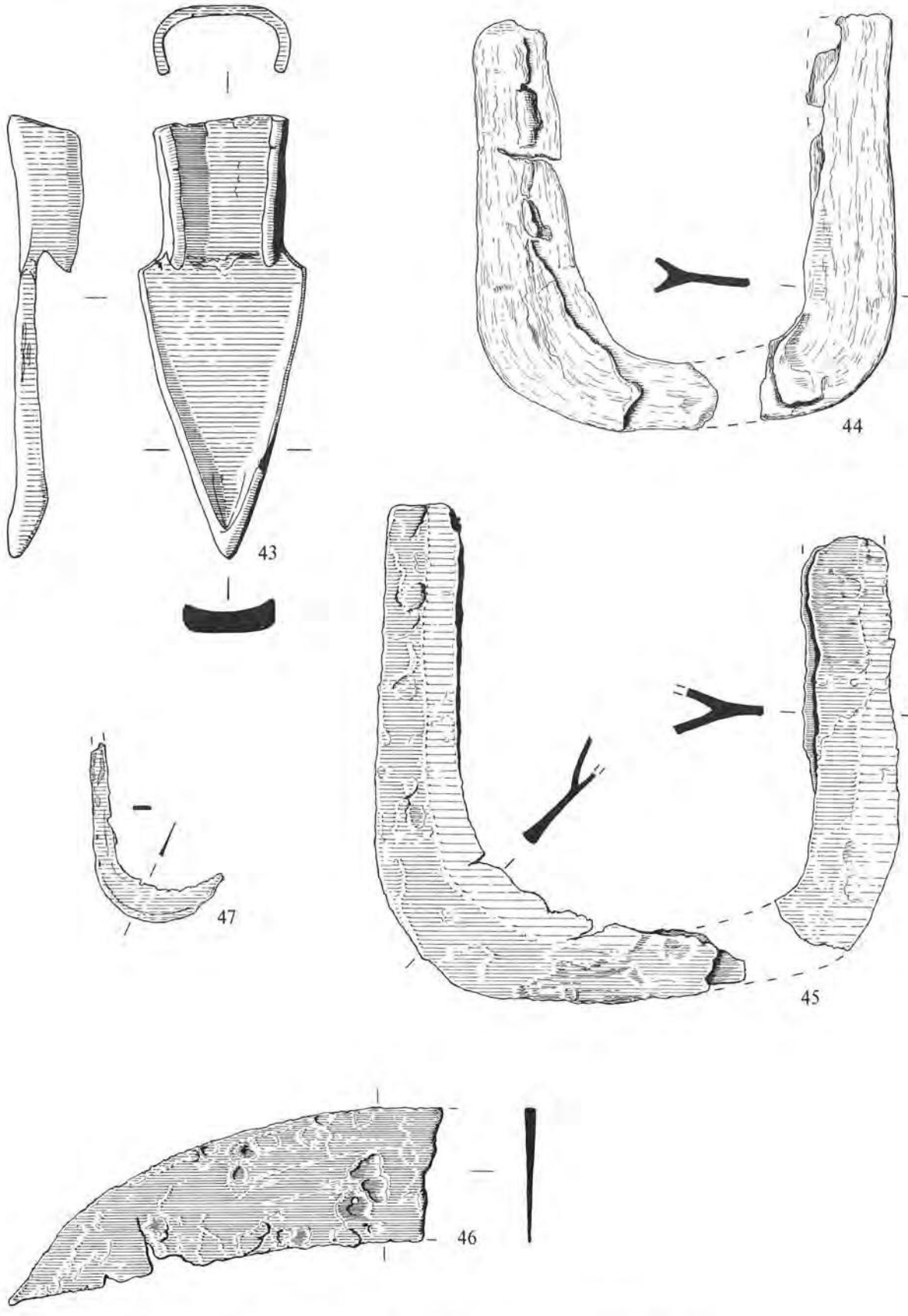


Fig. 121 Iron objects. No. 43. Scale 1:4. Nos. 44-7. Scale 1:2.

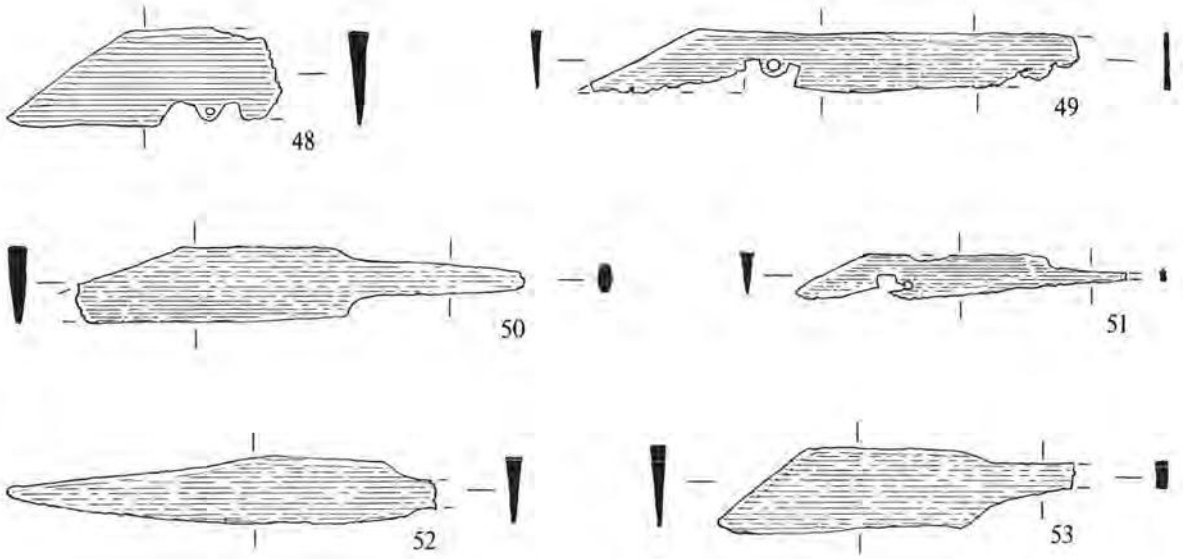


Fig. 122 Iron objects. Scale 1:2.

Some thirty other unclassifiable blade or blade-and-tang fragments were found, including a pattern-welded blade, No. 103a, and three knives with long tangs, Nos. 103b-d.

50. In clay floor, *HS*2, Site 6 (1162).
51. S of *HS*3, Site 6 (1249).
52. *H*8, Site 2S (247).
53. Above *H*7, Site 2S (293).
54. Below clay floor, *H*8, Site 2S (432).
55. *P*N6A, Site 2N (787).
56. *P*N56, Site 2N (523).
57. *H*24, Site 2N (772).
58. *H*17/18, Site 2N (807).
58a. *H*14, Site 2S (513).
58b. *H*9, Site 2S (353).
58c. *H*9, Site 2S (375a).
58d. Within upper floor of *H*13, Site 2S (562).
59. *H*9, Site 2S (416).
60. *P*N26, Site 2N (900).
60a. Cobbles, Site 4 (1083).
60b. *H*28, Site 2N (956b).
61. Cobbles, Site 4 (1070b).
62. On lower road, TT2, Site 6 (1173).
63. *P*43, Site 2S (521).
64. *P*N5, Site 2N (742).
65. Above floors, *HS*3, Site 6 (1260).
66. *P*3, Site 1 (1.136).
67. *P*S4, Site 6 (1185).
68. Below clay floor, *H*1, Site 1 (1.37).
69. *P*N46, Site 2N (931).
70. *P*N11, Site 2N (805a).
70a. Above floors, *HS*3, Site 6 (1207).
70b. Above floors, *HS*3, Site 6 (1206a).
70c. *H*9, Site 2S (375c).
70d. *P*55, Site 2S (575).
71. *H*14, Site 2S (463).
72. Above *PJ*, Site 2S (11).
73. *HS*3, Site 6 (1230).
74. *H*5, Site 2S (102).
75. Above upper floor, *H*13, Site 2S (640).
76. *P*N41, Site 2N (878).
77. *H*6, Site 2S (191).
78. *H*29, Site 2N (1033).
78a. Area B, Site 6 (1224).
78b. Make up of *R*3, S of *H*7, Site 2S (87).
78c. 'Alley', *H*2, Site 1 (1.49).
78d. *H*19, Site 2N (732).
78e. *H*6, Site 2S (347).
78f. Below *R*3, S of *H*7, Site 2S (173).
79. *H*28, Site 2N (1013a).
80. Cobbles, Site 4 (1098a).
81. Cobbles, Site 4 (1098b).
82. Topsoil above upper road, TT 2, Site 6 (1164).
83. *P*5, Site 1 (1.172).
83a. Topsoil above *H*8, Site 2S (221).
83b. Topsoil *G*XV, Site 2N (491).
83c. Unstratified, Site 1092 (1).
84. *P*6, Site 1 (1.194).
85. *H*24, Site 2N (771).
86. *H*6, Site 2S (88).
87. *H*5, Site 2S (103).
88. *P*N18B, Site 2N (905).
89. *P*22, Site 2S (348).
90. *H*5, Site 2S (92a).
90a. Above upper floor *H*13, Site 2S (585).
90b. *P*E8, Site 4 (1119).
90c. *P*E4, Site 4 (1087b).
90d. *P*E4, Site 4 (1087a).
91. Area B, Site 6 (1175).
92. *H*17/18, Site 2S (700).
92a. *G*XX-XXI, Site 2N (892).
93. Below *R*1, W of *H*6, Site 2S (428).
94. *HT*1, Site 1 (1.250d).
94a. Below *R*2, W of *H*6, Site 2S (2).
95. *H*9, Site 2S (338).
95a. Above upper floor of *H*13, Site 2S (593).
95b. Above upper floor of *H*13, Site 2S (524).
95c. *H*32, Site 2N (1016).
95d. *H*17/18, Site 2N (869).
96. *P*N48, Site 2N (953).
96a. Lower filling of *H*3, Site 1 (1.200).
96b. *H*9, Site 2S (375b).
97. Above lower floor of *H*13, Site 2S (577).
98. Layer 36, Site 1092 (30).
99. *H*5, Site 2S (52).
100. *H*5, Site 2S (92b).
101. Below *R*2, N of *H*12, Site 2S (453).
101a. *H*2, Site 1 (1.129).
101b. *P*N20, Site 2N (828).
102. Cobbles, Site 4 (1070a).
103. *P*15, Site 1092 (27).
103a. *P*49, Site 2S (572).
103b. *H*6, Site 2S (171).
103c. *G*XXIIA, Site 2N (991).
103d. Unstratified, Site 2S (455a).

Scale tang knife

No. 104, which has an iron end cap, is typologically late medieval and intrusive in its context.

*H*7, Site 2S (159).

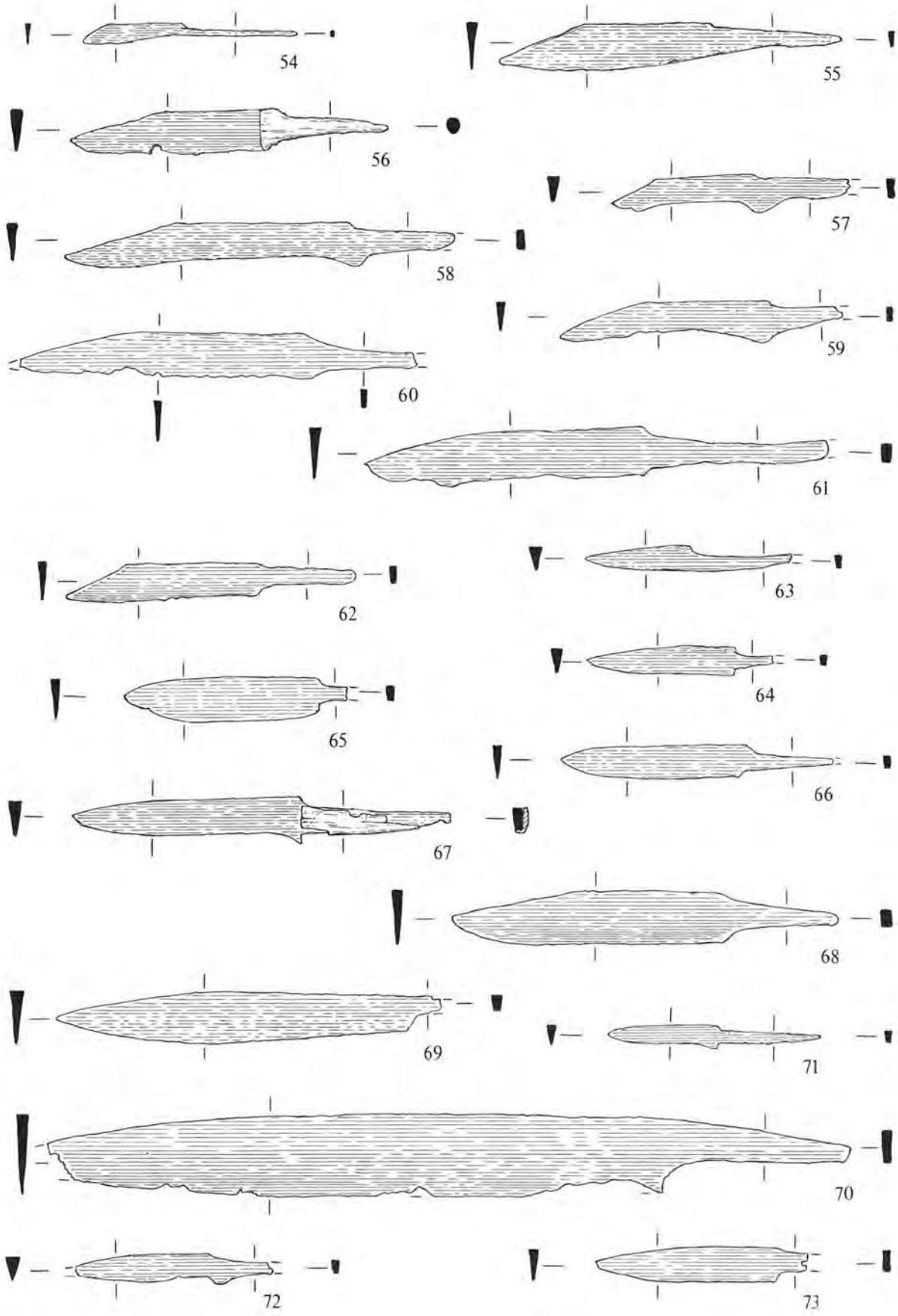


Fig. 123 Iron objects. Scale 1:2.

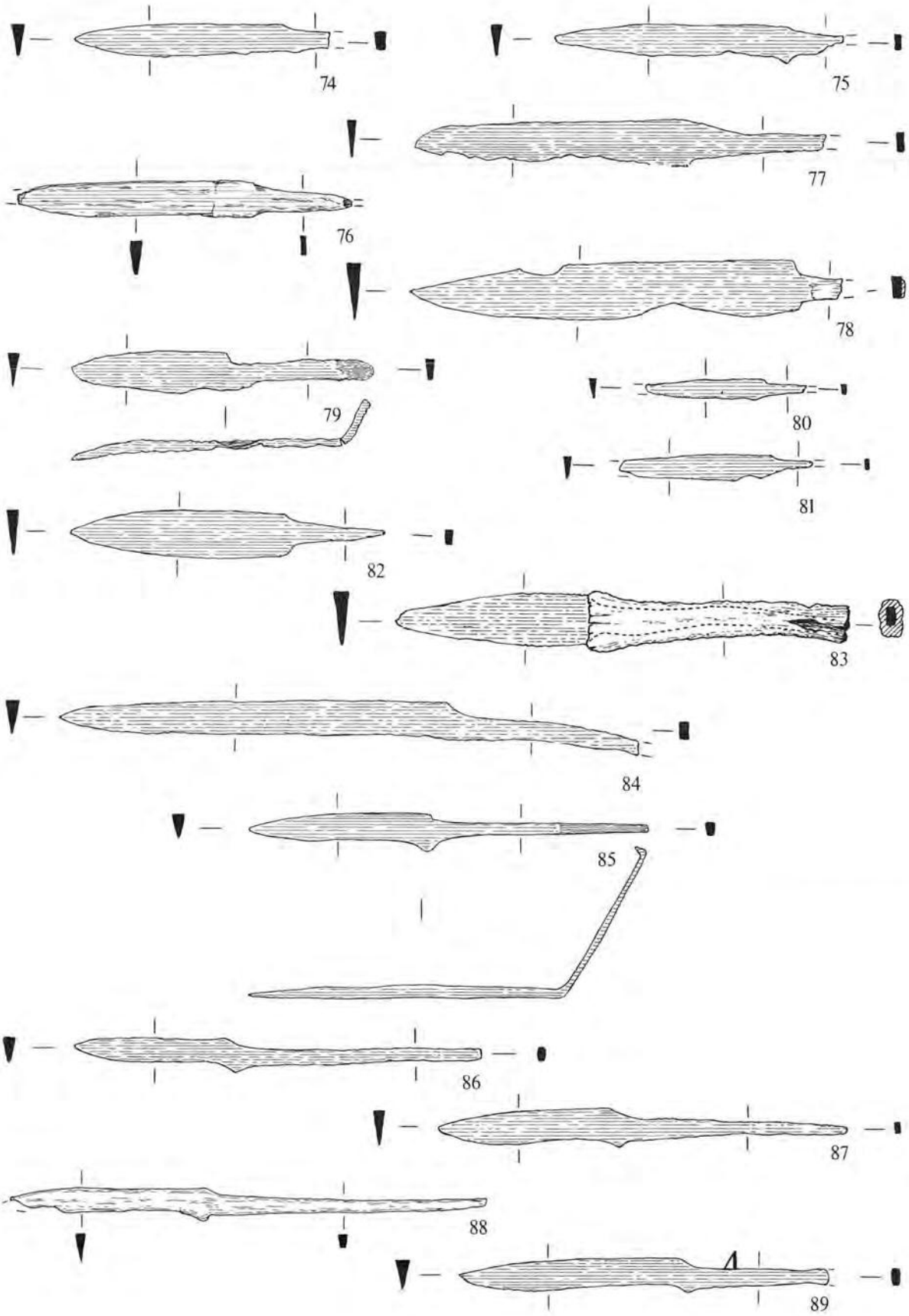


Fig. 124 Iron objects. Scale 1:2.

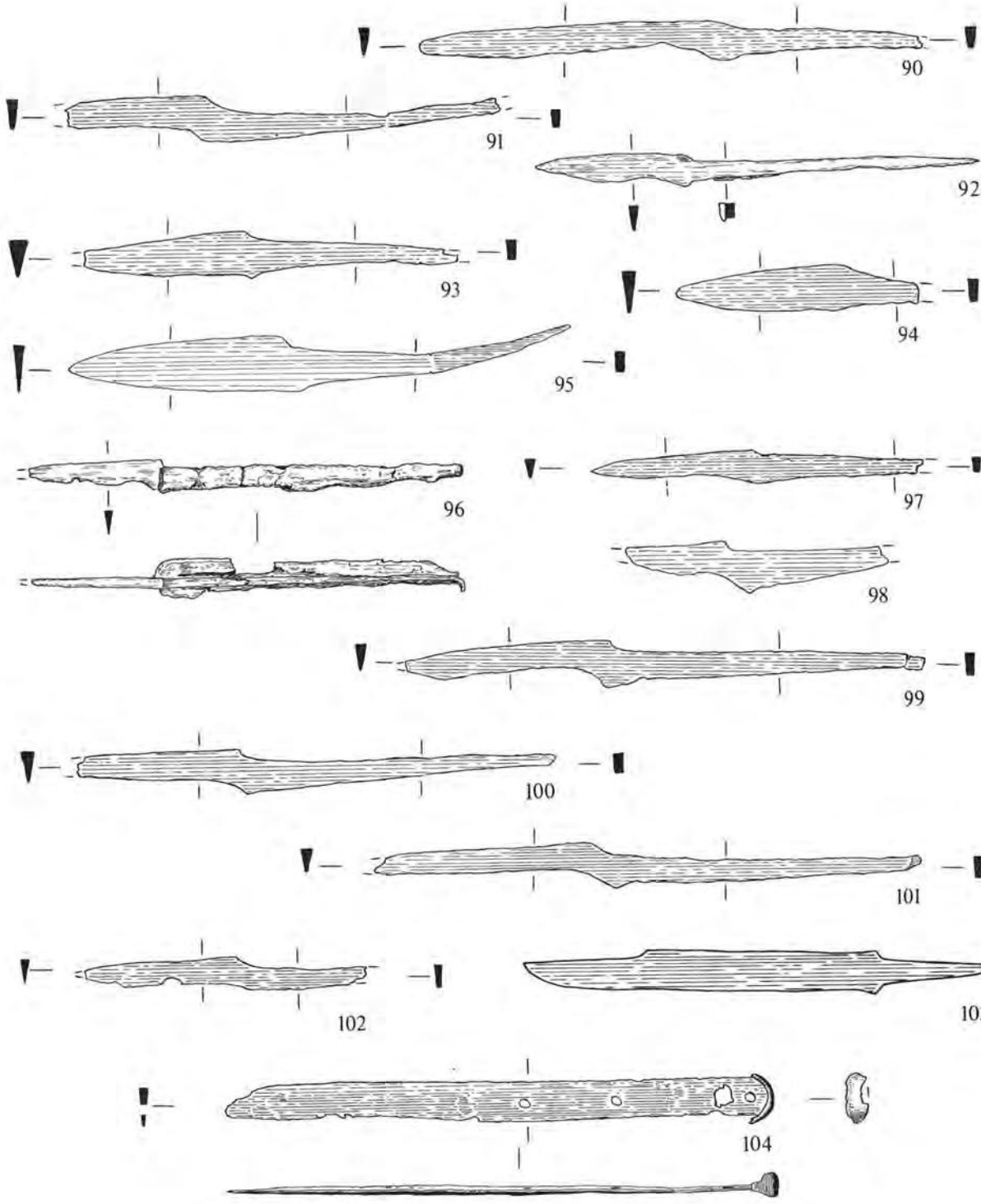


Fig. 125 Iron objects. Scale 1:2.

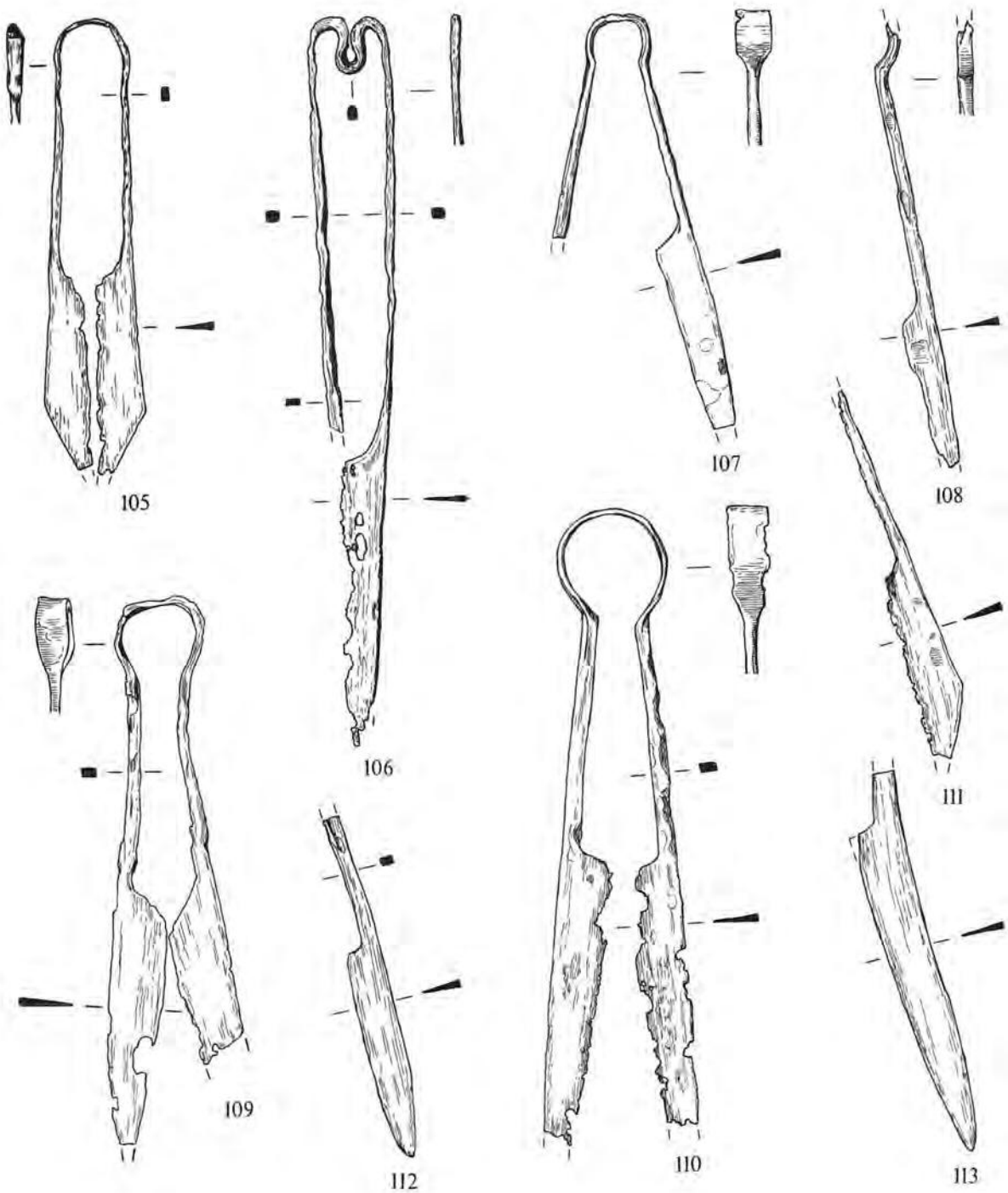


Fig. 126 Iron objects. Scale 1:2.

Shears (Fig. 126)

Shears Nos. 105-110 retain their bows, Nos. 105 and 106 of the earlier type no wider than the handles, Nos. 107-10 of the succeeding looped type. No. 105, similar to shears from Maxey (Addyman 1964, 60, Fig. 16.11), is a typical example of the earlier type; the M-shaped bow of No. 106 is unusual and probably gave the bow extra tension. Nos. 107-10, with contemporary parallels at Trelleborg (Norlund 1948, pl. XLIX) and elsewhere (Petersen 1951, 523, Figs. 168, 170), are forerunners of the characteristic post-Conquest type. All blades, including Nos. 111-3, have plain tops.

105. *P*18, Site 2S (130).
106. On clay surface, Site 4 (1104).
107. *H*24, Site 2N (873).
108. *P*36, Site 2S (268).
109. Unknown provenance (1420).
110. Cobbles, Site 4 (1096).
111. Probably Site 2S (1419).
112. *H*17/18, Site 2N (895).
113. *P*14, Site 2S (26).

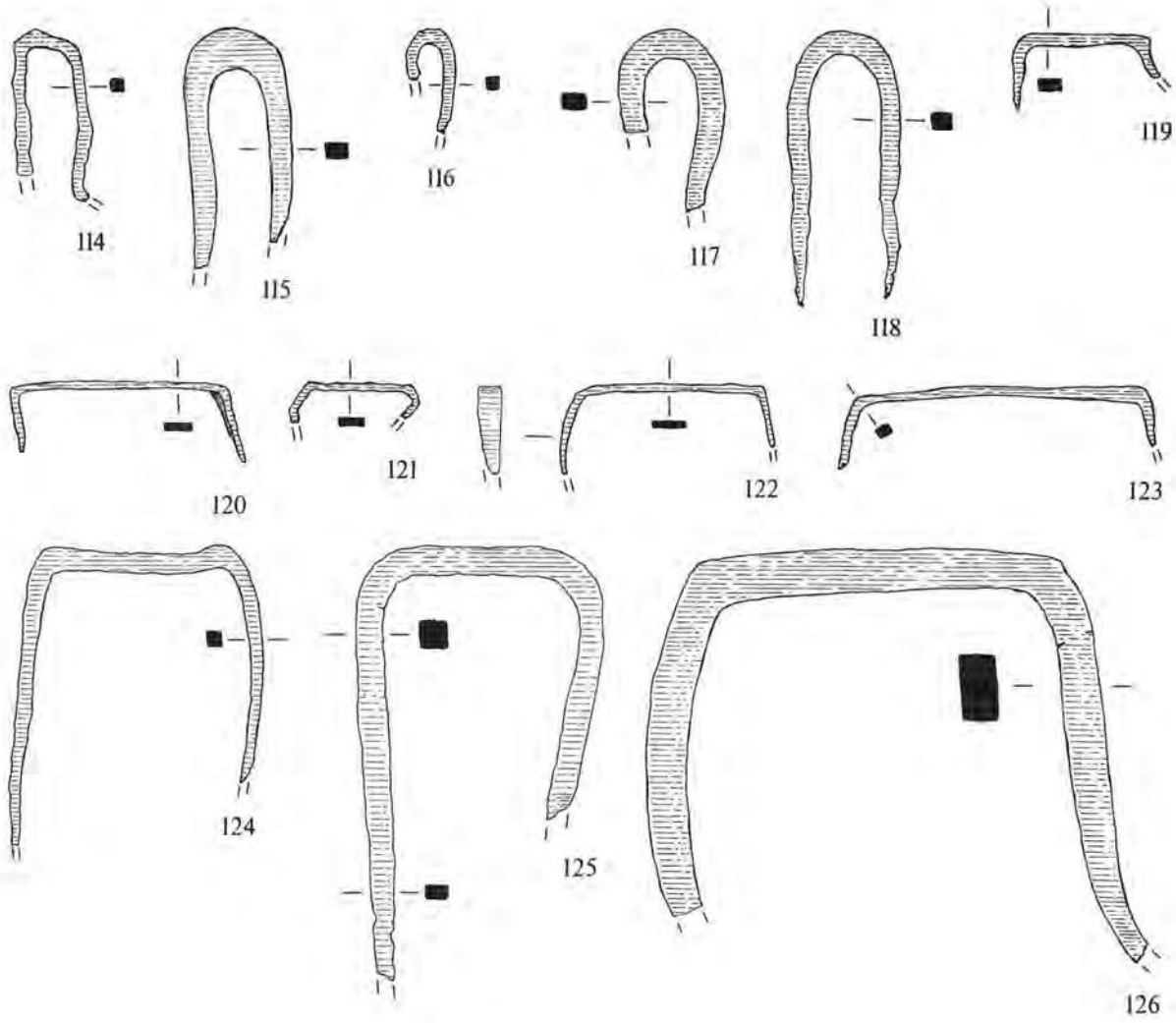


Fig. 127 Iron objects. Scale 1:2.

Building Ironwork and Fittings (Figs. 127-32)

114-31 **Staples** used to attach fittings to wood and to bind timbers together. Nos. 114-8 are U-shaped, the remainder rectangular, Nos. 119-27b having straight but not always complete arms, Nos. 128-31 having inturned arms.
114. *H*6, Site 2S (188).
115. *H*25, Site 2N (720a).
116. *P*E4, Site 4 (1087g).
116a. Above *R*3 A, Site 2N (971b).
116b. *P*N63, Site 2N (1109).
116c. *H*5, Site 2S (106c).
117. *P*N68, Site 2N (1056b).
118. Topsoil above *R*3, W of *G*VII, Site 2N (731a).
119. *P*41, Site 2S (357a).
120. *P*N12B, Site 2N (827).
120a. *P*49, Site 2S (571).
121. *H*6, Site 2S (189b).
122. *G*XIV, Site 2N (792).
123. Below *R*3, W of *H*6, Site 2S (255).
124. *P*N18B, Site 2N (926a).
125. *H*5, Site 2S (372).
126. *P*S6, Site 6 (1245).
127. *H*22, Site 2N (889b).
127a. *H*5, Site 2S (320).
127b. Contractor's trench E of Site 2S or N (1134).
128. *H*2, Site 1 (1.127a).
129. *P*N3A-C, Site 2N (711).
130. *P*N3A-C, Site 2N (750).
131. Above *P*E5, Site 4 (1090a).

132. **Staple or beam stirrup.**
*P*I, Site 5 (1103).

133. **Angle tie.**
Topsoil between *G*XV, XVI and XX, Site 2N (799).

134-5. **Wallhooks,** the tip of No. 134 clenched round and originally embedded in the timber it was driven through.
134. *H*8, Site 2S (186).
135. *H*6, Site 2S (117).
Nails. Many nails were found, and the majority of those previously examined by Knocker appear to have had flat heads of square shape.

136-7. **Clench bolt and rove** used in the construction of ledge-and-batten doors and hatches, as well as ships.
136. *P*N52, Site 2N (1006).
137. Ditches, Site 1 (1.223).

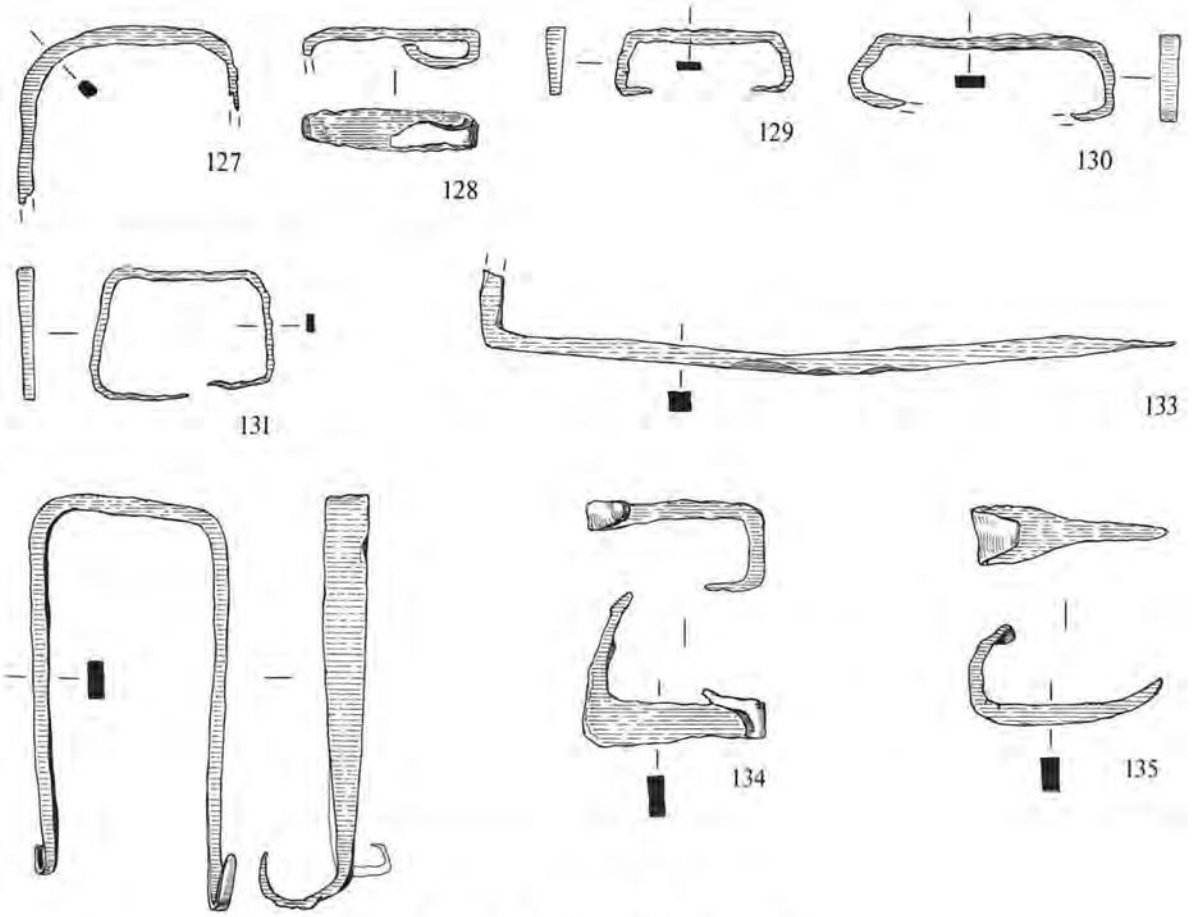


Fig. 128 Iron objects. Scale 1:2.

138-45 **Hinge pivots**, the sufficiently complete examples with tapering shanks, several with clenched tips. This type was normally used with wood, as the clenched tips confirm, although it could be driven into joints between masonry.
138. Above floor, *H*S3, Site 6 (1199).
138a. Layer 36, Site 1092 (23).
139. *P*N49, Site 2N (1133).
139a. *P*36, Site 2S (266a).
140. *P*60, Site 2S (616).
141. Area B, Site 6 (1226).
142. Above *P*E5, Site 4 (1091).
143. Above *P*E8 & 9, Site 4 (1118).
144. *P*N68, Site 2N (1056c).
145. *P*N68, Site 2N (1049).

146-55 **Hinges and strap fragments.** Nos. 146-50 are the only hinges to retain their hanging eyes, all of which are of different types; No. 150 may have been looped. Nos. 151-3 are a sample of many strap fragments, some undoubtedly from hinges, but others from angle binding similar to Nos. 154 and 155. No. 153a is a broken straight piece of L-sectioned edge strap, 88mm long.
146. *H*8, Site 2S (277).
147. *H*28, Site 2N (961).
148. *P*60, Site 2S (617).
149. *P*N68, Site 2N (1058).
150. *P*54, Site 2S (549a).
151. *P*45, Site 2S (419).
152. *P*N3A-C, Site 2N (765).
153. *H*29, Site 2N (1024).
153a. *P*N68, Site 2N (1056a).
154. *H*1, Site 1 (1.16).
155. Dark soil, trench C, Site 5 (1121).

156-61 **Binding strips,** Nos. 156-8 plain and typical of other pieces found, No. 159 perhaps part of a hinge. Nos. 160 and 161 copy binding strip more normally made of bronze, although related decorative iron strip includes some from York (MacGregor 1982, 87, Fig. 46. 414-5) and Durham (Carver 1979, 19, Fig. 13.129/1668).
156. Above lower floor of *H*13, Site 2S (503).
157. *P*S4, Site 6S, (1176b).
158. *P*J, Site 2S (4).
159. *P*N25, Site 2N (1130b).
160. In lower road, TT2, Site 6 (1182).
161. Above *H*S2, Site 6 (1178).

162-7. **Figure-of-eight shaped hasps,** flat, curved or angled in side view, used to secure doors, gates, chest lids etc. The angled shape of Nos. 166 and 167 suggests a use with furniture as does the riveted and decorated supporting mount of No. 162, which has non-ferrous plating and when found retained traces of leather between its two sides. A broken chain link is attached to No. 166.
162. Above floor, *H*S3, Site 6 (1261).
163. *P*A, Site 1 (1.101).
164. *G*XXI, Site 2N (784).
165. Above upper floor of *H*13, Site 2S (602a).
166. *H*17/18, Site 2S (644).
167. *P*E4, Site 4 (1086).

168. **Latch rest,** clenched tip broken.
*P*N5, Site 2N (740).

169. **Box padlock** with trapezoidal case with decorative strips on each side, T-shaped keyhole at one end, external tube for one arm of the padlock bolt on the other, and an enlarged hole in the top, bolt-entry, plate. A similar box padlock comes from York (Richardson 1959, 81-3, Fig. 18.4 (full size, not half)), where the type is discussed.
*P*10, Site 1 (1.208a).

170-2. **Padlock bolts.** Nos. 170-1, both U-shaped and incomplete, have rounded closing plates and so probably come from barrel padlocks. No. 172 is a spine or rod from a padlock bolt.
170. *P*E5, Site 4 (1094a).
171. Contractor's trench at TL 8703 8259 (1209).
172. *H*6, Site 2S (167a).

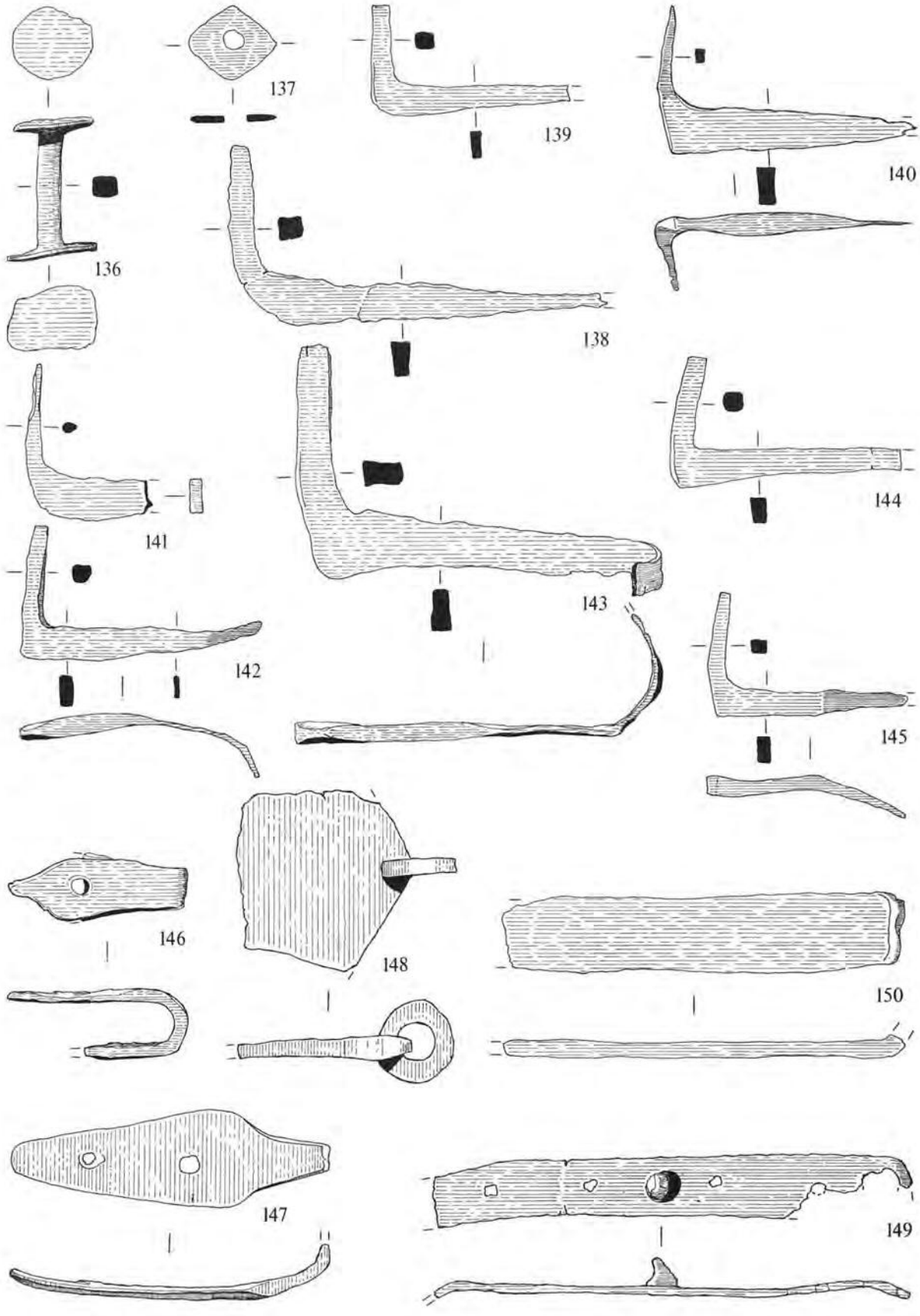


Fig. 129 Iron objects. Scale 1:2.

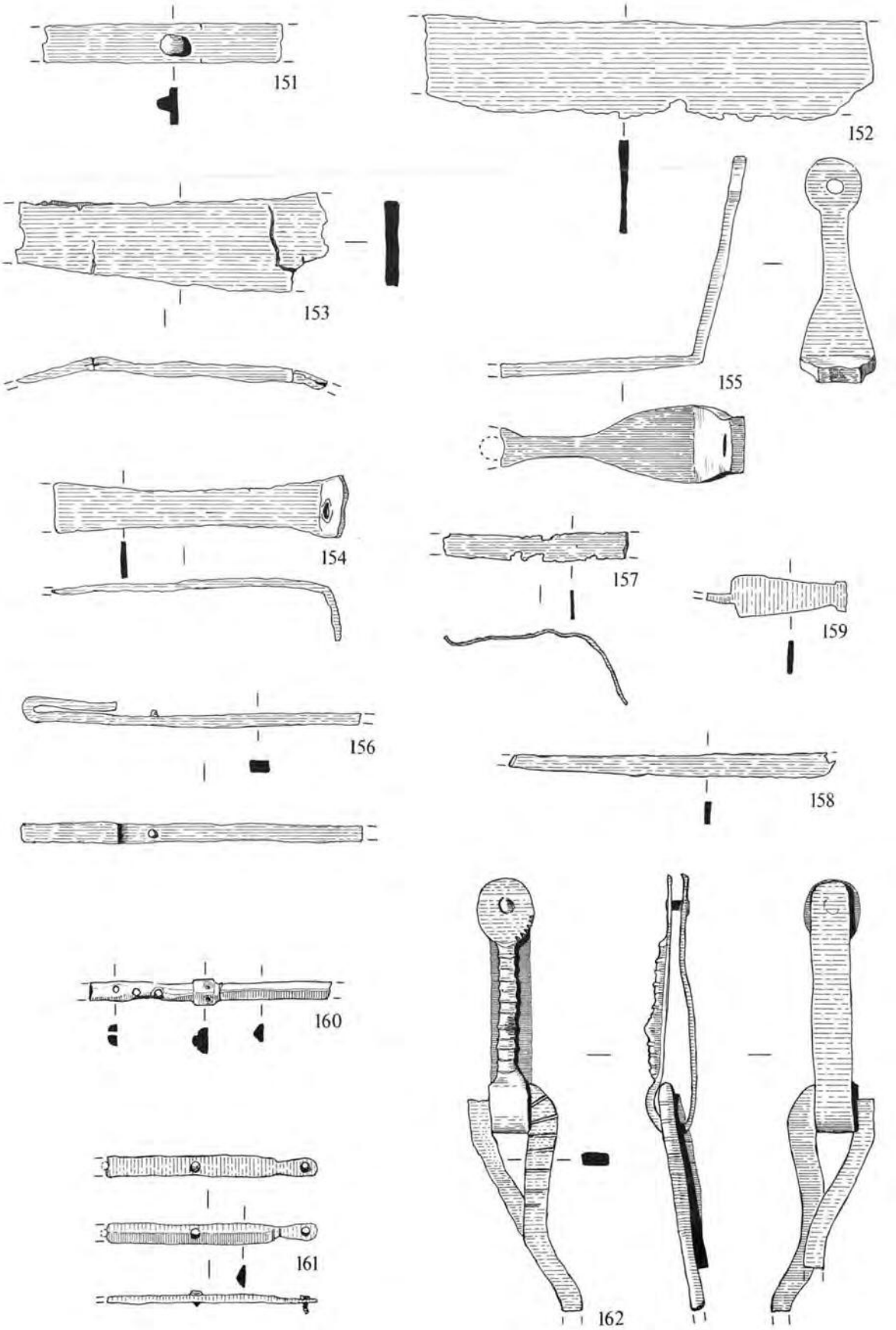


Fig. 130 Iron objects. Scale 1:2.

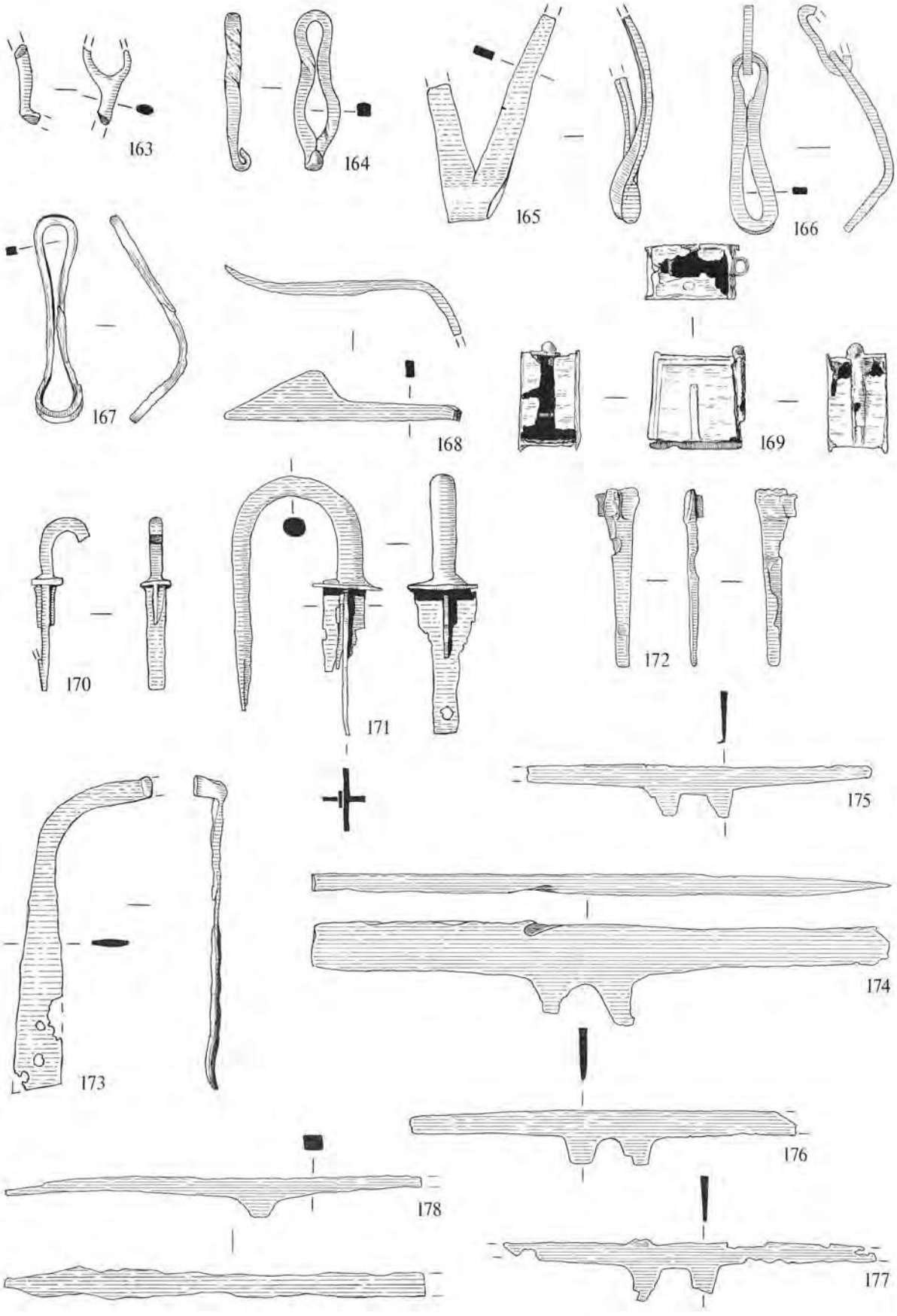


Fig. 131 Iron objects. Scale 1:2.

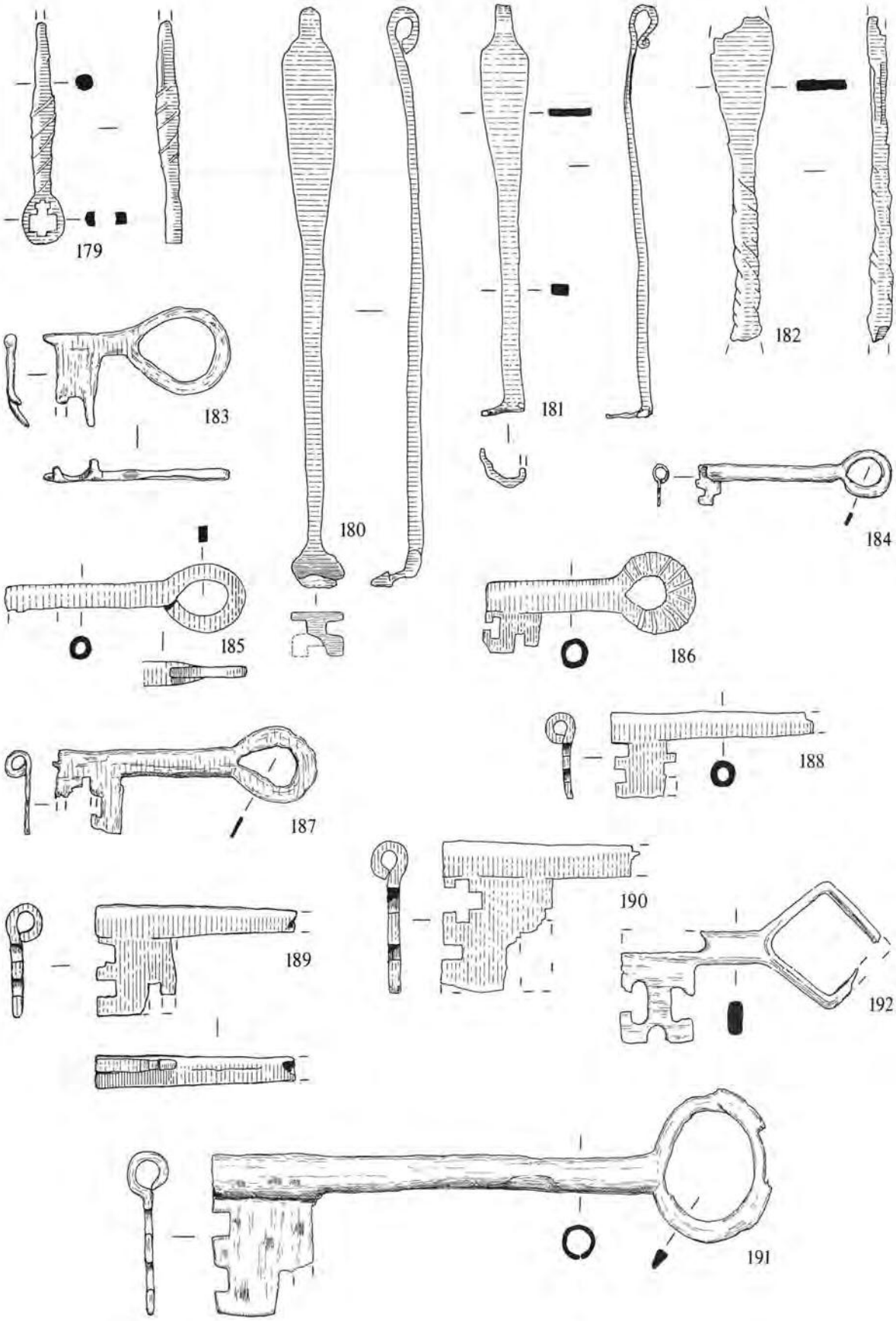


Fig. 132 Iron objects. Scale 1:2.

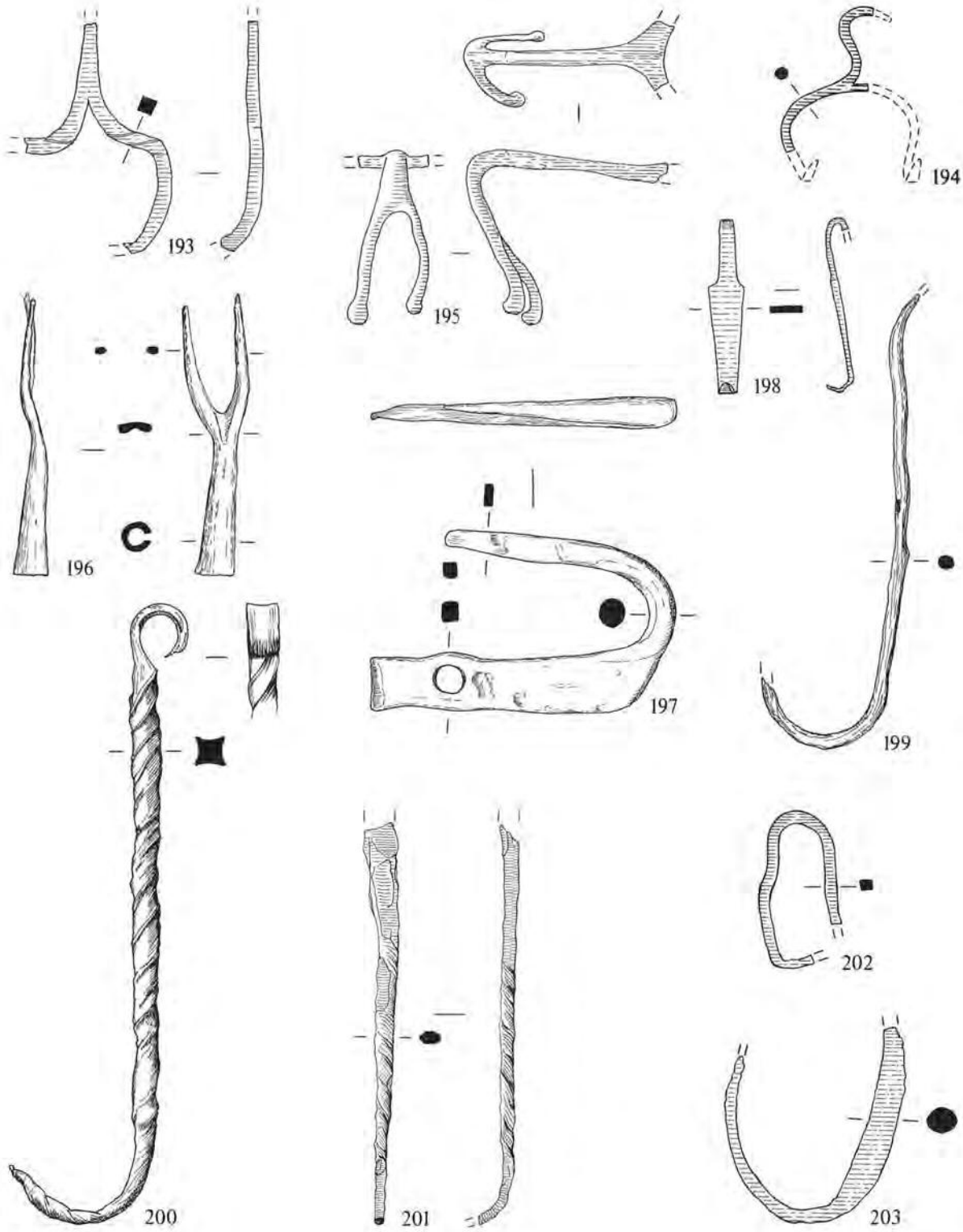


Fig. 133 Iron objects. Scale 1:2.

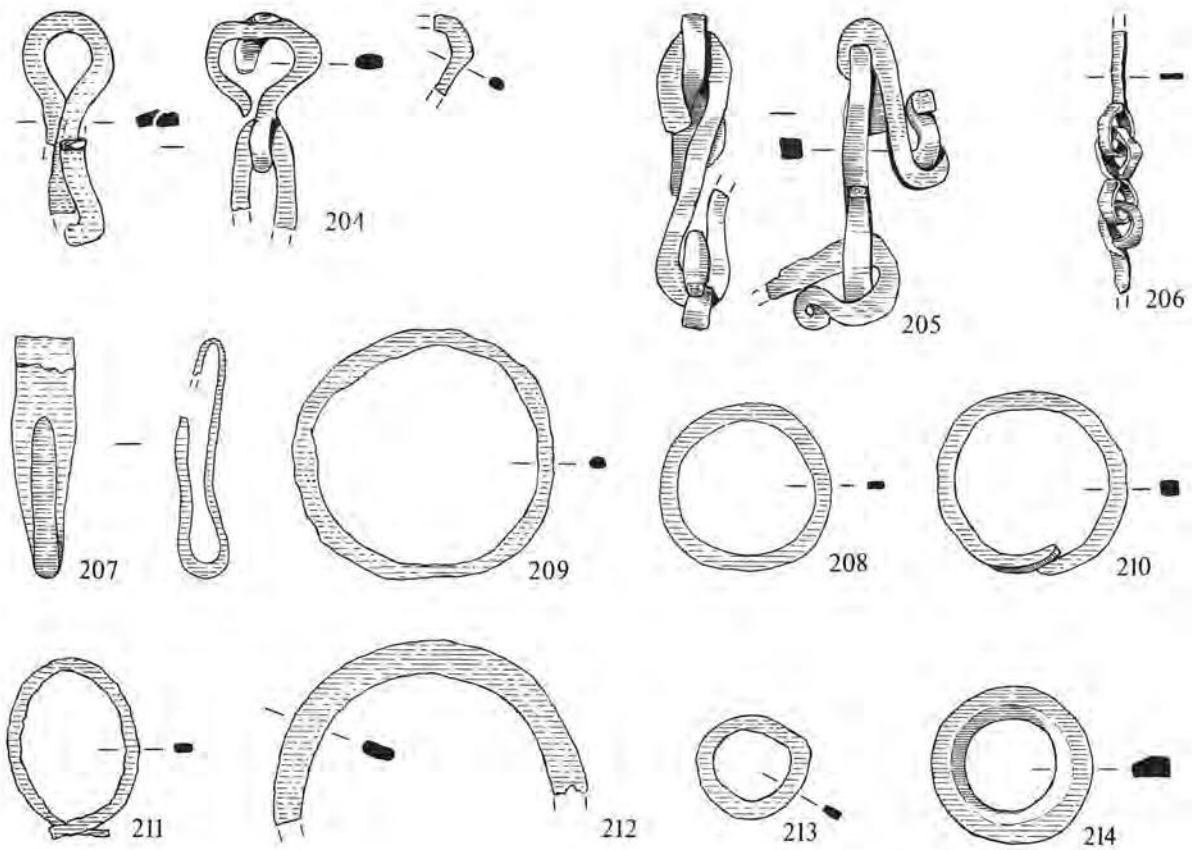


Fig. 134 Iron objects. Scale 1:2.

173. **U-shaped stapled hasp** from an embossed padlock of late medieval or later date, as at North Elmham Park (Goodall 1980, 509, Fig. 265.10).
*H*14, Site 2S (477).

174-7. **Lock bolts** similar to that in a complete lock from York (MacGregor 1982, 80-1, Figs. 42.430 and 43) which has an iron mechanisim and wooden case. The two lower projections enabled a key to throw the bolt whilst a stop on the upper edge of all except No. 176 allowed a tumbler to secure the bolt in a locked or open position.
174. *H*2, Site 1 (1.127d).
175. In clay floor, *HS*2, Site 6 (1163).
176. *P*49, Site 2S (570).
177. *P*17, Site 2S (155).

178. **?Sliding bolt** with single lower projection.
*H*29, Site 2N (1026).

179-82 **Padlock keys.** No. 179 has a swollen stem inlaid with a spiral of non-ferrous wire. Nos. 180-2, which have or had expanded terminals and laterally-set bits, are of a usual post-Conquest type.
179. Make up of *R*3A, Site 2N (999a).
180. *P*N67, Site 2N (1059).
181. Unstratified SW of Site 1 (854).
182. Topsoil above ditches, Site 1 (1.216).

183-92 **Keys.** No. 183, with its projecting tip, deep L-sectioned bit and pear-shaped bow, is a pre-Conquest type which fell out of use in England during the eleventh century. Contemporary examples include those from Cheddar (Goodall 1979b, 263, Fig. 90.4,15,96). Nos. 184-91, all with bits rolled in one with their hollow stems, have the pear or ring-shaped bows normal at the time (cf. York: Richardson 1959, 83, Fig. 18.13,14). No. 186 has decorative grooves on the bow, and Nos. 188-9 also have traces of non-ferrous plating. No. 192, which probably had a stem which was split above the bit, is a type known elsewhere in eleventh-to-thirteenth-century contexts, as at Southampton (Harvey 1975, 279, Figs. 251.2014, 252.2022). No. 192a, with a lozenge-shaped bow and projecting stem tip, had a longer life, and 192b is post-medieval.
183. 'From a barrow at Thetford' (1424, Fitch collection N.C.M. 76.194).
184. Soil above burial, Williamson Crescent (852).
185. *H*6, Site 2S (215).
186. *H*29, Site 2N (994).
187. Below *R*3, N of *H*12, Site 2S (239).
188. Make up of *R*3, W of *H*6, Site 2S (302).
189. Below burnt clay, TT3, Site 6 (1219).
190. *HS*3, Site 6 (1236).
191. *G*XII-XVI, Site 2N (683).
192. Contractor's trench, Star Lane (1422).
192a. Possibly St. Margaret's Cemetery (1137a).
192b. Topsoil above *H*6 (196).

Household Ironwork (Figs. 133-4)

193-5. **Flesh-hooks.** Nos. 193 and 194 have two arms, and No. 194 retains much of its angled tang, the extreme end of which was driven into a wooden handle. No. 195 is of unusual form.
193. *H*24, Site 2N (778).
194. *H*20, Site 2N (945a).
195. Make-up of *R*3A, Site 2N (999b).

196. **Flesh-fork** with two arms and a socket for a handle.
*HT*1, Site 1 (1.250b).

197. **Strike-a-light,** associated with a 'St. Edmund Memorial' halfpenny.
Lower filling of *H*3, Site 1 (1.142a).

198-201. **Hooks,** No. 200 with a twisted body.
198. *H*19, Site 2N (744a).
199. Topsoil above *H*5 (76a).
200. *P*N39, Site 2N (890a).
201. Above *HS*2, Site 6 (1181a).

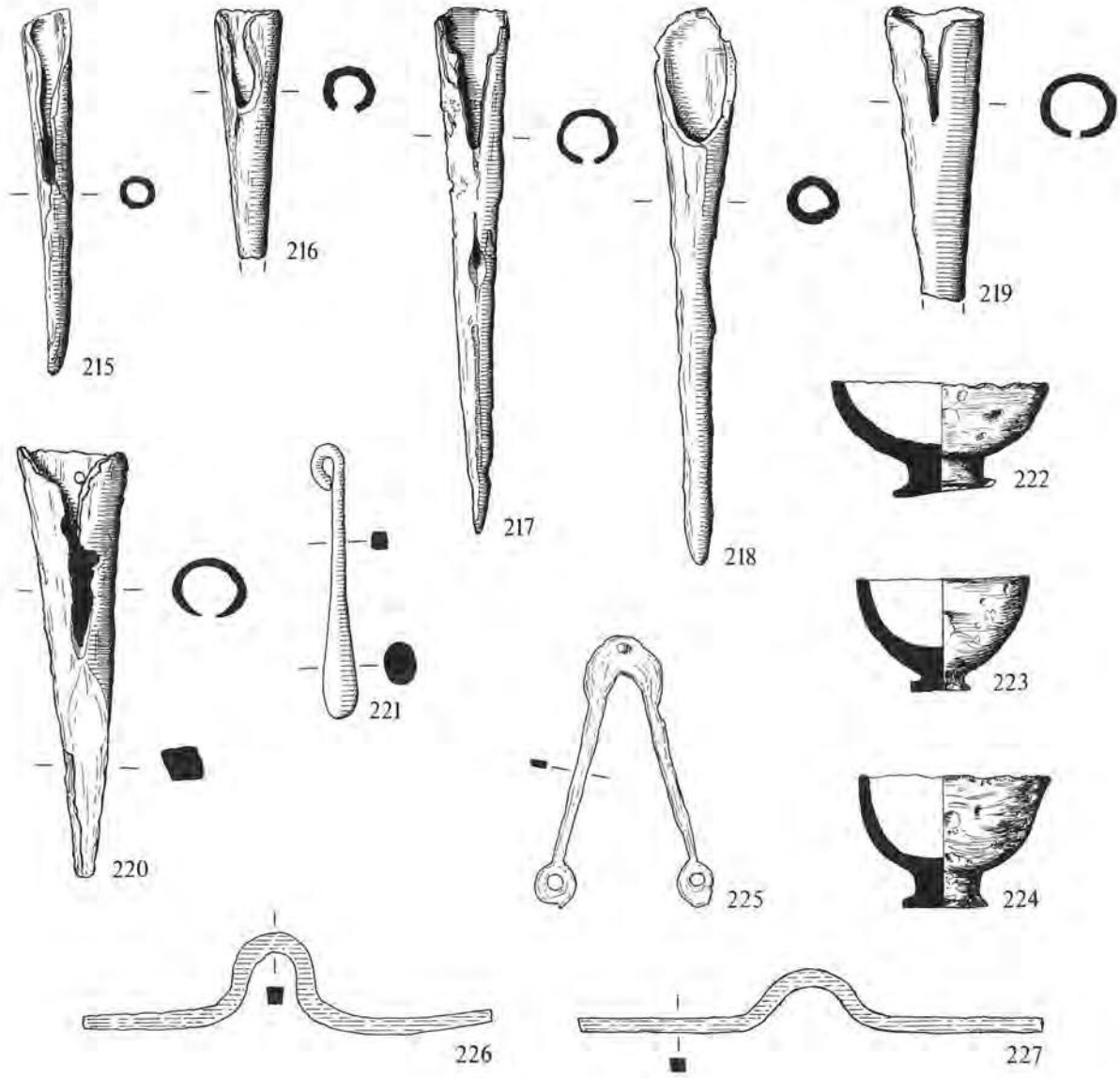


Fig. 135 Iron objects. Scale 1:2.

202-6a **Chain links** of various forms.
202. Above floor, *H*S3, Site 6 (1263).
203. Below burnt clay, TT3, Site 6 (1220).
204. *P*N49, Site 2N (968).
205. Unstratified, S of Site 2S (325).
206. St. Margaret's Cemetery (13).
206a. *P*2, Site 1 (1.105).

207. **?Chain fitting** with non-ferrous plating.
*P*N53, Site 2N (1009).

208 13a. **Rings,** the complete examples either fully welded or with overlapped ends.
208. *H*T1, Site 1 (1.250c).
208a. Hearth over *P*11, Site 1 (1.219c).
208b. *H*T1, Site 1 (1.257).
209. *P*I, Site 5 (1102).
210. *H*8, Site 2S (253).
211. Below *R*3, NW of *P*29, Site 2S (228).
212. *H*S3, Site 6 (1251).
213. Above *P*E5, Site 4 (1090b).
213a. Black soil, Site 3 (361a).

214. **Washer.**
Ditches, Site 1 (1.261).

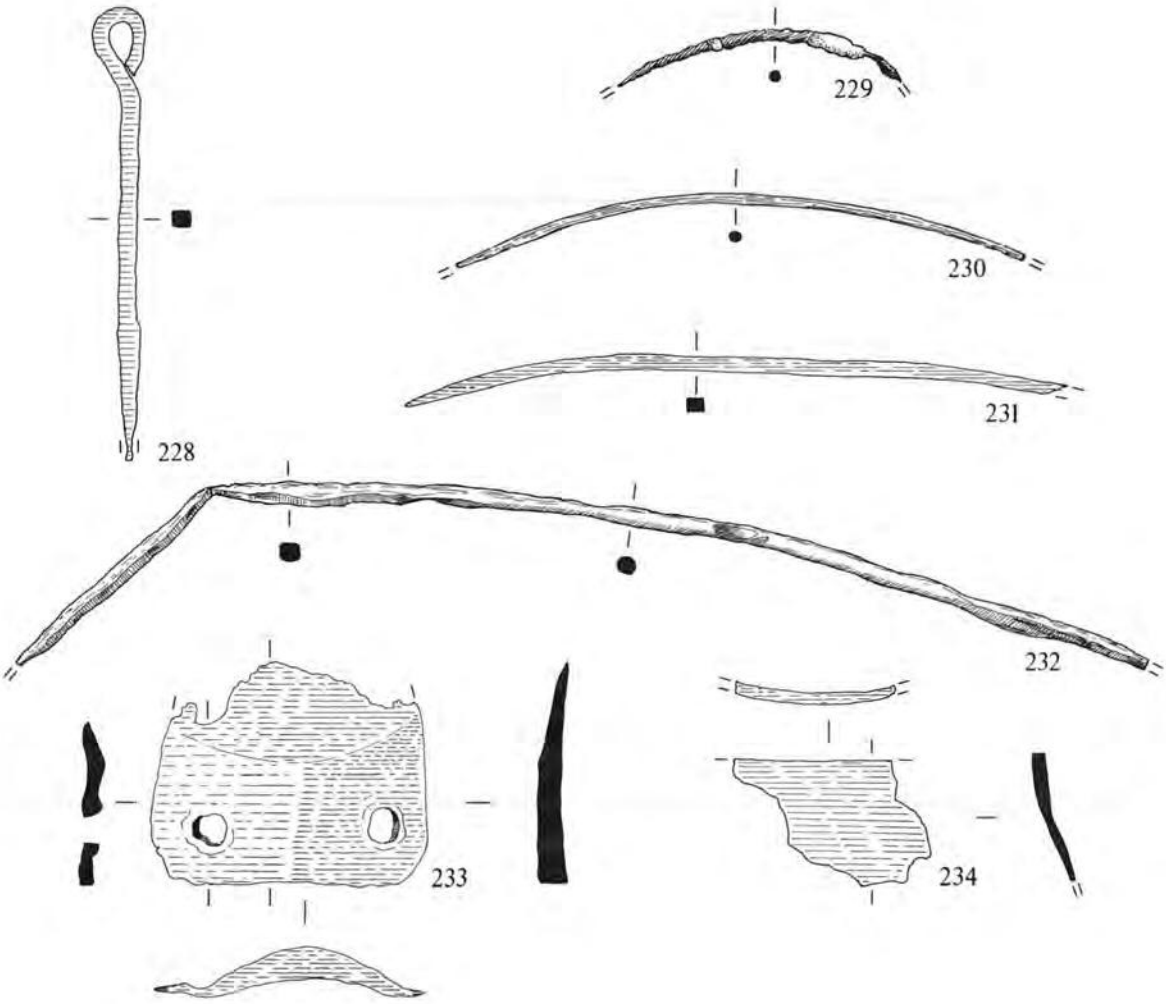


Fig. 136 Iron objects. Scale 1:2.

Miscellaneous Fittings (Figs. 135-6)

215-34 Nos. 215-20 are **ferrules** which protected the bases of wooden staffs, etc., from wear. They were also fitted to the poles used by people using bone skates (MacGregor 1976, 61-3, Fig. 2), such as those from Thetford (see below, Figs. 195-7). No. 221 is a bell clapper. 222-4 are bowls apparently of cast iron and so of post-medieval date. The identification of Nos. 225-8 is uncertain. Nos. 229-34 are incomplete lengths of wire, rod and sheet.

215. *P*41, Site 2S (368a).
216. Below *R*3, W of *H*6, Site 2S (3).
217. *H*6, Site 2S (216).
218. Cobbles, Site 4 (1113).
219. Above *H*7, Site 2S (80).
220. Inhumation, *H*S15, Site 5 (1126).
221. *H*19, Site 2N (923).
222. *H*9, Site 2S (414).
223. *H*28, Site 2N (796A).
224. Sewer trench SW of Site 2S (187).
225. *H*2, Site 1 (1.74).
226. *P*N3A-C, Site 2N (714).
227. Above *H*S2, Site 6 (1171).
228. *P*N66, Site 2N (1051).
229. *P*S3, Site 6 (1166).
230. *P*36, Site 2S (269b).
231. Make-up of *R*2A/3A, Site 2N (975a).
232. *P*N27, Site 2N (909).
233. Above lower floor of *H*13, Site 2S (576).
234. *H*6, Site 2S (100).

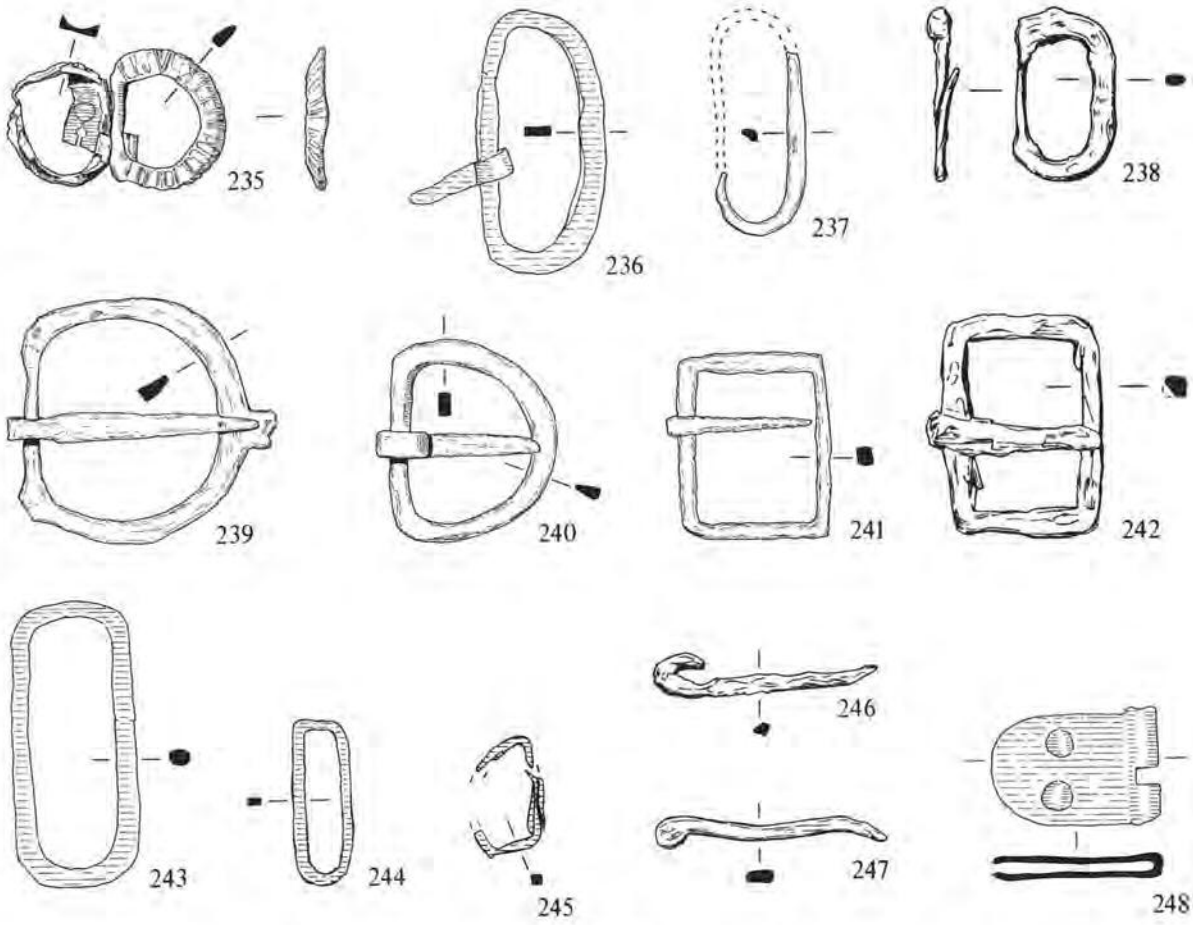


Fig. 137 Iron objects. Scale 1:2.

Buckles (Fig. 137).

235-45 **Buckles.** Nos. 235-40 are D-shaped, the remainder rectangular. No. 235 has a decorated frame and is attached to a deep ring by a riveted buckle plate. Its method of assembly is unusual, and could imply that it is from a harness, as with No. 245 which seems to have a sheet iron cylinder on one side.

235. *P*42, Site 2S (235).
236. Above upper floor of *H*13, Site 2S (518).
237. *H*8, Site 2S (402).
238. Cobbles, Site 4 (1066).
239. *H*6, Site 2S (167b).
240. Topsoil between *G*XXIII & XXIIIA (1032).
241. ? topsoil over *P*N50, Site 2N (981).
242. Unstratified S of Site 1 (1.239b).
243. *P*N60, Site 2N (1040).
244. *H*5, Site 2S (248).
245. *P*S4, Site 6 (1176c).

246-8. **Buckle pins and a buckle plate.**

246. *H*19, Site 2N (645).
247. *H*32, Site 2N (1012).
248. *P*36, Site 2S (262).

Iron hooked fastener, discussed and illustrated with the non-ferrous metal objects (p.69, Fig. 111, No. 40).

Plate I Site 1, Hut 3, looking north-west. Slot along south-west side not yet excavated. Rectangular test-hole into natural in centre.

Plate II Site 1, ditches looking south-east from Hut T1.

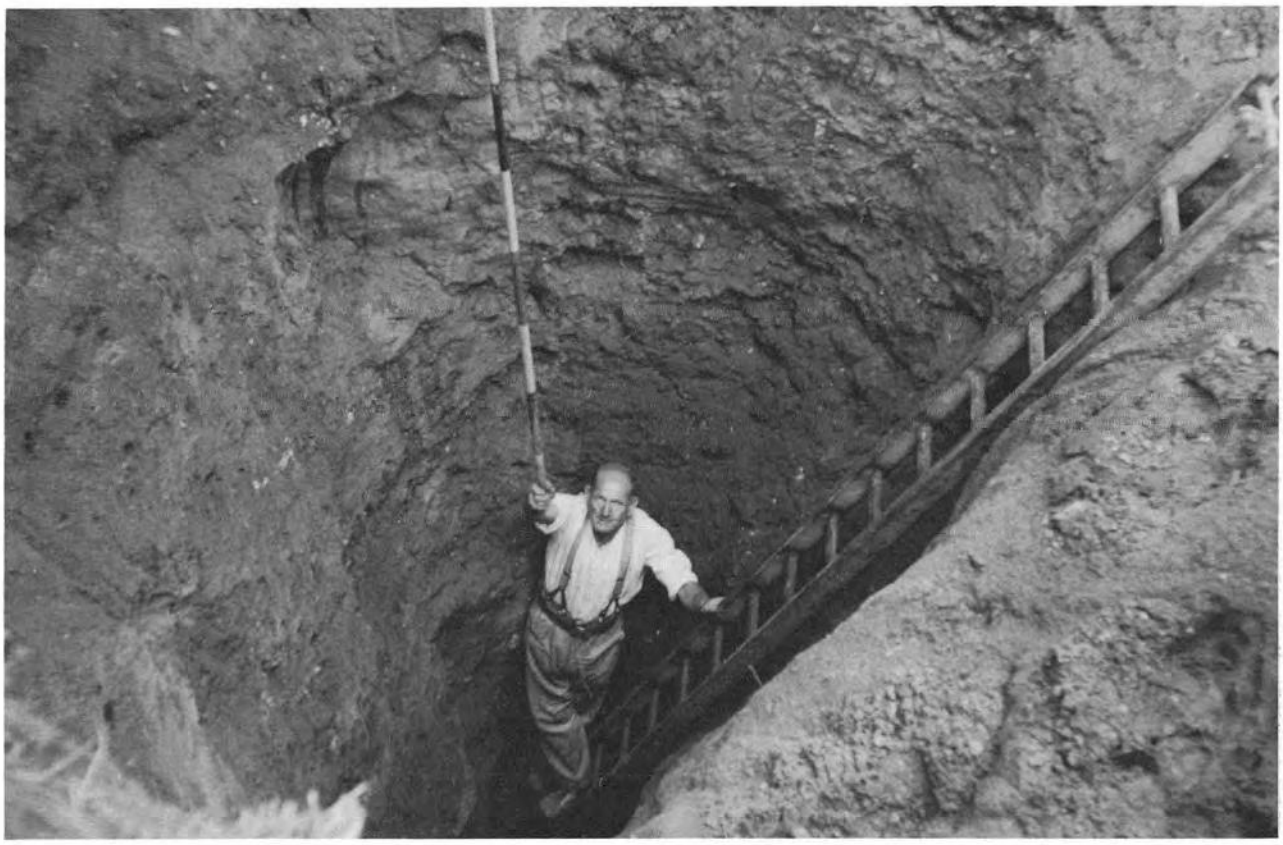


Plate III Site 2 South, Pit J. Workman holding 8 ft ranging pole.

Plate IV Site 2 South, Hut 6, looking south towards Hut 7, with roads to right.

Plate V Site 2 South, Hut 7, early stages of excavation looking south-east.

Plate VI Site 2 South, Hut 7, looking south-east. Ranging poles in post-holes. R. G. Hughes in centre.

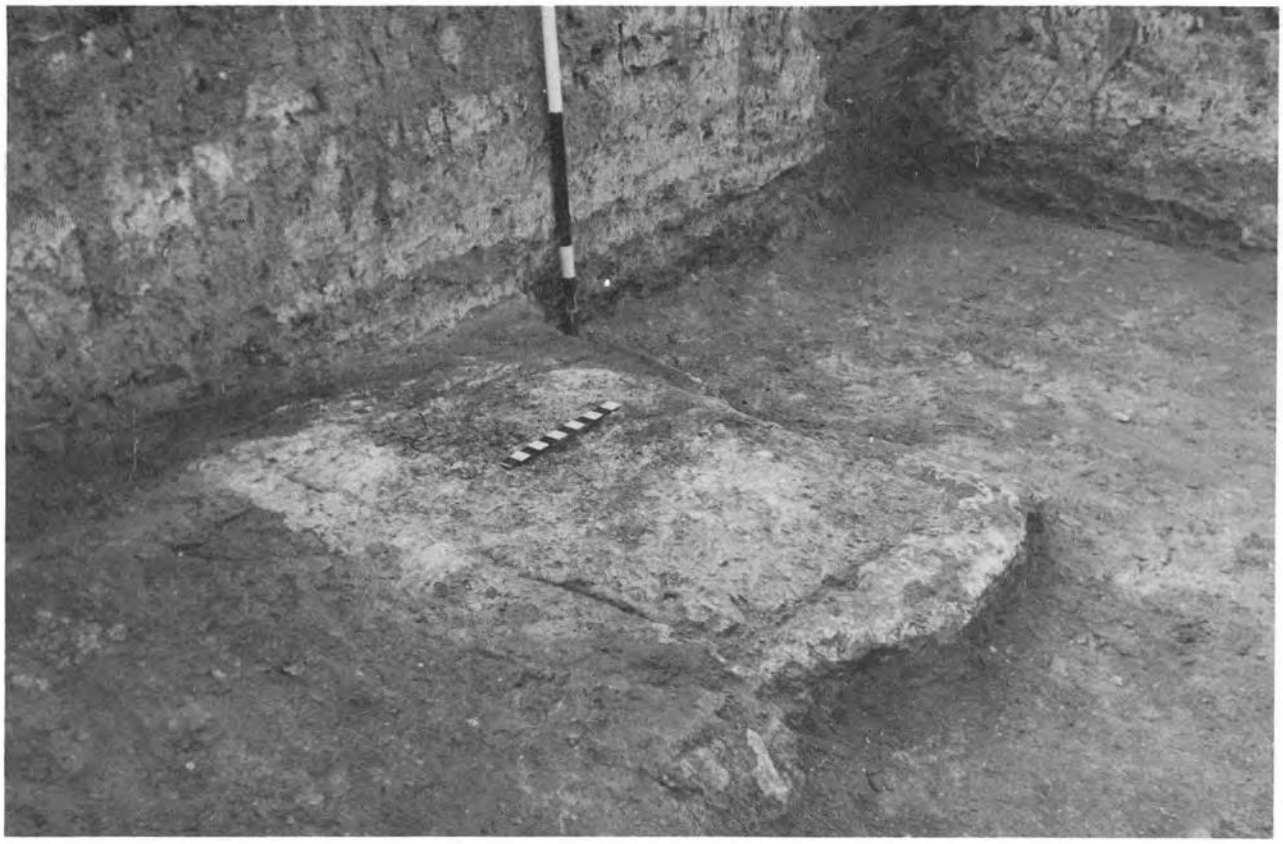


Plate VII Site 2 South, Hut 8, rectangular hearth, looking south with Pit 28 in section to south.

Plate VIII Site 2 South. Part of Hut 9A right, with upper part of Pit 47 centre, and Pit 45 left, looking west. cf. Section Q-Q', Fig. 32.

Plate IX Site 2 South. Surface of Road 2 to left and Hut 6 to right looking north-east

Plate X Site 2 South. Roads 1-3 in section, north of Hut 12, looking north.

Plate XI Site 2 North general view looking north, showing grid system.

Plate XII Site 2 North general view looking south, with baulks removed and 'pillars' left standing.

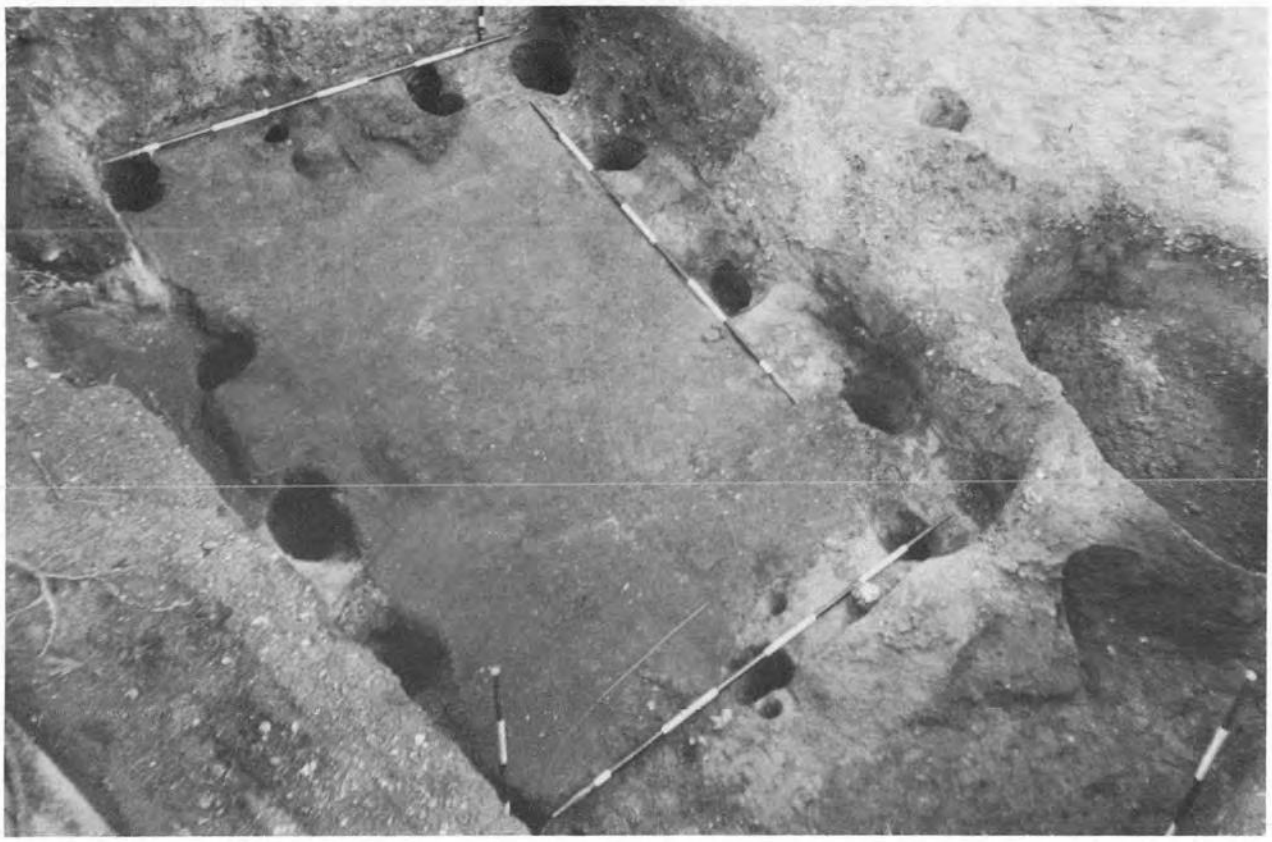


Plate XIII Site 2 North, Hut 21 looking north with post-holes of Hut 29 to north-east.

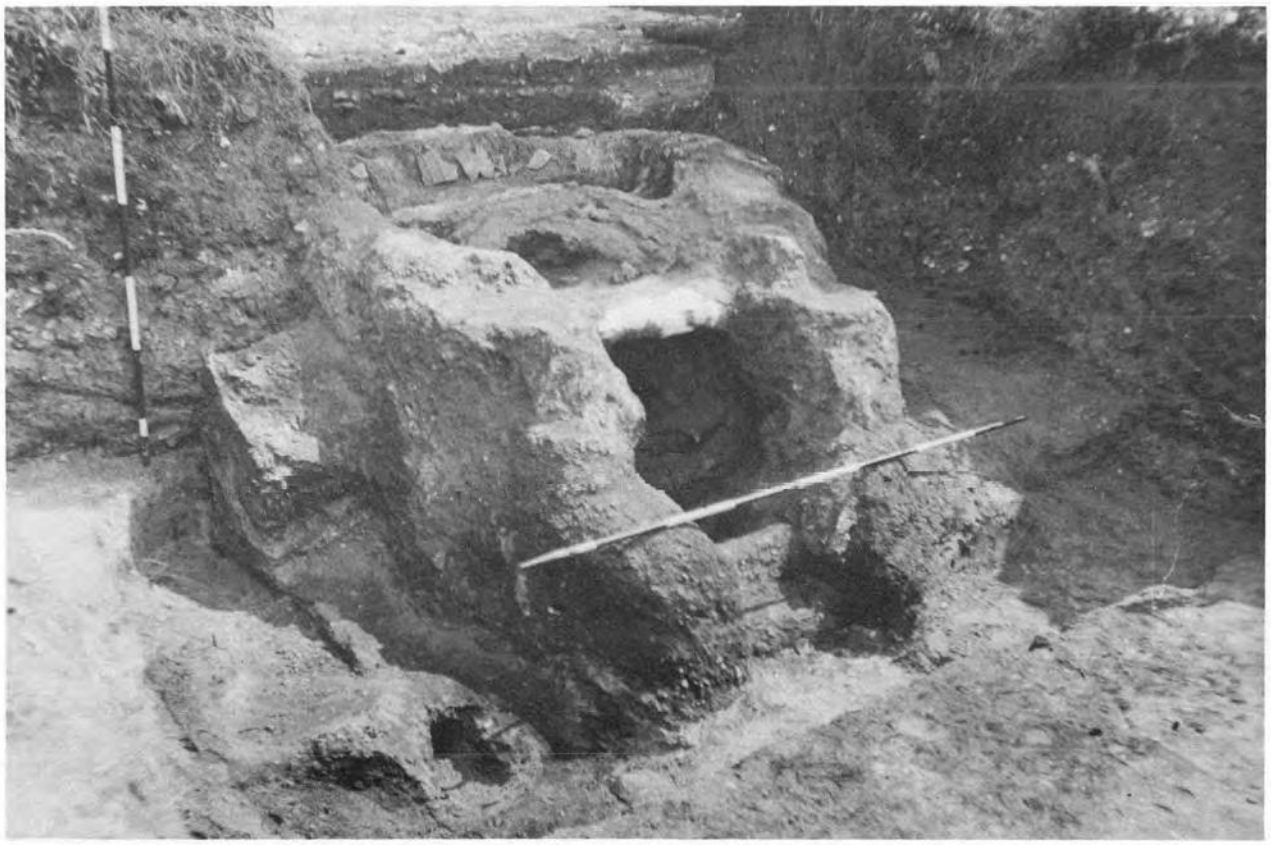


Plate XIV Site 2 North. Kiln 1 looking south-east. The flue arch was repaired with plaster during excavation.

Plate XV Site 2 North. Kiln 1, the north-east and south-east vent holes 'stuffed' with cresset lamps and jars.

Plate XVI Site 4. General view looking west.

Plate XVII Site 1092. Section showing Ditch 111 cut by Ditch 169 to left, looking east. *Photo. Andrew Peckham. Ref. BBD25*

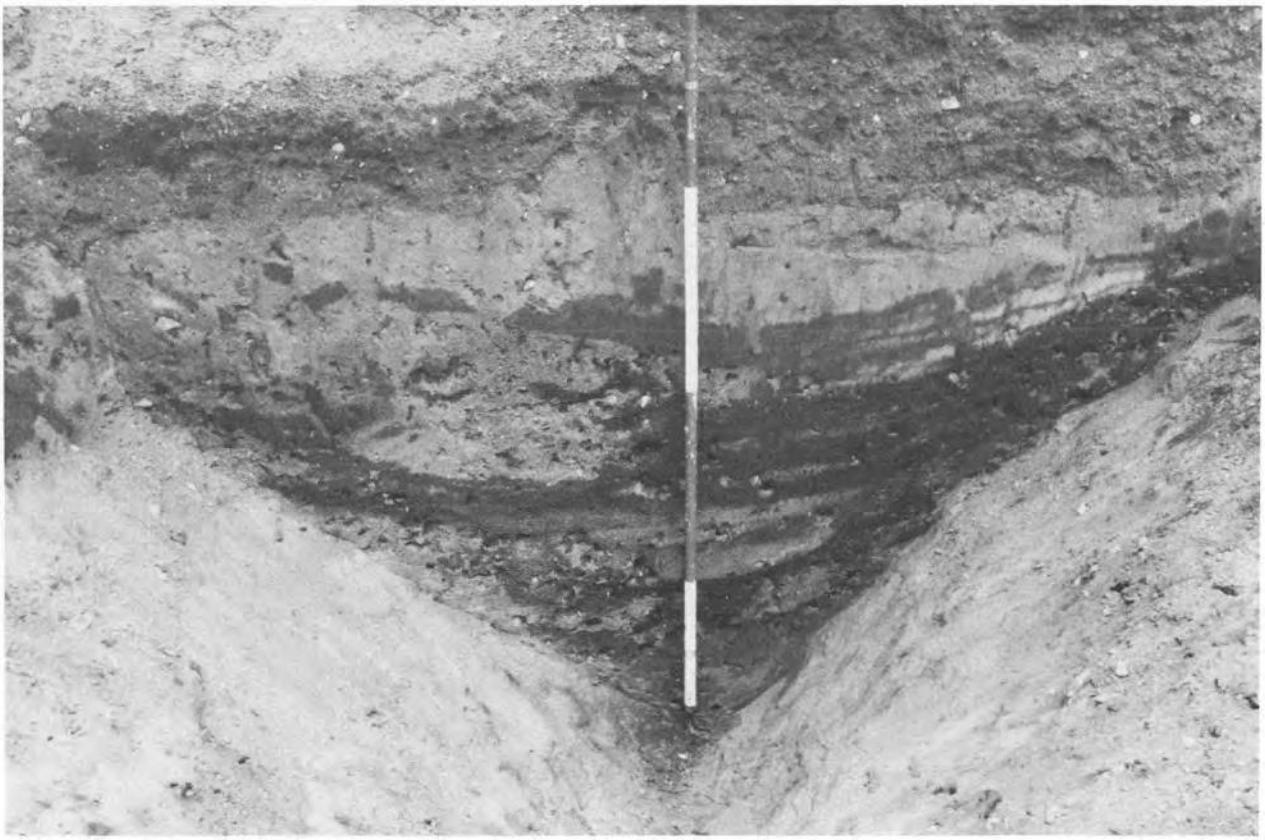


Plate XVIII Site 1092. Section of Ditch 111 on eastern edge of Trench 1, looking east. *Photo. Andrew Peckham. Ref. BBE6*

Plate XIX Group Captain Knocker and R. G.Hughes at work on the Thetford pottery. *Photo. Central Office of Information.*

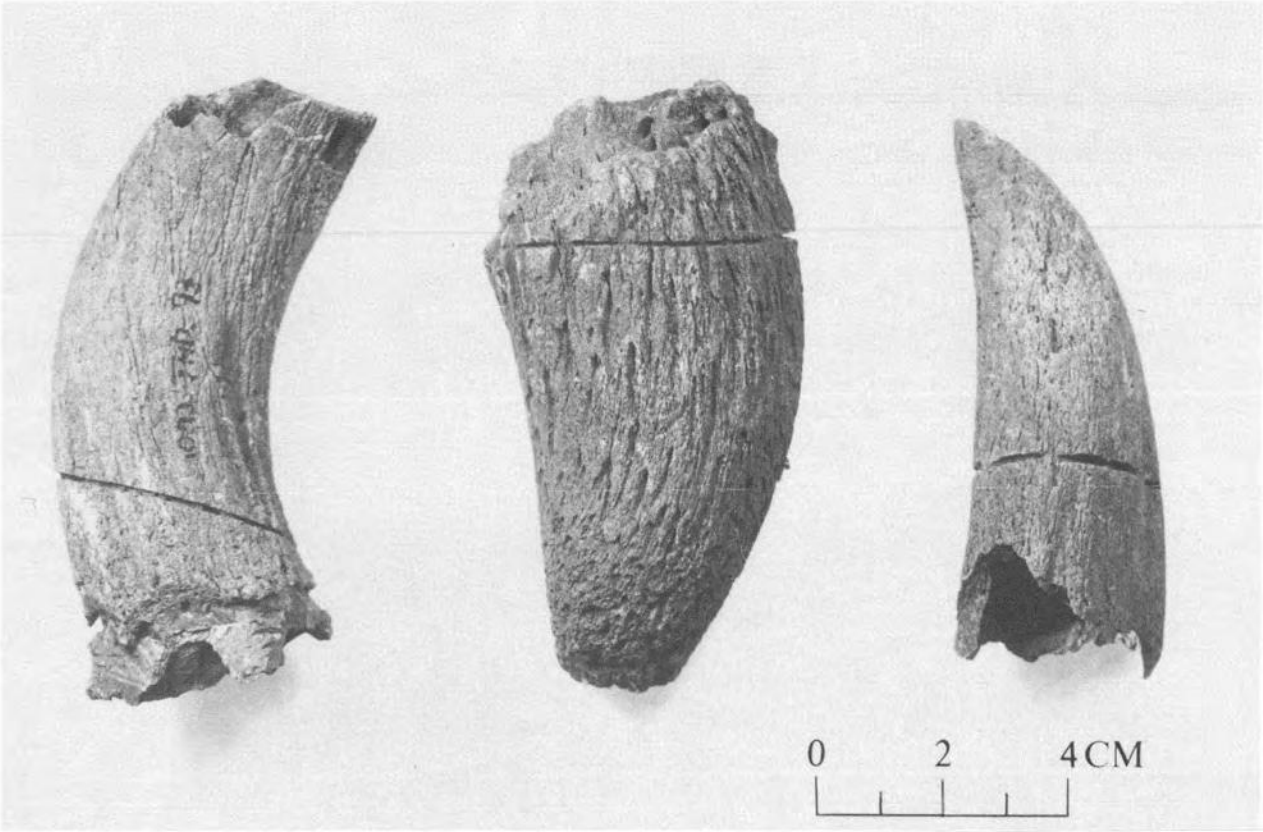


Plate XX Site 1092. Cattle horn cores with saw marks near base. *Photo. David Wicks. Ref.CKY20*

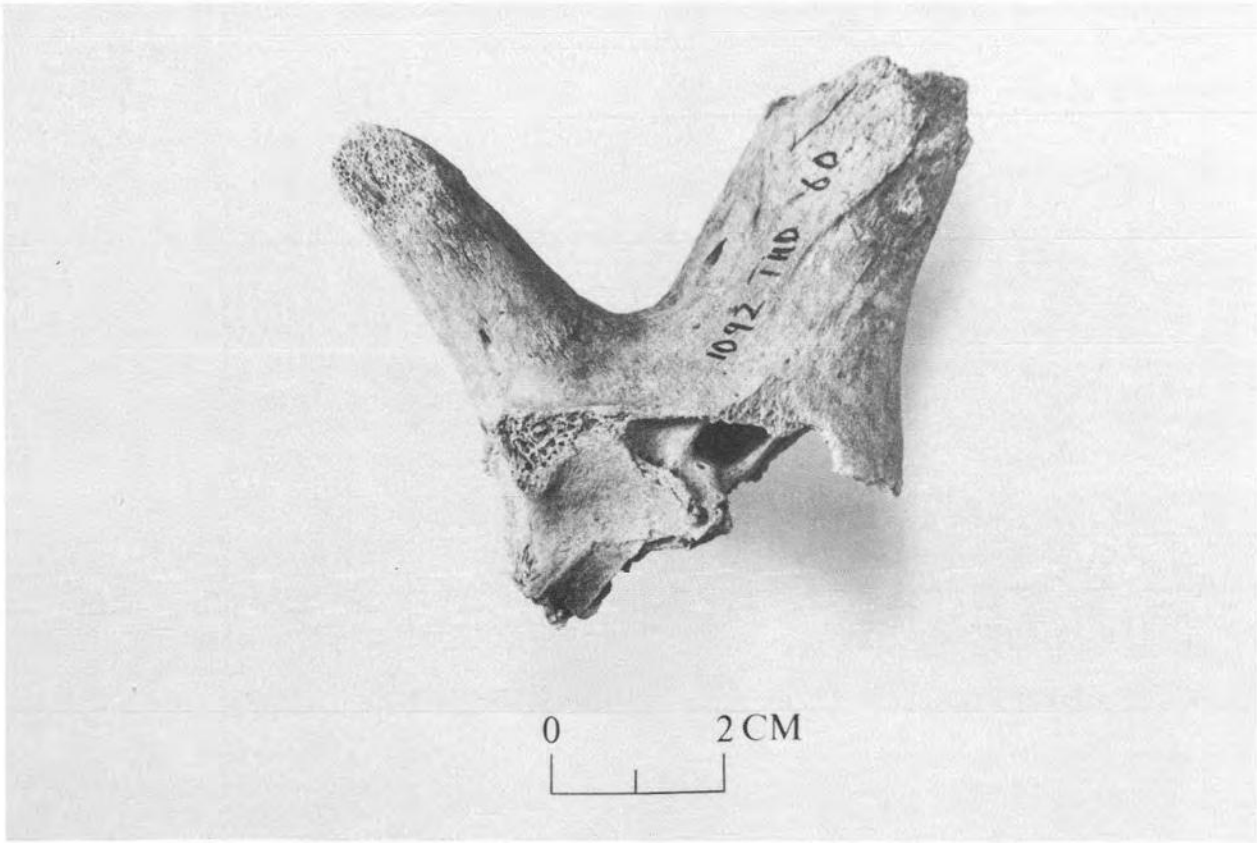


Plate XXI Site 1092. Fragment of skull of four-horned sheep. *Photo. David Wicks. Ref.CKX25*

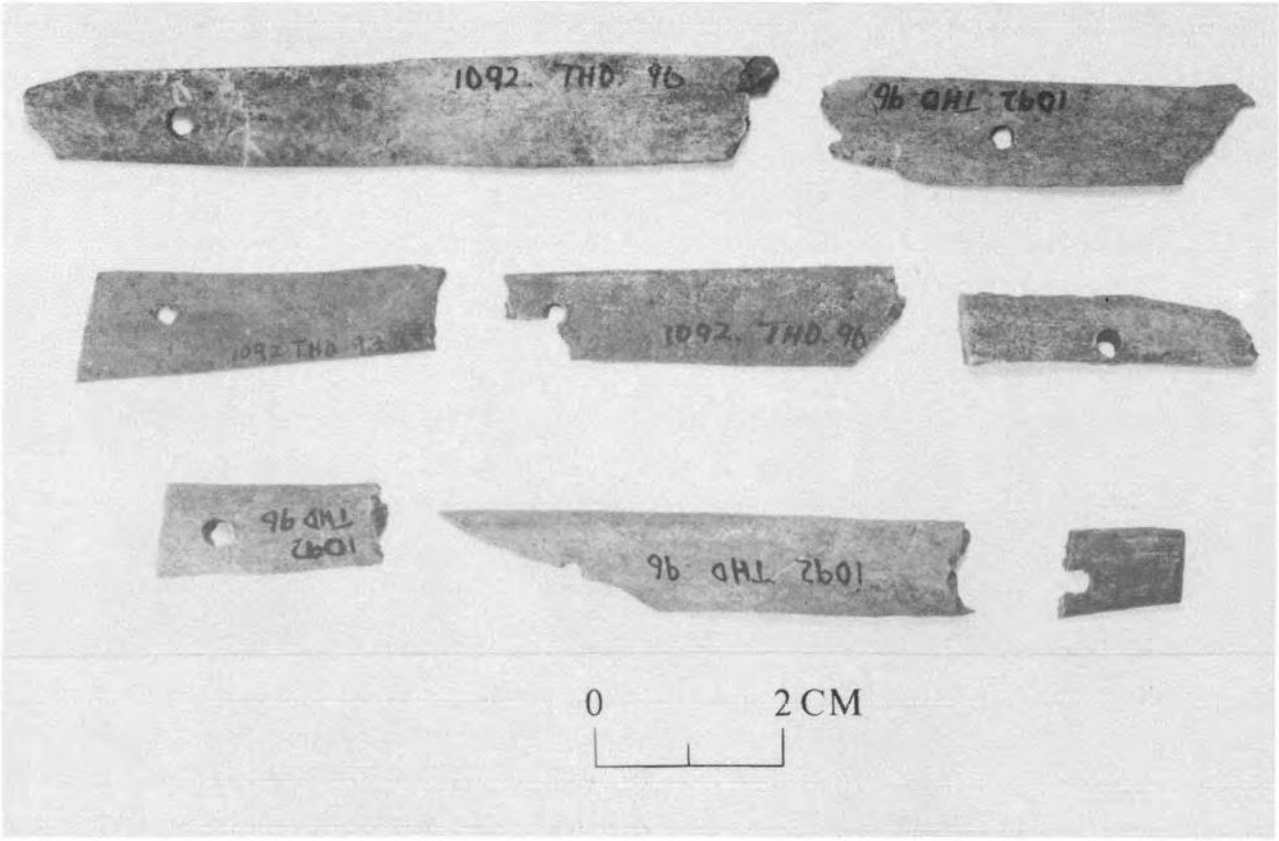


Plate XXII Site 1092, layer 96, worked bone strips. *Photo. David Wicks. Ref. CKY9*

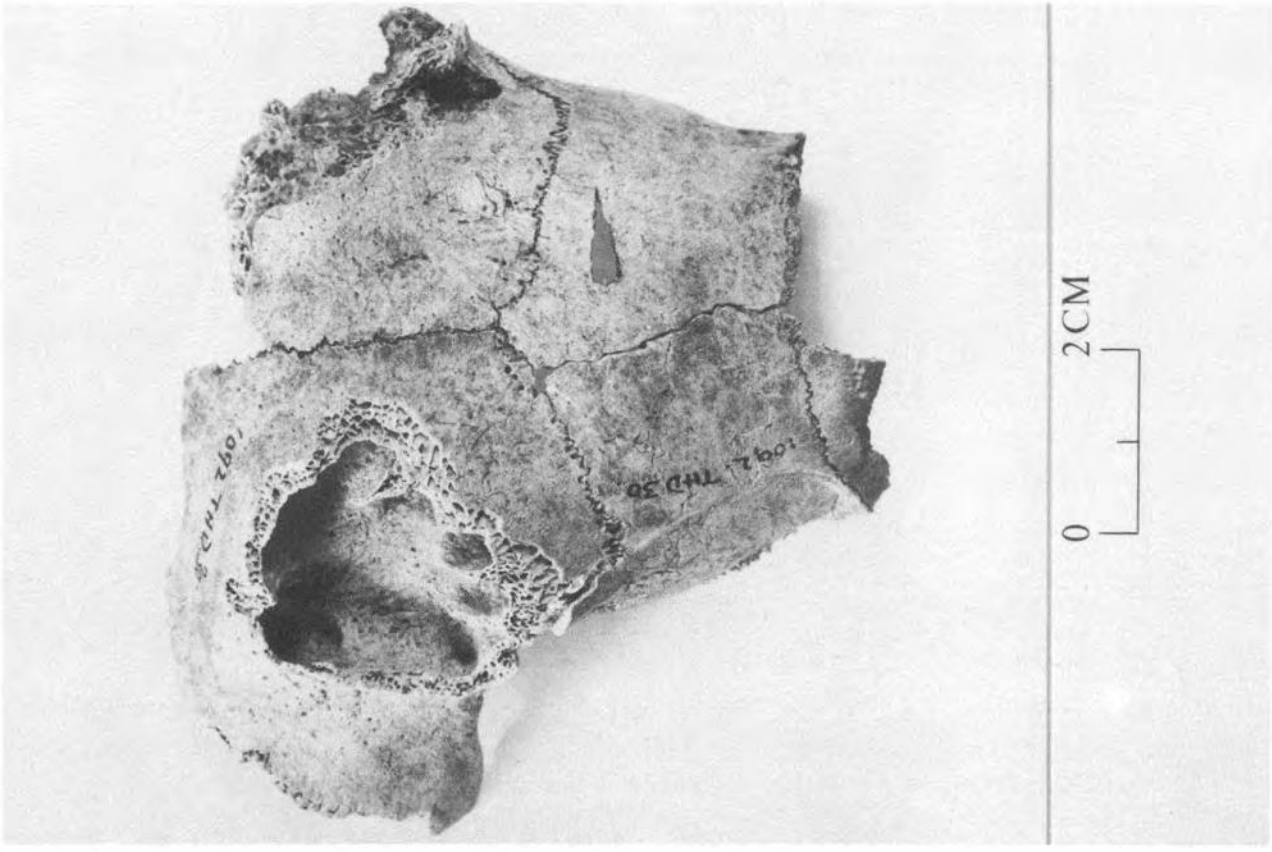


Plate XXIII Site 1092. Sheep skull with probable knife hole. *Photo. David Wicks. Ref. CKY2*

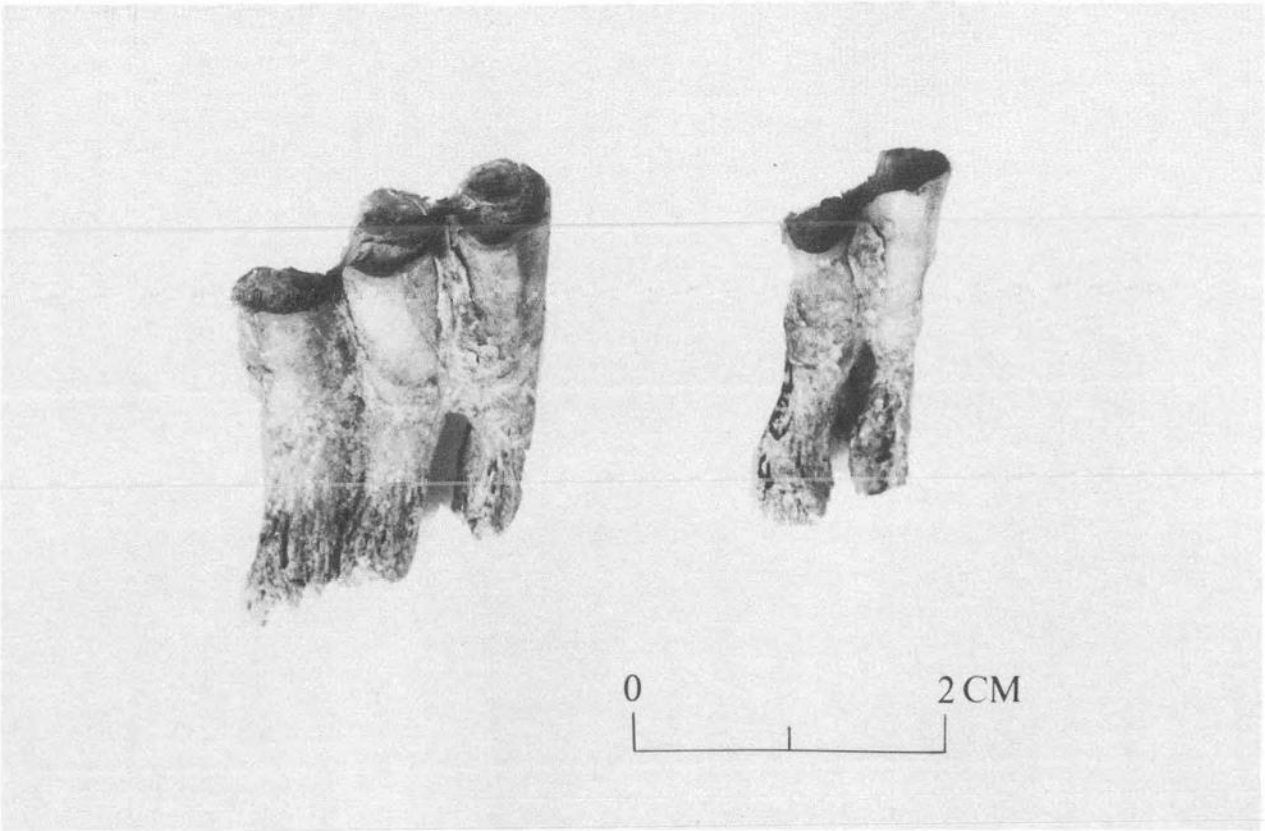


Plate XXIV Site 1092. Sheep molars with unusual wear pattern *Photo. David Wicks. Ref.CKX32*

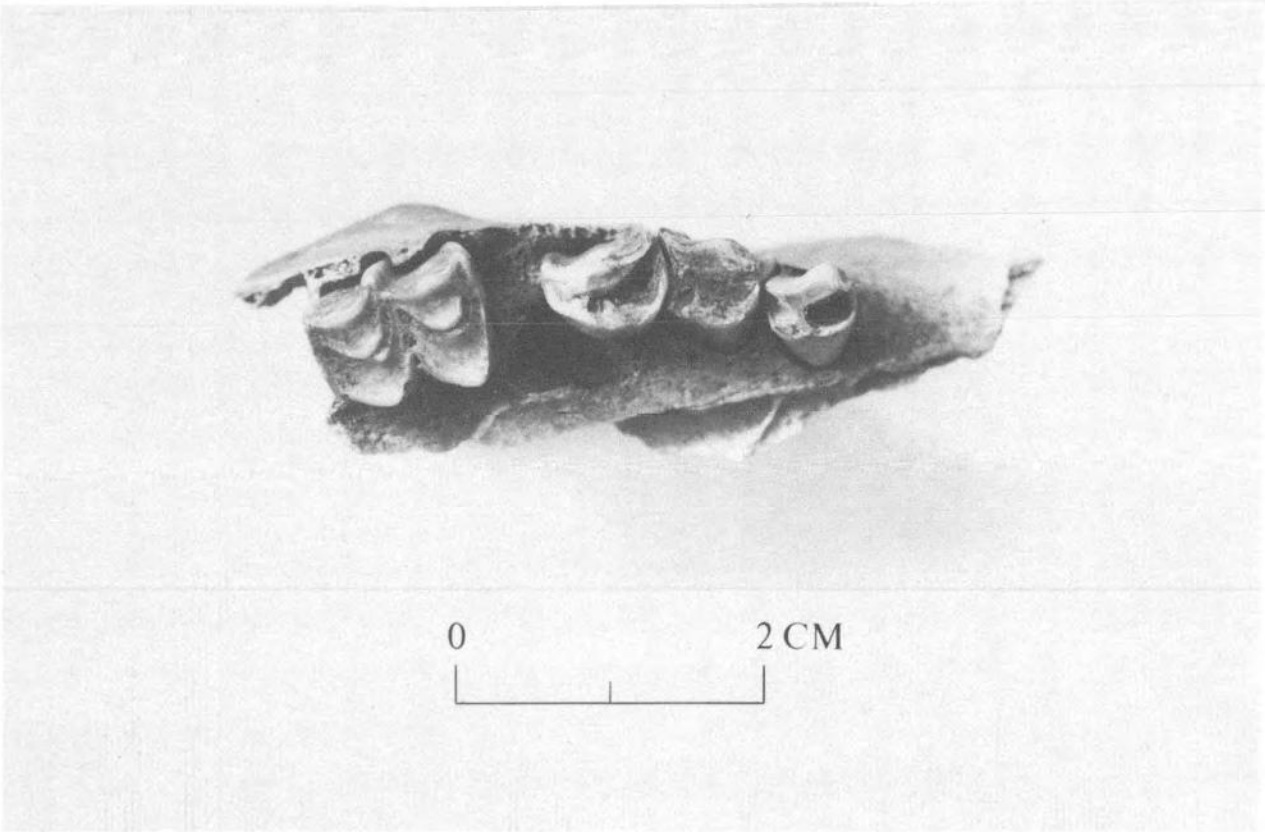


Plate XXV Site 1092. Sheep maxilla with dental abnormality *Photo. David Wicks. Ref.CKX31*

Plate XXVI Site 1092. Pig metacarpal with growth perhaps caused by tethering. *Photo. David Wicks. Ref. CKX26*

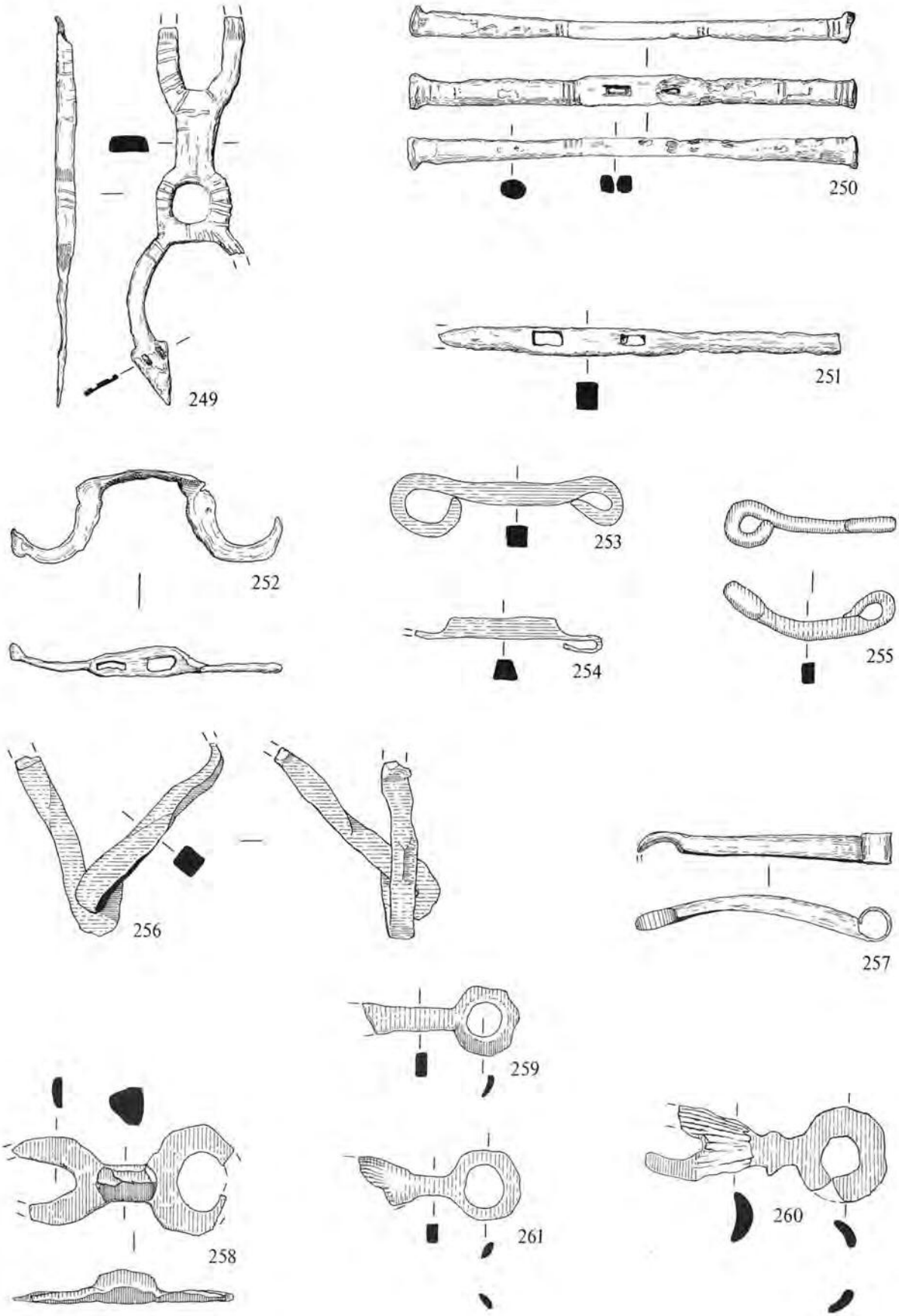


Fig. 138 Iron objects. Scale 1:2.

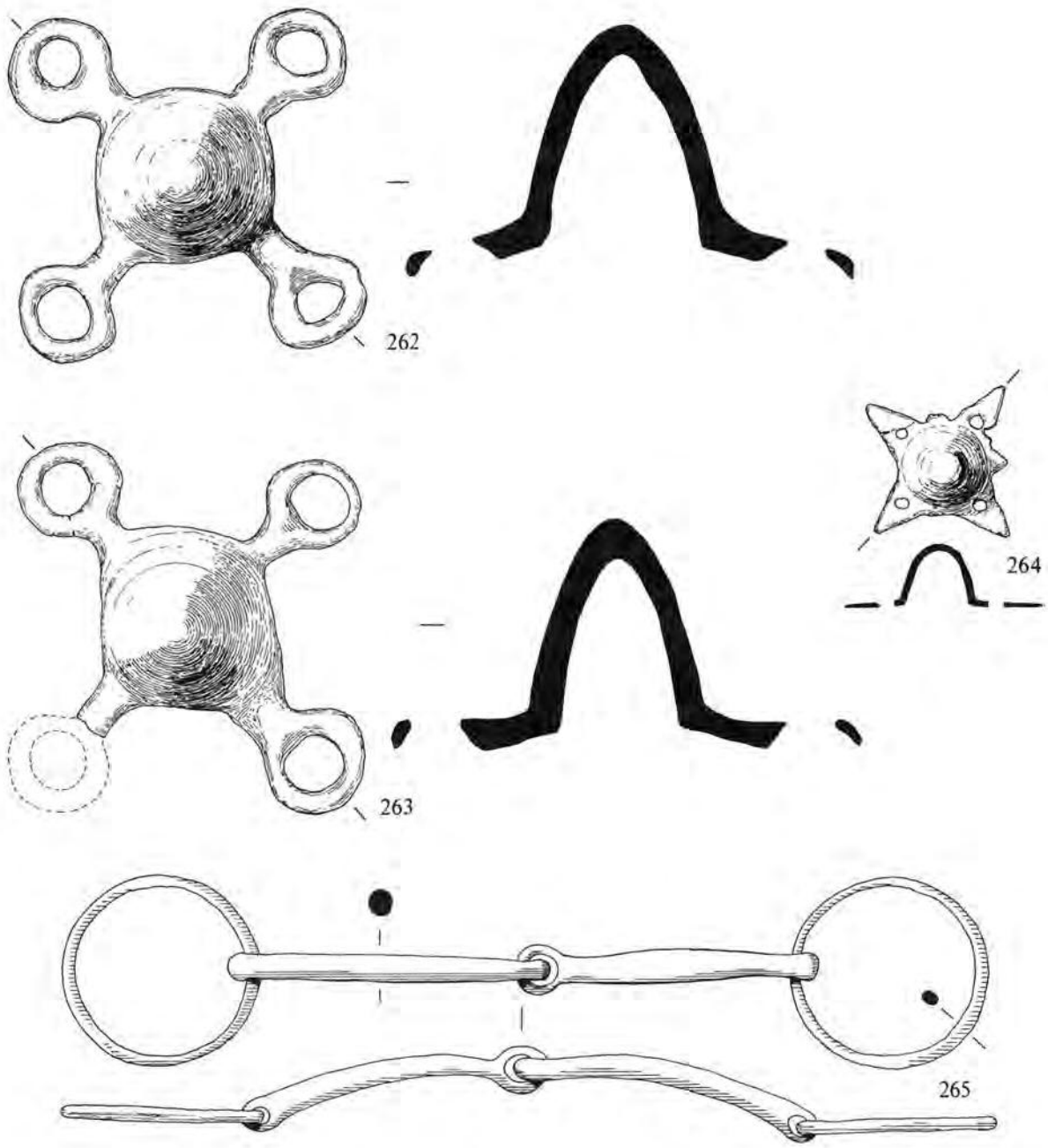


Fig. 139 Iron objects. Scale 1:2.

Horse Furniture (Figs. 138-43)

249-65 **Bridle bits and harness fittings.** No complete bridle bit was found, and instead they are represented by individual parts. Cheekpieces Nos. 249-52 seem to have come from bits like those from York and Winchester (Waterman 1959, 74-5, Fig. 8.1,2). No. 249 resembles the York bit, itself related to Scandinavian examples of ninth-to-tenth-century date, which has Y-shaped cheekpieces with an upper loop for the attachment of the harness straps. Nos. 250-2, similar to the Winchester bit, have pairs of holes to which the upper looped part was attached. Nos. 249 and 250 have decorative grooves which on No. 249 retain traces of plating (? tin). Nos. 253-7 are mouthpiece links, No. 257 probably of late date. The side links, Nos. 258-61, all originally double looped, recall those on the York bit, their inner loops attached to the mouthpiece, the outer loops to take the reins. Nos. 260 and 261 have decorative grooves and non-ferrous plating. Nos. 262-3 are strap distributors, each with a conical boss, and No. 264 is a plated bridle boss. The ring snaffle, No. 265, is probably of post-medieval date.

249. *P*45, Site 2S (381).
250. *P*N72, Site 2N (777a).
251. *P*N49, Site 2N (946).
252. Cobbles, Site 4 (1082).
253. *G*XIV, Site 2N (652).
254. *H*19, Site 2N (781a).
255. Upper filling of *H*3, Site 1 (1.174).
256. *P*34, Site 2S (254).
257. Topsoil above *H*34, Site 2N (793a).
258. Filling above steps, *H*3, Site 1 (1.85).
259. *P*45, Site 2S (418a).
260. *P*S6, Site 6 (1243).
261. Make-up of *R*3, W of *H*6, Site 2S (299).
262. Above floor, *H*S3, Site 6 (1197a).
263. Above floor, *H*S3, Site 6 (1197b).
264. Upper filling of *H*3, Site 1 (1.48).
265. Unstratified, S of Site 2S (169).

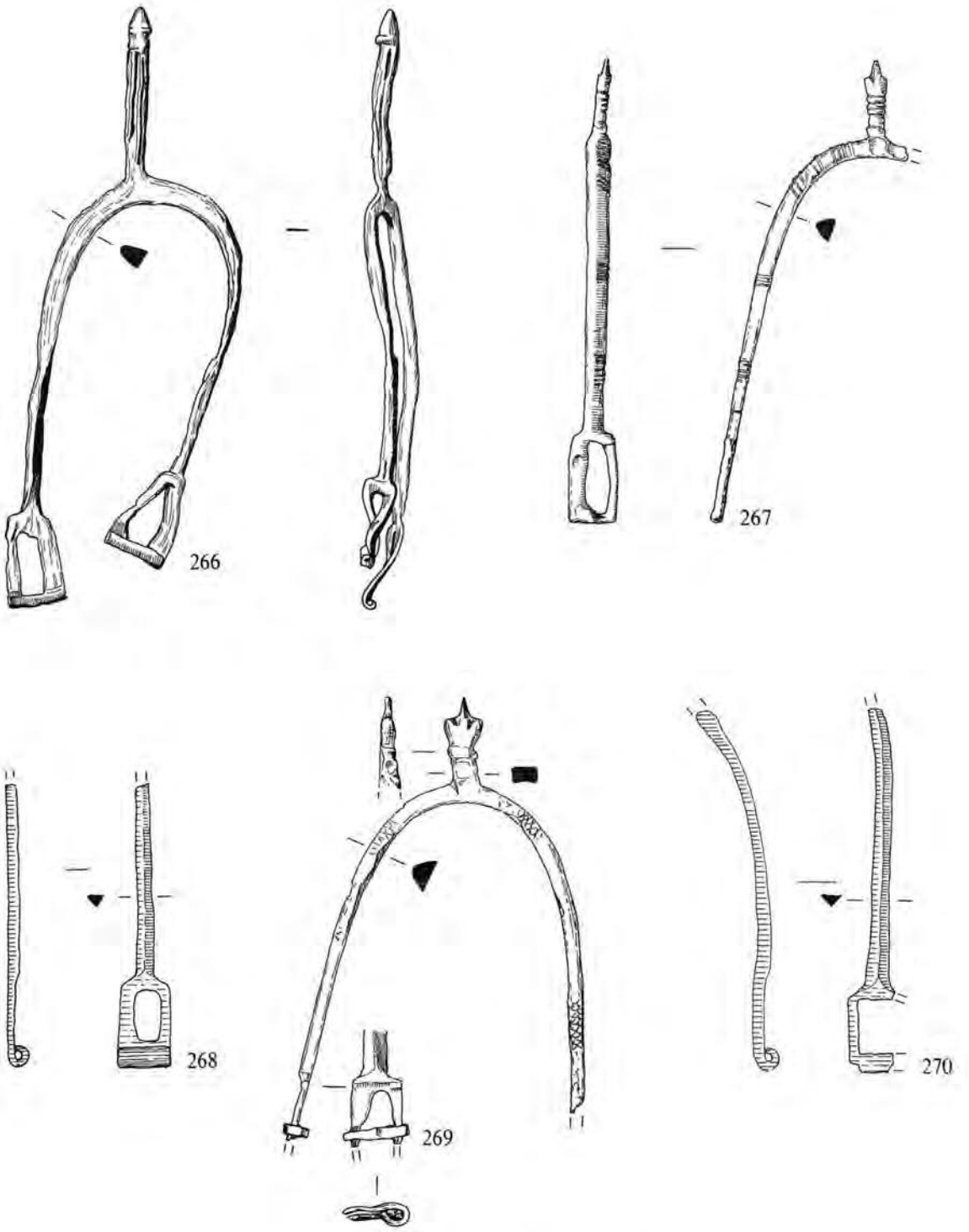


Fig. 140 Iron objects. Scale 1:2.

Spurs (Fig. 140-1)
by Blanche Ellis

266-76 **Spurs** Nos. 266-70 are typical of the Late Saxon period in England. The position of the decoration on the upper surfaces of Nos. 267 and 269, where it showed when the spurs were worn, confirms that the terminals were worn with their narrower horizontal edge at the top. These terminals were probably all originally combined buckle-terminals having a buckle pin attached to their top bar. Such a pin remains on one terminal of No. 269.

A number of iron spurs are known which are similar to Nos. 267 and 269; their distinctive form of lobed goad is combined with triangular sides, and often have an upper surface decoration of incised lines. Close parallels are noted below, and another with a similar goad comes from London Wall (LMMC 1940, 101, Fig. 29.5).

Spurs of this period sometimes had small bosses or mouldings at intervals along the outer surfaces of their sides. Severe corrosion makes it impossible to be certain of their presence on Nos. 271 and 273, but it seems likely. The feature can be seen on three iron prick spurs from York (Waterman 1959, 74, Fig. 8.5-7) and on one from an Anglo-Saxon grave on Linton Heath (Neville 1854, 99-100). No. 275 is a small spur of a type which may have been introduced by the Normans. Unlike the Saxon spurs its shorter sides curve slightly under the wearer's ankles. Spurs with curved sides appeared in the twelfth

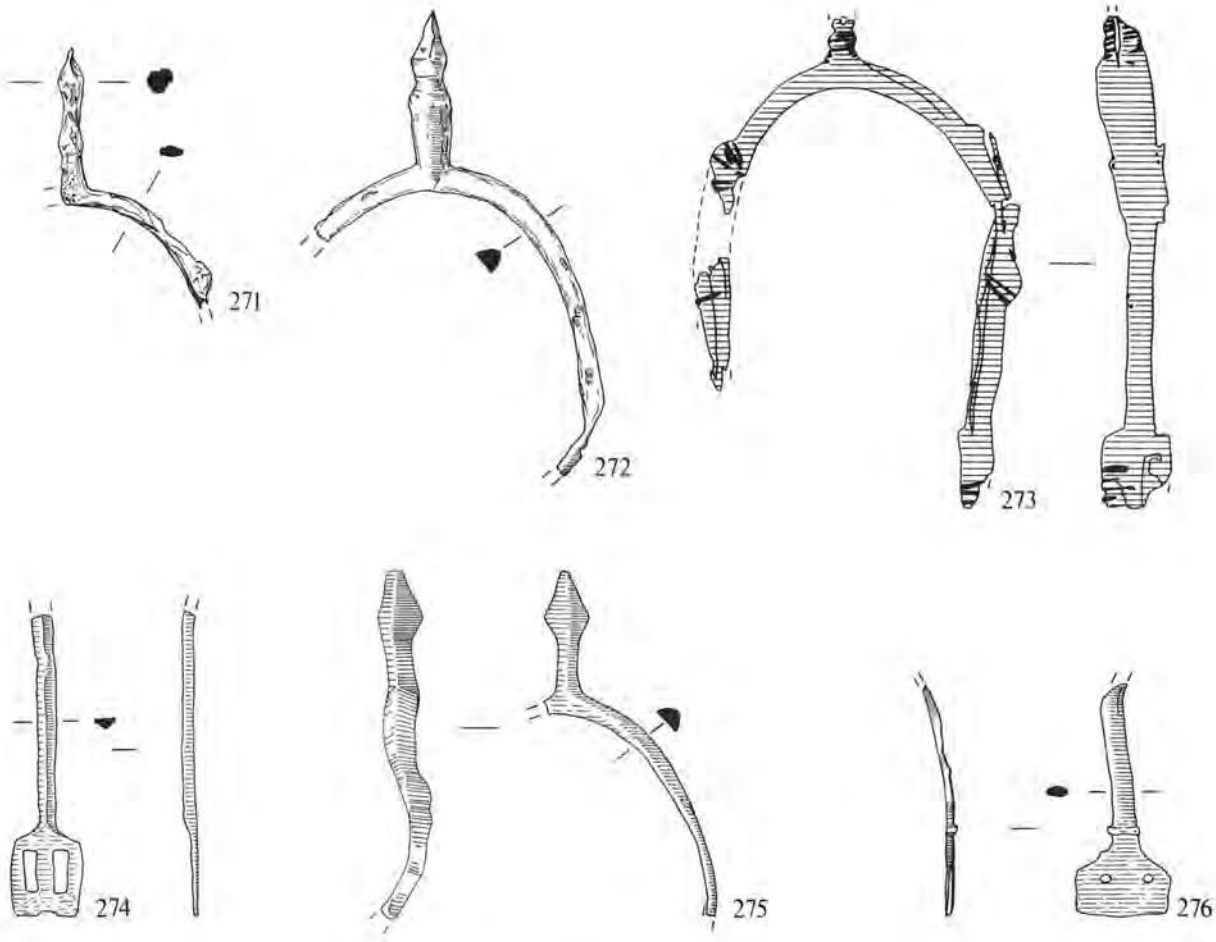


Fig. 141 Iron objects. Scale 1:2.

century and became common during the thirteenth century.

266. **Prick spur** of slender proportions with long straight D-section sides thickest around the back of the heel. The flat terminals are rectangular, each consisting of a single horizontal slot between a narrow top and a broader lower edging bar. The front ends of the terminals are rolled outwards into thick round edges. The long neck is encircled by simple mouldings next to the small conical pointed goad. The surface of the neck and its mouldings are damaged by rust; it was probably of round section. There are slight traces which may be of non-ferrous plating, possibly tin (Jope 1956, 35-42). The sides of the spur are now distorted. Typologically tenth to first half of the eleventh century.
On surface of *R*1, W of *G*VII, Site 2N (677).

267. **Prick spur** of slender proportions, one side missing, the other long, straight and of triangular section; the surface of the triangle worn uppermost is decorated with bands of incised and raised lines. Flat rectangular terminal with a single slot, the upper edge narrower than the lower, the front end thickened by rolling outwards. The short straight neck projects upwards. It is flat underneath, the sides and top rounded and decorated with lines, and broadens into a goad base of sepal-like points from the centre of which projects the slender point of the goad. Slight traces of non-ferrous plating, probably tin. Typologically tenth to eleventh century. Very similar to No. 269.
*H*17/18, Site 2N (764).

Other similar iron spurs include Nos. VI-416 and AL 116/390 in the Tower of London Armouries which have triangular section sides with line decoration. Both retain only one undamaged terminal, but these each have a buckle pin swivelling on their top bar. No. AL 116/390 has a very similar neck and goad which is better preserved than that of No. 267. VI-416 comes from beneath Bridge Street, Cambridge, and AL 116/390 (on permanent loan from the British Museum B.M. 68.9-4, 31) is of unknown provenance.

268. Part of the side of a **spur,** heavily encrusted with rust. Straight, triangular section side and terminal similar to No. 267. One uncertain trace suggests possible line decoration on the side. Typologically tenth to eleventh century.
*P*N64, Site 2N (1042).

269. **Prick spur** similar to No. 267 though less slender. Straight, triangular section sides, their upper surfaces decorated behind the heel and near the terminals with bands of incised lines crossing in lozenge patterns. One terminal broken away, the other, a flat rectangle with single horizontal slot, has lost its front end but retains a buckle pin on its narrow top bar. The short neck has flat upper and lower surfaces but is slightly moulded, and broadens horizontally into a heart shape from between the lobes of which projects the sharp goad point. Possible slight traces of non-ferrous plating. Typologically tenth to eleventh century.
c.90m S of Site 1 (Cambridge Museum of Archaeology and Anthropology, Acc. No. 49.32:1423).

A very similar spur from the same group as this and No. 267 comes from Ixworth, Suffolk (Jope 1956, 39-40, Fig. 13.4) and is in the Ashmolean Museum, Oxford (1927. 6487; Evans Collection). It is iron, tinned, and has one surface entirely decorated with criss-cross lines.

270. **Spur** side of triangular section with flat rectangular terminal similar to those of Nos. 267 and 268. One side of the terminal is missing. Very severely rusted. Typologically tenth to eleventh century.

Associated with this fragment is a thick, flat, square iron fragment, heavily encrusted with soil and unidentifiable, although it could be part of a strap-end or the other terminal.
Above upper floor of *H*13, Site 2S (589a).

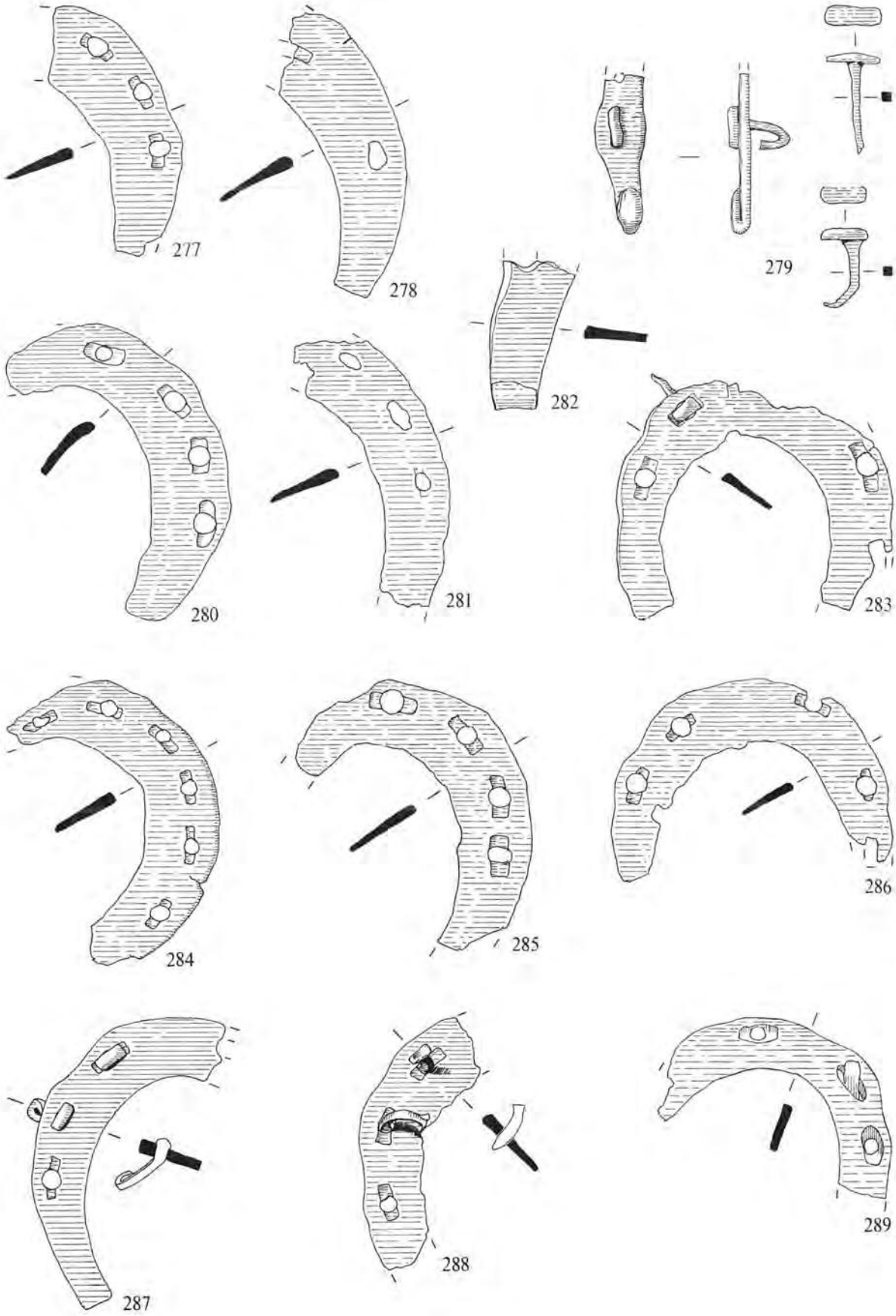


Fig. 142 Iron objects. Scale 1:2.

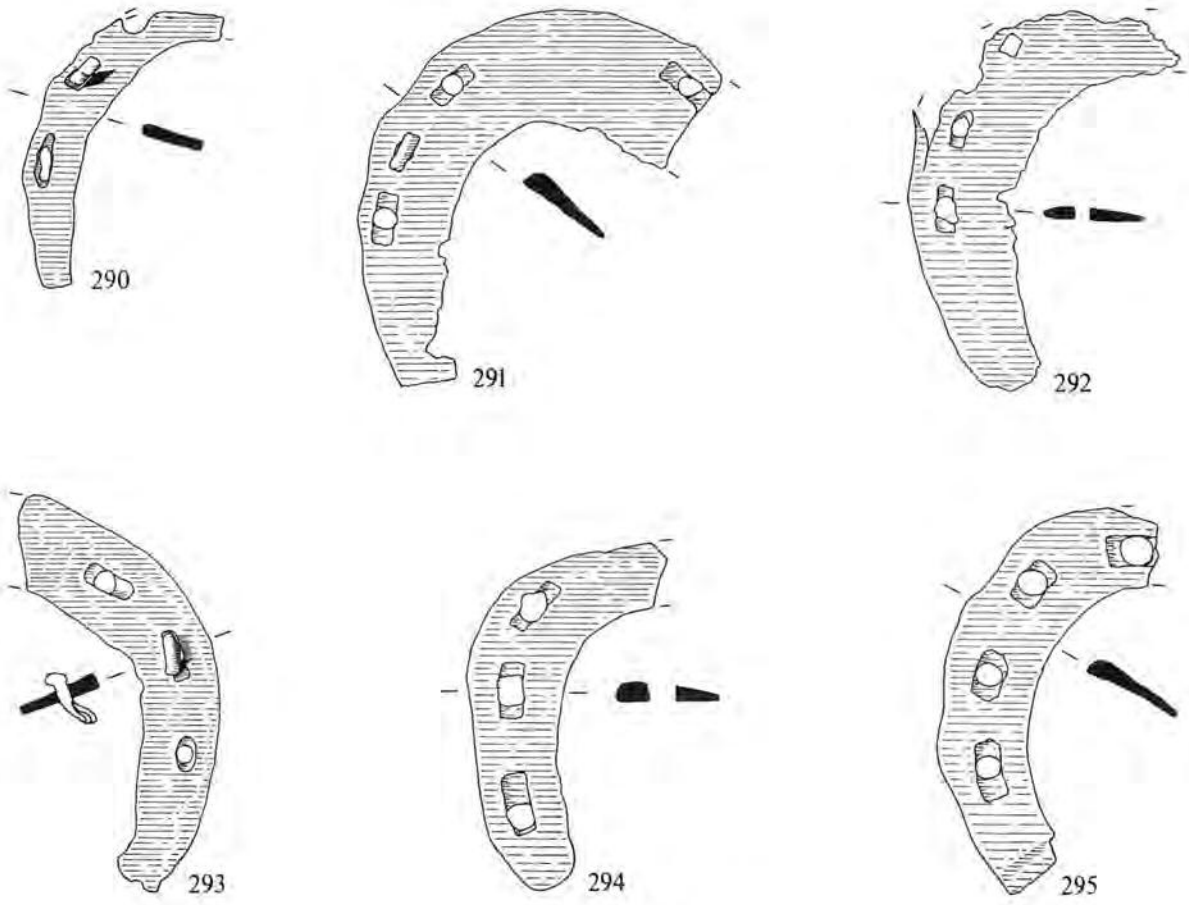


Fig. 143 Iron objects. Scale 1:2.

271. **Prick spur** consisting of neck, goad and 30mm length of one side. The slender proportions are partly due to corrosion having removed most of the original surfaces. The remaining part of the D-section side is on the same plane as the neck. A swelling next to the break may have been a small boss on the outer surface of the side. The straight neck was probably of round section and has the remains of moulding along its length. Small lemon-shaped goad with sharp tip, perhaps the core of a small quadrangular lozenge-shaped goad. Mr. Leo Biek of the Ancient Monuments Laboratory has noted that this spur is made from a rather soft and pure wrought iron with a very slight trace of non-ferrous plating (? silver or ? tin). Probably Late Saxon.
Above floors of *H*S3, Site 6 (1208).

272. **Prick spur,** now lost and described from the illustration, which shows a prick spur of similar form to No. 271 but larger. Only part of one side, of pointed D-section, and a stump of the other remain, both terminals gone. The neck is straight with a moulding and groove next to the base of the goad, which may have been quadrangular, unless surface damage has given it this appearance. Typologically ? tenth to eleventh century.
*P*18, Site 2S (147).

273. **Prick spur** broken and very heavily corroded. Straight sides, one broken leaving a stump and two separate fragments. The other has a damaged and encrusted rectangular terminal, probably with two horizontal slots as has No. 274. Only a straight stump remains of the neck. The x-radiograph shows mouldings or bosses at intervals on the outer surfaces of the sides, and traces of non-ferrous line decoration in a ? spiral design. Typologically tenth to eleventh century.

An iron prick spur from Canning Town, London, with straight neck and sides and horizontal double slot terminals, is decorated with brass inlay including scrollwork (LMVC 1927, 41-2, Fig. 19).
*H*32, Site 2N (985).

274. Slender, straight, triangular section **spur** side. Flat rectangular terminal pierced by two horizontal slots, one above the other. Typologically tenth to eleventh century.
*P*N3A-C, Site 2N (713).

275. **Prick spur,** one side missing. The other, of rounded triangular section, fits round the back of the heel, curves gently downward under the wearer's ankle, and is broken where it begins to rise towards the missing terminal. Short straight neck of uncertain section due to rusting. Quadrangular lozenge-shaped goad. Typologically twelfth century.
*H*19, Site 2N (599).

276. Side of a **spur** described from the illustration. Short straight side of flattened-D section with a simple moulding next to the very broad, flat terminal which is pierced with two small holes for rivets. Probably from a spur similar to a tinned iron one formerly in the City of London Museum in the Guildhall and now in the Museum of London (LMMC 1940, Fig. 29.7; James 1856, 216, Pl. 26.3). Typologically ? late eleventh to early twelfth century.
*H*9, Site 2S (336).

277-95 **Horseshoes.** A representative selection is illustrated, all with countersunk nail holes, the edges varying from a smooth curve to marked waviness. Several retain fiddle-key nails, particularly No. 279 which was found in association with a number of them, and with a 'St. Edmund' coin. A contemporary horseshoe and some fiddle-key nails come from York (MacGregor 1982, 83, Fig. 44.437-9), where other English and Continental finds are discussed.
277. *P*N16, Site 2N (896).
278. *P*41, Site 2S (366a).
279. Below *R*2, NW of *P*29, Site 2S (442a).
280. Inhumation HS 22, Site 5 (1127).
281. Within upper floor of *H*13, Site 2S (565a).
282. Make-up of *R*2, area of *H*12, Site 2S (528).

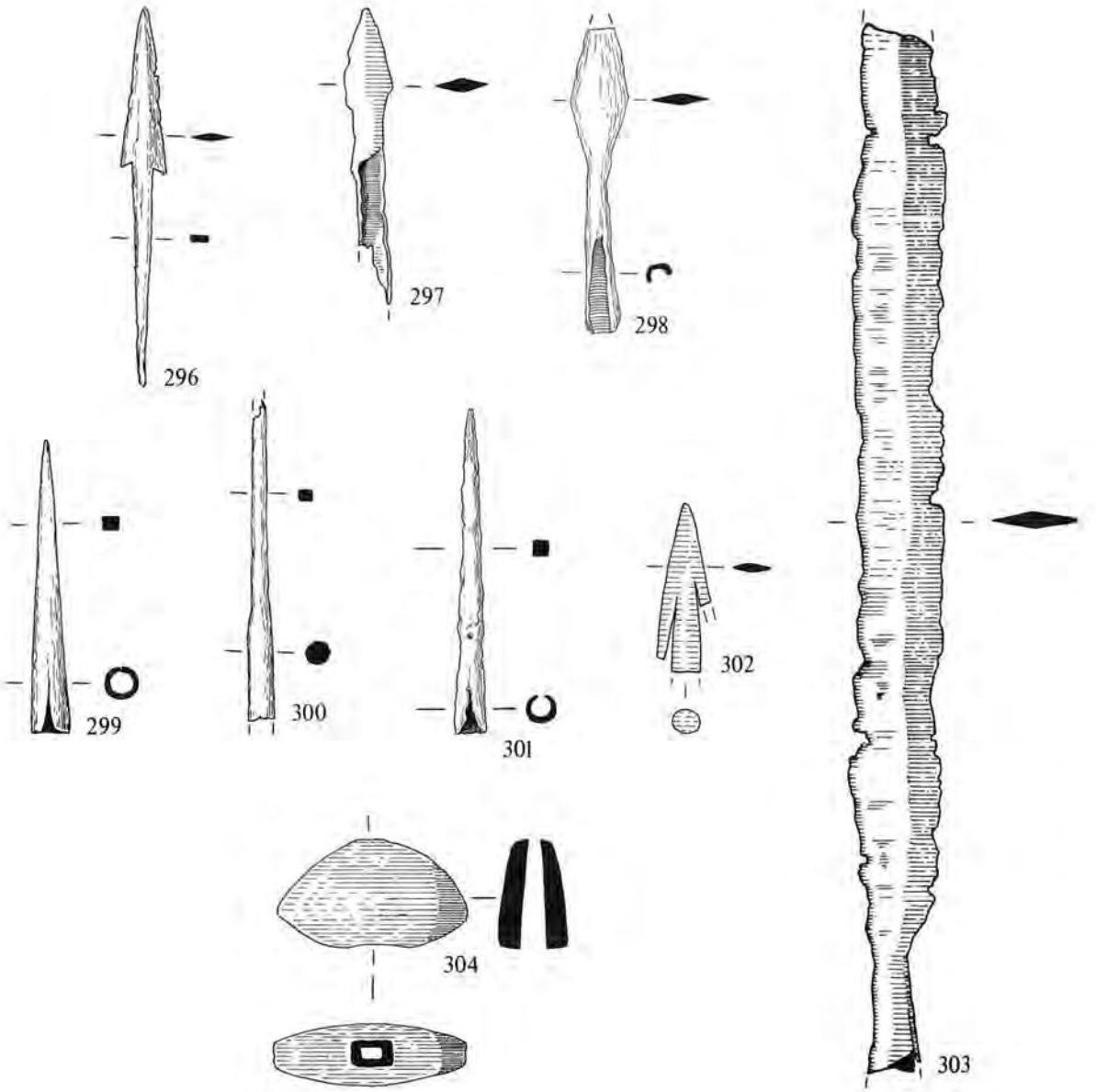


Fig. 144 Iron objects. Scale 1:2.

283. Cobbles, Site 4 (1079b).
284. Cobbles, Site 4 (1079c).
285. Cobbles, Site 4 (1079a).
286. Cobbles, Site 4 (1072).
287. *P*N40, Site 2N (902).
288. *H*6, Site 2S (133a).
289. *H*S3, Site 6 (1232b).
290. *G*XIII-XVII, Site 2N (686).
291. Cobbles, Site 4 (1114).
292. Make-up of *R*3, W of *H*6, Site 2S (43).
293. Make-up of *R*3, W of *H*6, Site 2S (74).
294. East of cobbles, Site 4 (1122).
295. Above *P*E5, Site 4 (1089a).

Weapons (Figs. 144-5)

296-302 **Arrowheads,** No. 296 tanged, the remainder socketed with lozenge-shaped, pointed and barbed blades. Tanged arrowheads are a characteristic Viking type, although socketed examples are known (Norlund 1948, pls. XLI-XLIII; Arbman 1940, pls. 10-12).

296. *H*5, Site 2S (89).
297. *P*S5, Site 6 (1201).
298. Above *P*E5, Site 4 (1093).
299. *H*29, Site 2N (1035).
300. *H*20, Site 2N (812).
301. Possibly St. Margaret's Cemetery (1136).
302. Possibly St. Margaret's Cemetery (1137b).

303. **Spearhead,** with tip and most of socket missing. With inhumation in area centred TL 868 821 (1266).

Sword and pommel (Figs. 144-5)
by Brian Gilmour

304. **Sword pommel** roughly semi-circular to ovoid in outline. The surface is rough and pitted from corrosion during burial. Its date and type are uncertain. *H*14, Site 2S (483a).

305. **Sword,** found with a burial at TL 8677 8223. Details of its discovery are given on p. 53 (1429).

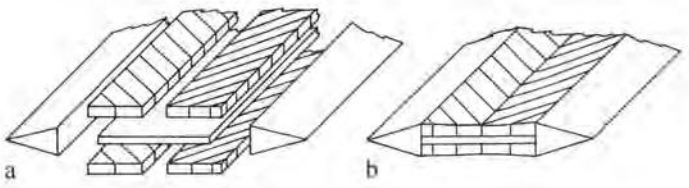
Description

A two-edged iron sword with a shallow fullered blade and curved iron guard and pommel guard, but without the pommel which is missing. The blade, bent near the guard, is fairly corroded, the edges and tip not surviving. Traces of pattern-welding are visible in some areas of the central fuller and where these patterns are visible the present corroded surface of the blade appears to be approximately that of the original surface. In some places the corrosion is deeper and parts of the central core of the blade have been exposed where the upper layers of mineralized metal have flaked away. In one such patch near the guard the etching effect of the corrosion process has revealed what appears to be the straight-grained core to the blade, underneath the patterned surface.

X-ray photographs of the blade give a fairly clear, though superimposed, view of the composite structure of the two faces of the blade.

Structure of the blade

The patterned central portion appears to have been formed from four composite twisted rods forge-welded together in pairs probably on either side of a plain core strip (Fig. 145, a & b) so that a simple chevron pattern is repeated on both sides. This pattern is continuous along one face of the blade, but on the reverse there is a gap, approximately 3cm long, in the otherwise repeated pattern. Here a wavy design is just visible on the x-ray photograph and slightly easier to see in the corroded surface of the blade itself. This pattern variation can be achieved by cutting or grinding away part of a twisted composite rod along its length. Either a portion of the pair of twisted composite rods may have been specially worked before being incorporated into the blade, or specially prepared pieces may later have been inlaid into the core of the blade. The cutting edges of the blade were probably added last — the lines where these were forge-welded onto the composite core of the blade are visible on the x-ray photograph.



Conclusion

This blade appears to be composed of seven separate pieces, a plain core, four composite pattern-welded strips and two cutting edges. Nothing further concerning its metallographic structure could be determined without a metallographic examination. The curved style of guard and pommel guard is very similar to those of a series of Anglo-Saxon swords of the late ninth or early tenth centuries. The bend in the blade is not recent and may have been deliberate as a ritual 'killing' (Wilson 1965, 51) of the sword.

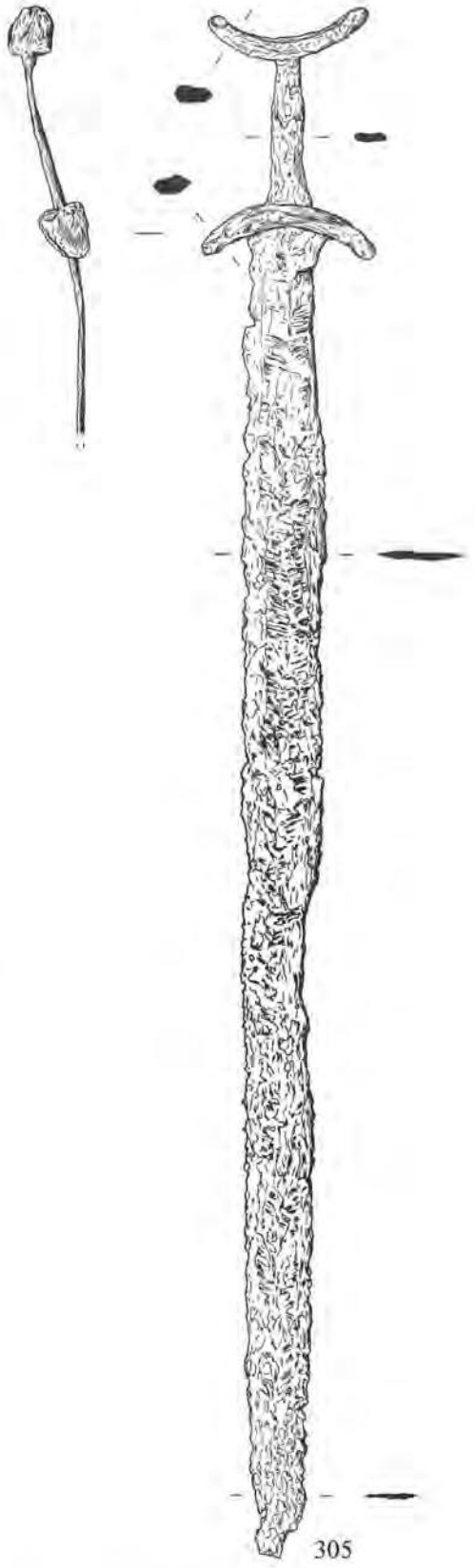


Fig. 145 Iron sword. Scale 1:4. Inset diagram a and b, showing pattern-welding.

V. Metalworking Evidence
by Justine Bayley

The Crucibles (Table 3)
The five illustrated examples are listed in the pottery catalogue (p.156) and appear as Fig. 175, Nos.338-48a.

The majority of the crucibles are bag-shaped (1081 Fig. 175, No. 338) and all but five are of Stamford Ware, containing frequent very fine quartz grains and occasional larger inclusions of both quartz and other materials. They appear to be wheel-turned in their upper parts, but the bases are all hand finished. The maximum diameters are mostly in the range 7 to 10cm. Some of the smaller of these crucibles are more bi-conical in form though there is no hard and fast dividing line between the two shapes. A similar range of forms has been found in the Anglo-Scandinavian levels at Flaxengate, Lincoln (Adams forthcoming) and Coppergate, York (Bayley forthcoming).

With two exceptions (see below) the evidence suggests that these bag-shaped crucibles were used to melt copper alloy. The copper is indicated either by a red colouration of the vitrified outer surface or by the presence of (green) corroded metal trapped in the vitrified surface or adhering to the inside of the crucible. A number of patches or blobs of corroded copper alloy were analysed by x-ray fluorescence and in all these cases the metal was shown to have been brass (copper + zinc), sometimes with the addition of small amounts of lead.

The exceptions (712 and 770A) have blobs of corroded silver embedded in glassy deposits on their inner surfaces. In the first case the blob is under 1mm across and in a small vitreous area, but 770A has a much larger blob (*c.*5mm diameter) in a continuous dark brownish, glassy layer which runs down onto the fracture where there are several more small (under 1mm) silver blobs. These glassy layers contain relatively high amounts of lead as does the continuous glassy layer on the inside of sherd 770E, although here the metal blobs inside the spout are brass.

In addition there are three crucibles (83, 1117A and B) of a quite different form (Fig. 175, Nos. 339-41). They are handmade and are deeper than they are wide, with a rounded bottom and a maximum diameter at or just below the rim. The fabric also appears to be less refractory than that of the main crucible type. One has traces of brass and one a small blob of silver on their inner surfaces.

1127 consists of about a quarter of a small dish-shaped crucible (Fig. 175, No. 341a) which has been heated from above. Its fabric is not very highly tempered and contains mainly small mineral particles and organic matter which has only partly burnt out, indicating the crucible was heated under reducing conditions. The fabric is not very refractory and shows some signs of vitrification near the upper surface. The upper surface itself is unevenly covered with a fairly thin vitreous layer which is mainly dark green and brown in colour. X-radiography showed the presence of many tiny radiopaque spots which were interpreted as droplets of non-ferrous metal trapped in the vitreous layer. X-ray flourescence analysis detected the following elements in the glassy surface: lead, copper, iron and silver. The iron will have come from the clay fabric, but the other elements are indicators of the metallurgical use of the crucible; it is a 'heating tray' — see below.

One final sherd (963) is listed as a crucible, but it is not certain that it was one. The shape is not typical (cf Fig. 181, No. 413) and the fabric probably insufficiently refractory; the surface vitrification may be the product of heating at comparatively low temperatures.

Scattered throughout the excavations were a further thirty-eight sherds which on grounds of form and fabric could be crucibles, although they show no signs of use as such. Many are oxidised, fired in whole or in part, and none shows any signs of surface vitrification or traces or metal. Many examples could also be Stamford Ware lamps.

The use of the crucibles
The bag-shaped crucibles were used to melt copper alloys, mainly if not exclusively, brasses. Over half of these crucibles had an extra outer coating of less refractory clay. This was probably added because the crucible walls were thin and the outer coat would have increased their thermal capacity. This means the metal inside would have solidified less rapidly and the main part of the crucible would be less likely to crack as it, too, would have cooled more slowly. One crucible (257A) has lost part of this outer layer and then been put back in the fire, suggesting that it was used on more than one occasion. There is no other evidence for multiple use of the crucibles.

The silver-bearing bag-shaped crucibles and 770E have an atypical thick glassy layer on their inner surface which is rich in lead. While accepting that their form and fabric is the same as that of the copper alloy melting crucibles, the deposits within them find their closest parallels on the disc and dish-shaped crucibles recently noted among the metalworking debris from Chalk Lane, Northampton (Bayley 1981), Flaxengate, Lincoln (Bayley and Foley forthcoming) and Coppergate, York (Bayley forthcoming). Only one example of this type (1127) has been found at Thetford. Similar disc crucibles are known from Viking-period sites in Scandinavia and those from Fyrkat, a Viking fortress in Jutland, have been described by Roesdahl (1977) as 'heating trays' which she suggests were used to hold small metal objects while, for example, filigree decoration was applied. Flaxengate has also produced pot sherds which appear to have been reused as make-shift 'heating-trays' which is the use suggested for these examples from Thetford.

The three odd crucibles (83,1117A and B) appear to have been used to melt metals, both silver and brass having been found in them. There is no vitrification on their outsides so they are unlikely to have been much used.

Ironworking residues
Iron slag from Knocker's excavations was not retained. The occasional fragments found in pottery bags are considered too minute a fraction of the excavated total to be worth examining.

Approximately 120 kg of ironworking slag were recovered from Late Saxon contexts on Site 1092, although no features specifically associated with ironworking were recorded. The material has been briefly examined by Justine Bayley who has identified the following categories: tap slag, the residue of iron smelting, as well as smithing slag, both in large and roughly equal proportions; fragments of hearth and furnace linings, and tuyères. It should be noted that no iron ore was recognised amongst the excavated material, but it is likely that local sources of bog iron were exploited, the nearest outcrop of carstone being *c.*30km down the Little Ouse from Thetford.

No attempt has been made to quantify the various categories of residue, but it is certain that both smelting and smithing were carried out either on, or very close to, the excavated site. The material recovered is unlikely to have been transported from any great distance and there was no evidence of roads or cobbled surfaces, i.e. contexts that could well employ unwanted ironworking debris from other parts of the town.

Ironworking was clearly an important activity in this area of the town as Davison found abundant evidence immediately to the north in 1969 (Wilson and Hurst 1970, 162) and Knocker encountered vast quantities of slag further to the north-west in TT3, Site 6.

VI. Stone Objects

Hones
by D.T. Moore and S.E. Ellis

Hones excavated by Knocker were originally examined petrographically by S.E. Ellis in 1958-9. Ellis later used his findings in a work on honestones which was the first attempt at a comprehensive treatment of the subject (Ellis 1969). He retired in 1969 and subsequent enquiries of this nature fell to D.T. Moore.

There is a broad agreement on the Thetford hones between Ellis's unpublished account and a subsequent examination by Moore. There is, however, a difference in nomenclature between Ellis's (1969) account and Moore's (1978) work, so that Ellis's Type 1A (1) and Moore's Norwegian Ragstone are identical, as are Ellis's Type 1B (1) and Moore's Blue Phyllite.

Interestingly the range of stone types in use at Thetford is remarkably similar to that used at Haithabu (Hedeby) according to Moore (1978).

The catalogue below lists all of Knocker's hones that were examined by Ellis with the addition of Moore's nomenclature. Where thin sections were made, they are housed in the Department of Mineralogy, British Museum (Natural History). Hones not examined by Ellis, those that have been lost, and examples from Site 1092, are also listed.

(Fig. 146)
1. IIIB(1), ? Coal Measures Sandstone; smoothed overall, one end rough, one broken; filling of ditches, Site 1 (1.238a).
2. IB(1), unidentified; smoothed overall, one end broken; filling of ditches, Site 1 (1.238b).
(Not illustrated) 1A(1), Norwegian Ragstone; smoothed overall, ends broken; above *P*12, Site 1 (1.242b).
3. IA(1), Norwegian Ragstone; three smoothed faces, ends broken; above *P*J, Site 2S (6).
4. IB(1), Blue Phyllite; two suspension holes, smoothed overall, one end broken; *P*J, Site 2S (10).
5. IB(1), Blue Phyllite; splinter with one smoothed face; above *P*15, Site 2S (31).

Bag No.	Context	Form	Rim sherd	Body sherd	Extra Layer	Wall thickness (mm)	Rim (internal diam. cm)	Maximum diam.(cm)	Metals
83	topsoil above *H*5 Site 2S	H	x			*c*.6	*c*.2	*c*.3	Cu+Zn
147A	trial trench NE of	M	x		x	*c*.3		9±2	RG
B	*P*24A Site 2S	M	x(spout)			3-4		? 8	Cu+Zn
181	SW of *P*23, Site 2S	M		x	x	3½-4½		9½	R
201	*H*5, Site 2S	M	x		x	2½-5½	*c*.4	7	R
230	*P*26, Site 2S	M		x	x	*c*.5			R
257A	*H*5, Site 2S	M		x	x	4-5		9±2	RG
B		M	x (spout)			4		*c*.10	
285	above *P*35, Site 2S	M	x			2½-4	2-3	5	R.Cu+Zn(+Pb)
295A	*P*36, Site 2S	M	x		x	3-4	4	*c*.8	R
B		M	x		x	4	4-5	7-8	R
C		M		x	x	2½-4½			R
D		M	x		x	5	5		R
E		M		x		2½-3			G
324	*H*9, Site 2S	M		x	x	5½			
568	*H*14, Site 2S	M		x		5½			
614A	*H*30, Site 2N	M	x			4½	5-6		
B		M		x		3½-4			
C		M		x	x	4			R
712	*G*XXI, Site 2N	M		x		5-6			Zn+Pb+Cu+Ag
755	*G*XXI, Site 2N	M	x		x	*c*.3	3-4	6-7	R.Cu+Zn(+Pb)
770A	*H*19, Site 2N	M		x		*c*.4			Cu+Pb+Zn+Ag
B		M		x	x	3			R.Cu+Zn(+Pb)
C		M		x	x	3			R.Cu+Zn+Pb
D		M	x		x	3½	5	*c*.10	R.Cu+Zn(+?Pb)
E		M	x (spout)		x	3½-4		*c*.10	R.Pb+Cu+Zn
934	*P*N40, Site 2N	M		x		*c*.5			R
951	above PN27, Site 2N	M	x			4½			R
954	above *P*N18B Site 2N	M		x	x	3-5			
960	*H*19, Site 2N	M		x	x	3		9	R
963	topsoil above *H*19, Site 2N	?	x			6	5-6		
982	above *P*N50, Site 2N	M	x		x	3	4	7-8	RG
1021	*P*N50, Site 2N	M		x	x	4-6			R.Cu(+Zn)
1058	topsoil *G*XXIV, Site 2N	M	x			*c*.3			Zn+Cu
1081	*P*N68, Site 2N	M	complete		x	7	7.6-9	12½	
1093	topsoil *G*XXIV	M		x		6			
1117A	cobbles, Site 4	H	x			7-8	*c*.5	*c*.6	
B		H	x			6	*c*.4	*c*.4	Ag+Cu
1127	*P*E9, Site 4	D	x			7-9	*c*.6	7	R.Pb+Cu+Ag(+Zn)
1303	Unstratified, Star Lane (TL 868 829 approx)	M	x			3½	*c*.7	*c*.10	R
—	layer 8, Site 1092	M		x		3-4			RG
—	*P*221, Site 1092	M		x		4-5			

In the form column D = dish shaped, H = handmade, M = bag-shaped.

In the metals column, the letter R = red colouration and G = green copper corrosion products. Where analyses have been carried out the elements are listed in order of decreasing signal strength which is a relative measure of abundance. Brackets indicate very weak signals.

Table 3 Crucibles

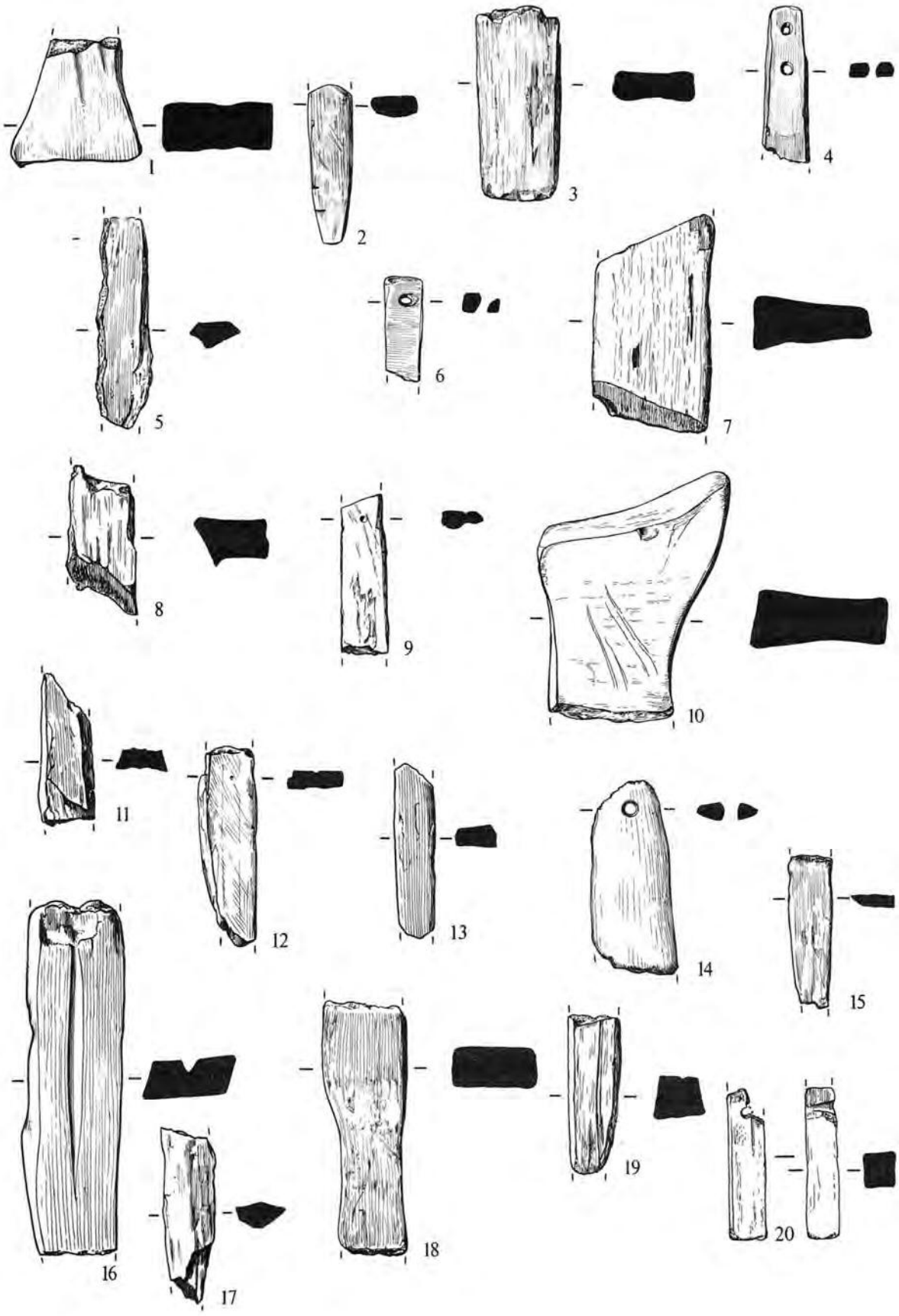


Fig. 146 Hones. Scale 1:2.

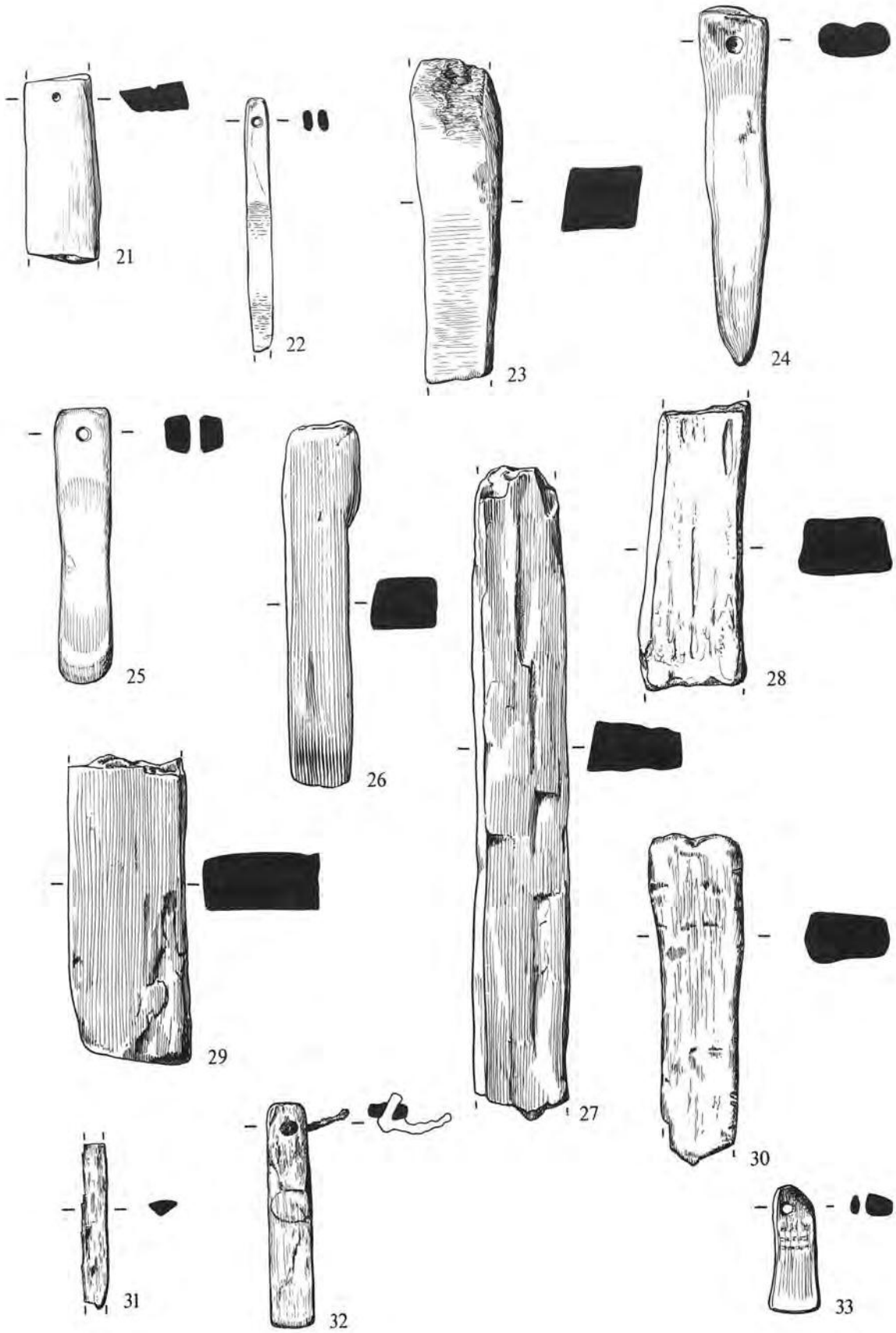


Fig. 147 Hones. Scale 1:2.

6. IB(1), Blue Phyllite; suspension hole, smoothed overall, one end broken; below *R*3, NW of *P*29, Site 2S (36).
7. IA(2), unidentified; two roughly-worked faces, ends broken; topsoil, area of *H*7, Site 2S (73).
8. IB(1), Blue Phyllite; splinter; *H*6, Site 2S (120a).
9. IB(1), Blue Phyllite; splinter with partially drilled suspension hole, one smoothed face; *H*6, Site 2S (120b).
10. IIIC(1), ? Coal Measures Sandstone; smoothed overall, diagonal scratch marks, narrow end broken; *P*32, Site 2S (242).
11. IB(1), Blue Phyllite; splinter; *P*36, Site 2S (278a).
12. IB(1), Blue Phyllite; splinter with partially drilled suspension hole, one smoothed face; *P*36, Site 2S (278b).
13. IC(1), unidentified; roughly smoothed overall, ends broken; *H*24, Site 2N (447).
14. IB(1), Blue Phyllite; suspension hole, smoothed overall, one end broken; *H*14, Site 2S (464).
15. IB(1), Blue Phyllite; splinter; *H*14, Site 2S (469a).
16. IA(1), Norwegian Ragstone; groove on one face, smoothed overall, ends broken; *P*49, Site 2S (474).
17. IB(1), Blue Phyllite; splinter; above upper floor, *H*13, Site 2S (554a).
18. IIA(3), ? Coal Measures Sandstone; smoothed overall, ends broken; above upper floor, *H*13, Site 2S (594).
19. IB(1), Blue Phyllite; three smoothed faces with groove on one, ends broken; *H*24, Site 2N (622).
20. IA(1), Norwegian Ragstone; damaged suspension hole, smoothed overall; *H*26, Site 2N (704).

Fig. 147
21. IB(1), Blue Phyllite; splinter with partially drilled suspension hole, two smoothed faces; *H*19, Site 2N (745).
22. IB(1), Blue Phyllite; suspension hole, smoothed overall, one end broken; *P*N 3A-C (769).
23. IIA(2), ? Coal Measures Sandstone; smoothed overall, ends broken; uppermost filling *P*N9 or 10, Site 2N (789).
24. IIA(1), unidentified; partially drilled suspension hole, smoothed overall; *P*N27, Site 2N (916).
25. IIIC(3), ? Coal Measures Sandstone; suspension hole, smoothed overall; *P*N64, Site 2N (1041).
26. IA(1), Norwegian Ragstone; smoothed on all faces, ends left rough; *P*N68, Site 2N (1048a).
28. IA(1), Norwegian Ragstone; roughly finished overall, ends broken; *P*N68, Site 2N (1048c).
29. IB(2), unidentified; one narrow face smoothed, others rough, one end broken; topsoil above *H*32 (1062).
30. IA(1), Norwegian Ragstone; roughly finished overall, one end broken; E of cobbles, Site 4 (1123).
31. IB(1), Blue Phyllite; splinter; *P*S3, Site 6 (1195).
(Not illustrated) IA(1), Norwegian Ragstone; splinter with one smoothed face; *P*S4, Site 6 (1196).
32. IB(1), Blue Phyllite; iron ring in suspension hole, smoothed overall; found in drainage trench, 1959, at TL 8600 8294.

The following hones were, with the exception of No. 27, found in pottery bags. All have been examined by D.T. Moore. Only Nos. 27 and 33 are illustrated, the rest being splinters with few signs of working.
(Fig. 147)
27. Norwegian Ragstone; smoothed overall, ends broken; *P*N68, Site 2N (1048b).
33. Blue Phyllite; suspension hole, smoothed overall; *H*8, Site 2S (1404).
All not illustrated: ? Norwegian Ragstone, *H*8, Site 2S (1400); Blue Phyllite, *H*8, Site 2S (1401); unidentified, *H*8, Site 2S (1402); Blue Phyllite, *P*23, Site 2S (1403); Norwegian Ragstone, *P*35, Site 2S (1405); Blue Phyllite, *P*35, Site 2S (1406); Blue Phyllite, *H*9, Site 2S (1407); ?Norwegian Ragstone, *H*9, Site 2S (1408); Blue Phyllite, *P*45, Site 2S (1409); Blue Phyllite, *P*49, Site 2S (1410 and 1411); Blue Phyllite, *P*51, Site 2S (1412); Blue Phyllite, *P*61, Site 2S (1413); unidentified, above *K*1, Site 2N (1414).

Thirty-three objects were given small finds numbers and identified as hones by Knocker. He identified many as 'mica schist', but all were subsequently lost. Rough record drawings show the majority to have been splintered or damaged examples with few smoothed or worked faces. They were found in the following contexts. Site 1, SE of *H*T1. Site 2S, *H*5 (two); *H*6 (three); above upper floor *H*13 (three); *H*14; below *R*3 W of *H*6 (three); make-up of *R*3 area of *H*12 (three); make-up of *R*3 W of *H*6 (two); above *P*J; *P*17; *P*23 (three); *P*36; *P*39/40; *P*45; *P*51 (two). Site 2N, *H*17/18; *H*19 (two); *P*N12B. Site 3, black soil.

Hones from Site 1092 (all unillustrated).
Norwegian Ragstone; flattened rectangular section, smoothed overall, both ends broken; layer 8 (2).

Quartz-muscovite-calcite-alkali felspar-hornblende schist, probably not Norwegian (thin sectioned); splinter with two smoothed faces; layer 30 (18).

Norwegian Ragstone; splinter with two smoothed faces; *P*15 (22).
Norwegian Ragstone; splinter; layer 96 (61).

Querns

A large number of quern fragments were found on Sites 1, 2 North and South, and 6. Many have been lost, but surviving examples are mostly of Rhineland lava with diameters of 0.38-0.48m. Millstone Grit, Carboniferous sandstone, and limestone querns were also present. Some of these had diameters of only 0.19 to 0.24m, and were thought by the excavator to be rotary grindstones. A mineralogical report on selected examples by S.E. Ellis of the British Museum (Natural History) is housed with the archive material.

Lava quern fragments, none indicating diameters, were found on Site 1092 in the following contexts: layer 8; upper filling of *P*83; layer 125 over ditch 141; layer 159 in *P*158.

Spindle-whorls

(Fig. 148)
1. Chalk; weight 15gm; lower filling *H*3, Site 1 (1.205).
2. Chalk; about half surviving; *H*5, Site 2S (98).
3. Shale; almost black, partially drilled in each face; *H*6, Site 2S (129).
4. Hard fine-grained unfossiliferous limestone of fine silt grade, Carboniferous or Magnesian, but possibly from drift (thin section by S.E. Ellis); damaged, weight 32gm; make-up of *R*3, W of *H*6, Site 2S (252).
5. Limestone similar in hand specimen to No. 4 (examined by S.E. Ellis); weight 47gm; *P*41, Site 2S (349).
6. Limestone similar in hand specimen to No. 4 (examined by S.E. Ellis); weight 30gm; *P*N3A-C, Site 2N (709).
7. Chalk; weight 13gm; ? bead; above *P*N25, Site 2N (786).
8. Chalk; weight 25gm; *P*N31, Site 2N (849).
9. Chalk; weight 75gm; ? whorl or weight; *P*N59, Site 2N (1038).
10. Limestone; incised two-strand interlace decoration, weight 27gm; 'from a barrow at Thetford'; Norwich Castle Museums Acc. no. 650.76.94, Fitch Collection (1430).

Pottery and bone whorls are listed on p.117 and 179 (Fig. 152 and 194).

Chalk moulds

by Justine Bayley

(Fig. 149)
1. Carefully finished left-hand face; broken across line of groove at both ends; patchy soot-like deposit on grooved face and extending onto ? deliberately rounded lower side; *P*61, Site 2S (635).
2. Only flattish underside appears to be original; soot-like deposit on right-hand broken groove; *H*5, Site 2S (1418).
3. Carefully finished left-hand and upper face; the rest broken, soot-like deposit on groove; layer 30, Site 1092 (90).

All three show signs of having been strongly heated in and around the grooved areas. This suggests that the grooves may be moulds used for casting metal, though no traces of metal survive in them. The grooves in Nos. 1 and 3 would appear to have been of semi-circular cross-section while those in No. 2 were more rectangular. It is often thought that chalk is an unsuitable mould material for metals with a higher melting point than lead or pewter, but it is possible to use it, a few times at any rate, for such things as bar ingots where no fine surface detail is required.

Miscellaneous stone objects

(Fig. 149)
Nos. 4-7 have been examined by Justine Bayley who comments "These objects do not appear to have any metallurgical uses; in fact any possible functions are difficult to suggest'.
4 & 5. Chalk lumps with two opposed, and one, bowl-shaped depressions; *P*36, Site 2S (284 and 285).
6. Roughly-squared chalk lump with rectangular hole carved out of one side; *P*N12B, Site 2N (825).
7. Chalk lump with one bowl-shaped depression; cobbles, Site 4 (1116).
8. Chalk, ? loomweight; weight 175gm; black soil, Site 3 (401).
9. Tabular fragment of hard micaceous pinkish brown sandstone, with parts of two perforations of apparently different diameters and a partially drilled hole; fire-blackened on one face; layer 36, Site 1092 (86).

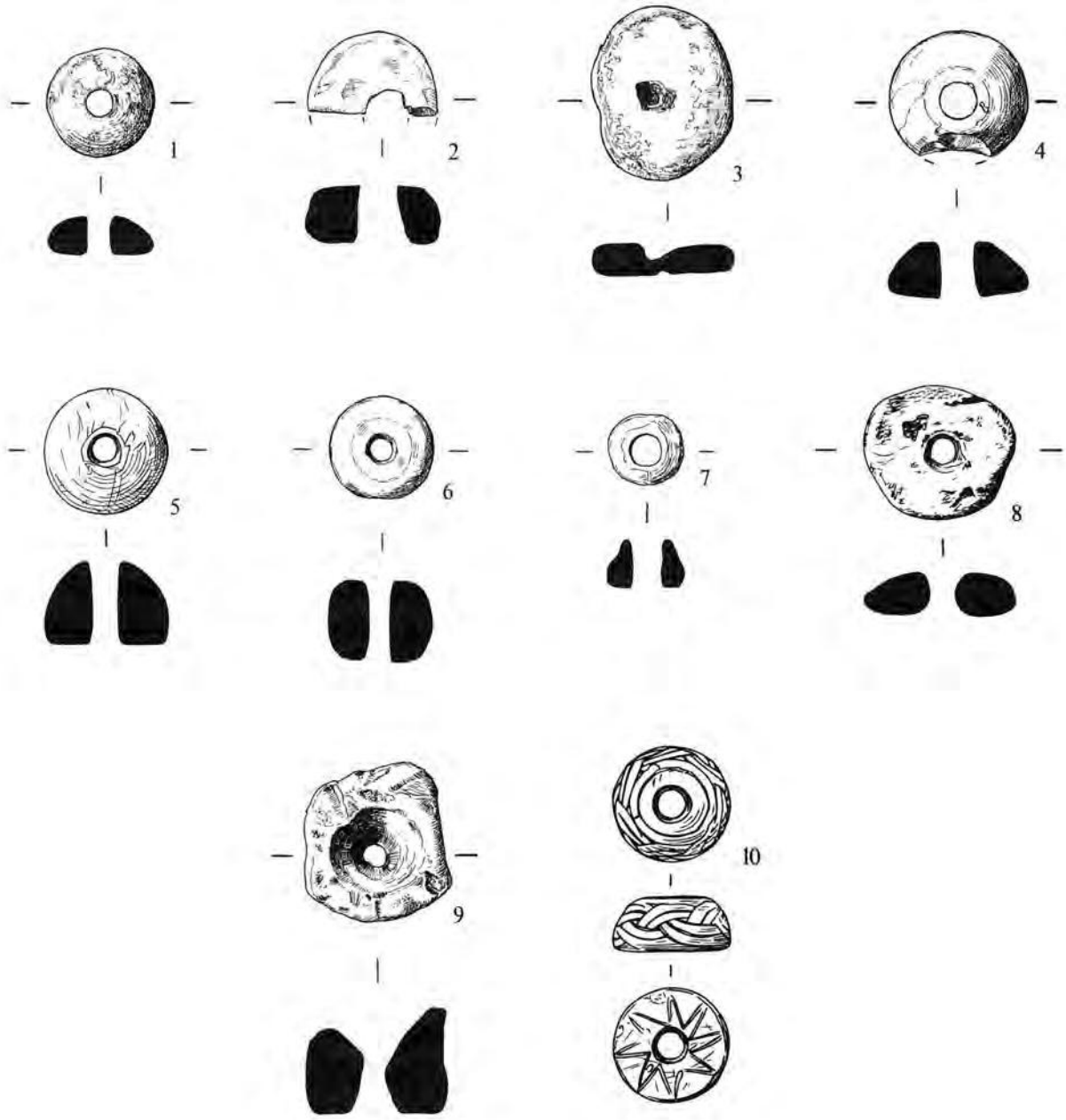


Fig. 148 Stone spindle-whorls. Scale 1:2.

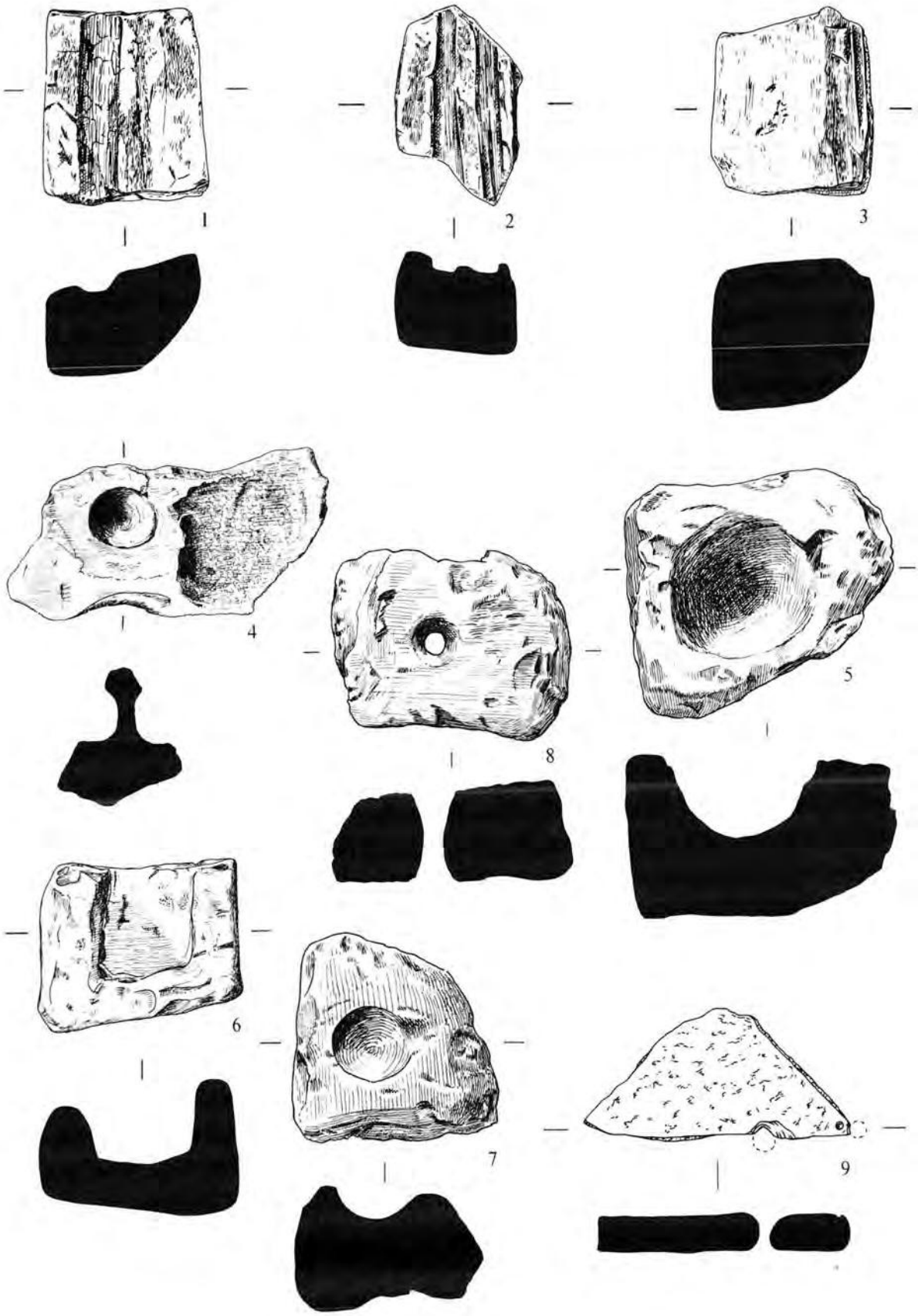


Fig. 149 Nos. 1-3, chalk moulds. Nos. 4-9, stone objects. Scale 1:2.

Small find No.	flake	blade	blade or flake with abraded, probably utilized, edges	blade core/steep scraper	*petit tranchet* derivative arrowhead	end scraper on blade	horseshoe scraper	scraper on thermal flake	saw	retouched flake	retouched thermally fractured fragment	flaked flint axe	hand-axe	thermal flake reddened and craked by fire	
Site 2S															
124, *R*3, E of *H*5												1			Fig. 150, No. 4
126, *R*3, W of *H*6				1											Fig. 150, No. 2
244, *P*23						1									
282, *P*36							1								
423, below *R*1, W of *H*6								1							
459, *R*1, W of *P*29			1												
460, *R*1, W of *P*29										1					
Site 2N															
748 a & b, *P*N2	2														
806, *H*17/18												1			
813, *H*17/18										1					
988, *P*N50													1		Fig. 150, No. 1
Site 1092															
Context No.															
Unstratified			2								1				
Layer 8			1												
Layer 27, *P*15		1													
Layer 36					1									1	Fig. 150, No. 3
Layer 40, buried soil	4														
Layer 62, *P*15	1														
Layer 112, ditch 111	1														
*P*135											2				
Ditch 146									1						
Layer 163, over ditch 141	1														
Layer 198, ditch 141			1												

Table 4 Flint: categories by context

Not illustrated. Three fragments of shelly gritty limestone, burnt pink; weights 605, 440 and 65gm; the heaviest with one roughly-dressed face; ditch 63, *P*15, and disturbed soil SE of ditch 63, Site 1092 (87-9).

Fig.110,No. 23. Stone mould for a cross from *H*21, Site 2N is described on p.69.

The Flint

by Frances Healy

(Fig 150)

The composition of the struck and otherwise modified flint from Knocker's excavations and Site 1092 is shown in Table 4. 'Blade' is used in the visual sense of a relatively narrow flake with more or less parallel sides rather than in any metrical sense.

Discussion

All the material listed here was residual in the contexts in which it was found. Nine of the twelve pieces of struck flint from Sites 2 South and 2 North are retouched in contrast to only five of the seventeen pieces from Site 1092. This strongly suggests that unretouched pieces, which normally far outnumber retouched ones, were not systematically retained during the former excavation.

Palaeolithic Material

Particular interest attaches to small finds 126, 813, and 988 from Sites 2 South and 2 North. All three are rather rolled and have a heavy ferruginous patina, suggesting that they have a common source, probably a gravel deposit, though this is no guarantee of their contemporaneity. The hand-axe (988, Fig. 150, No. 1) is a small, compact, pointed ovate of plano-convex section which may have been made at any time during the lower or middle Palaeolithic. The blade core/steep scraper (126, Fig. 150, No. 2) on which there is some more recent retouch or damage, probably dates from the upper Palaeolithic or later, since blade-making was not widespread in Britain before this time. The retouched flake (813), which also has later retouch or damage, is undatable, apart from being in the same condition as the other two pieces.

The occurence of Palaeolithic material in Thetford is not surprising, since the area is rich in finds of this period (Lawson 1978, Fig. 5). At least seventy-five hand-axes are recorded from Thetford, and larger numbers have been found on nearby sites in Weeting and in the Suffolk parishes of Barnham, Brandon, Elveden, and Santon Downham (Roe 1968).

Later Material

The remaining pieces are either undatable or likely to be of Neolithic or later date. Two distinctive implements from Site 1092 are the *petit tranchet* derivative arrowhead (Fig. 150, No. 3) and the saw from ditch 146. The arrowhead is of Clark's type H (1934) and belongs to a class of missile head which became common in the later Neolithic. Its oblique forms (types E-I), of which type H is one, seem to occur most often with Grooved Ware, especially of the Durrington Walls sub-style (Green 1980, 235). The saw is a broadly contemporary type. The coarseness, irregularity, and relatively wide spacing of its teeth, some of which are formed by the removal of more than one small flake from either side, distinguish it from the more finely serrated flakes current from the Mesolithic onwards. This distinction was first made by Clark (1933, 272, Fig. F4: 57,61) with reference to the flint industry from the Beaker site at Plantation Farm, Cambridgeshire, and reiterated by Smith (1965, 108, Fig. 48: F149, F150) with reference to the material from the ditches of the causewayed enclosure at Windmill Hill, Wiltshire, where serrated flakes occurred throughout the sequence but saws occurred only in the upper levels in association with later neolithic and early bronze age pottery.

Petit tranchet derivative arrowheads abound in the surface collections from the surrounding Breckland, where most of the other pieces, especially the rather irregular flaked flint axes (124 and 806) may readily be paralleled. Early in this century, before its afforestation, the Breckland was a prolific collecting ground for struck flint, which was in places estimated to occur at the rate of more than thirteen million pieces per square mile (Clarke and Hewitt 1914, 432). Where the surviving

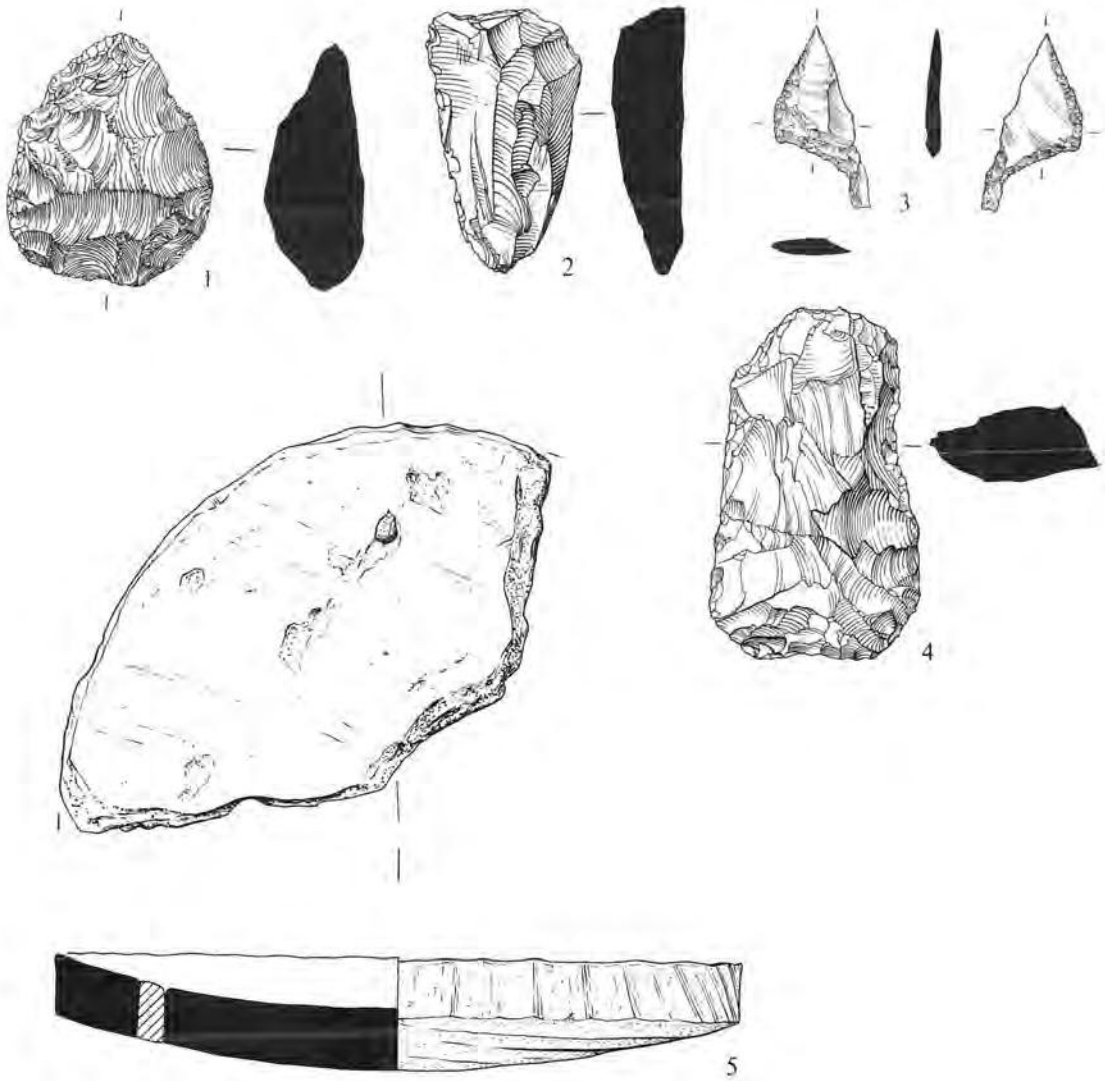


Fig. 150 Nos. 1-4, flint objects. No. 5, soapstone vessel. Scale 1:2.

material is diagnostic, most of it seems to be of late Neolithic or early Bronze Age date. It seems reasonable to suppose that most of the struck flint from the two sites represents the same phase of third millennium BC activity. Further aspects of this are extensive flint-mining at Grime's Graves (Sieveking *et al.* 1973, 200-3; Mercer 1981, 107) and increased local forest clearance and spread of heathland (Sims 1978, 58).

Soapstone Vessels

Three fragments of stone vessels were subjected to mineralogical analysis using X-ray diffractometry on representative rock powder. Diffractometry was by K.S. Siddiqui and R.W.O. Knox, with inferences and petrological notes by N.G. Berridge, all of the Institute of Geological Sciences at Leeds. Soapstone vessels imported from either Shetland or Norway have not been reported from elsewhere in England except York (MacGregor 1978, 37-9; 1982, 73-4) and Lincoln (Mann, 1982).

Fig. 150, No. 5. Fragment of ? base of bowl or cooking pot of Hamilton's Class II (1956, 113). It is sooted on the exterior and on the inner surface around the remains of an iron rivet used for repair. The vessel has been reused as a dish, the outer edge of the secondary rim being ? gouged into shape. The tooling has cut through the carbon deposits.

X-ray diffraction analysis confirms that the dominant mineral of the rock is talc, but indicates that it is accompanied by variable but, in part, substantial proportions of magnesite and only minor amounts of chlorite. Primary igneous silicates such as feldspar and amphibole are absent.

Soapstone of magnesite-rich composition is known to have been worked at Cunningsburgh, Shetland, but it would be unwise to take this as proof of the specimen's exact origin on this evidence alone. An origin from the far north is, however, very likely. *P*El, Site 4 (1435).

Not illustrated. Ragged shallowly curved fragment of heavy grey stone, 9cm across and 8 to 9mm thick. The internal surface is polished smooth and has many fine serrated marks. The exterior is sooted. The stone is coarsely crystalline, 'soapy' to the touch and softer than a fingernail. The most abundant mineral constituent is talc, accompanied by substantial proportions of chlorite and some pyrophyllite, but significant minor proportions of amphibole and feldspar are also present. The rock is undoubtedly a 'soapstone' derived by hydrothermal alteration of a highly basic plutonic igneous rock, possibly a picrite. Filling of ditches, Site 1 (1.271).

Not illustrated. Triangular fragment, 8cm by 4.5cm and 15mm thick. The rock is similar in weight, texture, hardness and 'feel' to that of 1.271 but the colour is a paler silver-grey mottled with rust brown patches of *c.* 3mm diameter. The most abundant mineral constituents are again talc and chlorite, with the former being even more dominant here than in 1.271. This rock additionally contains a minor proportion of dolomite, but no pyrophyllite. Some feldspar is present but in this case there is no amphibole. This specimen is also composed of 'soapstone', possibly derived from picrite. *P*E9, Site 4 (1434).

It is not easy to assign soapstone to particular source localities on petrographical and mineralogical evidence. These rocks are intrinsically variable in composition and the presence, for example, of amphibole in one specimen and its absence in the other need not necessarily imply that the two came from different quarries. It might be of greater significance, however, that the species of chlorite, as indicated by the relative height of X-ray diffraction peaks, is different in the latter two specimens. This might imply a difference in the style of alteration and, therefore, indicate differing sources.

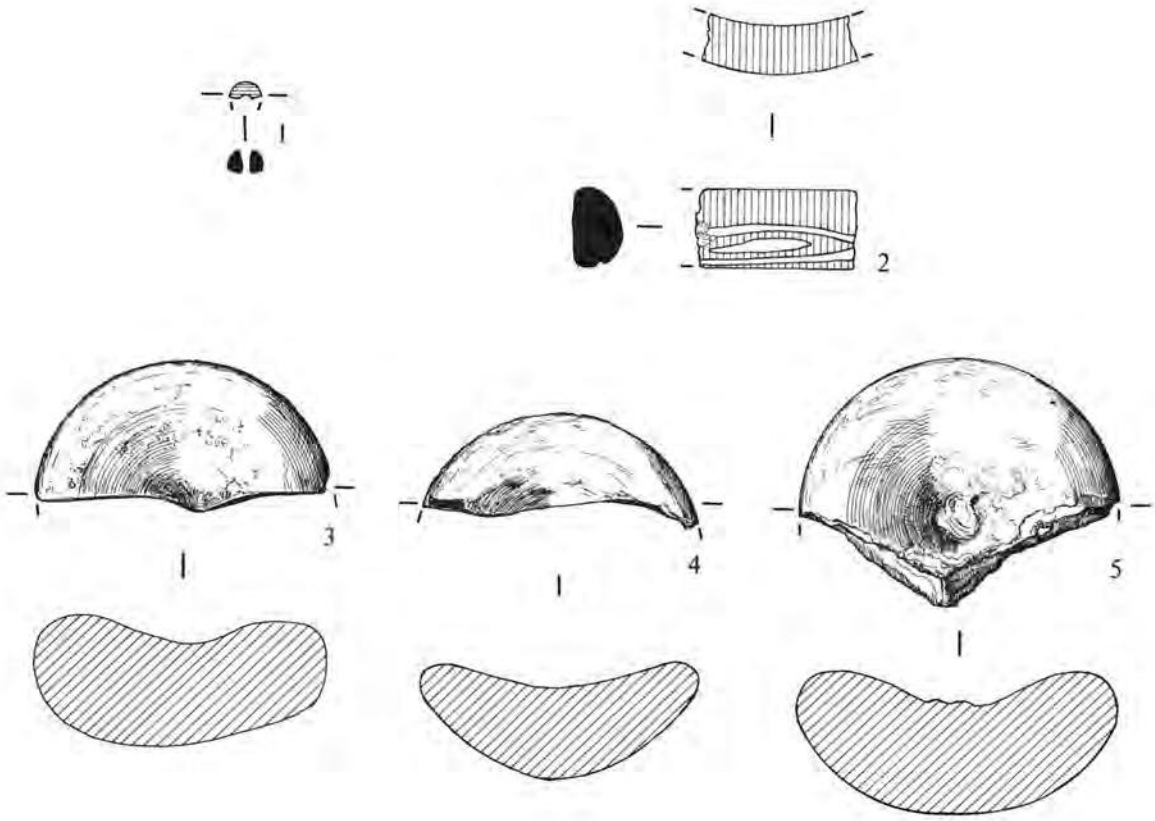


Fig. 151 Nos. 1 and 2, glass bead and bangle. Scale 1:1. Nos. 3-5, glass linen-smoothers. Scale 1:2.

VII. The Glass

by D.B. Harden

Glass Fragments

(Fig. 151)

Not illustrated. Fragment of green glass. This fragment is enigmatic. Were it not for its undoubted late Saxon context, it might be considered medieval or even seventeenth century. It has a very pronounced enamel-like surface all over, including the breaks, but the core is truly greenish. Such weathering is not unusual in potash glass of medieval and later date, but most Late Saxon glass is normally soda glass and in this country does not usually weather in this way—in fact it hardly weathers at all. The shape of the vessel must remain doubtful, since the fragment is so small, but it looks like part of the side of a cylindrical bowl. This piece was examined in the 1950s and was mentioned in Harden 1956 (153, No. 1). It has since been lost. *P*D, Site 1 (1.157).

Not illustrated. Two fragments of vessel-glass with curvature, one greenish, one colourless; make-up of *R*1, W of *P*29, Site 2S (458).

1. Half a bead, or perhaps a pin-head, in jade green opaque glass; *H*14, Site 2S (Harden 1956, 153, No. 4) (465A).

Not illustrated. Fragment of 'deep blue glass, with streaky lines and bubbles'; not examined; *H*14, Site 2S (488); lost.

2. Fragment of bangle in clear dark blue glass with trailed and marvered opaque white decoration on the outside; on floor of *H*31, Site 2N (Harden 1956, 153, No. 5) (855).

Not illustrated. Fragment of blue glass, almost certainly window glass; described in Harden 1961 (46, 54) and now lost; *H*28, Site 2N (1416). The late Dr. H. Moore, D.Sc., Professor of Glass Technology, University of Sheffield, kindly submitted the following report:

'The fragment, blue with iridescent weathering on the surface, is flat and roughly triangular in shape, L. *c.* 1½in, W at base *c.* 1in, T. ⅛in. A spectral transmission curve of the specimen was obtained and from the shape of this curve it was deduced that the main colouring oxide present was cobalt. The refractive index of a chip from the fragment was measured by the flotation method on a small piece, and was found to be 2.529. It is not possible to give a close estimation of the composition of the glass from the values of the refractive index and density observed. Three regular layers revealed as a result of the weathering action on all but the more recently fractured edges, provide interesting evidence about how the piece was made. It was not cast as a sheet of glass on a flat surface, which would have been done in one operation, but was gathered on the end of a blowing iron, three 'dips' or 'gathers' being taken, giving rise to the three layers. The glass was then blown into the shape of a cylindrical bulb, the ends cut off, and the cylinder cut longitudinally and then flattened by laying it on a flat surface and reheating. This is the method by which nearly all early flat glass was made, and it is interesting to see the evidence so marked on this specimen.'

Linen-Smoothers

Parts of four glass linen-smoothers were recovered, two of which were mentioned in Harden 1956 (153, Nos. 2 and 3). All are in extremely dark, almost black glass.

Fig. 151

3. *P*N13A, Site 2N (818).
4. *H*17/18, Site 2N (851).
5. *H*32, Site 2N (1043).

Not illustrated. Above upper floor, *H*13, Site 2S; lost (1417). The late Dr. H. Moore kindly submitted the following report:

'Two small pieces of glass, each the size of a walnut, were examined. A friable weathering crust, about 1½mm thick, was present, and the underlying, unaltered glass appeared black (or amber in thin micro-section). The refractive index of the unweathered glass was found to be 1.551 and the density was 2.618. A glass composition which would be consistent with those physical properties would contain 20% of lime and 15% of alkali, with 7% of Fe_2O_3, not inconsistent with the composition of a linen-smoother.'

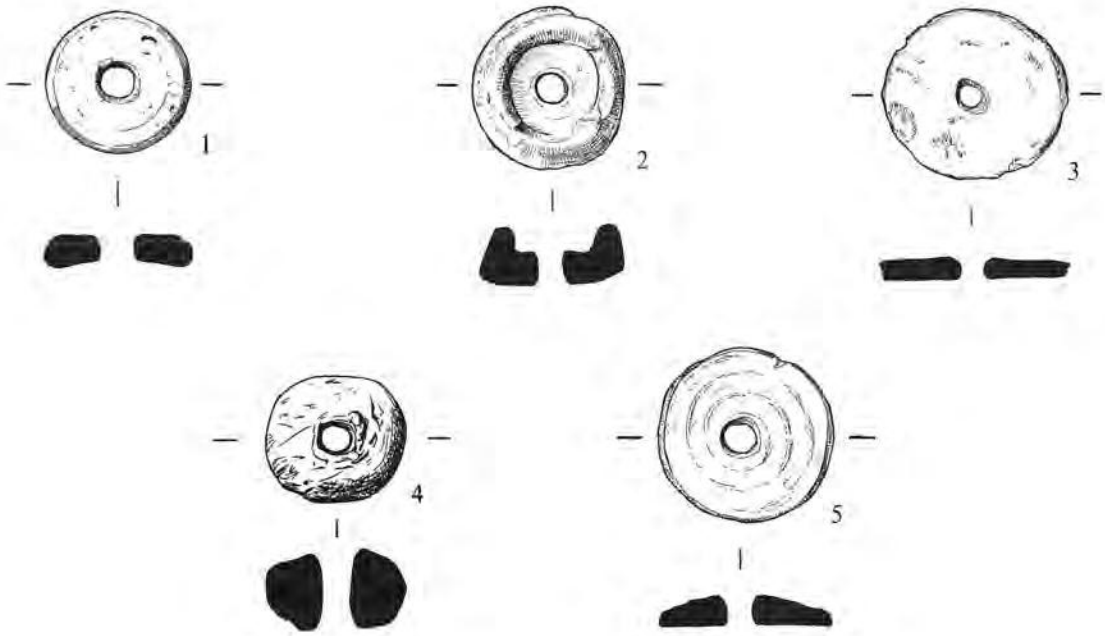


Fig. 152 Pottery spindle-whorls. Scale 1:2.

VIII. Pottery Spindle-Whorls
(Fig. 152)

1. Base of colour-coated beaker, probably local manufacture, third to fourth century (identified by Tony Gregory); weight 16gm; *H*6, Site 2S (135).
2. Base of colour-coated beaker, probably Nene Valley Ware, third to fourth century (identified by Tony Gregory); weight 26gm; *P*29, Site 2S (211).
3. Thetford Ware base; weight 19gm; *H*14, Site 2S (577A).
4. Medium soft, reddish brown, organic inclusions; weight 26gm; *H*28, Site 2N (966).
5. Thetford Ware base; weight 17gm; area B, Site 6 (1215).

Stone and bone whorls are listed on p.111 and 179 (Figs. 148 and 194).

IX. The Pottery

Introduction

Group Captain Knocker's original report on the pottery was completed, and exists now as a level II record with the site documents. The task of shortening[14] and modernising it has involved a re-examination of the material and a complete re-writing.

All of the vast quantity of pottery[15] (230 large boxes and over 1000 rim sherds in museum collections) seems to have been processed originally by Knocker and his assistant Roy Hughes with little or no outside assistance, and Knocker catalogued the rims in the site records according to a type series which he later revised. A bag number system was used on site, and these have been retained in this final report for ease of reference in locating individual sherds.

Unfortunately, in the thirty-five years which have elapsed since the pottery first came out of the ground, much of the pottery has been lost. Because not all of the sherds have been found, many groups are, therefore, invalidated. For this reason, as well as the perpetual problem of defining residual material, it has been decided that the more desirable format of showing pit groups and 'sealed' deposits would not be possible as the groups are insufficiently discrete. The material from all Knocker's excavations and observations has been presented together.

The quantitative analysis of the pottery was done by counting and all percentages and statistics are based on this method only. Not all of the original pottery has been located, and bags which are from the topsoil or have no stratigraphical contexts have not been counted: all quantitative estimates refer to counted material only. The terminology, such as 'small jars', used in the discussions is geared to the type system devised for this report, and quantitative statements have similarly been organised to have the same meaning in every instance. They are as follows:

Unique	
Rare	— 2-3 examples
Few	— up to 10 examples
Not common	— Approx. 10-50 examples
Fairly common	— Approx. 50-200 examples
Common	— Approx. 200-500 examples
Extremely common	— over 500 examples

This collection of material represents the largest and most varied group of Thetford-type pottery yet excavated, and an attempt has been made here to present the many types in a system to which new types can be added when required in other reports. It should be born in mind at all times that this series relates to these excavations in Thetford, and any dating or typological comments offered here may not relate to any other site.

The pottery is all wheel-thrown (except for storage jars and a few crucibles), and seems to date from the tenth to twelfth centuries with no earlier and little later occupation. It can be divided into six basic groups:

1. Thetford Ware (Figs. 153-83)
2. St. Neots Ware (Fig. 184)
3. Early Medieval Wares, eleventh century to mid twelfth century (Fig. 185)
4. Stamford Ware
5. Imports and oddities
6. Medieval, mid twelfth century to fourteenth century

A total of 83,664 sherds has been counted and a further 1000 rim sherds found in various museums. Of the above total, 80,217 sherds are Thetford Ware, that is, approximately 96.6% of the site total (excluding the museum material). To include topsoil material in the counting would only reduce this percentage slightly as it would still be well over 90%. St. Neots Ware is 2% of this total (*c.*2350 sherds) and Early Medieval Ware (*c.*845 sherds) only 1.0%. Stamford Ware (936 sherds) and medieval sherds account for the remainder. Only six imported sherds have been found.

Thetford Ware

The term Thetford-type Ware has not been used in this report as it seems unnecessary in the discussion of this key site. The term will, however, be used for sherds which are likely not to have been made at Thetford.

Thetford Ware comprises some 96.6% of the total pottery from the excavations. It can be divided not only by forms (referred to as e.g. AA1, p.119), but also to some extent by fabrics.

Thetford Ware Fabrics

No detailed statistical record has been kept of the fabric types, partly because of the large quantity of material, and partly because the tempering range is a continuous spectrum, so that the divisions below are partly notional. All fabrics have some sand tempering, but the size and quantity of the inclusions vary. As these differences are not usually visible to the naked eye, few precisely detailed distinctions of fabric can be made, and the divisions used are those which are discernible by sight and touch. They are designed for use on this group of material, and could only be loosely adopted for any other site. The sherds can, thus, be roughly sub-divided into four types of fabric. The distinctive smooth fabric (No. 1 below) accounts for some 4.4% of the Thetford Ware, with fine fabrics (No. 2), in slightly lesser amount, and coarse fabrics (No. 4) most infrequent. Medium fabric (No. 3) accounts for between 80-90% of the pottery. Sherds from other kilns (No. 5) are not common.

1. Smooth. This term, coined by Knocker, has been retained. This fabric characteristically has a distinctive soft, silky feel and smooth fracture. The fabric is dense, but some sand tempering is present and occasional fine grit particles are visible to the naked eye. All the types of particle in the average fabric seem present, but are sparser and of much smaller size. Most sherds are very pale brown (Munsell 10YR 7/4) or pale red (Munsell 2.5YR 6/2). The intended colour was probably white (Munsell 2.5Y 8/2) or pale grey (10YR 7/1) although these colours are not common. As this fabric is a product of kiln 1 on Site 2 North, it may be that most sherds are mis-fired to incorrect colours. The frequency of this fabric is low, as out of some 3355 sherds examined, only six come from Site 1, just over fifty from Site 2 South, and the rest from Site 2 North, mainly in the area around the kilns. This fabric has not been recognised in other places and probably relates only to Thetford, perhaps as an experimental product of these kilns[16]. It occurs consistently with eleventh-century material and must be of this date (pages 125). The forms are limited in variety (page 119), and are not of the most common types.

2. Fine. This fabric is also dense with fine particles, but lacks the surface feel of the smooth fabric and comes in a greater variety of forms. Some of the fine sherds have dark grey surfaces with a red core and, as this is most unusual for Thetford Ware, it seems likely that a dark grey colour throughout was intended. Most fine fabric sherds are, however, grey, usually light grey (such as Munsell 2.5Y 7/0 or 6/0), and are rarely misfired to a buff or light brown colour. Fine ware fabrics are produced by the Thetford kilns, and may be late in the site series; it seems possible that to some extent they supercede the medium fabric.

3. Medium. The normal Thetford Ware fabric is sandy both visually and to the touch. Under magnification (× 10) mixed sand grains are evident, including rounded particles of quartz and quartzite, dark grey and reddish brown ores, fine silver-coloured platey particles of ? mica, and occasional irregularly-shaped calcitic particles.

The colour is consistently grey (usually Munsell 10YR 5/1). Misfired sherds are usually light orange or red (such as Munsell 5YR 7/6 or 6/6 reddish yellow, 7.5YR 7/4 pink or 2.5YR 6/4 light reddish brown), very dark grey (Munsell 2.5Y 3/0), or light olive green (Munsell 5Y 6/2 light olive-grey or 5Y 5/2 olive-grey). A few white sherds also occur (Munsell 10YR 8/1 or 8/2). Even in misfired sherds there seems to be little colour variation in the core. Vessels of all kinds were produced at Thetford in the medium fabric.

4. Coarse. This is similar to the medium Thetford fabric, and the particles increase more in quantity than they do in size. This fabric occurs in storage jar forms and in a few examples of medium jars, but is not common on the site. It may not originate at Thetford, as there is no production evidence for such fabrics and they are found alongside products from other places, such as eleventh-century Grimston-Thetford Ware.

5. Non-Thetford Fabrics. These are not easy to distinguish among such a range of indigenous fabrics. Indeed, recent work has shown that scientific distinctions between Thetford-type Ware from Norwich and Thetford is only accomplished with difficulty (Hawkin 1977). Visual comparisons suggest that a few sherds of Norwich Thetford-type Ware have been found in these excavations, although this is by no means certain. No sherds attributable to the Ipswich kilns have been identified, although a few sherds with rilled shoulders were found (Smedley and Owles 1963, 315). Products of the Thetford-type Ware kilns at Grimston in north-west Norfolk (Clarke 1970), are present in the later deposits, but are not common: they comprise several storage jar sherds, a few bowls, and at least one pitcher with wavy-line decoration of probable twelfth-century date. Another late group of pottery which does not seem to have been made at Thetford is represented by sherds of storage jars in a friable, coarse sandy fabric with dark grey surfaces and a dark red core. They have been found at Yarmouth (Mellor 1976, 172) as well as in other parts of the county, but their source remains obscure. The peculiar vessel No. 411 can be paralleled by form from the recently discovered kilns at Bircham (Rogerson and Adams 1978, Fig. 21, Nos. 13 and 14), although the fabric is not identical to the Bircham examples. No sherds attributable to the kiln at Langhale (Wade 1976) have been noted, nor any coarse fabrics comparable to those from the north-east part of the county. Sherds in atypical fabrics have been mostly excluded from the type series, and can be found in Nos. 378-431.

Thetford Ware Forms

Out of 83,664 Thetford Ware sherds counted, 9551 were rims—some 11.4% of the site total. A further 9% were bases, and 5% diagnostic sherds from lamps or other easily recognisable forms. Therefore, only a quarter of the material is classifiable, and the full number of most types is impossible to ascertain. The only types for which full figures may be estimated are lamps (D) which are 0.2% of the whole, and storage jars (AG) which are at least 4.9% of the total. The disproportionate impressions given by diagnostic sherds only can be shown by this last-mentioned type: just over 400 rim sherds were found, but 4000 body sherds. However, similar details for other forms are not retrievable and the following proportions are, therefore, percentages of the rim total only. Six major form divisions have been made and they are coded by letter.

CLASS A Jars, including pitchers, handled jars, and storage vessels. This class accounts for over 93% of the rim total, but can be subdivided into storage jars (AG) approx. 3.7%, large non-handled jars (AF) 1.1%, pitchers (AD) at least 2.6% and handled vessels (AE) at least 4.0%. The rest are plain jars of varying sizes (AA, AB and AC) of which ordinary cooking-pots (AB) are the most common.

CLASS B Bowls, dishes and crucibles. Approximately 220 examples were found, forming 2.7% of the rim total.

CLASS C Costrels and bottles. About 70 examples, 0.7% of the rim total.

CLASS D Lamps. At least 220 examples, forming 2.7% of the rim total.

CLASS E Lids. 10 examples.

CLASS F Ring vases. 6 examples.

Relationships of Form and Fabric

It has been found that to some extent fabrics and forms are related, and this is likely to be significant in any site sequence. The majority of the vessels are in medium Thetford fabric, and the coarse fabric seems related mostly to storage jars of uncertain source of manufacture in late contexts. The fine and smooth fabrics are, however, worthy of comment, although they are a small proportion of the whole.

Smooth Ware Forms. As smooth ware is certainly a product of kiln 1, the forms in which it occurs are of particular interest. It occurs in small jars (AA2), medium jars (AB1 and 2, AB5, AB9-11), pitchers (AD2, AD8), handled jars (AE2, AE8), non-handled jars (AF6), storage jars (AG3, AG8), costrels (CA1 and 2), bottles (CB), and lamps (DA, DC, DD). Of these the most common types are cooking-pots of approximately 9 to 13cm diameter with flat bases and nearly upright rims which may or may not have an internal hollow (the two varieties seem evenly divided) (AA2, AB2, AB9). Larger smooth ware jars can have rounded bottoms, and the diameter does not seem to exceed about 20cm. Over twenty spiked lamps (DA) were found, as these were made in kiln 1. Smooth ware is not decorated other than by the large gouged-out thumb marks on type AF, some thumbed strips, and the painted lines on Nos. 391-4. Rouletting does not occur.

Fine Ware Forms. These occur in most groups (AA1, AA9 and 10, AA12, AB1-4, AB9-11, AB14, AD3, AE12, AF2 and 3, AG2, AG10, BA1, DA, DC). However two main factors emerge:

1. There is a frequent occurrence of jars with turned-out rims and rounded neck angles (AA1, AB1). These are often mis-fired to a red core and dark grey or black surfaces atypical of Thetford Ware. The forms are paralleled, not only in St. Neots Ware, but more significantly in Early Medieval Ware.
2. The frequency of upright jars (AA2, AB2, AB9) and lamps (DA, DC) suggests that much of the fine fabric is failed smooth ware. Decoration is not common on fine ware vessels. A few jars with rouletting were found, but this is of a large type (probably one roulette) not occurring on medium fabrics. Storage jars with thumbed strips occur and a few jars have wavy-line decoration similar to those found at the late kilns at Langhale, Norfolk (Wade 1976, 112 and Fig. 36).

Medium Ware Forms. All forms occur in medium fabric except upright-rim cooking pots (AA2, AB2, AB9) and spiked and stemmed cup lamps (DA, DC).

Thetford Ware—classification of forms

The code comprises two letters and a number. The first letter represents the basic form (class), the second letter a major division of that form (group), and the number a further subdivision on detail such as rim form (type). Different criteria have been used for these divisions, but are explained at the head of each group. Each sherd is given an individual number. Unless stated otherwise all sherds are medium grey, and sooting occurs on the exterior and rim only. A miscellaneous category has been added to accommodate sherds of unique form or fabric: most of these are probably Thetford-type Ware from other sources.

Class A—Jars (Figs. 153-70). This is by far the largest class, accounting for some 93% of the Thetford Ware in the collection. Several basic criteria have been used in dividing up this class: (a) size, (b) the presence of spouts and handles (c) shape, (d) added clay and motifs.

a) A size division has been made as differences of function can be supposed between large and small vessels. Some of the divisions have been made rather arbitrarily by rim diameter, as in so many instances the overall vessel form of a small sherd is not clear.

b) The division of groups into those with handles and spouts is extremely difficult, as only rarely does a sufficient length of rim survive to show whether the vessel was so equipped: some vessels have been assumed so by analogy with similar types. All vessels with spouts must have had handles, but the converse is not true. Handled vessels are normally those in larger sizes, and it seems likely that most vessels with a diameter larger than 16cm would have been handled, with the exception of type AF.

c) Shape is often uncertain and rim form has been a more common sub-division.

d) Added clay and decorative motifs are to some extent diagnostic, but are not trustworthy classification factors on their own. They are most significant with storage jar groups AG and AF.

All jars have been included in this class, and have been divided into the following groups:

AA — small jars
AB — medium jars or cooking-pots
AC — large jars
AD — spouted jars or pitchers
AE — jars with handles
AF — large jars without handles
AG — large multi-handled jars or storage jars.

AA — Small Jars (Fig. 153, Nos. 1-36). Rim diameter *c.*8 to 11cm. Bases are usually flat or slightly sagging. Small jars are never handled or spouted. Sooting occurs both internally and externally, usually on or near the rim. Decoration is not common, but sometimes rouletted bands occur on the shoulders. The most frequent type is AA5.

AB — Medium Jars (Figs. 153-7, Nos. 37-157). Rim diameter *c.*12 to 15cm. These are the forms commonly called cooking-pots, and are the most common form found. Similar vessels occur with spouts (class AD) and sometimes with handles although this is unusual in this size group. Decoration occurs frequently, usually as rouletted bands on the vessel shoulder and sometimes on the vessel rim. Incised line decoration is not common and no examples of thumbed strips have been found. Stamps and interlace designs exist, but are rare. Sooting occurs internally and externally, but is usually on the rim and shoulder externally, unless stated otherwise in the catalogue.

The frequency of individual rim types varies considerably, and indications have been given according to the code on p.117. The most common forms are wedge-shaped and have an internal hollow (AB 13 and AB 14, Fig. 156-7), and these account for some 16% of the Thetford Ware rim total. Also frequently found are the triangular rims (AB7, Fig. 154) which are about 7% of the rim total, and rims with thickened ends (AB8, AB15, AB17, Figs. 155 and 157), which comprise some 3% of the rim total. The more upright forms, which seem to be later types (AB2 and AB9, Figs. 154 and 155), make up at least 14% of the pottery counted.

Bases are normally sagging, with the exception of types AB2 and AB9. Flat bases occur at all levels, although to which type of rim they belong is not evidenced. The majority of vessels in the AB group are in average fabrics, but those which are fine or smooth have been indicated in the catalogue. There is evidence of kiln production for this group.

AC — Large Jars (Not illustrated). Rim diameter *c.*16cm or more. This group consists simply of larger versions of class AB, and was considered necessary to accommodate sherds which cannot certainly be demonstrated to have had handles or spouts. (AF types have added characteristics). It seems probable that all vessels in this size had handles and/or a spout, but this cannot be proven. Bases seem always to be sagging, as no large flat bases were found. However, this is not certain, especially as there are few complete profiles, and the sizes of base are not clear. This type of vessel does not commonly appear to be sooted. Decoration normally consists of rouletted bands, usually on the vessel shoulder, but occasionally on the rim. Incised lines occur rarely. The frequency of form types in this group is similar to that in group AB. The upright rim forms, and short, thick everted rims typical of group AA, are not however, found in this group. Fabrics are virtually all medium. Evidence for kiln production is dubious as the diameter cannot be ascertained for most wasters: it seems likely that handled jars only were being produced in this size group.

AD — Spouted Jars or Pitchers (Figs. 158-63, Nos. 158-209). It is often difficult to tell if a vessel was spouted or not, as most spouted types overlap with the other jars, i.e. groups AB, AC and AE. Vessels known to be spouted comprise some 2.6% of the rim total. Also, indications of how many handles were present is usually not clear, and either two or three are possible. Only one vessel with certainly one handle was found and this is not Thetford Ware from Thetford (No. 404). Handles normally spring from the rim, although a few examples have been found on the neck, e.g. No. 160. For a discussion of spouts see p.121. All bases in this group seems to be sagging. Sharply everted and tapering rim types (AD3, AD9, Figs.158 and 160) are typical of, and probably particular to, spouted vessels. All spouted jars have been classed together, although the larger vessels AD14 may be for the storage of liquids rather than table ware. There is no sooting on this group. Decoration comprises rouletted bands, cordons, wavy lines and, rarely, stamps. Type AD3 and AD9 seem in particular to have been highly decorated. Fabrics are normally medium, although smooth and fine fabrics do occur. There is no evidence of kiln production for this group.

AE — Handled Jars (Figs. 163-6, Nos. 210-49). It seems certain that spouted vessels (group AD) were also handled, and most of the large jars (group AC) probably had handles. In many cases there is not sufficient rim length surviving to demonstrate that a vessel was certainly handled, but all probable examples have been included in this group. One complete example survives (No. 228). It seems likely that all jars (other than group AF) of more than 20cm diameter had handles. Vessels known to be handled comprise some 4% of the site Thetford Ware rim total. Two or four handles seem the normal number, but a few multi-handled examples were found by Knocker (form as No. 215; see group AG for multi-handled storage jars). In most instances the number of handles is not clear, but they are invariably strap handles. All bases seem to be sagging.

Decoration often occurs, and comprises rouletted bands, wavy lines, and sometimes cordons or thumbed strips. Wavy-line decoration seems typical, occuring on vessel rim and/or neck and often in conjunction with rouletting. Vessels are not often sooted. Medium fabrics are normal, although some fine and smooth vessels occur. There is evidence of kiln production for this group.

AF — Large Non-handled Jars (Figs. 166-7, Nos. 250-65). This group, although distinctive, is difficult to define succinctly. It is also difficult to distinguish from deep bowl forms (BB7 and BB8, Fig. 172) and handled jars with decorative clay bands (e.g. Nos. 241-2). It is, however, different from AC, AE and AG groups by two combined characteristics. Firstly, there seem to be no handles; secondly, there is an added clay band around the outside of the neck. No examples with handles have been found, and there are two complete examples without them (Nos. 250 and 258). The added clay band is thumbed, often forming widened hollows. No sooted examples have been found. Bases appear to be sagging. A few examples are as small as *c.*16cm in diameter, but normally they are at least 20cm in

diameter. A storage function is perhaps to be assumed for this class of vessel. The group is fairly common, with over 100 examples having been found, but is far exceeded by the normal storage jars of group AG. Fabrics are medium, fine and smooth. There is evidence of kiln production.

AG — Large Multi-handled Jars with Added Clay at Rim or Storage Jars (Figs. 167-70, Nos. 266-79). This group consists of vessels normally called storage jars. They are large (at least 18cm rim diameter) and usually thick walled. Between four and eight handles are attached to the rim or neck and an added clay band wrapped around the rim and thumbed on the top is also diagnostic. Bases are always sagging and are often rounded. Thumb-strip decoration is normal on these vessels and is often highly elaborate: the strips are most commonly placed vertically, but criss-cross patterns are also found and on some vessels the patterns are zoned. A horizontal frilled band occurs around the base of a few vessels, but these are usually in a coarse fabric and not necessarily Thetford products. Stamps occur on some strips, and stamped decoration is rare on other vessel types. Storage jars occur usually in medium fabrics, but some vessels in fine, coarse, and occasionally smooth fabrics were found in later contexts. This group of vessel was certainly produced in Thetford.

Class B — Dishes, Bowls and Crucibles. This class has been divided into:

BA — dishes (Fig. 171, Nos. 280-6)
BB — bowls (Figs. 171-3, Nos. 287-327)
BC — handled bowls (Fig. 174, Nos. 328-31)
BD — spouted or socketed bowls (Fig. 174, Nos. 332-7)
BE — crucibles (Fig. 175, Nos. 338-41a)

Dishes and bowls have been placed in the same class, as small rim fragments are difficult to separate into types; in many instances the depth of the vessel is unknown. The definition has here been retained of a bowl as a vessel having the maximum width at the rim and with a depth of not less than one-third of the diameter. A dish is distinguished from this by having a depth less than one-third of the diameter.

Dishes are not common in the collection. Bowls are common with over 200 examples being found, but they are greatly outnumbered by jars, being some 0.3% of the Thetford Ware pottery total and 2.7% of the rim total. The forms most frequently found are the angled (BB11, BB12, Fig. 173) and inturned (BB3, BB9, Figs. 171-2) varieties, the former of which seems particular to Thetford. Normally bowls and dishes occur in medium fabric. Some crucibles are handmade and their fabric is sandy and similar to medium Thetford Ware, although they are too burnt for this to be certain. No convincing evidence for the production of class B has been found, but they must have been made at Thetford.

Class C — Costrels and Bottles (Figs. 176-7, Nos. 342-9). Fragments of seventy-eight costrels were found in the excavations, forming some 0.7% of the Thetford Ware rims. A few body sherds are recognisable, but in most instances the neck only is identifiable. An attempt is made below to classify the costrels, but many fragments are insufficiently informative to be divided in this way. A few costrels in smooth ware have been found, but the others are all in medium fabric. The bottles (CB) are in smooth fabric and the few examples were all in or near kiln 1.

Class D — Lamps (Fig. 177, Nos. 350-67). Lamps have been classified as follows:

DA — spiked (Nos. 350-4)
DB — baluster (Nos. 355-61)
DC — stemmed cup (Nos. 362-5)
DD — shallow cup (Nos. 366-7)

Lamps are common in the collection, with over 200 examples having been found, but the total is distorted by the quantity found near the kilns on Site 2 North, at least one of which (kiln 1) was producing lamps of spiked (DA) and stemmed cup (DC) types. Therefore, any frequency of usage figures have been distorted, as spiked and baluster types were found in roughly equal quantities: the other types seem few in number. Sooted lamps are not common as so many unused examples were found. There is occasional rouletting on baluster lamps (DB) and one spiked lamp (DA) with an apparent cordon, but otherwise lamps are undecorated. Type DB always occurs in medium fabric, and DA and DC are smooth or fine in fabric.

Class E — Lids (Fig. 177, Nos. 368-72). Ten examples of pot lids exist, and Knocker illustrated five more. Unfortunately, none is complete. All are wheel-made and most are flanged. The diameter range is *c.*6-13cm at the base. The fabrics of the extant examples are all medium. They assumedly fitted onto small and medium jars AA and AB, although the small number found suggests that ceramic lids were not often used. Some of the extant examples are sooted.

Class F — Ring Vases (Fig. 178, Nos. 373-6). These consist of a handmade hollow clay ring with small wheel-made cups inserted into it. Their precise function remains unclear. How many were found in the excavations is not certain as Knocker's records do not tally with the examples, but probably about ten. They are all in medium fabric and at least one is decorated with small circle stamps and a wavy line on the cups.

Bases

Bases account for some 9% of the Thetford Ware pottery total. Both flat and sagging bases were found, with some rounded bases occurring on storage jars (AG). The apparent concavity of some flat bases is most likely to be accidental. Flat bases are usually not large, and seem to go only with small and medium jars (AA and AB) and some dishes (BA). The majority of the site bases are sagging, being 76% of the base total of 8234 sherds. For smooth ware, however, the proportion is quite different as only 41% are sagging. The Site 2 North kilns were certainly producing jars with flat bases, and the site totals are distorted by dumps of wasters and seconds; the domestic usage of flat bases perhaps increases only slightly, if at all, during the occupation of the site. Flat bases from kiln 1 are often badly made and left untrimmed, but as they have been fired the intention must have been to market them in an untidy state. Many sagging bases have been trimmed with a knife, while many flat bases show marks of having been cut off the wheel by wire.

Spouts

Spouts occur on both jars (AD) and bowls (BD). Spouts make the form of an O, D, or U and also some free-standing tubular examples were found. There are no bridged or pulled-out varieties. The D and O shapes are the most common. Tubular spouts are rare and seem confined to pitchers of type AD3.

The spouts were always made separately and then inserted into a hole in the pot and folded back around the

inside of the vessel; extra clay was then added onto the outside to strengthen the join. Spouts occur in medium fabric in the main, although some are fine and a few are smooth, the smooth spouts all being O-shaped. Knocker's theory that D spouts are earlier than O spouts does not, however, appear to be well grounded and perhaps arises from the frequency of D spouts on angled bowls (BD4), which do appear at the beginning of the sequence. It seems likely that all shapes of spout were used concurrently, especially as differently shaped spouts can occur on the same type of vessel.

Handles

Most of the handles found are strap handles. They occur on pitchers (AD), large jars (AE), and storage jars (AG). A few vertical D-shaped handles seem to belong to the large bowls (BC). Handles usually spring from the vessel rim, but neck handles sometimes occur on pitchers (AD) and storage jars (AG). The strap handles are normally plain with a slight central hollow, but some examples have a faint mid-rib. Some of the smaller examples have an almost square section; these are probably neck handles from pitchers. Most of the handles seem to have been made by pulling, but some examples occur which have been wheel-made on their sides. Of note are a few long straight examples with a figure-of-eight section which resemble some classical amphora handles — to which vessels these belong is not clear (Fig. 181, No. 420). Decorated handles are not common; most of them have vertical applied thumbed strips (vessel of class AG), and vertical rouletted bands and stamps occur rarely. All decorated handles are in medium fabric, but handles have been found in all fabrics. The smooth ware handles are all plain straps.

Decoration

Decoration on the vessels is extremely common, and consists of rouletted patterns, applied clay strips, stamps, incised lines and cordons, and possible painted lines.

a) *Rouletted patterns.* These are extremely common, and occur on small jars (AA), medium jars (AB), large jars (AC), pitchers (AD), handled jars (AE) and sometimes on baluster lamps (DB) and bowls (BB). The rouletting comes in one or multiple bands which are often not continuous, and are normally on the vessel wall or shoulder, although they can also be on the rim. Rouletting sometimes occurs on raised cordons (especially on pitchers of type AD3) but not on applied strips. Diamond pattern is the most common and comes in two basic types: either the diamond shapes are small and are the obvious pattern (Fig. 183, No. 110), or the diamond shapes are large so that the surfaces between stand out as criss-cross bands (Fig. 183, No. 148). Squared patterns also occur, with lines of either impressed squares or impressed rectangles (Fig. 183, Nos. 142, 153 and 155). Lop-sided and completely irregular variations of these patterns also occur. Two sherds have interlace design (Fig. 183, Nos. 384 and 422). With the exception of a few fine fabric jars (of type AA10) which have a pattern of large diamonds (apparently one roulette) not comparable to any other type (Fig. 183, No. 24), rouletting occurs only on vessels of medium fabric.

b) *Applied clay strips.* These are extremely common, particularly on storage jars of groups AF and AG. They do not occur on small or medium jars or lamps, costrels etc. A few handled jars (AE) have strip decoration and sometimes it occurs on bowls, especially on the upright, deeper types (BB7 and BB8). The strips are placed on the vessel wall, usually vertically, but sometimes in a criss-cross pattern or with a horizontal strip dividing the surface into zones. They can also be found on the vessel rim, and on some storage jars (AG) around and under the base, or on the handles. Group AF jars have clay bands placed around the outside of the neck. The strips themselves are never plain and the most common form of ornamentation is impressed thumb marks which would also help to hold the strips in place. The thumb prints range from being closely set to occurring only where two strips cross. Thumbing does not occur directly on the vessels. Stamps also occur on applied strips.

c) *Stamps* (Fig. 183). These are almost always found only on applied strips on storage jars (AG). The stamps are normally circular or sub-rectangular, and are either a plain small circle, a cross in a circle, or a gridiron pattern. Only twenty-four stamped sherds were found. As far as can be told the stamping is random, and combinations of stamps were not found. Stamps placed directly on to the vessel are rare and consist of one handled oddity which is likely to be a pitcher, one ring vase with small circle stamps, and one jar bodysherd repeatedly stamped with a unique elongated oval stamp with transverse bars, probably an import (Fig. 183, No. 426).

d) *Incised lines.* These are not common. The most frequently found is the wavy line which is present on many handled jars (AE), and on pitchers of type AD3 (Fig. 183, No. 160). They are all in medium fabric. Plain horizontal lines are rare and on body sherds which are perhaps not native to Thetford. A few fine jars have intertwined wavy lines similar in design to those found at Langhale and Norwich e.g. No. 385.

e) *Cordons.* These are assumedly decorative. They are not common and seem mostly confined to spouted jars of type AD3, where they occur in combination with other motifs.

f) *Possible painted lines.* Drawn smooth ware rim sherds (Fig. 179, Nos. 391-4) have horizontal lines in grey around their necks. These have the appearance of paint, especially as some have darker edges. They may, however, be throwing marks.

Kiln Products

The Thetford pottery industry was obviously a major one, and it seems likely that all types were produced in the town, even if direct evidence is lacking. Kiln evidence comprises not only the structures on Site 2 North, but also the presence of wasters and miscoloured sherds in other deposits. Kiln material has distorted the overall site statistics, particularly in the area around kiln 1.

Only two other kiln dumps are worthy of comment.

a) The area at the northern end of Site 2 South which Knocker called hut 6 produced many wasters and misfired sherds of common cooking pots (such as AB13 and AB14) and storage jars (AG) at a depth of about 3ft (0.9m) from the surface. Below that there were no wasters, no smooth ware, and no Early Medieval Ware, suggesting an eleventh-century date for this activity.

b) A group of wasters was found at No. 7 Newtown. The range of types is shown on Figs. 153, 181 and 182, Nos.

35, 424 and 432-40. No dating evidence exists for this group.

The structures of the kilns found on Site 2 North have already been discussed (p.34), and only ceramic comments will be offered here.

Kiln 1. This structure can be divided into two basic elements (excluding the stoke-hole, as this material is now mainly missing).

i) *'Top of kiln'* ('above kiln' in catalogue) assumedly above the oven floor. This contained the remains of a smooth ware kiln load consisting of flat-based jars with upright rim forms (AA2, AB2, AB9), spiked lamps (DA) and probably stemmed cup lamps (DC) and bottles (CB). There is no evidence of stacking procedure nor is it clear whether some other forms, such as pitchers, were included in this load. The complete pots which have survived seem to be those which fell into the floor vents. These comprise seven complete jars, and ten complete lamps: a further 219 smooth ware jar rims were found, and forty-six lamp fragments, of which only four were stemmed cups (DC) and the rest spiked (DA).

ii) *Inside the combustion chamber.* This included waster fragments in medium fabric of types AB1, AB6, AB7, AB9, AB11, AB13 and AF and AG, although it is not clear whether any of these vessels were also made in this kiln. The pottery inside the combustion chamber shows a marked decrease in smooth ware towards the bottom. In the top loamy fill (layers A-B1) smooth ware accounts for 36% of the pottery, but in the sandy and black layers (B2 downwards) it is only 7%. All layers include residual and non-kiln material such as St. Neot's Ware, and wasters were found at all levels. However, the ceramic change of decreasing smooth ware does occur at about layer C or B2, and this perhaps suggests that the upper material was of subsequent derivation. All filling must relate to the second phase of the kiln, and the derivation of the sherds in relation to the kiln is not totally clear.

The unusual smooth ware fabric is worthy of notice and it is paralleled by material at Dorestadt (British Museum sample 1955, 10-8, 34). ? Painted smooth ware sherds were found (Fig. 179, Nos. 391-4), and it may be that this potter originated directly from the Continent. Future work could be done on this subject.

The dating of this kiln is aided by its late stratigraphical position on the site, and the presence of smooth ware in eleventh-century contexts elsewhere on the site. An eleventh-century date would seem certain, perhaps more likely in the latter half of the century. As smooth ware was found sealed by this kiln (*P*N25 and surrounding layers) it seems that this was not the only kiln to produce it.

Kiln 2. The derivation of this kiln's filling would seem, from the ceramic mixture, not to be primary. The most conspicuous wasters are storage jars (AG) and plain flared cooking pots (AA1 and AB1) although these are not necessarily kiln products. The presence of smooth ware and Early Medieval Ware suggests an eleventh-century backfilling, and a high vessel count and the presence of slag reinforces the impression that this kiln had been deliberately covered over.

Kiln 3. The only surviving pottery (no wasters) is shown on Figs. 153-4, 156 and 163, Nos. 23, 45, 93, and 211. All that is known is that this predates kiln 2.

St. Neots-type Ware (Fig. 184).

This shelly ware makes up 2.0% of the total: the 2350 sherds represent a much smaller number of vessels. The fabrics vary little, although some soft cooking-pots have been found. Most of these calcite-gritted wares are firm, but rarely 'soapy'. Surface colours are red or light brown.

Other than a few storage jar body sherds, one handle, one pitcher, one lid fragment, and a few dishes, the forms are all cooking-pots and bowls. The cooking-pots have both plain flared and internally hollowed rims, with the former type being more common. The bowls are mainly inturned, and only one spouted example was found[17]. Bases are sagging with one exception (which could be Roman). Decoration is not common and other than one body sherd with squared rouletting, consists of thumbed impressions, usually on the angle of the inturned bowls.

There is no certain evidence of ninth-century occupation on the excavated sites, and although St. Neots-type Ware seems to be present in the earlier deposits, the tenth century is the start of the sequence. The quantity of St. Neots-type Ware seems to increase in the eleventh century.

Early Medieval Ware (Fig. 185).

Approximately 845 sherds of these local wares were counted, forming some 1.0% of the site total. Three basic fabric divisions can be made in this material, although the inclusion of unstratified topsoil sherds would increase this.

i) Sandy, usually rather coarse; surface often sparkles. Extremely common.

ii) With dominant quartz particles. Pimply. Not common.

iii) With calcitic lumps. probably chalk. Not common.

The forms are mainly jars, but a few bowls were found. Forms can be roughly divided as follows:

a) Smallish cooking-pots with plain flared rims, often with extremely thin walls. In fabric (i). Usually black and red in colour, but a few examples occur in dark grey or black slightly finer fabric similar to Early Medieval vessels in the Norwich area. There is no decoration. Not common. Diameter range *c.* 12-24cm normally less than 20cm, e.g. Fig. 185, Nos. 459, 460, 463.

b) Larger jars with expanded top which is sometimes thumbed, upright with an expanded top or everted to a right angle. The rims vary in shape and thickness. The forms occur in all three fabrics. Usually dark grey or brown colours. Often decorated with incised lines which are usually wavy or combed. Not common. Diameter range *c.* 14-40cm but normally between 16 and 28cm, e.g. Fig. 185, Nos. 462, 466, 468.

c) Ginger jars. On these constricted-mouth jars the rim is usually plain, but can be slightly beaded. Vessels are usually thin-walled, made in fabric (i), and red and black in colour. Often decorated with thumbing or a thumbed strip around the outside of the rim; one example has a line of cross-in-circle stamped decoration (No. 469 from early eleventh century *P*N49). Not common. Diameter range *c.* 9-36cm, e.g. Fig. 185, Nos. 469-472.

d) Bowls. A few examples were found, including one or two spouted fragments. Rims are plain or expanded. Fabric (i) or (iii). Colour can be dark grey or reddish.

One example found decorated with incised lines. Diameter range *c.* 14-32cm, e.g. Fig. 185, No. 474.

It is interesting to note that plain jars of type (a) above are paralleled in Thetford Ware (types AB1 and AA1). Early Medieval Ware occurs in the latest contexts and often in features with eleventh-century Stamford Ware. It is taken as being diagnostic of eleventh or even twelfth century date. It seems likely that the ginger jars (c) and small plain cooking-pots (a) are eleventh century, but some of the larger jars (b) could be twelfth century. This is supported by the material from Red Castle at Thetford which is nearly all of type (b).

Stamford Ware (not illustrated)
by Kathy Kilmurry
The 936 sherds of Stamford Ware[18] from Knocker's excavation reflect a close link between the two towns from the mid-tenth to the late eleventh century. The absence of Stamford Fabrics E, F and H of the late ninth and early tenth centuries implies that either the excavated sites were not then occupied or that trade with Stamford had not yet been established. Little of the Stamford Ware is conclusively post-Conquest in date. The sixty-three sherds of Fabric B, representing 6.7% of the total, belong after *c.* 1060; although some thirty-four of these sherds bear copper-green Glaze 3 and must date after *c.* 1140, only a few different vessels are in fact represented. The bulk of the Stamford Ware (673 sherds, 71.9%) is of sandy Fabric A, which is most common in the tenth and eleventh century. Fabric D (100 sherds, 10.7%) is generally of the tenth century, and Fabric G (100 sherds, 10.7%) is most frequent in the second half of the eleventh century.

The Stamford vessel forms present also centre around an early eleventh-century date. Significantly, only two of the thirty-one spouted pitchers have the collared neck typical of the post-Conquest production and only one Form 6 jug is present. This shortage of twelfth and early thirteenth century material might be due to decreased trade with Stamford. However, other sites in Norfolk, including Castle Acre, King's Lynn and Norwich continued to receive Stamford Ware during this period. Thus, the decrease in Stamford Ware probably reflects a general reduction in the occupation of Thetford south of the river.

A wide range of early Stamford Ware forms is represented, though the evidence conflicts over the precise nature of the assemblage. Three quarters of the Stamford Ware sherds examined are glazed, which suggests that tablewares predominated. This would not be surprising as the Thetford potters did not produce glazed ware and Stamford products filled that vacuum here, as in most of eastern England in the pre-Conquest period. Yet less than one-third of the rims examined belong to tableware types such as spouted pitchers (Forms 5 and 8) and jugs (Form 6). Clearly, the surviving sample of Stamford Ware sherds is no longer complete and it is not certain whether unglazed body sherds or glazed rims are underepresented in the group.

Stamford cooking wares are better represented in Thetford than at any other site of comparable distance from the production. Since the Thetford potters produced equivalents of these forms, the Stamford vessels were probably brought as part of travellers' household goods rather than by trade. Large, straight-sided Stamford bowls (Form 1) are not common outside the immediate region of the town, presumably because of their size. Thetford, apart from Red Castle, provides nineteen of these fifty-five identified examples; other vessels are known from castle sites such as Alstoe Mount, Oakham and Red Castle, Thetford, towns (Leicester and Lincoln) and a few rural sites in Lincolnshire. The twenty-five cooking-pots (Forms 2 and 3) also form a large group. The high ratio of large bowls to cooking-pots stands out as being unusual and is only paralleled in Stamford itself, in pit groups attributed to the early and mid-eleventh century. Other forms represented include a large, glazed storage vessel (Form 21), a large, curved-sided bowl (Form 7), small pots (Form 9) and small bowls (Form 12). Although the quantity of cooking ware in relation to tablewares may be disputed, the nature of the cooking wares present at Thetford closely mirrors eleventh-century groups found in Stamford and reflects a link closer than a simple trade in pottery.

The tablewares present (Forms 5, 8 and 10) are typical of the products traded extensively from Stamford in the pre-Conquest period. However, two sherds from small vessels show unusual decoration, similar to that of the missing Crowland bowl (Hurst 1958, pl. V). One (A5/5) has been impressed leaving short, raised lines. Another (A4/4) bears traces of two impressed rosettes adjacent to two raised spiral patterns (Kilmurry 1980, 319, Fig. 77, Nos. 3 and 5). Related relief decoration is present in Stamford in the eleventh century.

Knocker's sites produced a relatively large group of crucibles and lamps. The thirteen Form 16 examples are small and bag-shaped, while the sixteen Form 19 vessels are elongated to an ovoid circumference. Some examples show signs of use as crucibles; the remainder are interpreted as lamps. These types are well represented at the Lincoln Flaxengate site and are also known from Oxford, Derby, Norwich and York. Stamford fabrics presumably had refractory properties superior to local wares, to be preferred for crucibles. Unless the metalworkers were themselves mobile, these sherds represent a rather specialised trade, distinct from the more usual export of tablewares.

Imports (not illustrated)
Surprisingly few sherds stand out as imports, and those which do are body sherds impossible to attribute to a source, although the Rhineland, Holland, Belgium and Northern France have been suggested[19]. The red-painted sherd published by Gerald Dunning (1959, 58, Fig. 29, No. 4) could be Dutch Limburg or Pingsdorf post-Conquest: its context is topsoil, Site 6. Three sherds of Rhenish blue-grey ladle were found, (*P*N18B, Site 2 North and below floor of *H*5, Site 2 South). Two sherds of Badorf Ware were found in *G*XXIII Site 2 North.

Medieval Wares (not illustrated)
Thirty-two glazed sherds have been identified[20] as having been produced by kilns at Sible Hedingham, Essex, thirty-one miles (50km) South of Thetford (Webster and Cherry 1972, 204; 1973, 184; 1974, 220). These are all jugs. The fabric is normally light buff in colour, smooth and fine, with much very fine white mica. The glaze is yellow, sometimes tinged with olive green. Decoration includes applied strips and pellets in red glaze, stabbing, incised lines, and stripes in reddish-brown slip. One sherd was found below Road 2 on Site 2 South and must be intrusive in that context: most of the material is unstratified on Site 2 North.

Fabric/ Glaze Type	Number of Sherds	% of Total	Date range
A 0	219	23.4	890-1200
A 1	312	33.3	890-1200
A 4	58	6.2	890-1050
A 5	84	9.0	890-1050
A	673	71.9	
B 0	5	0.5	1060-1250
B 1	11	1.2	1060-1250
B 2	1	0.1	1080-1250
B 3	46	4.9	1140-1250
B	63	6.7	
D 0	10	1.1	890-1025
D 1	9	0.9	890-1025
D 4	26	2.8	890-1025
D 5	55	5.9	890-1025
D	100	10.7	
G 0	5	0.5	1020-1200
G 1	36	3.8	1020-1200
G 6	59	6.4	1020-1080, 1140-1200
G	100	10.7	
Total	936		

Fabric	Unglazed	Glazed	Total
A	219 (32.5%)	454 (67.5%)	673
B	5 (16.0%)	58 (84.0%)	63
D	10 (10.0%)	90 (90.0%)	100
G	5 (5.0%)	95 (95.0%)	100
	239 (25.5%)	697 (74.5%)	936

Table 5 Stamford Ware: Fabrics and glaze types represented, based on Sherd counts

Rims	% of total	Vessel form
		Cooking wares
19	16.4	Form 1: Large, flanged bowls with straight sides
19	16.4	Form 2: Cooking-pots with everted rims
6	5.1	Form 3: Cooking-pots with lid seatings
1	0.9	Form 7: Large bowls with curved sides
4	3.4	Form 9: Small cooking-pots or cups
5	4.2	Form 12: Small, flanged bowls
54	46.4	
		Table wares
27	23.3	Form 5: Spouted pitchers
1	0.9	Form 6: Jugs
4	3.4	Form 8: Spouted pots with everted rims
1	0.9	Form 10: Pedestalled vessels
33	28.5	
		Other wares
13	11.2	Form 16: Crucible-type vessels
16	13.8	Form 19: Ovoid vessels, crucibles or lamps
29	25.0	
Total: 116 rims		

(A Form 25, large storage vessel is represented by a body sherd).

Table 6 Stamford Ware: Vessel forms represented, based on numbers of rim sherds

A coarser fabric group accounts for twenty-eight sherds of medieval glazed wares, distinguished by a high quartz context. It is not certain whether this might also have been made at Sible Hedingham as similar slip decoration occurs on some of these sherds. Vessels in this fabric occur in Pits N67 and N68 making them the latest features in these excavations. The dating of the medieval pottery seems to run into the early thirteenth century.

Unglazed medieval pottery from these sites cannot be identified to a source. The few sherds found relate to the Early Medieval Ware group (b).

The Site Series and Dating

Theories as to the possible site sequence have been arrived at by several criteria:

1) Context. This is the least reliable, as little consideration was paid to stratigraphy at the time, and material has been lost and muddled since. However, contexts have been carefully considered.
2) The presence of Stamford Ware. This is of top priority as these sherds are datable.
3) The presence of Early Medieval Ware. There is no reason to think that this pottery could be tenth century and it has, therefore, been taken as indicative of eleventh or even twelfth century date.
4) Thetford Ware fabrics and forms. This is the least important factor, and considerations have included points 1-3 above. Smooth ware is normally conspicuous. Its quantity is not large, and it increases dramatically near the kilns producing it. It appears consistently with Early Medieval Ware and eleventh-century Stamford Ware, as well as in new Thetford forms (AA2, AB2, AB9). Fine Thetford Ware also appears only in late contexts and also in the new forms and not in the other forms which seem present from the beginning (such as AB13, AB7, AB8, AB15, AB17). Conversely, forms which seem present from the beginning do not occur in fine or smooth fabrics. This must all be significant.
5) Kiln production. As mentioned in the section above on kiln products, the probable early layers do not contain wasters and misfired sherds. At least one kiln, *K*1, is demonstrably late, and assumedly its products in a feature would argue the lateness of that feature.

Layers and features which are eleventh century are, therefore, possible to detect. The absence of late material from a feature or layer, however, does not mean that that particular context is early. Moreover, there is no way of ascertaining if, or when, use or production of any given form ceased. However, there are conspicuous differences between groups which can be demonstrated to be eleventh century, and those which seem to pre-date them.

As might be expected from such a large body of material, the character of the pottery undergoes a change from the beginning to the end of the site occupation. 'Standard' Thetford Ware abounds in the earlier deposits, consisting mainly of cooking-pots with rouletted decoration on their shoulders (types AB7 and AB13 are the most common). Some bowls are present (mainly type BB12), some storage jars (usually rather small) and the occasional baluster lamp (group DB). Pitchers occur in these early layers (including type AD3) and some handled vessels, although it is not clear if they are pitchers or handled jars. All vessels are in medium fabric.

Groups of 'high level' (i.e. 2-3ft, 0.6-0.9m) and topsoil pottery, as well as some pit groups, containing diagnostic

eleventh-century material, produce Thetford Ware of different types to those cited in the paragraph above. Fabrics are mostly fine and smooth. Cooking-pots are plain and smaller in size; they have nearly upright rims and usually flat bases (types AA1 and 2, AB1 and 2 and AB9 are most common). Storage jars are common (in a variety of fabrics) and lamps become more frequent and varied in form. Large decorated jars (AF), and bowls of similar forms appear.

Details of the less common vessel types are obscure; for example, when costrels and ring vases appear is not clear, although they are probably present from the beginning. However, the broad considerations given above are consistent in the site groups. The amount of later jar types is somewhat increased near to the kilns making them, but evidence from the total excavated area supports not only their lateness, but also their increased frequency. To what extent they might replace the earlier types is not ascertainable on account of the impossiblity of discerning residual material.

The beginning of the sequence is most difficult to date. There is no evidence for ninth century (or earlier) occupation. The presence of five 'St. Edmund Memorial' coins from the excavations shows that the occupation is likely to have begun by the early tenth century, although the absence of Stamford Ware fabrics E, F and H implies a starting date later in the century. The end of the sites is probably early in the twelfth century, as only two features datable to the medieval period have been found (*P*N67, N68, Site 2 North), and even topsoil groups are lacking any quantity of later material.

Discussion

Vast quantities of pottery were found in these excavations, perhaps reflecting the crowded nature of an urban settlement. The material includes tablewares (such as decorated pitchers), cooking utensils (many vessels are sooted), vessels of general household function (such as lamps and storage jars), and pottery for industrial use (such as crucibles). The industrial element of the site is important as it affects the pottery in at least two ways:

a) The deposits could derive from centres of specialised use as well as being simply domestic assemblages. Some idea of the immediacy of the disposal can be gained by comparing the sherd count with a vessel estimate, but to elucidate the origin of the groups is not possible.
b) The production of certain types by the site kilns increases their frequency in the collection, thereby distorting the ratios of types in use.

The starting date of Thetford Ware production at Thetford is uncertain, not least because of the small area of the Late Saxon town that has been excavated. The relationship between Thetford and the other two main production centres of Ipswich and Norwich is also obscure, and there is still no certain evidence as to which centre began the production of Thetford-type Ware in the mid-to-late ninth century. Ipswich is the most likely candidate, possessing by this date a long-established potting industry. Related to this question is that of the Continental origins of the Thetford Ware tradition. This paper, essentially a corpus, is not the proper place for such far-ranging discussion.

The Thetford pottery industry was obviously carried out on a large scale providing almost all the needs of a great urban centre. The reasons for importing St. Neots-type and Stamford Wares is not clear. The superior quality of the latter may have made it attractive to Thetford consumers, but that cannot be said of the former. Both wares are found in the earliest deposits and increase in quantity in the eleventh century. This increase may reflect greater trade between Thetford and Middle Anglia.

The end of the Thetford Ware tradition is also obscure, but would seem to overlap with the Early Medieval Wares for some time. At Thetford itself the abandonment of the south bank town in the twelfth century would account for the end of this pottery type there. The appearance of local Early Medieval Wares in the eleventh-century deposits on the site probably begins early in the century. It perhaps suggests a decline in the local industry before the final collapse, as does also the presence of vessels from the Grimston kilns which continued production into the full medieval period.

A variety of Thetford Ware forms seem to have been present throughout this period of occupation, and possible changes of style are of interest. It remains to be seen whether the variety of types and their possible sequence on this site is matched by other sites from Thetford and from other sites in the area. This is the largest and most varied group of Saxo-Norman pottery found in East Anglia, and the only group from which it has been possible to extract detailed information leading to the theory that there were changes of fashion within the tradition.

The Pottery from Site 1092

(not illustrated)

A total of 3488 sherds were found, including topsoil and unstratified material. This comprises: medieval 48 (1.3%), Early Medieval Ware 426 (12.2%), Stamford Ware 139 (3.9%), St. Neots Ware 846 (24.2%), Thetford Ware 1906 (54.6%). The remainder are unstratified modern, post-medieval, or of uncertain date, including three sherds which appear to be handmade.

The Thetford Ware includes 167 rims comprising types AA1, AB1, AB7 (only four examples), AB9, AB10, AB11, AB13 (the most common type), AB14, AB15, AB16. There are four spouted vessels (AD) and three spout fragments, four handled jars (AE) and sixteen handles, six large non-handled jars (AF), three storage jars (AG), and ten bowls (BB) of which two are spouted (BD). There is one lamp fragment, probably DB. There are 107 bases of which seven are flat and the rest sagging. Some sherds decorated with rouletting or thumbed applied strips were found, and one sherd with criss-cross lines inside an oval stamp on applied strips. Many sherds are not grey, but pink, brown or white. There was no smooth ware. 145 St. Neots Ware rims were found: 110 cooking pots, twenty bowls and fifteen uncertain. There were two flat and forty-four sagging bases. Stamford Ware is discussed below. The Early Medieval Ware is almost all sandy fabric (i) and amongst the fifty-six rims are thirty-eight cooking pots, one bowl, one ?bowl, and sixteen ginger jars. There are four sagging bases. The medieval pottery consists of both Grimston products and local unglazed wares from unknown sources.

There is no balanced pottery sequence on this site, as the earliest features have little or no pottery. However, two distinct phases emerge:

a) The features cut by ditches 63 and 169. These

produced only a few sherds of Thetford Ware. The only feature to produce tenth-century dating evidence is pit 158.

b) Features demonstrably eleventh century, by the presence of Early Medieval Ware and Stamford Ware, such as ditches 169 and 63, post-hole 58, floor 11 and layer 36, pits 14, 15, 104 and 129.

Although less pottery was also found in the earliest layers of Knocker's sites, this site provides a greater contrast, as does the smaller quantity of 'standard' grey material among the Thetford Ware. The site statistics here are markedly different, as almost half of the pottery is not Thetford Ware. The conclusion can be drawn that there was no intense occupation in this area before the eleventh century, as this accounts not only for the scarcity of layers and features attributable to tenth century, but also for the shortage of standard Thetford Ware residual in later layers which would contribute to the different statistics.

The dating range of the group is best provided by the Stamford Ware (see below). Key feature ditch 63 contained Stamford Ware dating between *c.* 1020-1050, and it therefore seems likely that both the large ditches 111 and 141 were full by this period. This dating matches a coherence of the site Stamford Ware observed by Kathy Kilmurry, in that none of it need post-date the Conquest. Moreover, occupation is most unlikely to continue until the end of the eleventh century as Fabric B which begins *c.* 1060 is absent and activity had probably ceased by *c.* 1080.

Stamford Ware

by Kathy Kilmurry

The 139 sherds of Stamford Ware (Kilmurry 1977 and 1980) from Site 1092 form a small sample, which is generally comparable with the larger group from Knocker's excavations. Almost all of the Stamford pre-Conquest fabric and glaze types are represented, reflecting repeated contact between the two towns. One sherd of Fabric E from layer 94 suggests that this link with Stamford began before the mid tenth century. The thirty sherds (21% of the total) of Fabric D hint at a greater proportion of tenth century material on Site 1092 than the 10% on Knocker's sites; however, eleven of these sherds belong to the same vessel. Post-Conquest Stamford Ware is scarcely present. It is significant that there are no examples of Fabric B which began *c.* 1060 and only one rim, a collared cooking-pot from the topsoil, is diagnostic of the late eleventh century.

The percentage of glazed (68.3%) to unglazed sherds is high and the rims also reflect a preponderance of tablewares. Only a limited range of vessel types have been identified. The four spouted pitchers are all similar early-to-mid eleventh century forms, while the three Form 8 spouted pots are more characteristic of the tenth century. Although there is a single Form 4 cooking-pot rim, the site appears to differ from Knocker's sites by lacking the Form 1 and 12 bowls and Form 2 and 3 cooking-pots which comprised 42% of the rims found there. One large glazed storage pot is represented by a body sherd. As at the other Thetford sites, crucible-type vessels or lamps form a significant part of the group. The more common Stamford decorative techniques, such as rouletting, grooving and application of thumbed strips, are present.

Fabric/ Glaze Type	Number of Sherds	% of Total	Date range
A 0	24	17.3	890-1200
A 1	24	17.3	890-1200
A 4	6	4.3	890-1050
A 5	13	9.4	890-1050
A 6	4	2.9	1020-1080, 1140-1200
A	71	51.2	
D 0	13	9.4	890-1025
D 1	2	1.4	890-1025
D 4	9	6.4	890-1025
D 5	6	4.3	890-1025
D	30	21.5	
E 0	1	0.7	860-925
G 0	6	4.3	1020-1200
G 1	24	17.3	1020-1200
G 6	7	5.0	1020-1080, 1140-1200
G	37	26.6	
Total	139 sherds		

Fabric	Unglazed	Glazed	Total
A	24 (33.8%)	47 (66.2%)	71
D	13 (43.3%)	17 (56.7%)	30
E	1 (100%)	0	1
G	6 (16.2%)	31 (83.8%)	37
	44 (31.7%)	95 (68.3%)	139

Table 7 Stamford Ware from Site 1092: Fabrics and Glaze types represented, based on sherd counts

Rims	% of total	Vessel form
		Cooking wares
1	8.3	Form 4: Collared cooking-pots
		Table wares
4	33.3	Form 5: Spouted pitchers
3	25.0	Form 8: Spouted pots with everted rims
7	58.3	
		Other wares
2	16.7	Form 16: Crucible-type vessels
2	16.7	Form 16 or Form 19: Ovoid vessels, crucibles or lamps
4	33.4	
Total : 12 rims		

(A Form 25 large storage vessel is represented by a body sherd)

Table 8 Stamford Ware from Site 1092: Vessel forms represented, based on numbers of rim sherds

The Pottery Catalogue

Introduction

The Thetford Ware (Nos. 1-377) is arranged by class, group and type (119). It is followed by miscellaneous Thetford and Thetford-type pots of unique form or fabrics (Nos. 378-431), a group from a probable kiln site at No. 7 Newtown (Nos. 432-40), St. Neot's-type Ware (Nos. 441-57) and finally Early Medieval Ware (Nos. 458-74). Thetford Ware decorative motifs are shown on Fig. 183. Each Thetford Ware entry includes the fabric type (p.118), details of surface treatment or deposits, the relative frequency of the type (p.117), the provenance, and the bag number. Nos. 378-474 do not include details of frequency, but fabric and colour descriptions are given.

Pots in the collection at Thetford Ancient House Museum are followed by their accession number (TAHM).

A Jars

AA Small Jars

Nos. 1-16 no internal hollow (AA1-AA6).

AA1 Plain flared. Not common. cf. AB1, AD1, AE1.

Fig. 153,

1. Medium. Soot. Rare.
   Topsoil above *P*51, Site 2S (486).
2. Medium; surface shiny from overfiring; vessel crooked and probably a waster. Rare.
   *H*19, Site 2N (743).
3. Medium-fine. Interior light and medium brown areas, exterior orangish brown and sooted, dark grey core. Rare.
   *P*N3 A-C, Site 2N (741).
4. Medium. Rare.
   K1, Site 2N TAHM T.977.81m.
5. Medium. Rare.
   *P*N69, Site 2N (1112).

AA2 Upright. Not common. cf. AB2, AD2, AE2.

6. Medium. Soot. Few. Normally a smooth ware type.
   Below floor *H*5, Site 2S (159).
7. Smooth. Greyish brown with some medium grey in core. Few.
   Above oven floor *K*1, Site 2N (1164).

AA3 Everted, sides tapering. Few. cf. AB4, AD3, AE3.

8. Medium. Rare.
   *H*5, Site 2S (315).

AA4 Everted, sides parallel or almost parallel. Not common. cf. AB5, AD4, AE4. A complete example of type AA4 was returned too late for inclusion (1.233).

9. Medium. Interior some soot, exterior heavy soot on rim and vessel wall stopping evenly *c*.2cm above base. Rare. *P*N48, Site 2N (993).
10. Medium. Red core. Soot. Rare.
    *P*6, Site 1 (1.195).
11. Medium. Soot. Few. TAHM T.977.81g.
    *H*T1, Site 1 (1.250).
12. Medium. Rare.
    *P*N6 A, Site 2N (760).

AA5 Everted, sides expanded to wedge shape. Not common. cf. AB6, AD5, AE5.

13. Medium-fine but fired very hard. Soot. Few. Near burial in Icknield Way area (20).
14. Medium. Few.
    *H*19, Site 2N (961 or 968).

AA6 Everted or rolled, sides expanded into globular shape, can have developed exterior pendant. Not common.

15. Medium. Rare.
    Trial trench NE of *H*7, Site 2S (144).
16. Medium. Few.
    *P*3, Site 1 (1.183).

Nos. 17-36 with internal hollow (AA7-AA13).

AA7 Triangular section. Not common. cf. AB7, AD6, AE6.

17. Medium. Interior light greyish brown. Few.
    *H*8, Site 2S (209 and 243).
18. Medium. Few.
    Above *P*N37 and N40, Site 2N (914).
19. Medium. Light brownish pink. Soot. Few.
    *P*N3A-C, Site 2N (735). TAHM T.977.81v.

AA8 Triangular section with developed exterior pendant. Few. cf. AB8, AD7, AE7.

20. Medium. Light brown margins. Rare.
    Topsoil above *H*6 (107.)

AA9 Everted, tapering sides. Not common. cf. AB10, AD9, AE9.

21. Fine. Soot. Few.
    *P*N3 A-C, Site 2N (708).
22. Medium. Few.
    *H*19, Site 2N (731).

AA10 Everted, sides parallel or almost parallel. Not common. cf. AB11, AD10, AE10.

23. Medium. Rare.
    *K*3, Site 2N (1160).
24. Fine. Soot. Rare.
    Topsoil *G*XVI and XVII, Site 2N (661).
25. Medium. Few.
    Hearth in *H*20, Site 2N (916).
26. Medium-fine. Soot. Few.
    *P*E, Site 1 (1.275).
27. Medium. Soot. Rare.
    *P*3, Site 1 (1.183).
28. Medium. Rare.
    *H*24, Site 2N (891).

AA11 Everted, sides expanded to wedge shape. Fairly common. cf. AB13, AD11, AE11.

29. Medium. Few.
    *H*20, Site 2N (847).
30. Medium. Soot. Few.
    Upper filling of *P*J, Site 2S (29).
31. Medium. Soot. Few.
    *P*47, Site 2S (455).
32. Medium. Light brownish grey. Soot. Few.
    *P*N12A, Site 2N (824).

AA12 Everted, sides expanded with rounded edges. Few. cf. AB16.

33. Fine. Soot. Few.
    *P*23, Site 2S (286).
34. Medium-fine. Few.
    *H*5, Site 2S (109).

AA13 Everted, external lip expanded into pendant. Few. cf. AB17.

35. Medium. Rim twisted and probably a second or waster. Rare.
    No. 7 Newtown (1296).
36. Medium. Black surfaces, red core. Rare.
    *P*N12 A or C, Site 2N (806).

AB Medium Jars

Nos. 37-60 no internal hollow (AB1-AB6).

AB1 Plain flared, Not common. cf. AA1, AD1, AE1.

37. Medium. Brownish surfaces, exterior slightly pinkish, dark grey core. Rare.
    *P*N57, Site 2N (1059).
38. Fine. Dark brown surfaces, orange section with dark grey core. Soot. Few.
    *P*26, Site 2S (234).
39. Medium. Soot. Rare.
    N of *H*6, Site 2S (77).
40. Medium. Soot on interior and exterior. Rare.
    *P*N18D, Site 2N (989).
41. Smooth. Light orange. Few.
    Above *K*1, Site 2N (1286).

AB2 Upright. Not common. cf. AA2, AD2, AE2.

Fig. 154,

42. Fine. Cracked in the firing. Few.
    Above *K*1, Site 2N (771).
43. Smooth. Cracked in the firing, split at rim. Not common.
    Above *K*1, Site 2N.
44. Smooth. Split, rim uneven. Few.
    Above *K*1, Site 2N. TAHM T.977.81c.

AB3 Everted, triangular section. Few. cf. AB7.

45. Fine. Rare.
    *K*3, Site 2N (1160).

AB4 Everted, sides tapering. Fairly common. cf. AA3, AD3, AE3.

46. Fine. Few.
    *P*54, Site 2S (522).
47. Fine. Rare.
    *G*X1, Site 2N (597).

AB5 Everted, sides parallel or slightly divergent. Fairly common. cf. AA4, AD4, AE4.

48. Medium. Reddish brown surfaces, orange core. Rare.
    Thetford, south of the river, find spot not recorded.
49. Medium. Almost black. Internal lime deposit. Rare.
    *H*19, Site 2N (966).
50. Smooth. Light greyish buff. Rare.
    Topsoil *G*VII/XI (940).

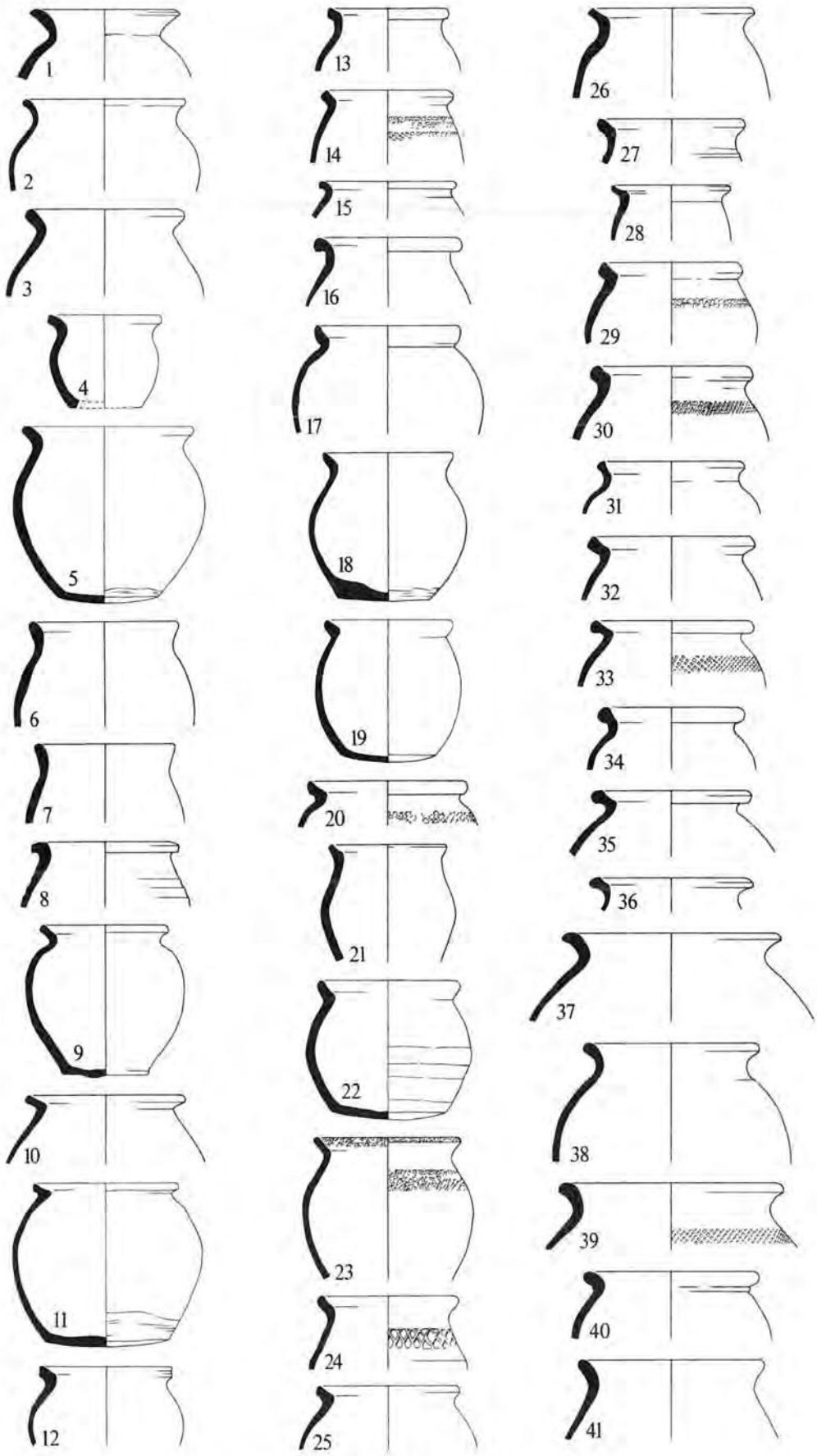


Fig. 153 Pottery. Thetford Ware. Scale 1:4.

51. Medium. Soot, some interior. Rare.
Topsoil *H*9, Site 2S (422).
52. Medium, almost coarse. May have had handles. Few.
Above *P*J, Site 2S (3).
53. Medium. Few.
*H*24, Site 2N (618).
AB6 Everted, sides expanded to wedge shape. Fairly common. cf. AA5, AD5, AE5.
54. Medium. Soot. Not common.
Sewer trench W of Site 2S (206).
55. Medium. Almost black surfaces. Soot. Few.
*P*2, Site 1 (1.113).
56. Medium. Soot. Not common.
*P*2, Site 1 (1.109).
57. Medium. Almost black surfaces. Not common.
*P*N3A-C, Site 2N (735).
58. Medium. Rare.
Topsoil W of *H*2, Site 1 (1.210).
59. Medium. Few.
*P*49, Site 2S (559).
60. Medium. Soot. Not common.
*H*2, Site 1 (1.155).
Nos. 61-157 with internal hollow (AB7-AB17).
AB7 Triangular section. Extremely common. cf. AA7, AD6, AE6, AB3.
61. Medium. Soot. Extremely common.
*P*N36, Site 2N (905).
62. Medium. Interior orange and grey, interior margin orange. Soot. Fairly common.
Below *R*3, N of *H*12, Site 2S (454).
63. Medium. Soot includes interior. Not common.
Lower filling *H*3, Site 1 (1.200).
64. Medium. Exterior orange patch, some orange in margins. Soot. Not common.
*P*N18B, Site 2N (957).
65. Medium. Almost black. Soot includes interior. Not common.
*P*N18D, Site 2N (989).
66. Medium. Orange patches. Soot. Not common.
Topsoil Site 2S (91). TAHM T.977.81a.

Fig. 155,
67. Medium. Fairly common.
*P*N22 A/B, Site 2N (933). TAHM T.977.81b.
68. Medium. Brownish grey surfaces and orange margins. Not common.
Below upper floor *H*20, Site 2N (896).
69. Medium. Interior body and margins dull orangish red, exterior, core and rim black. Few.
Between *H*8 and 9, Site 2S (156).
AB8 Triangular with developed exterior pendant. Common. cf. AA8, AD7, AE7 and AB15.
70. Medium. Fairly common.
*P*N18B, Site 2N (957).
71. Medium. Soot. Common.
*P*N22 A/B, Site 2N (933).
72. Medium. Not common.
*P*49A, Site 2S (540).
73. Medium. Soot. Not common.
*P*N6A, Site 2N (760).
74. Medium. Red patch on rim. Soot. Fairly common.
*P*N6A, Site 2N (760).
75. Medium. Soot on lower half of exterior wall. Not common.
*P*N54, Site 2N (1047).
AB9 Upright. Fairly common. cf. AD8, AE8.
76. Smooth. Light grey with buff core. Cracked and split in firing, a waster. Fairly common.
Above *K*1, Site 2N (1164).
77. Smooth. Light grey. Common.
Above *K*1, Site 2N (1286).
78. Fine. Not common.
SE vent-hole *K*1, Site 2N (1289).
79. Smooth. Light grey. Rim oval. Not common.
Combustion chamber *K*1, 'top layer', Site 2N. TAHM T.977.81f.
80. Smooth. Medium-light grey. Split, rim oval. Not common.
Above *K*1, Site 2N. TAHM T.977.81k.
81. Smooth. Light grey. Few.
Topsoil N part of Site 2S (28).
AB10 Everted, sides tapering. Fairly common. cf. AA9, AD9, AE9.
82. Medium. Soot. Few.
*P*27, Site 2S (252).
83. Medium. Exterior surface and rim reddish brown with black soot patches, interior surface, rim and core black with some reddish brown margins. Not common.
*P*A, Site 1 (1.101).
84. Medium. Few.
*H*31, Site 2N (728).
85. Fine. Exterior, rim and core brownish grey, interior light brown. Not common.
Above *K*1, Site 2N (1286).
86. Fine. Few.
*H*19, Site 2N (784).
87. Smooth. Pinkish orange; sherd partly burnt at rim. Few.
Above *K*1, Site 2N (1286).
88. Medium. Exterior, rim, and most of core almost black, interior and part of core orangish brown. Rare.
Upper filling *H*3, Site 1 (1.44).
AB11 Everted, sides parallel or slightly divergent. Common. cf. AA10, AD10, AE10, AB14.
89. Fine. Sherd uneven, probably a waster or second. Few.
*H*19, Site 2N (763).
90. Smooth. Dark grey surfaces, brown margins, dark grey core. Few.
Above *K*1, Site 2N (1286).

Fig. 156,
91. Smooth. Pink. So underfired that part of sherd disintegrates in water. Rare.
Above *K*1, Site 2N (771).
92. Fine. Rare.
Above *P*N7, Site 2N (761).
93. Fine. Rare.
*K*3, Site 2N (1160).
94. Fine. Few.
*P*32, Site 2S (390).
95. Medium. Exterior and rim almost black. Soot. Rare.
*P*55, Site 2S (554).
96. Medium. Soot. Rare.
*P*N18B, Site 2N (957).
97. Medium-coarse with many particles of chalk (*c.*2mm). Rare fabric, perhaps an experiment or accident; rather underfired and perhaps a waster or second. Few.
*H*19, Site 2N (960).
98. Medium-coarse with some soft white particles probably chalk (cf. No. 97). Rim dented, probably waster or second.
*P*N57, Site 2N (1059).
99. Medium. Soot. Few.
*P*N18B, Site 2N (957).
100. Medium. Almost black. Soot. Few.
*P*32, Site 2S (390).
101. Smooth. Light pinkish orange. Few.
Above *K*1, Site 2N (1286).
102. Medium. Soot. Few.
*P*N4A or B, Site 2N (892).
103. Medium-fine. Few.
*H*19, Site 2N (631).
104. Medium. Exterior dark grey, interior orangish brown, rim orangish brown with soot patches, core dark grey. Few.
Upper floor *H*13, Site 2S (553).
105. Medium. Few.
Filling of ditches, Site 1 (1.252).
106. Medium. Some light orangish brown areas on surfaces and margins. Few.
*P*N6A, Site 2N (760).
107. Fine with visible particles of iron ore and rather too much quartz/quartzite. Fired very hard. Rare.
Combustion chamber layer C, *K*1, Site 2N (1182).
108. Medium. Orange with dark grey patches on exterior surface and rim some of which have penetrated the margin. Few.
*P*N27, Site 2N (956).
AB12 Everted, sides parallel, exaggerated hollow. Few.
109. Medium. Orange with medium grey core, orange margins.
*P*N27, Site 2N (956).
AB13 Everted, sides expanded to wedge shape. Extremely common. cf. AA11, AD11, AE11.
110. Medium. Soot. Extremely common.
*P*N36, Site 2N (905).
111. Medium. Exterior orange patches. Soot. Common.
Below *R*3, NW of *P*29, Site 2S (71). TAHM T.977.81h.
112. Medium. Soot. Common.
*P*23, Site 2S (286).

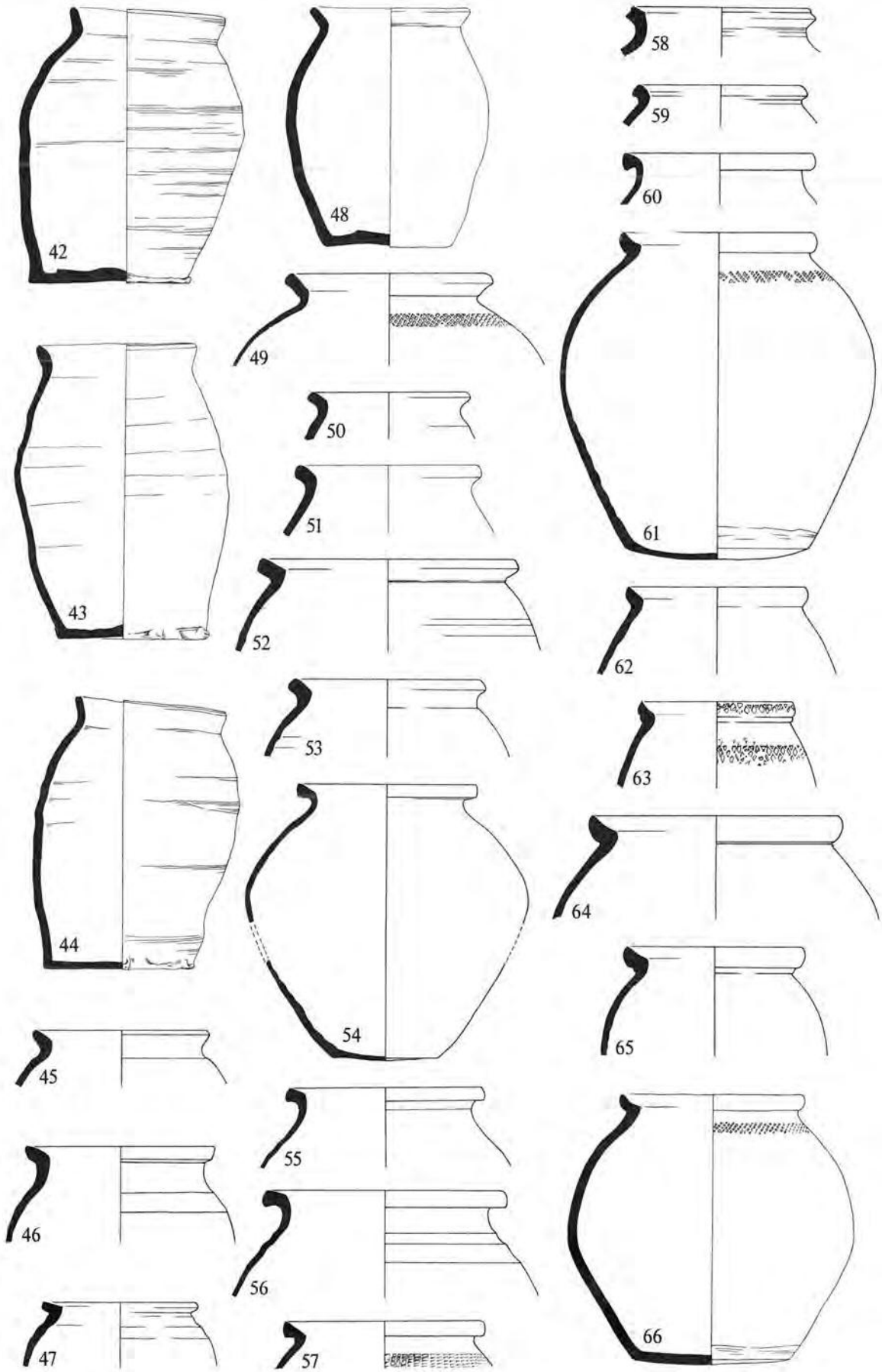


Fig. 154 Pottery. Thetford Ware. Scale 1:4.

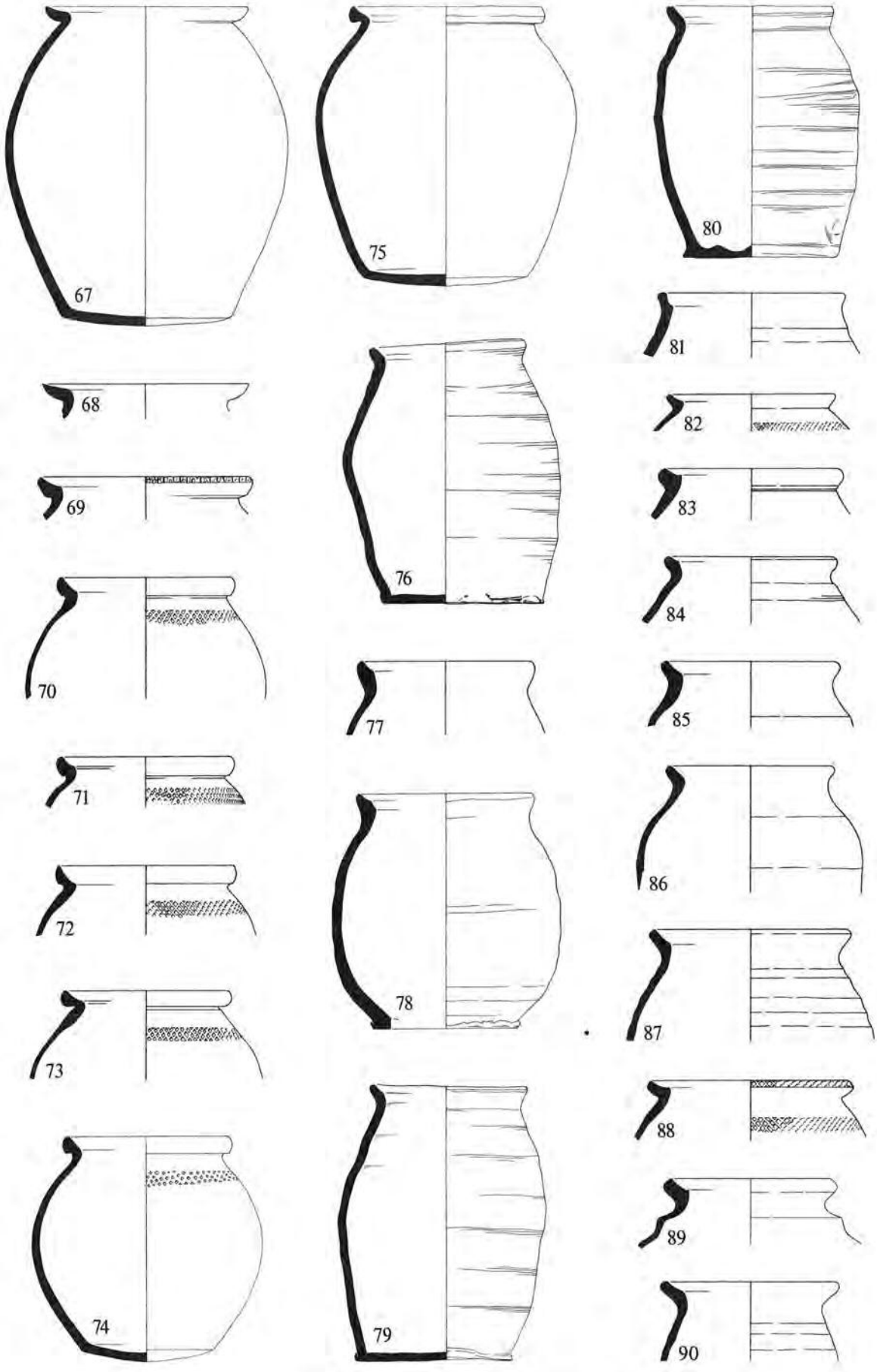


Fig. 155 Pottery. Thetford Ware. Scale 1:4.

113. Medium-coarse. Soot. Not common.
Lower filling *H*3, Site 1 (1.142).
114. Medium. Few.
*H*9, Site 2S (504).
115. Medium. Light orange with bluish grey patches except for some medium grey areas in core. Not common.
*P*23, Site 2S (283).
116. Medium. Soot. Fairly common.
*P*23, Site 2S (283).
117. Medium. Common.
*P*27, Site 2S (252).
118. Medium. Soot. Fairly common.
*H*23, Site 2N (752).
119. Medium but overfired, perhaps a second or waster. Fairly common. Black soil, Site 3 (401).
120. Medium. Soot. Not common.
*P*43, Site 2S (371).
121. Medium. Soot. Not common. cf. No. 127.
Lower filling *H*3, Site 1 (1.199).
AB14 Everted, slightly expanded into degenerate wedge shape, usually at least one squared corner. Common. cf., AD12, AE12, AB11.
122. Medium. Rare.
*H*19, Site 2N (965).
123. Medium, overfired so that surface beginning to crack, slightly irregular shape, second or waster. Not common.
Topsoil over *H*2, Site 1 (1.210).
124. Probably medium but overfired, part of rim collapsed and twisted, waster. Not common.
Black soil, Site 3 (408).
125. Medium. Medium brown interior and orange margins, rest dark grey. Soot. Not common.
*H*19, Site 2N (945).
126. Medium-coarse. Fairly common.
*P*62, Site 2S (622).
127. Medium. Fairly common. cf. No. 121.
*P*N4 A or B, Site 2N (893).
128. Medium. Interior and margins brownish. Fairly common.
*P*N3 A-C, Site 2N (741).

Fig. 157,
129. Medium. Orange patch on rim. Soot includes interior. Fairly common.
*P*1, Site 1 (1.72).
130. Fine. Exterior patch, part of interior, and margins light greyish brown. Soot. Fairly common.
*H*9, Site 2S (357).
131. Medium but overfired; rim warped, waster. Not common.
*H*19 or 20, Site 2N (931).
132. Medium. Interior and margins medium reddish brown. Soot. Not common.
*H*19, Site 2N (947).
133. Medium. Fairly common.
*P*N12B, Site 2N (827). TAHM T.977.81i.
134. Medium. Reddish orange with light grey core. Not common. Filling of oval feature *H*6, Site 2S (268).
135. Medium. Light brown margins. Not common.
*P*43, Site 2S (371).
136. Medium. Rim slightly uneven. Common.
*P*57, Site 2S (575).
137. Medium. Soot. Not common.
Lower filling *H*3, Site 1 (1.203).
138. Medium. Exterior light brown patch penetrating core. Soot. Not common.
*P*N18B, Site 2N (957).
139. Medium. Soot inside rim. Not common.
*H*19, Site 2N (961).
140. Medium-fine. Not common.
Black soil, Site 3 (400).
141. Medium. Not common.
Black soil, Site 3 (400).
AB15 Everted, expanded with developed exterior pendant. Fairly common. cf. AD13 and AB8.
142. Medium. Interior surface and margins light brown.
Above *P*N21, Site 2N (830).
143. Medium. Fairly common.
*P*27, Site 2S (252).
144. Medium. Rim warped, waster or second. Not common.
*P*N49 or *P*N49A-C, Site 2N (988).
145. Medium-coarse. Margins light brown. Soot. Not common.
Below *R*1, *H*12 (611).
146. Medium. Few.
*H*9, Site 2S (336).
AB16 Everted, expanded with rounded edges. Not common. cf. AA12.
147. Medium with many rounded quartz/quartzite particles. Beginning to spall. Not common.
*G*VIII, Site 2N (800).
148. Medium not common.
*P*29, Site 2S (247).
149. Medium-coarse. Soot. Not common.
*P*N4A or B, Site 2N (893 and 915).
150. Medium. Not common.
Upper floor *H*13, Site 2S (493).
151. Medium-coarse. Part of interior surface, inside of rim, and exterior margin light brownish orange. Soot. Not common.
*P*N4A or B, Site 2N (893 and 915).
AB17 Everted, expanded with extreme thickening at lip often giving pendant impression, but elongated. Not common. cf. AA13.
152. Medium. Rim uneven, perhaps a second. Soot. Not common.
*P*N61, Site 2N (1073).
153. Medium. Soot. Few.
*P*N4A or B, Site 2N (892).
154. Medium. Light brown margins. Few.
*P*N12A, Site 2N (824).
155. Medium. Some shrinkage in the surface of the clay giving slight cracks, but useable. Few.
*H*8, Site 2S (364).
156. Medium. Purplish surfaces, overfired so that temper partly burnt out and sherd beginning to vitrify. More likely waster than subsequent burning. Few.
Above *P*N61, Site 2N (1066).
157. Medium. Orangish red surfaces. Soot. Few.
*H*14, Site 2S (547).

AC Large Jars. Not illustrated. See p.120.

AD Spouted Jars or Pitchers.
Nos. 158-70 no internal hollow (AD1-AD5).
AD1 Plain flared. Few. cf. AA1, AB1, AE1.

Fig. 158,
158. Medium. Cracked where spout meets rim but not a waster. Few.
*K*2, Site 2N (1146).
AD2 Upright. Few. cf. AA2, AB2, AE2.
159. Smooth. Medium brown. Just under one-quarter of rim with edge of spout scar. Rare.
Above *K*1, Site 2N (1286).
AD3 Everted, sides tapering. Fairly common. cf. AA3, AB4, AE3.
160. Medium. Rare.
N of *P*14, Site 2S (13).
161. Medium-coarse. Core orange in places. Drawing partly reconstructed; two small rim fragments, less than one quarter of rim. Few.
*H*24, Site 2N (596).
162. Medium-fine. Approx. two thirds of rim; presence of back handle unknown. Rare.
*G*XXII/XXIII, Site 2N (1080). TAHM T.977.81l.
163. Fine. Margins medium brown. Just over one-quarter of rim. Few. Topsoil over *H*7, Site 2N (192).
164. Medium. Exterior and core almost black, interior and margins reddish brown. Few.
*H*9, Site 2S (373).
165. Medium. Surfaces almost black, dark grey core, margins reddish brown. Few.
*P*41, Site 2S (372).
166. Medium. One-quarter of rim. Not common.
*P*45, Site 2S (458).
AD4 Everted, sides parallel or almost parallel. Not common. cf. AA4, AB5, AE4.

Fig. 159,
167. Medium. Few.
Topsoil over *H*5, Site 2S (83).
168. Medium. Knocker figures with side handles, fragments now missing. Rare.
Lower filling *H*3, Site 1 (1.84).
169. Medium. Less than one-quarter of rim. Rare.
*P*46, Site 2S (427).
AD5 Everted, sides expanded. Not common. cf. AA5, AB6, AE5.
170. Medium-coarse. Surfaces dark grey, margins light brown; interior flaking. Just over one-quarter of rim. Possibly not

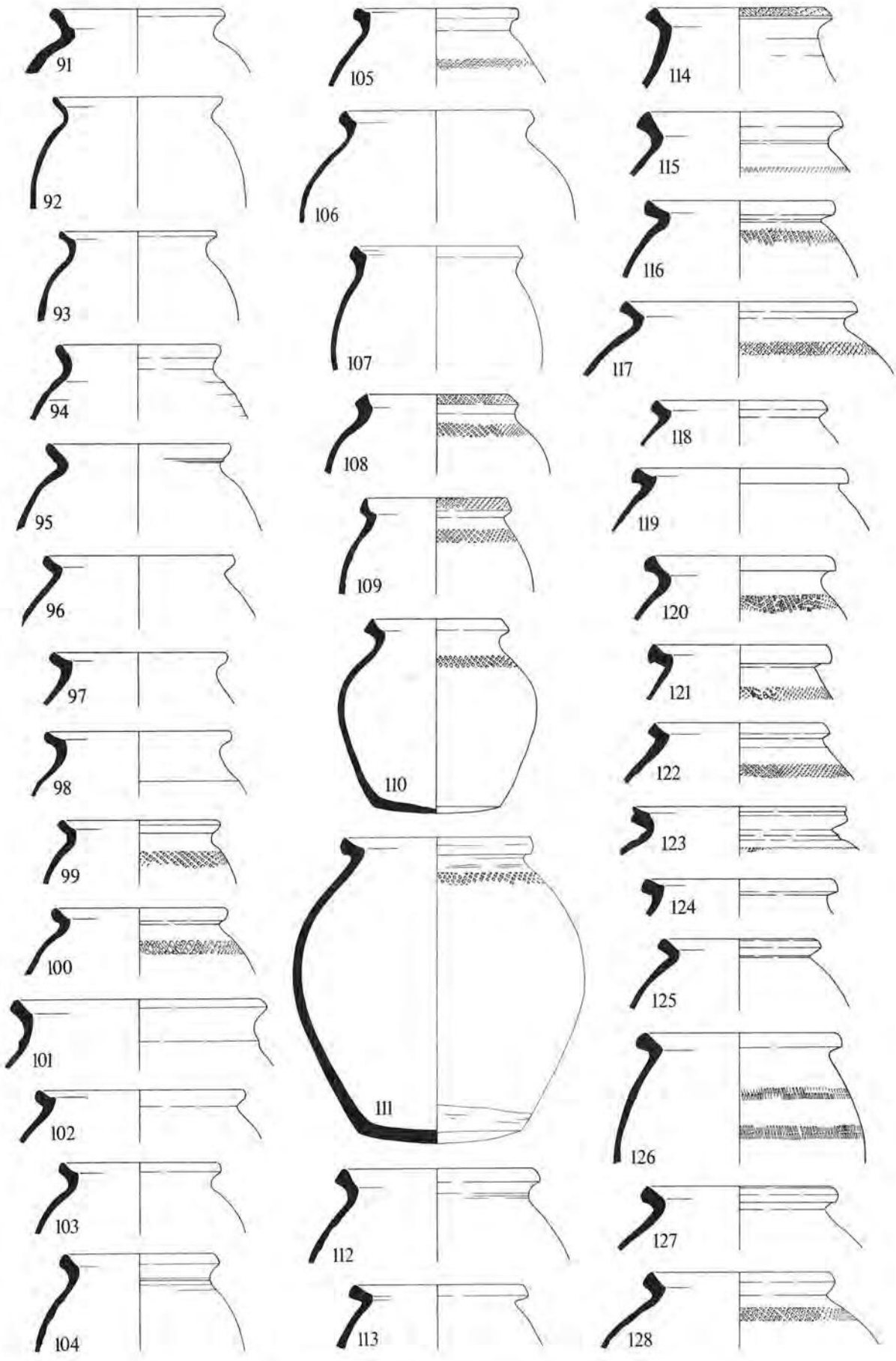


Fig. 156 Pottery. Thetford Ware. Scale 1:4.

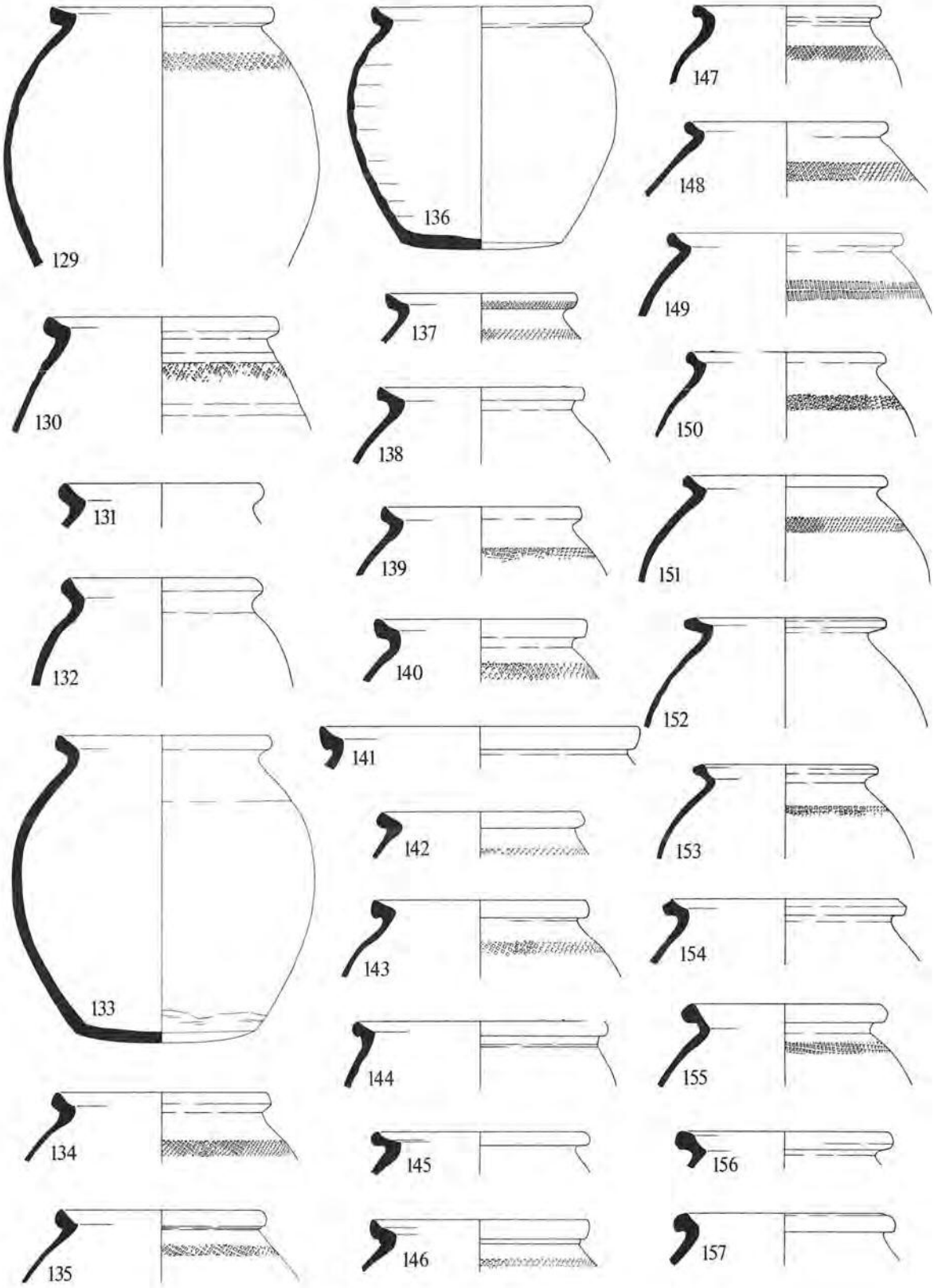


Fig. 157 Pottery. Thetford Ware. Scale 1:4.

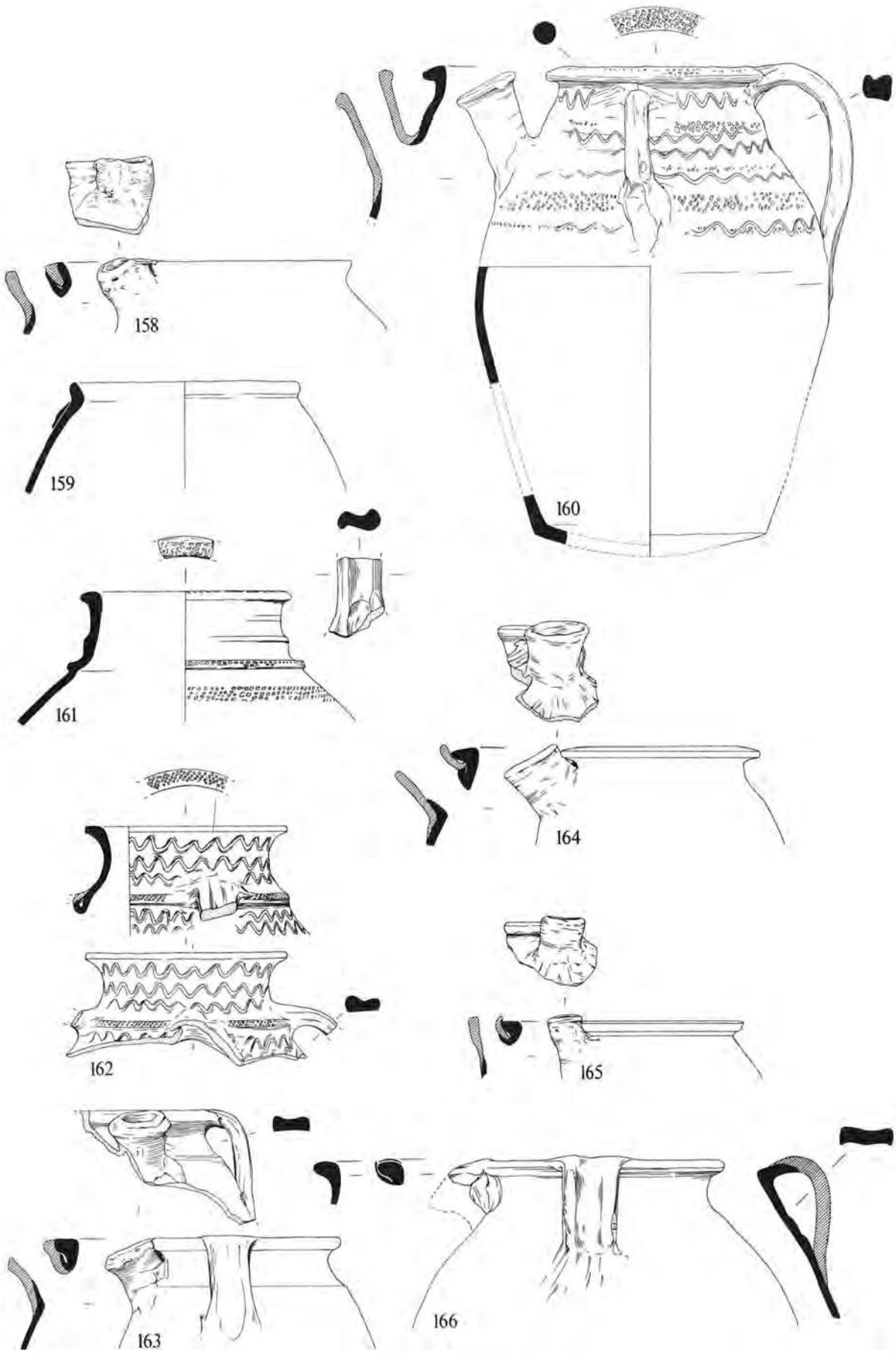


Fig. 158 Pottery. Thetford Ware. Scale 1:4.

Thetford Ware. Few.
*P*N6A, Site 2N (760).

Nos. 171-209 with internal hollow (AD6-AD14).

AD6 Triangular section. Fairly common. cf. AA7, AB7, AE6.

171. Medium, but overfired and warped; rim almost complete but split and twisted in firing; waster. Fairly common.
*P*S6, Site 6 (1367).

172. Medium. Interior margin red. Not common.
Topsoil over *H*19, Site 2N (649).

173. Medium. One-quarter of rim; probable side handle broken off. Not common.
Area centred TL 8668 8225 (1398).

174. Medium. One-quarter of rim. Few.
*P*N3A-C, Site 2N (745).

AD7 Triangular section with developed exterior pendant. Not common. cf. AA8, AB8, AE7.

175. Medium-fine. Less than one-quarter of rim. Few.
*P*N40, Site 2N (934).

176. Medium. Thin brown margins. Few.
Black soil, Site 3 (410).

AD8 Upright. Not common. cf. AB9, AE8.

177. Smooth. Surfaces light brownish grey. Traces of side handle; almost one-quarter of rim. Few.
Above *K*1, Site 2N (1286).

178. Smooth. Buff-grey. Complete rim. Small cracks, probably a waster. Not common.
Above *K*1 and layer B in combustion chamber, Site 2N (1164 and 1232).

Fig. 160,

179. Smooth. Light greyish buff. Just over one-quarter of rim. Few.
Above *K*1, Site 2N (1164). TAHM T.977.81q.

AD9 Everted, sides tapering. Fairly common. cf. AA9, AB10, AE9.

180. Medium. Interior brownish grey. Not common.
*H*4, Site 1 (1.236).

181. Medium-fine. Not common.
*H*19, Site 2N (959).

182. Medium. Almost black, some dark red in core. Just over one-quarter of rim. Few.
Topsoil above *P*N37 and N40, Site 2N (895).

183. Medium. Few.
*P*N57, Site 2N (1059).

184. Medium-fine. Light grey-buff. Few.
Topsoil above *H*9, Site 2S (304).

185. Medium-fine. Rare with cordon.
Above *K*1, Site 2N (1286).

AD10 Everted, sides parallel or almost parallel. Not common. cf. AA10, AB11, AE10.

186. Medium. Brown margins. Few.
*H*24, Site 2N (618).

187. Medium. Brown margins. Not common.
*H*9, Site 2S (382).

188. Medium. Few.
*P*N57, Site 2N (1059A).

189. Medium-coarse. Rare.
*P*45, Site 2S (447).

AD11 Everted, sides expanded to wedge shape. Fairly common. cf. AA11, AB13, AE11.

190. Medium. Thin brown margins. Not common (rare with cordons).
*P*N15, Site 2N (955).

Fig. 161,

191. Medium. Thin light brown margins. Less than one-quarter of rim, trace of side handles. Not common.
*P*N47, Site 2N (992).

192. Medium. Less than one-quarter of rim, trace of spout. Rare in small size.
*P*N18A, Site 2N (984).

193. Medium. Not common.
*P*E8, Site 4 (1126).

194. Coarse. Light brown margins. Just over one-quarter of rim. Few.
*P*N18B, Site 2N (957).

195. Medium. Few.
*P*23, Site 2S (283).

196. Medium. Thin light brown margins. Few.
*P*N7, Site 2N (769).

197. Medium. Not common.
*P*23, Site 2S (286).

AD12 Everted, sides slightly expanded to degenerate wedge shape. Fairly common. cf. AB14, AE12.

198. Medium. Rare.
*P*N3A-C, Site 2N (735).

199. Medium. Not common.
*H*19, Site 2N (631).

200. Medium. Just under one-quarter of rim, trace of side handles. Not common.
*H*19, Site 2N (743).

201. Medium. Not common.
*H*1, Site 1 (1.16).

Fig. 162,

202. Medium. Just over one-quarter of rim. Few.
*P*N15, Site 2N (955).

AD13 Everted, sides expanded with developed exterior pendant. Not common. cf. AB15.

203. Medium-fine. Few.
*P*N3A-C, Site 2N (748).

204. Medium. Few.
Black soil, Site 3 (410).

205. Medium. Surfaces light orange with burnt patches, core varies medium to dark grey. Not common.
*P*3, Site 1 (1.182).

AD14 With added clay band at rim, cf. AG.

206. Coarse (possibly not Thetford Ware). Brown core, interior surface flaking. Rim complete—three handles.
*P*N25A, Site 2N (1162).

207. Medium. Rare.
*P*N3A-C, Site 2N (745).

Fig. 163,

208. Medium. Just over one-quarter of rim so that more than three rim handles not possible. Rare.
No. 7 Newtown (1296).

209. Medium. Rare.
TL 8679 8301 (1809).

AE Handled Jars

Nos. 210-221 no internal hollow (AE1-AE5).

AE1 Plain flared. Not common. cf. AA1, AB1, AD1.

210. Medium. Exterior dark grey and reddish orange, interior and margins reddish orange, core grey. Just over one-quarter of rim; number of handles unknown. Few.
*K*2, Site 2N (1140).

211. Medium, but overfired and beginning to crack. Size of sherd almost as shown. Few.
*K*3, Site 2N (1160).

212. Medium, but fired very hard. Rim sagging sightly at handle, possibly a second or waster. One-quarter of rim. Few. *G*XXII, Site 2N (711).

AE2 Upright. Not common. cf. AA2, AB2, AD2.

213. Medium. Light brown margins. Just over one-quarter of rim. Few. *P*N40, Site 2N (934).

214. Smooth. Light brownish grey. One-quarter of rim. Not common. Combustion chamber layer 2BL, *K*1, Site 2N (1280).

AE3 Everted, sides tapering. Not common. cf. AA3, AB4, AD3.

215. Medium. Margins light brown. Approx. one-eighth of rim. Rare.
Black soil, Site 3 (408).

216. Medium. Thin light brown margins. Approx. one-eighth of rim. Rare.
*G*XXI/XXII, Site 2N (861).

AE4 Everted, sides parallel or almost parallel. Not common. cf. AA4, AB5, AD4.

217. Medium with flaking interior. Just over one-quarter of rim; four (or, if spouted, three) handles. Few.
*H*14, Site 2S (504).

Fig. 164,

218. Medium. About one-sixth of rim. Few with decoration.
*P*N15, Site 2N (955).

AE5 Everted, sides expanded. Not common. cf. AA5, AB6, AD5.

219. Medium with flaking interior. Margins light brown. Just over one-quarter of rim; probably five or six handles. Few.
Above *K*1, Site 2N (1286).

220. Medium. Approx. one-sixth of rim. Few.
*H*6, Site 2S (184).

221. Coarse. Approx. one-eighth of rim. Rare.
Upper filling *H*3, Site 1 (1.168).

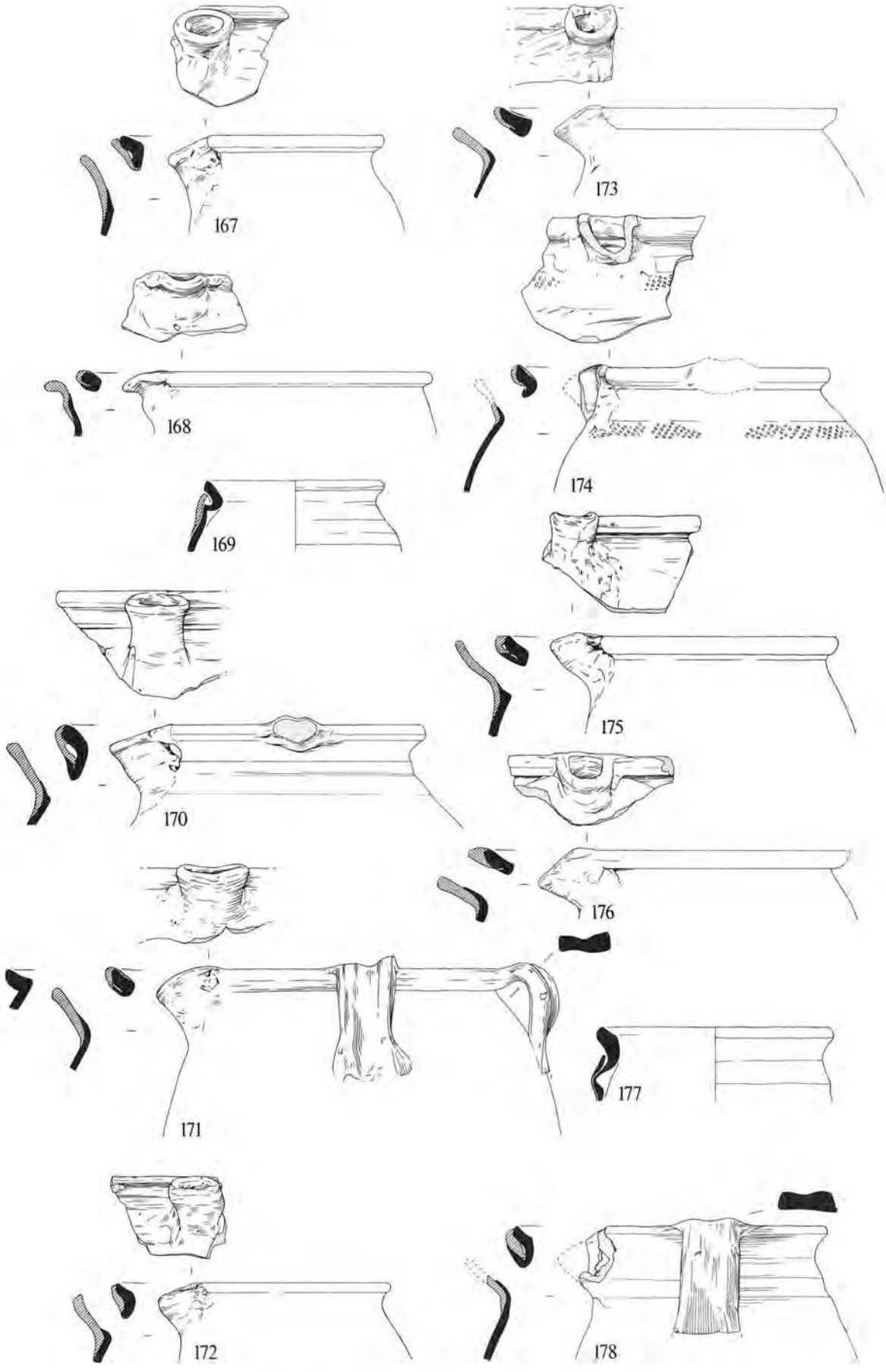


Fig. 159 Pottery. Thetford Ware. Scale 1:4.

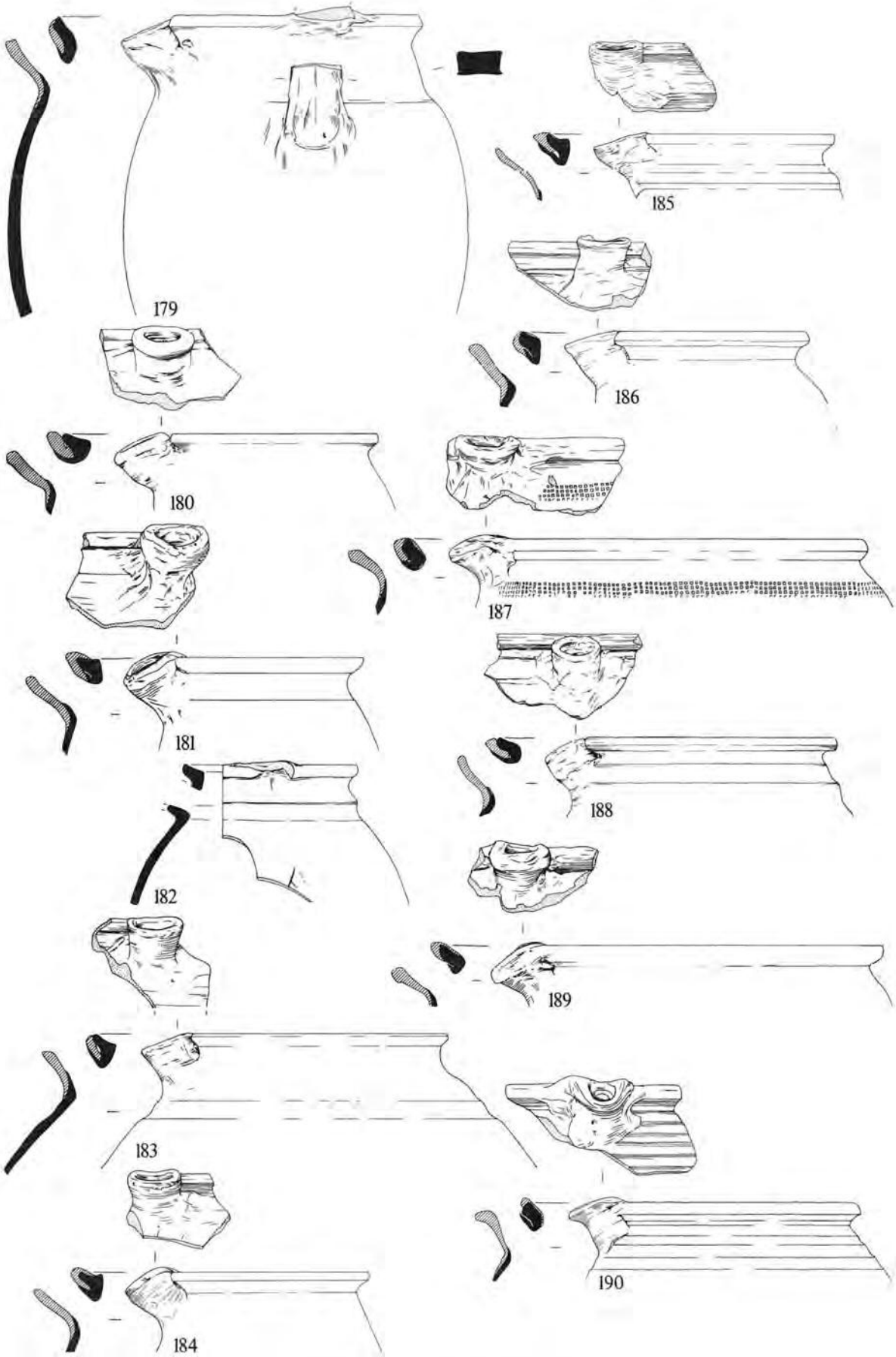


Fig. 160 Pottery. Thetford Ware. Scale 1:4.

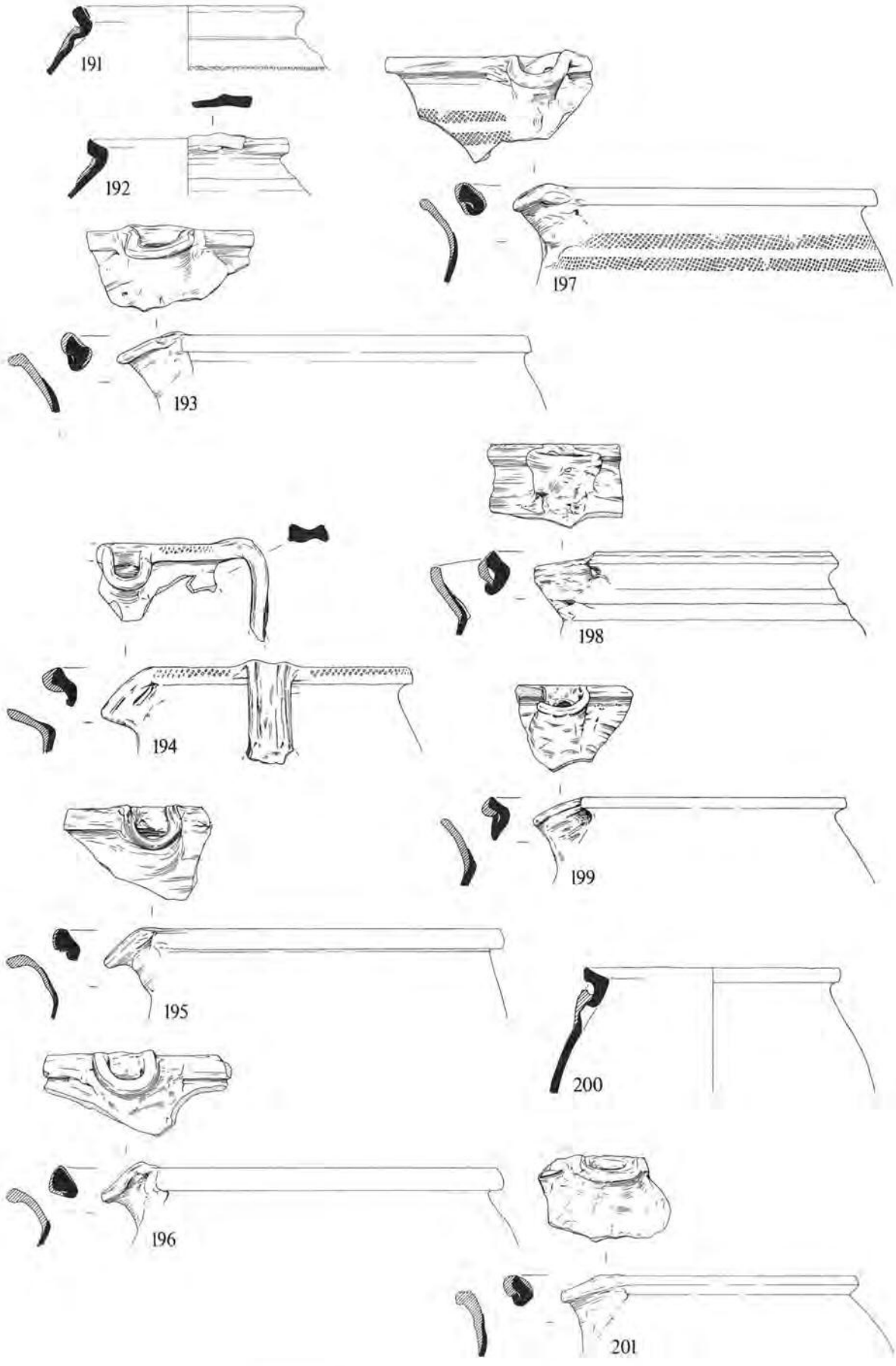


Fig. 161 Pottery. Thetford Ware. Scale 1:4.

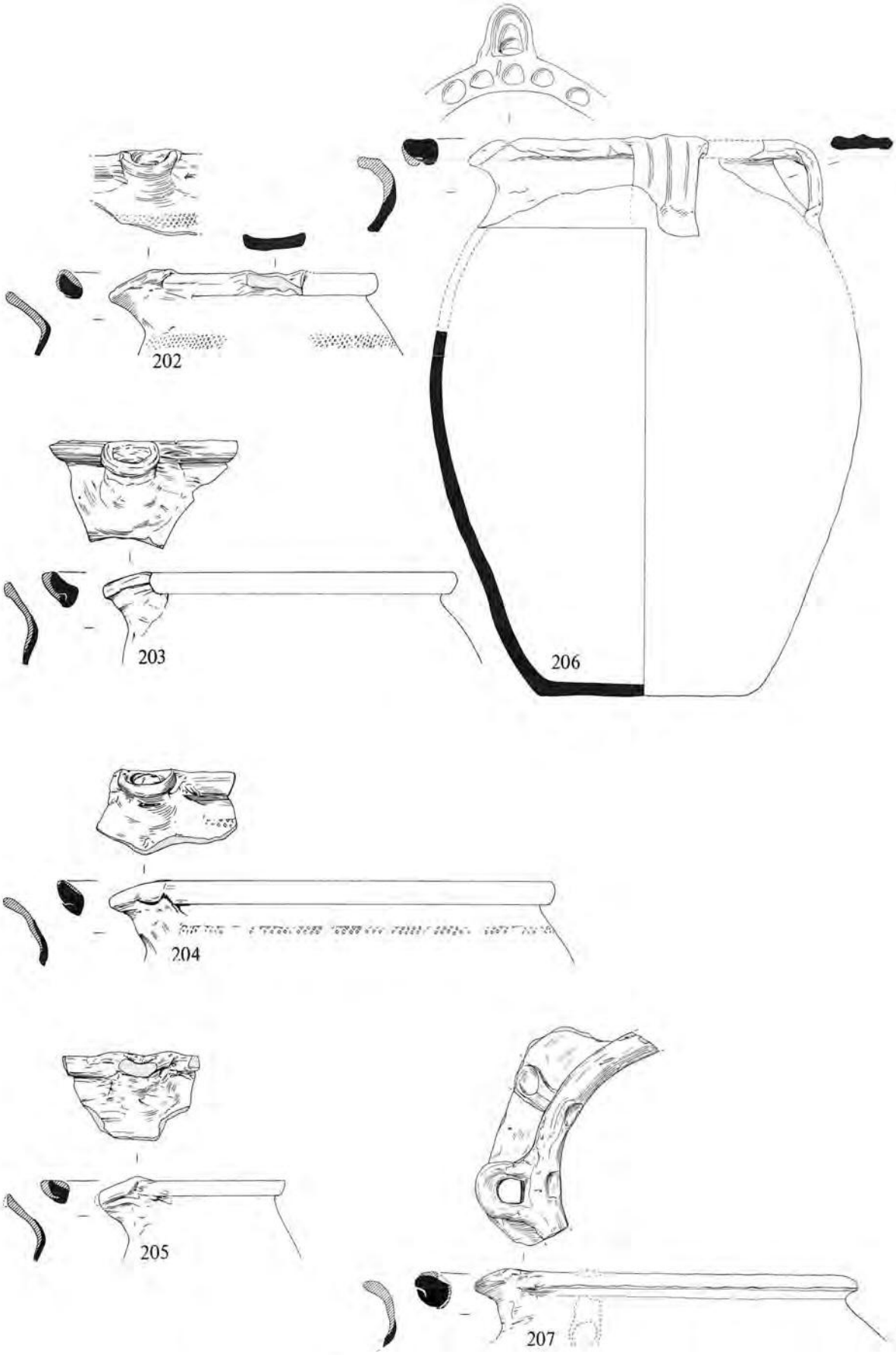


Fig. 162 Pottery. Thetford Ware. Scale 1:4.

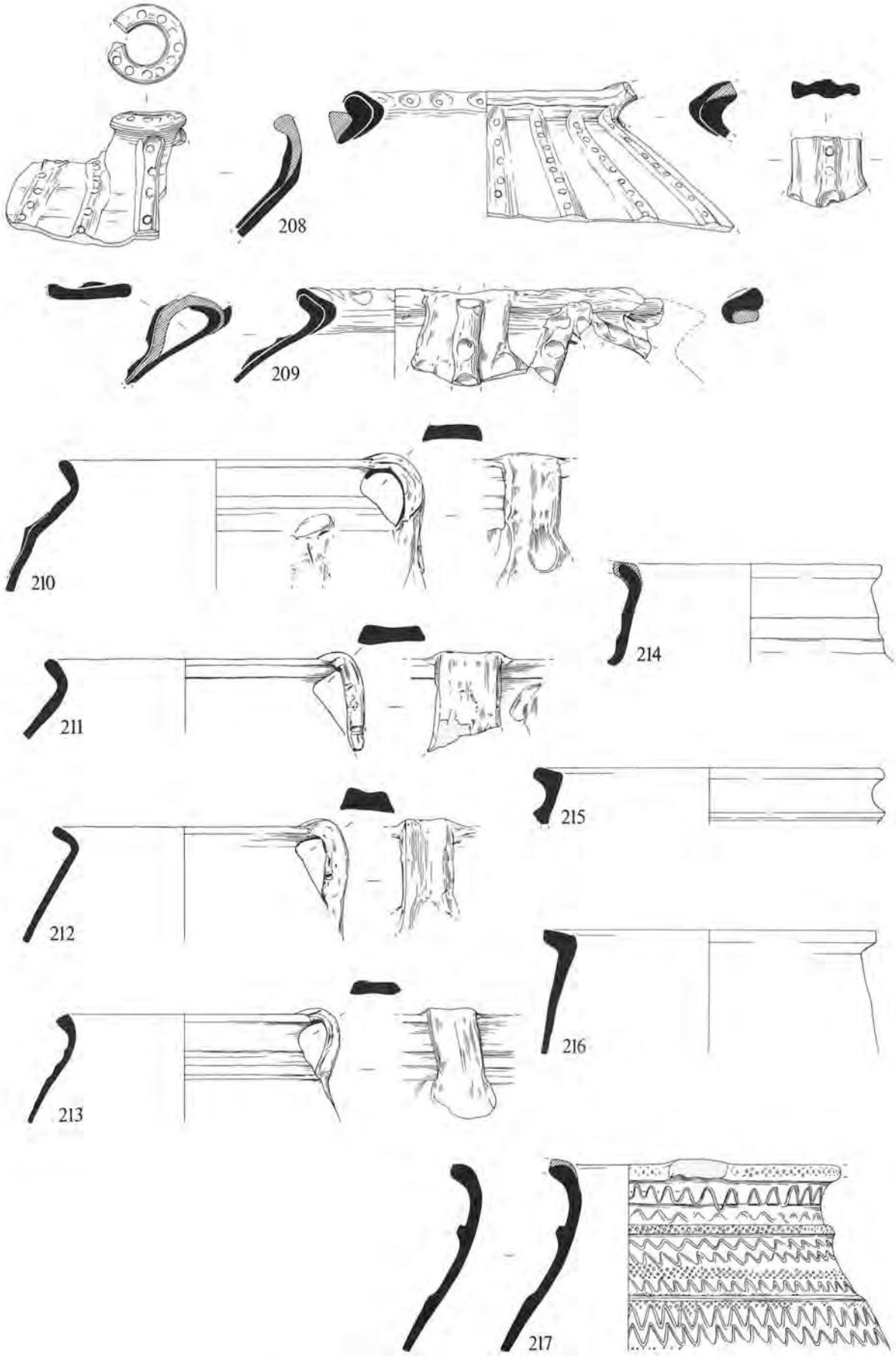


Fig. 163 Pottery. Thetford Ware. Scale 1:4.

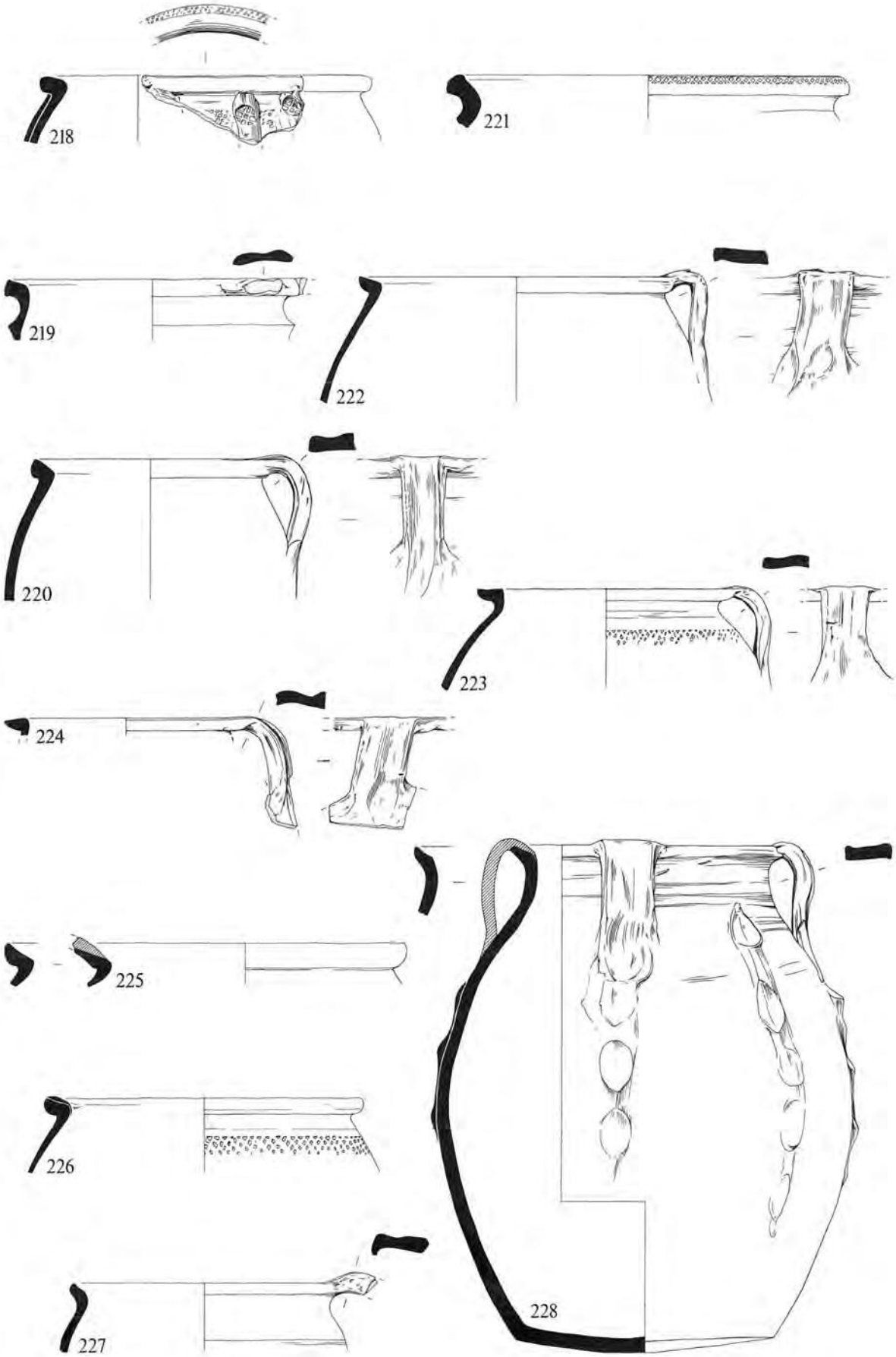


Fig. 164 Pottery. Thetford Ware. Scale 1:4.

Nos. 222-249 with internal hollow (AE6-AE12).

AE6 Triangular section. Fairly common. cf. AA7, AB7, AD6.

222. Medium. Just over one-eighth of rim. Not common.
*P*41, Site 2S (372).

223. Medium. Approx. one-sixth of rim. Not common.
*P*N3A-C, Site 2N (748).

224. Medium. Approx. one-eighth of rim. Not common.
Upper filling *P*J, Site 2S (29).

AE7 Everted, triangular section with developed exterior pendant. Not common. cf. AA8, AB8, AD7.

225. Medium. Dark grey with light brown margins. Approx. one-eighth of rim. Few.
*P*N18A, Site 2N (984).

226. Medium. Approx. one-eighth of rim. Not common.
*H*4, Site 1 (1.242).

AE8 Upright. Fairly common. cf. AB9, AD8.

227. Smooth. Light grey. Approx. one-sixth of rim. Not common.
Above *K*1, Site 2N (1286).

228. Smooth. Medium-light grey. Complete rim; four handles. Not common.
SE vent-hole *K*1, Site 2N (1289). TAHM T.977.81p.

Fig. 165,

229. Smooth. Light brown. One-half of rim. Rare.
Above *K*1, Site 2N (771).

230. Smooth. Light brown. Over one-quarter of rim. Few.
Above *K*1, Site 2N (771).

231. Smooth. Medium greyish brown. Approx. one-sixth of rim. Few.
Above *K*1, Site 2N (1286).

232. Smooth. Light orange. Over one-quarter of rim. Few.
*G*XXII, Site 2N (711).

AE9 Everted, sides tapering. Fairly common. cf. AA9, AB10, AD9.

233. Medium. Dark grey, light brown margins. Internal iron deposit. Just over one-half of rim. Few.
*P*N18A, Site 2N (984).

234. Medium with chalk inclusions. Twisted, waster. Just under one-half of rim. Not common.
Above *K*2, Site 2N (1010).

AE10 Everted, sides parallel or almost parallel. Fairly common. cf. AA10, AB11, AD10.

235. Medium. Purplish red margins. Just over one-quarter of rim. Not common.
*H*8, Site 2S (267).

236. Medium, but over fired. Approx. one-quarter of rim. Not common.
Topsoil *G*XVI/XVII, Site 2N (661).

237. Medium. Approx. one-sixth of rim. Few.
*G*XXI, Site 2N (795).

AE11 Everted, sides expanded to wedge shape. Fairly common. cf. AA11, AB13, AD11.

238. Medium. Approx. one-eighth of rim. Not common.
Topsoil above *H*6, Site 2S (214).

Fig. 166,

239. Medium. Approx. one-sixth of rim. Not common.
*H*14, Site 2S (525).

240. Medium. Thin light brown margins. Approx. one-eighth of rim. Not common.
Hearth in *H*20, Site 2N (916).

241. Medium. Almost black with light brown margins. Few.
*P*N15, Site 2N (955).

242. Medium. Dark grey with light brown margins. Approx. one-sixth of rim. Few.
Lower filling *H*3, Site 1 (1.199).

243. Medium. Light grey. Approx. one-eighth of rim. Few.
Upper filling *H*3, Site 1 (1.174).

244. Medium. Just under one-quarter of rim. Few.
Combustion chamber layer F, *K*1, Site 2N (1191).

245. Medium-coarse. Approx. one-tenth of rim. Few.
*P*S5, Site 6 (1331).

246. Medium. Approx. one-eighth of rim. Few.
Hearth in *H*20, Site 2N (916).

AE12 Everted, sides slightly expanded to degenerate wedge shape. Not common. cf. AB14, AD12.

247. Medium. Approx. one-sixth of rim. Not common.
*P*N3A-C, Site 2N (748).

248. Medium. Approx one-twelfth of rim. Few.
*P*S6, Site 6 (1367).

249. Fine. Light grey. Approx. one-quarter of rim. Not common.
*P*N3A-C, Site 2N (735).

AF Large Non-handled Jars

Nos. 250-255 no internal hollow (AF1-AF4)

AF1 Everted, sides tapering. Protruding shoulders as AB etc. Rare.

250. Medium-coarse. Mottled dark grey and red; some sherds burnt after breakage. Complete rim. Unique.
*P*S6, Site 6 (1367).

AF2 Everted, sides tapering, slack shoulders. Not common.

251. Fine. Light brownish orange. Rare.
*H*19, Site 2N (950).

252. Medium. Few.
*P*N57, Site 2N (1059A).

253. Fine. Surfaces and margins light brownish grey. Rare.
Topsoil above *H*19, Site 2N (656).

AF3 Everted, sides parallel or almost parallel. Few.

254. Fine, rather high quartz content. Rare.
*P*N3A-C, Site 2N (735).

AF4 Everted, sides expanded to wedge shape. Few.

Fig. 167,

255. Medium. Few.
*G*XXIII, Site 2N (994).

Nos. 256-265 with internal hollow (AF5-AF9).

AF5 Triangular section. Few.

256. Medium. Few.
Black soil, Site 3 (409).

AF6 Upright. Few.

257. Smooth. Light brownish grey. Few.
Above *P*N25, Site 2N (1165).

AF7 Everted, sides tapering. Few.

258. Medium. Mottled reddish pink and grey but at least some sherds burnt after breakage. Complete rim. Few.
*P*S6, Site 6 (1367).

AF8 Everted, sides parallel or almost parallel. Few.

259. Medium. Few.
Below floor *H*30 and above *H*15, Site 2N (707).

260. Medium. Rare.
*P*N 22A/B, Site 2N (933).

AF9 Everted, sides expanded, usually to wedge shape. Not common.

261. Medium. Light and medium brownish grey. Crack in rim. Few.
*P*N3A-C, Site 2N (741).

262. Medium. Rim slightly twisted. Few.
Black soil, Site 3 (411).

263. Medium. Few.
Filling of oval feature *H*6, Site 2S (284).

264. Medium. Dark grey. Few.
Topsoil *G*XXIII, Site 2N (850).

AF10 Everted, sides slightly expanded usually into degenerate wedge shape. Few.

265. Medium. Few.
*P*E4, Site 4 (1114).

AG Large Multi-handled Jars with Added Clay at Rim.

Nos. 266-275 no internal hollow (AG1-AG7).

AG1 Rim unknown or unshaped. Not common.

266. Coarse. Surfaces flaking. Few.
*G*XXIV, Site 2N (1102).

AG2 Plain flared. Few.

Fig. 168,

267. Fine. Light grey. Few.
Combustion chamber layer C, *K*1, Site 2N (1182).

AG3 Upright. Few.

268. Smooth. Light grey. Rim almost complete; eight handles of which five survive. Cross decoration on three of these is unique.
Above *K*1 and combustion chamber layer B, Site 2N (771, 1171, 1172). TAHM T.977.81e.

AG4 Everted, sides tapering. Few.

269. Medium. Exterior surface medium brownish grey, interior and core red. Few.
Sewer trench W of Site 2S (206).

AG5 Everted, sides tapering, vertical vessel walls. Rare.

270. Medium. Surfaces dark grey. Probably eight handles. Unique.
TL 8679 8301 (1809).

AG6 Everted, sides parallel or almost parallel. Not common.

Fig. 169,

271. Medium. Probably eight handles. Few.
*P*N57, Site 2N (1059A).

272. Medium. Probably eight handles. Not common.
TL 8643 8271 (330).

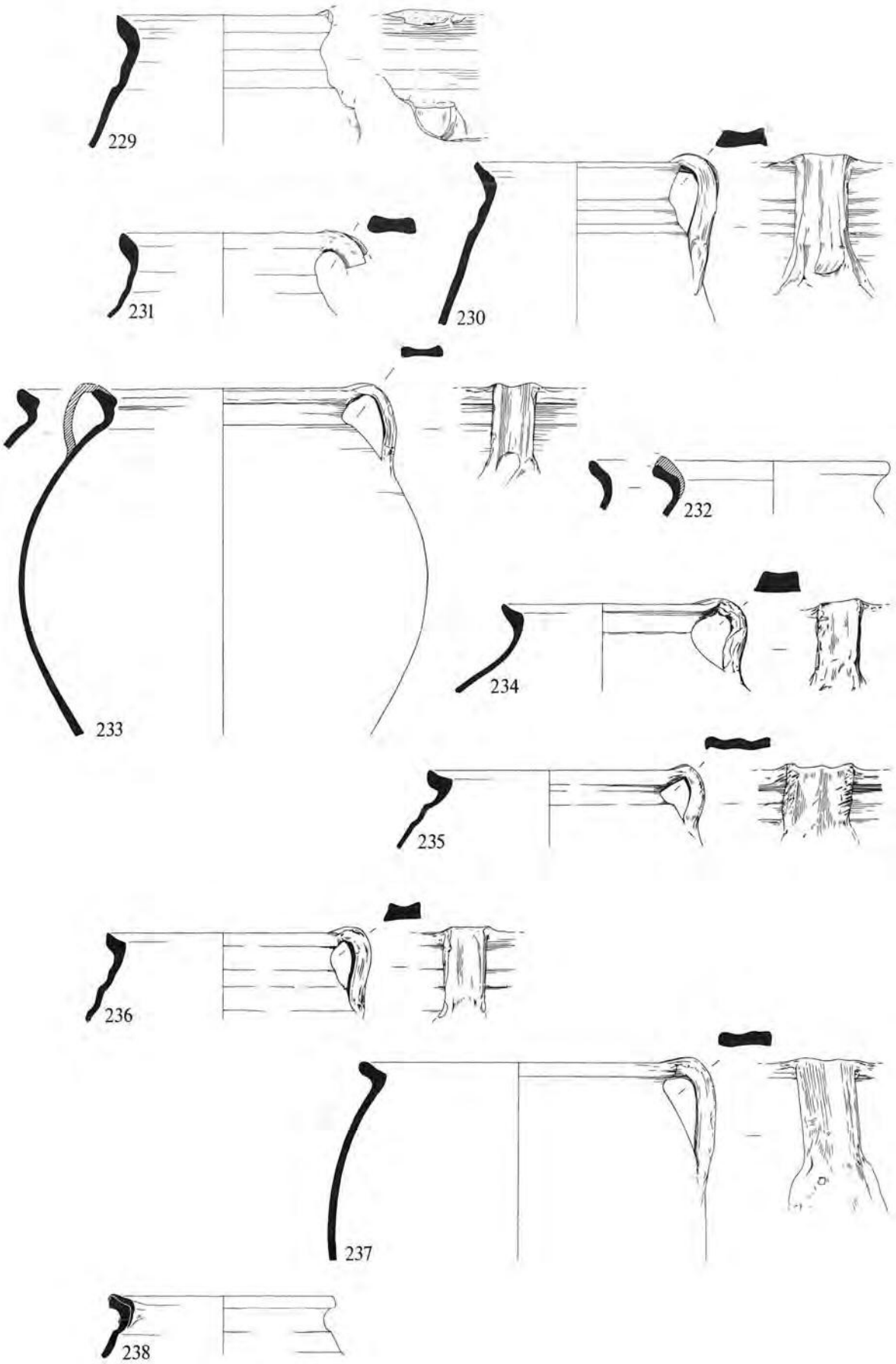


Fig. 165 Pottery. Thetford Ware. Scale 1:4.

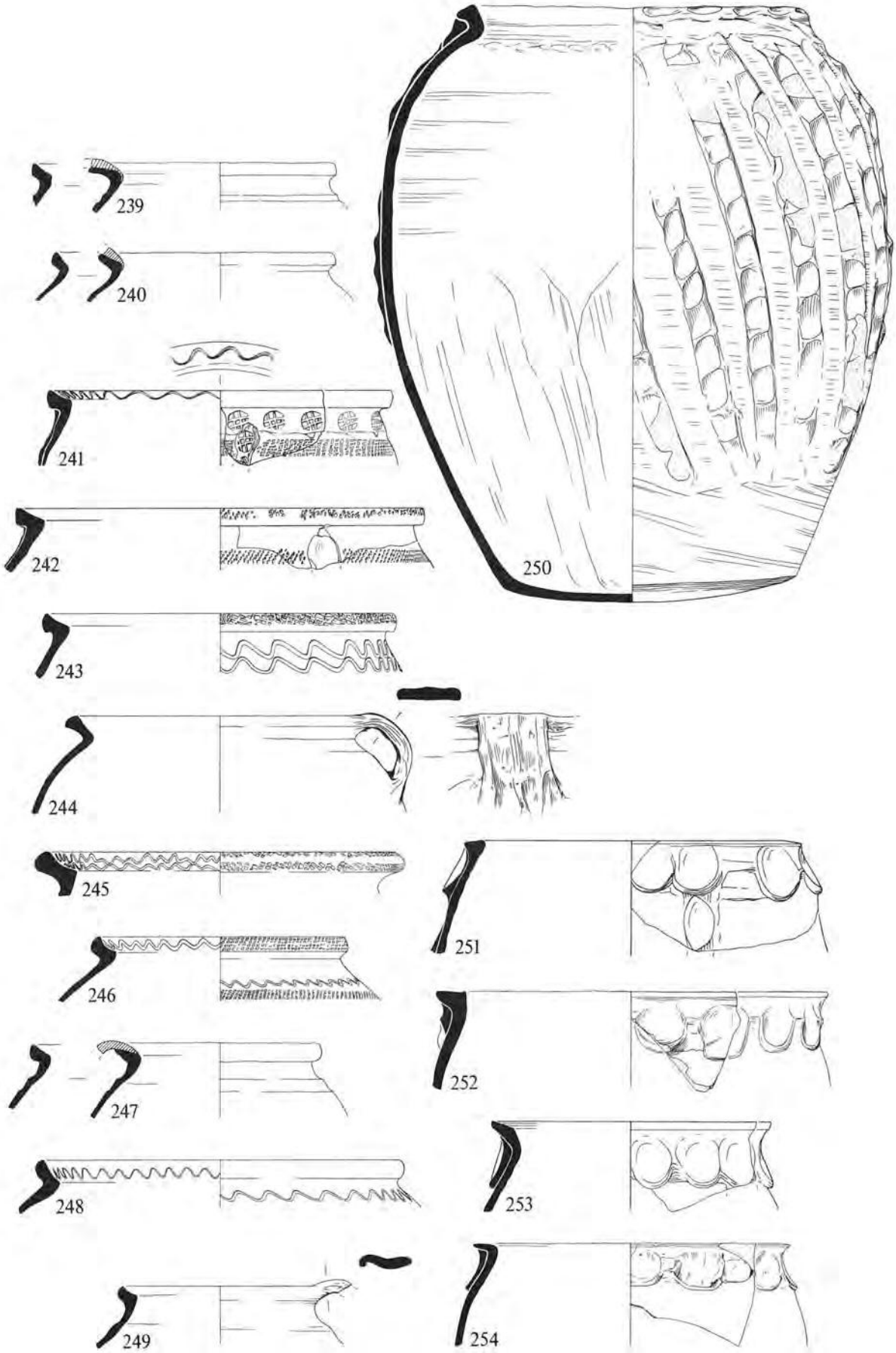


Fig. 166 Pottery. Thetford Ware. Scale 1:4.

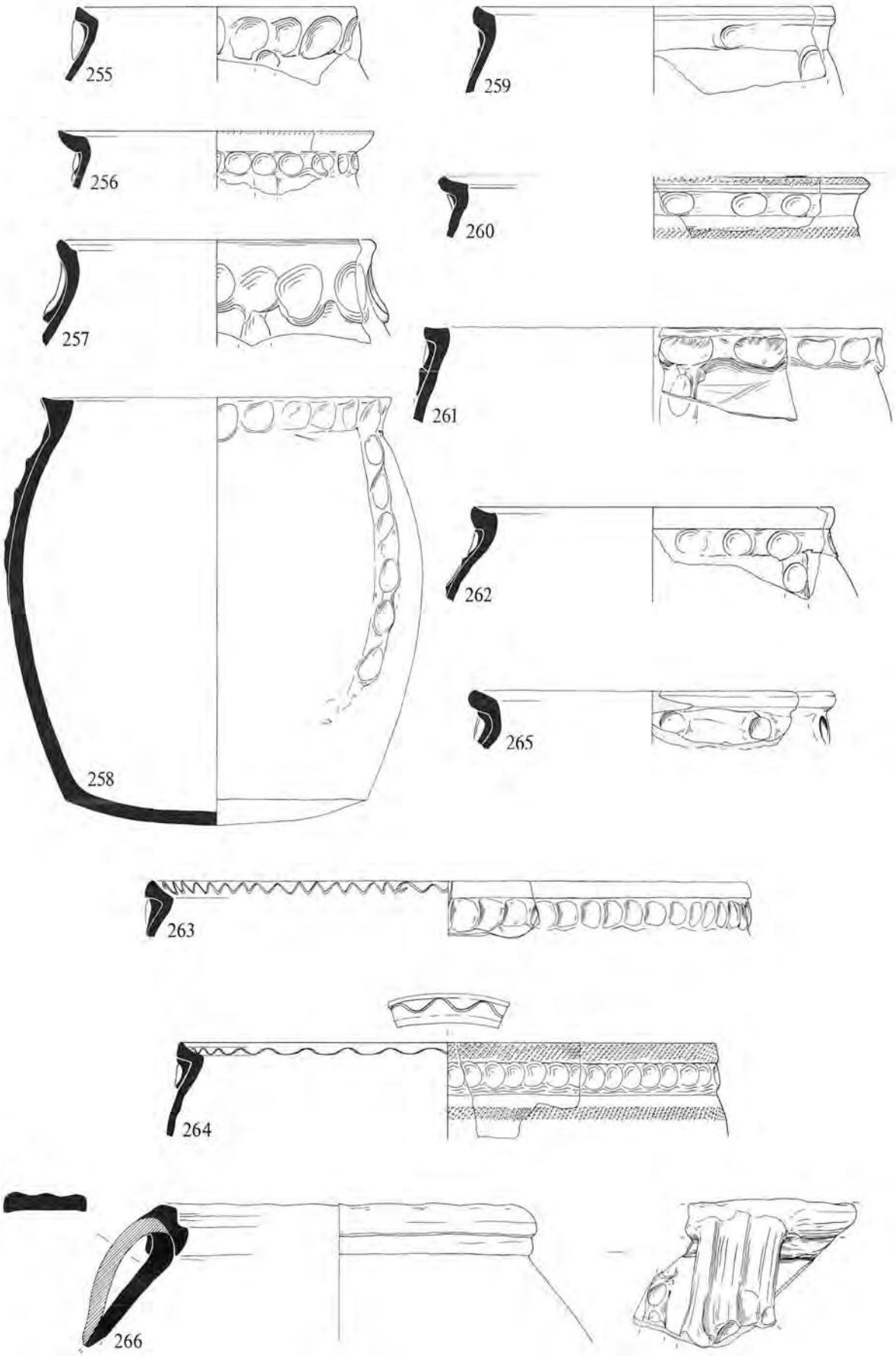


Fig. 167 Pottery. Thetford Ware. Scale 1:4.

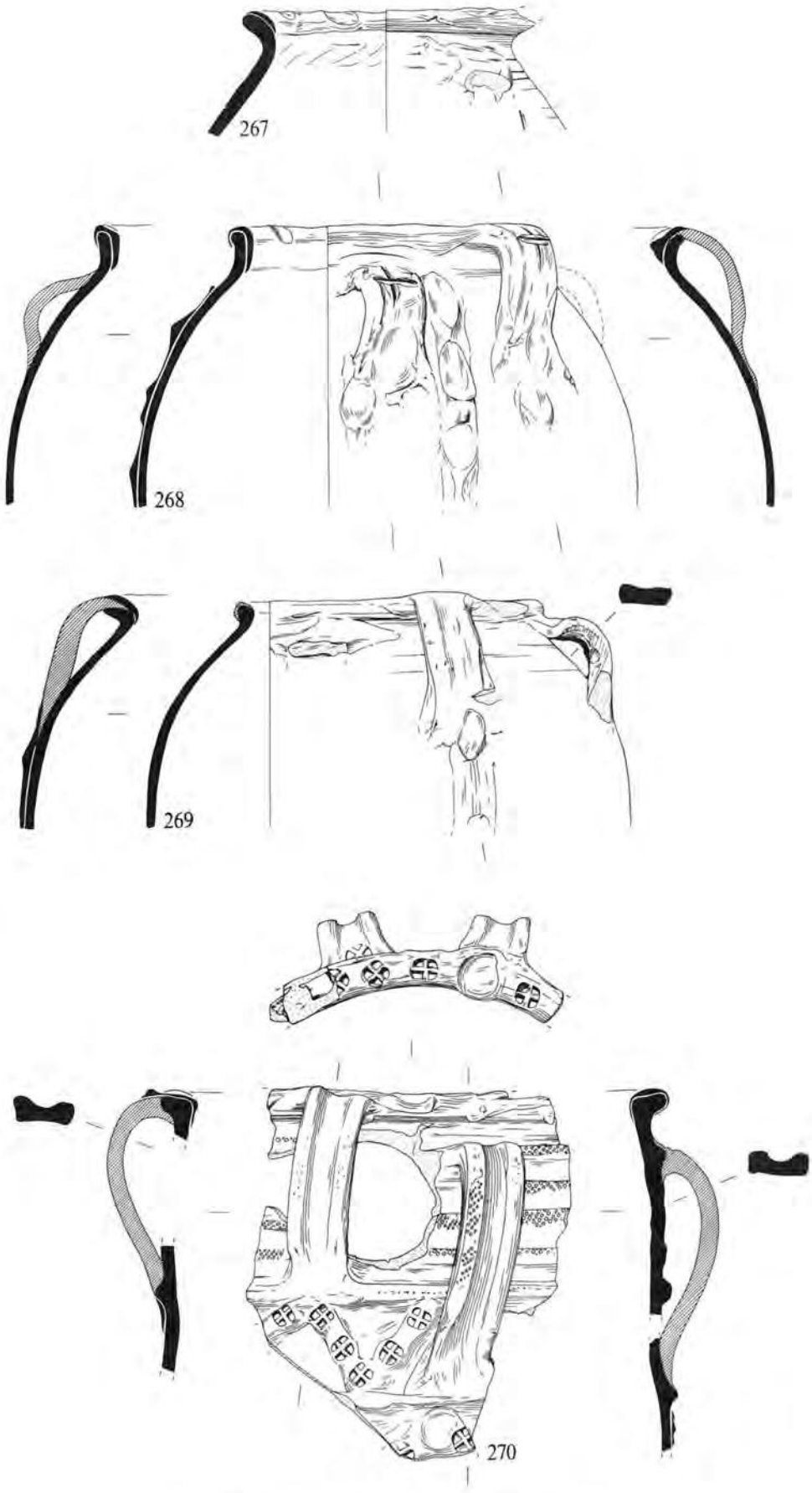


Fig. 168 Pottery. Thetford Ware. Scale 1:4.

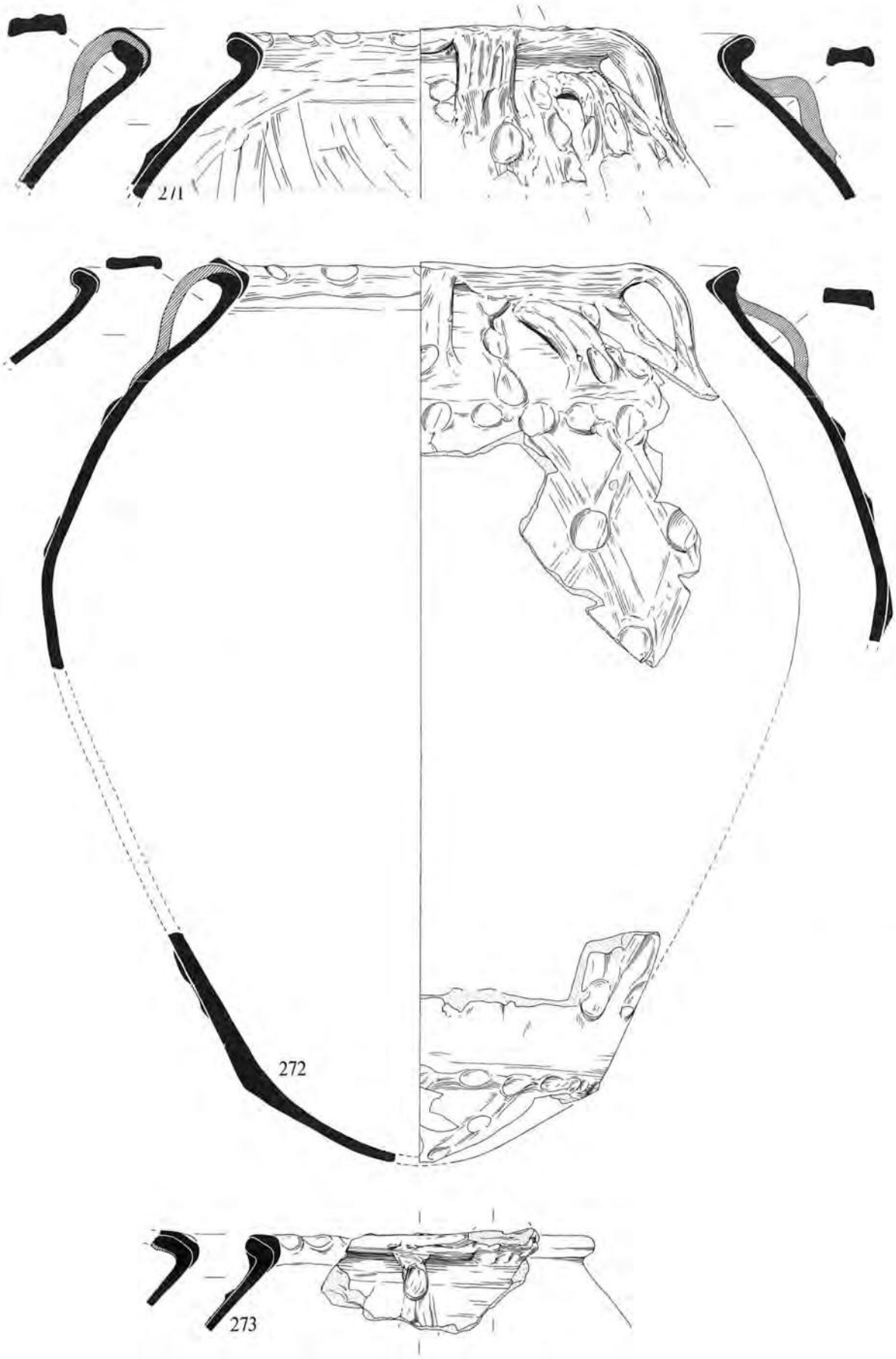


Fig. 169 Pottery. Thetford Ware. Scale 1:4.

273. Medium. Few.
Below floor *H*30 and above *H*15, Site 2N (677).

Fig. 170,
274. Medium. Core some dark red areas. Probably four handles. Base appears cut out before firing. Few.
Above *K*1 and filling of combustion chamber, Site 2N (1147 and 1157).
AG7 Everted, sides expanded. Few.
275. Medium. Usually small size. Rare.
Black soil, Site 3 (411).

Nos. 276-279 with internal hollow (AG8-AG11).
AG8 Upright. Few.
276. Smooth. Light reddish brown, core some red areas. Few.
Above *K*1, Site 2N (771).
AG9 Everted, sides tapering. Not common.
277. Medium. Probably eight handles. Not common.
*H*19 or 20, Site 2N (754).
AG10 Everted, sides parallel or almost parallel. Not common.
278. Fine. Light grey. Probably eight handles. Few.
Above *K*1 and combustion chamber layer B, Site 2N (1164 and 1171).
AG11 Everted, sides expanded. Not common.
279. Medium. Surface worn inside rim, perhaps from lid. Few.
*P*N4A or B, Site 2N (724).

B. Dishes, Bowls and Crucibles

BA Dishes
BA1 Plain or straight sided. Few.
Fig. 171,
280. Fine. Pink margins. Rare.
*K*2, Site 2N (1140).
281. Coarse. Cracked, probably a waster. Unique.
*G*XXIV, Site 2N (1063).
282. Medium. Base twisted, probably second or waster. Unique.
*H*19, Site 2N (631).
283. Medium. Unique.
*P*11 and hearth above, *H*2, Site 1 (1.219).
284. Medium. Partly light brown margins. Rare.
*P*N18C or D, Site 2N (834).
285. Medium. Rare.
Black soil, Site 3 (409).
BA2 Inturned. Rare.
286. Medium. Small patches external soot. This form could be a lid. Unique.
Above *K*1, Site 2N (1290).

BB Bowls
BB1 Rounded profile. Unique.
287. Medium, with rather high quartz content. Unique.
Below *R*3A, Site 2N (1067). TAHM T.977.81u.
BB2 Flaring form, straight sides, plain rim. Few.
288. Medium-fine. Rare.
Below recut *H*20, Site 2N (980). TAHM T.977.81n.
289. Medium. Light brown margins. Rare.
Upper floor *H*13, Site 2S (493).
290. Medium. Rare.
*P*N15, Site 2N (955).
291. Medium. Rare.
*P*N27, Site 2N (956).
BB3 Flaring form, straight sides, rim inturned. Few.
292. Medium. Core black, surfaces black and light orangish brown.
*P*N18A, Site 2N (984).
293. Medium. Light brown margins. Rare.
*P*45 upper filling (*P*48), Site 2S (466).
294. Medium. Brown and dark grey, partly burnt. Rare.
Below floor *H*30 and above *H*15, Site 2N (677).
295. Medium. Rare.
Black soil, Site 3 (409).
296. Medium-coarse. Dark grey with brown margins. Rare.
*H*9, Site 2S (353).
BB4 Flaring form, straight sides, rim expanded. Few.
297. Medium. Partly light brown margins. Rare.
*P*N18B, Site 2N (957).
298. Medium. Light brown margins. Rare.
*P*N3A-C, Site 2N (735).

Fig. 172,
299. Medium. Dark grey with medium brown margins. Soot patches on exterior, interior and rim. Few.
*P*51, Site 2S (569).
300. Medium. Dark grey with light brown margins. External soot patches. Rare.
Sewer trench SW of Site 2S (215).
301. Medium. Dark grey with light brown margins. Rare.
*P*N18C or D, Site 2N (834).
BB5 Deep vertical sides, rim expanded. Few.
302. Medium. Soot on exterior and rim. Rare.
Upper filling *H*S3, Site 6 (1351).
303. Medium. Rare.
Black soil, Site 3 (409).
BB6 Small curved-sided bowls. Rare.
304. Medium. Black. Rare.
*P*11, Site 1 (1.228).
305. Medium. Rare.
Topsoil above ditches, Site 1 (1.214).
BB7 Large curved-sided bowls, rim expanded. Rare
306. Medium. Light grey margins. Rare.
*H*19 or 20, Site 2N (804).
307. Medium. Soot on rim under flange. Rare.
*G*II, Site 2N (752).
308. Medium. Dark grey with light brown margins. Rare.
Sewer trench SW of Site 2S (223).
309. Medium-coarse. Light grey slip-like surface. Added clay on top.
Black soil, Site 3 (409).
BB8 Large curved-sided bowls, rim plain or inturned. Rare.
310. Medium. Dark grey with thin light brown margins. Soot on exterior. Unique.
Topsoil *G*XXIIIA, Site 2N (1025).
BB9 Deep flaring form, inturned rim. Few.
311. Medium. Dark grey with light brown margins. Rare.
*H*9, Site 2S (337).

Fig. 173,
312. Medium. Rare.
*G*XXIII, Site 2S (1291).
BB10 Steep-sided form, inturned rim. Few.
313. Medium-fine. External soot. Rare.
Sewer trench W of Site 2S (235).
314. Medium-fine. External soot. Rare.
Topsoil above *H*19, Site 2S (649).
315. Medium. Dark grey with light brown margins. Rare.
*G*XXIIIA/XXIV, Site 2N (1094).
316. Medium. Dark grey with light brown margins. Rare.
*H*7, Site 2S (87).
317. Medium. Dark grey with light brown margins. Rare.
Filling of ditches, Site 1 (1.118).
BB11 Angled bowls, slight carination. Few.
318. Medium. Light brown margins. Rare.
*P*55, Site 2S (554).
319. Medium. Surfaces dark grey, core dark red. Unique.
*H*9, Site 2S (357).
320. Medium. Thin light brown margins. Rare.
*P*45, Site 2S (447).
321. Medium. Partly light brown margins. Rare.
Area B, Site 6 (1350).
322. Medium. Light grey margins. Rare.
*G*II, Site 2N (752).
BB12 Angled bowls with pronounced carination. Not common.
323. Medium. Not common.
*P*N4A or B, Site 2N (890). TAHM T.977.81o.
324. Medium. Some external soot near base. Not common.
*P*N25A, Site 2N (1162).
325. Medium. Black with medium brown patch on rim. Small size rare.
*P*N25A, Site 2N (1162).
326. Medium. Rare.
No. 7 Newtown (1297).
327. Medium. Light brown margins. Rare.
*G*XXIII/XXIIIA, Site 2N (1057).

BC Handled Bowls cf. AF. Rare.
Fig. 174,
328. Medium. Exterior greyish brown, interior orangish brown. Unique.
'Star Lane and beyond', area TL 868 829 (1303).

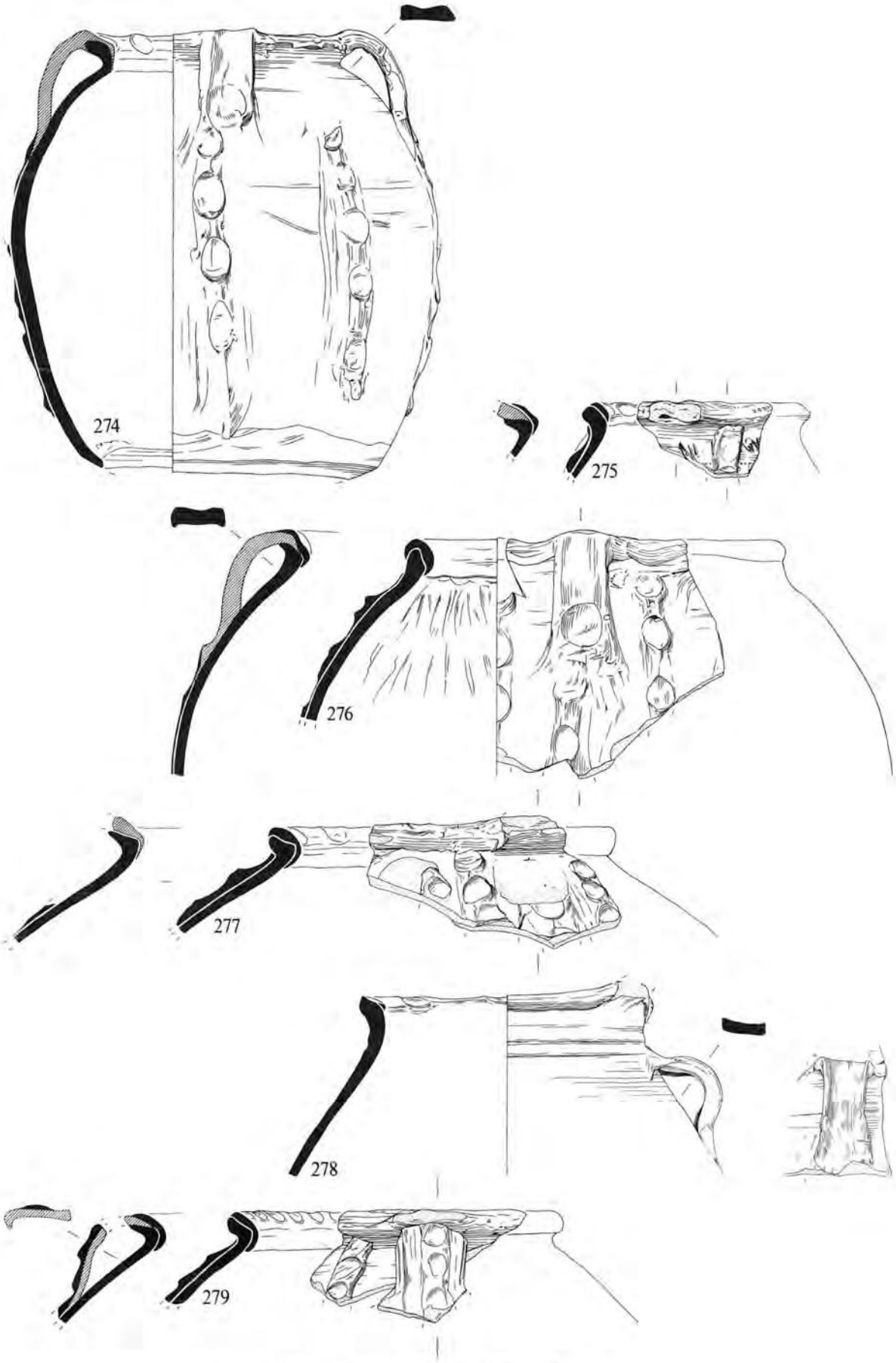


Fig. 170 Pottery. Thetford Ware. Scale 1:4.

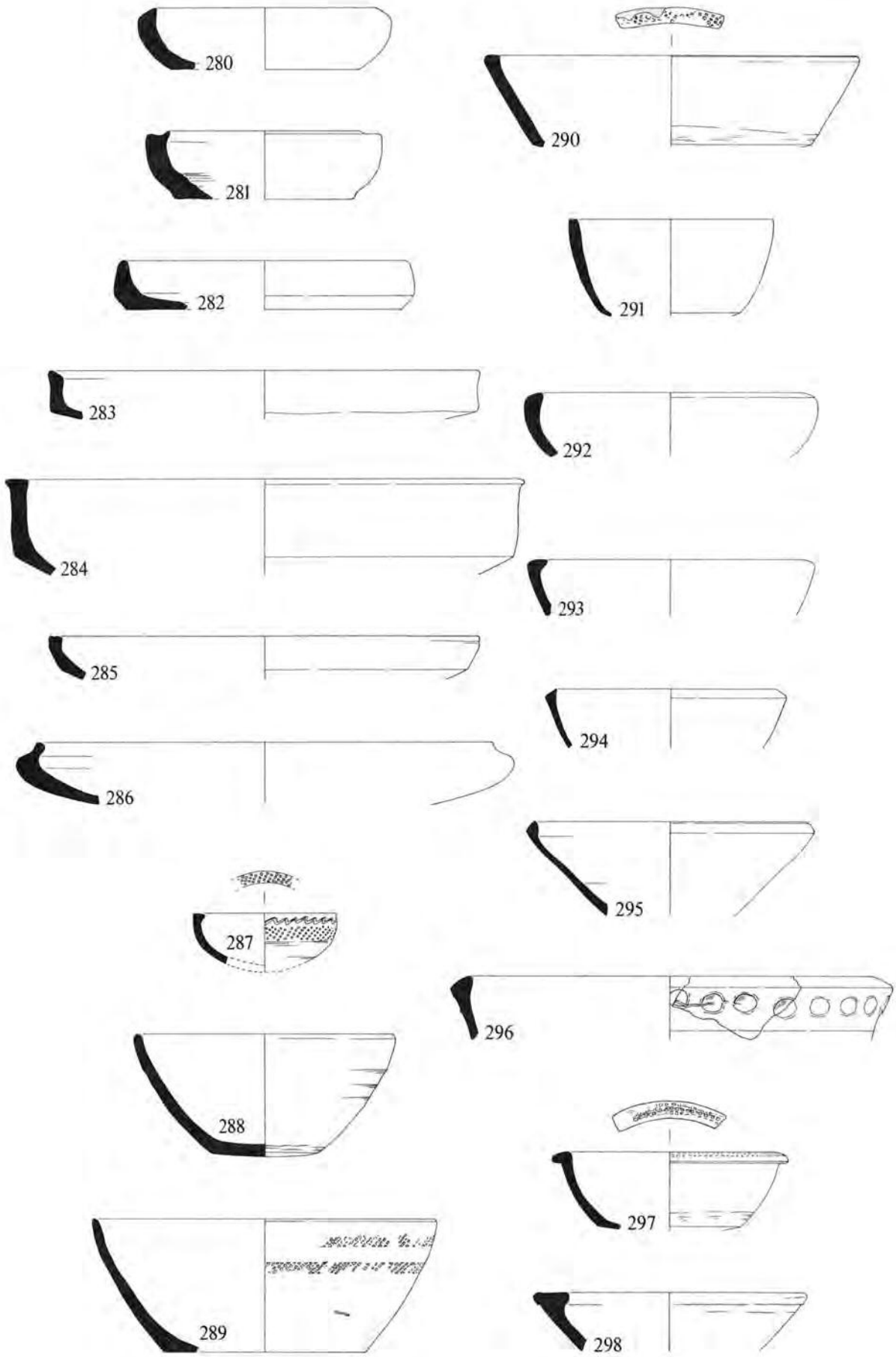


Fig. 171 Pottery. Thetford Ware. Scale 1:4.

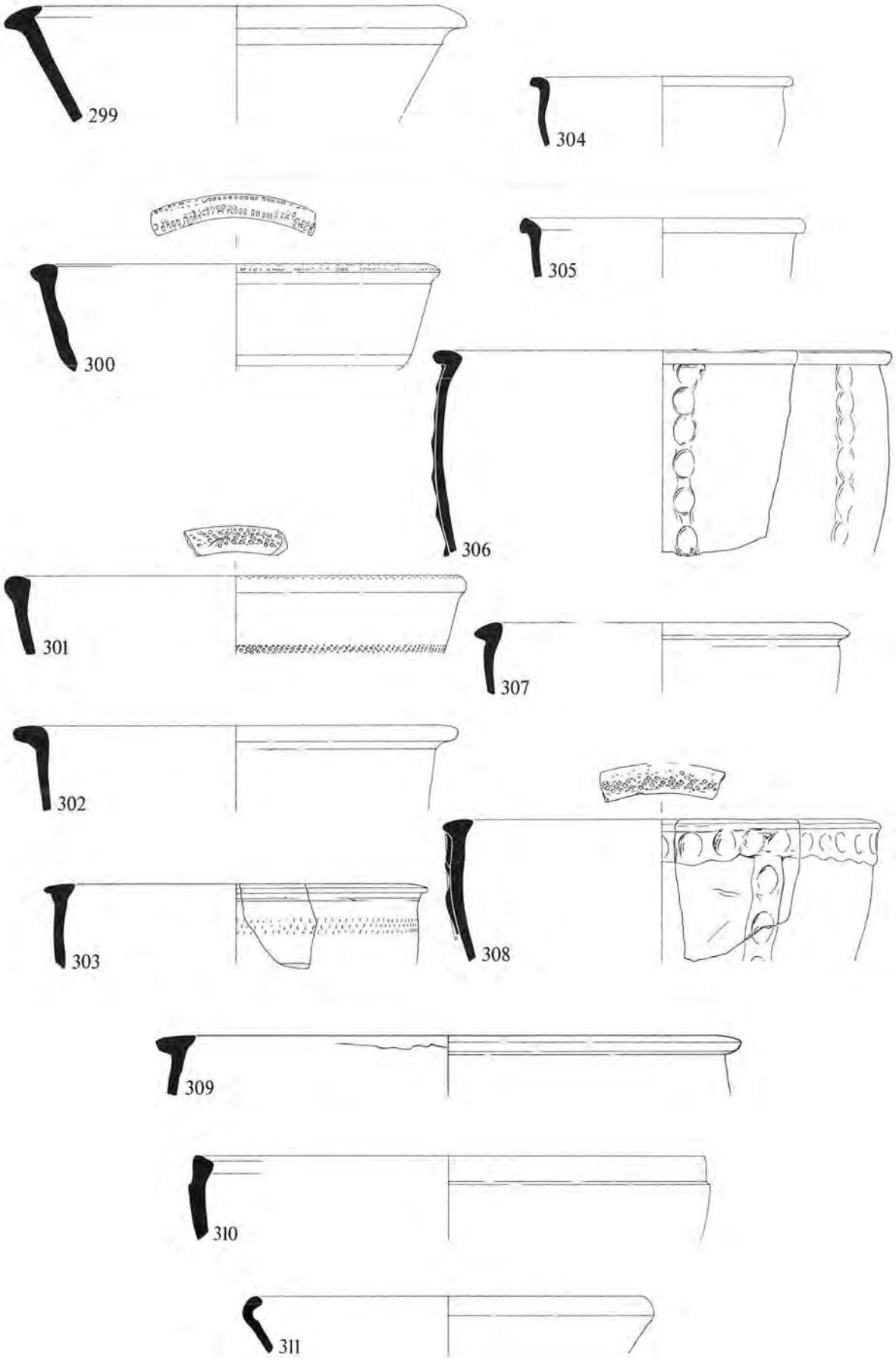


Fig. 172 Pottery. Thetford Ware. Scale 1:4.

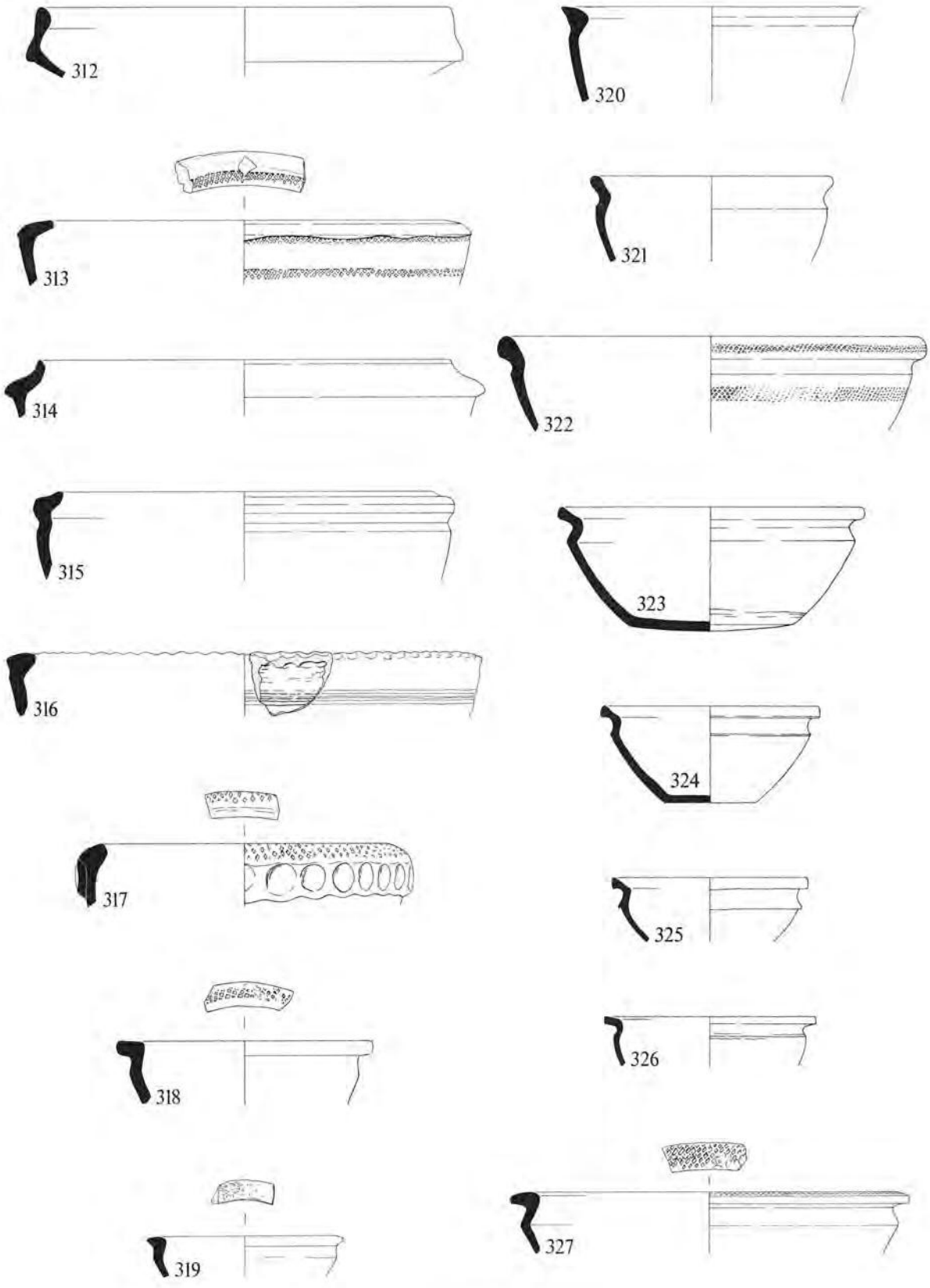


Fig. 173 Pottery. Thetford Ware. Scale 1:4.

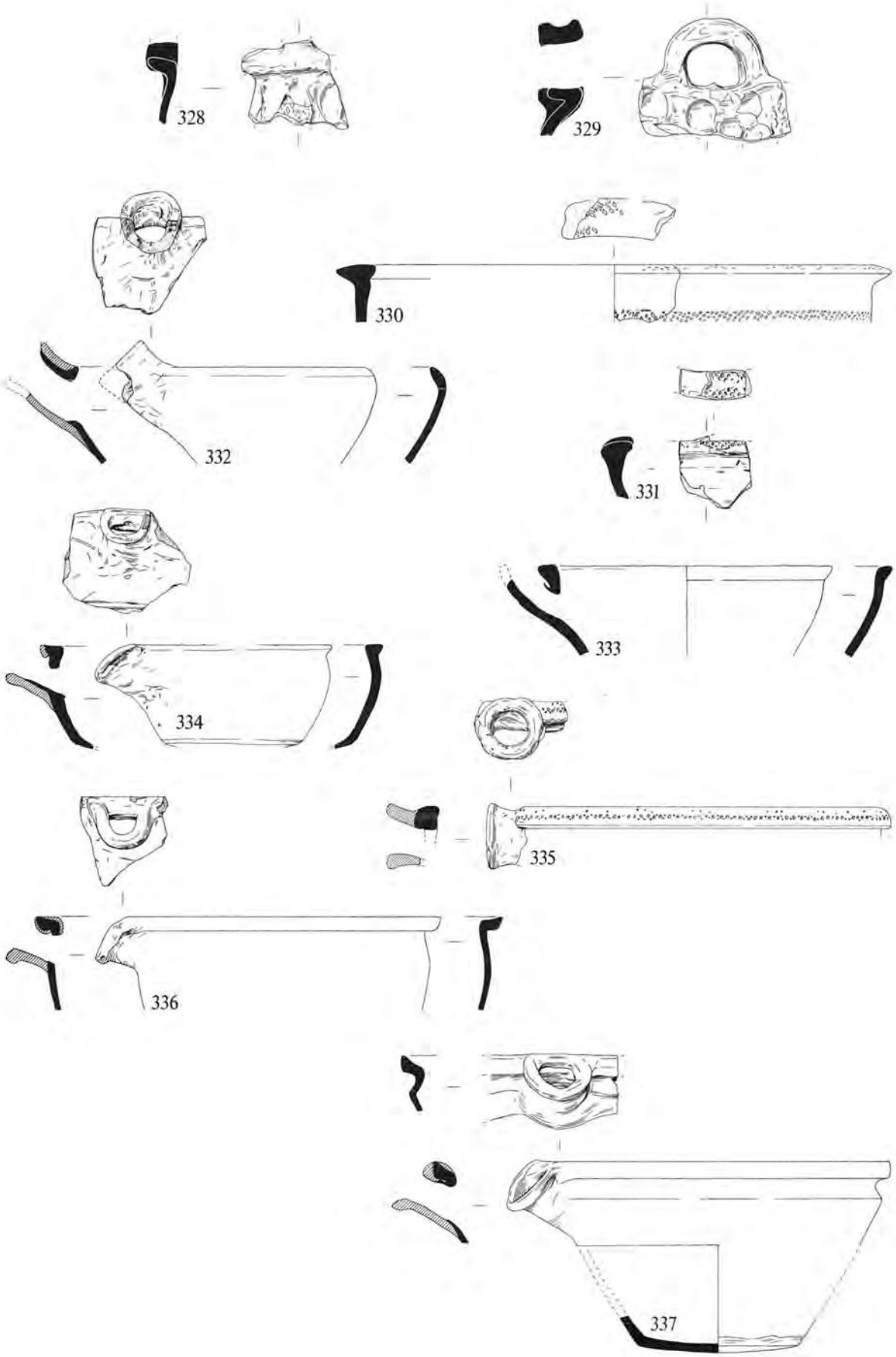


Fig. 174 Pottery. Thetford Ware. Scale 1:4.

329. Medium. Dark grey with light brown margins. Rare.
H5, Site 2S (101).
330. Medium. Light brown margins. Scar of ?handle. Rare.
H6, Site 2S (184).
331. Medium. Thin light brown margins. Scar of ?handle. External diameter approx. 26cm. Unique. Site 1 (1.280).

BD Spouted or Socketed Bowls
BD1—Flaring form, inturned rim.
332. Medium-fine with rather high quartz content. Light grey with medium grey external surface. Rare.
H9, Site 2S (332).
BD2 Small curved-sided form, expanded rim. Few.
333. Medium with rather high quartz content. Dark grey with light brown margins. Rare.
'Star Lane and beyond', area TL 868 829 (1303).
334. Medium. Dark grey with external orange patch. Rare.
PN18A, Site 2N (984).
335. Medium. Rare.
P23, Site 2S (286).
BD3 Small curved-sided form, rim everted.
336. Medium. Light grey margins. Rare.
H5, Site 2S (311).
BD4 Angled bowl. Few.
337. Medium. Few.
PN4A or B, Site 2N (890). TAHM T.977.81d.

BE Crucibles
BE1 Ovoid with pulled spout. Unique.

Fig. 175,
338. Medium. Deposits adhering. Unique.
PN68, Site 2N (1081). TAHM T.977.81t.
BE2 U-shaped. Rare.
339. Handmade. Fabric uncertain. External surface vitrified.
Cobbles, Site 4 (1117).
340. Handmade. Fabric uncertain. Unique.
Cobbles, Site 4 (1117).
341. Handmade. Fabric uncertain. Well burnt. Unique.
Topsoil above *H5*,Site 2S (83).
BE3 Dish-shaped. Unique.
341a. Handmade. Fabric uncertain.
PE9, Site 4 (1127).

C. Costrels and Bottles

CA Costrels
CA1 Uncertain type. Not common.
Fig. 176,
342. Smooth. Mottled light grey and light brownish buff. Few.
K2, Site 2N (1140).
343. Medium. Rare.
H19, Site 2N (631).
CA2 Round or sloping shoulders, two handles. Few.
344. Medium but with extra quartz. Light grey. Rare.
Also published Hurst 1976, fig. 7, 15, 2.
H6, Site 2S (248).
345. Probably meant to be smooth, but encrusted. Overfired and split, probably waster. Light brownish grey. Rare.
Combustion chamber *K1*, Site 2N (1170). TAHM T.977.81s.
CA3 Round or sloping shoulders, three handles. Few.
346. Medium. Internal soot. Rare.
H6, Site 2S (134).
CA4 Shouldered costrel. Three handles. Rare.
347. Medium. External orange patch. Shoulder knife-trimmed. Rare.
PN3A-C, Site 2N (748).

CB Bottles. Rare.
Fig. 177,
348. Smooth. Pinkish brown. Cracked, probably waster. Rare.
K1, Site 2N.
349. Smooth. Greyish brown with pink margins. Patches external soot. Rare.
Above *K1*, Site 2N.

D. Lamps

DA Spiked Lamps. Not common.
350. Fine. Brownish grey. Few.
K2, Site 2N (1152).
351. Smooth. Medium brownish grey. Few.
K1, Site 2N. TAHM T.977.82e.
352. Smooth. Light grey. Cracked. Not common.
K1, Site 2N.
353. Smooth. Medium greyish brown. Not common.
K1, Site 2N.
354. Probably smooth. Pink. Very underfired. Few.
Lower filling *H21*, Site 2N (1035).

DB Baluster. Not common.
355. Medium. Part of external surface brown. Heavy soot inside top of cup. Not common.
H8, Site 2S (249).
356. Medium. Dark grey. Not common.
No. 7 Newtown (1296).
357. Medium. External surface medium brown and black. Heavy soot inside cup. Few.
PN3A-C, Site 2N (709).
358. Medium. External surface and margins partly red. Rare.
H8, Site 2S (220).
359. Medium. Soot on inside and outside of cup in an even line. Unique.
Hearth, *H22*, Site 2N (828).
360. Medium. Unique.
H24, Site 2N (431).
361. Medium-fine. Unique.
PN3A-C, Site 2N (735).

DC Stemmed cup. Few.
362. Fine. Light grey. External ?soot patches. Rare.
PN57, Site 2N (1059).
363. Smooth. Medium-light grey. Split, rim oval shape; waster. Rare.
Above *K1*, Site 2N. TAHM T.977.82k.

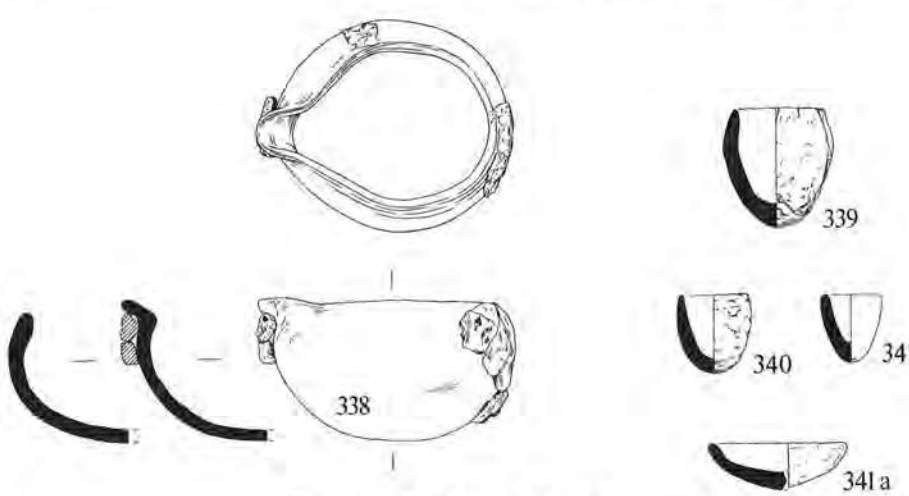


Fig. 175 Crucibles. Scale 1:4.

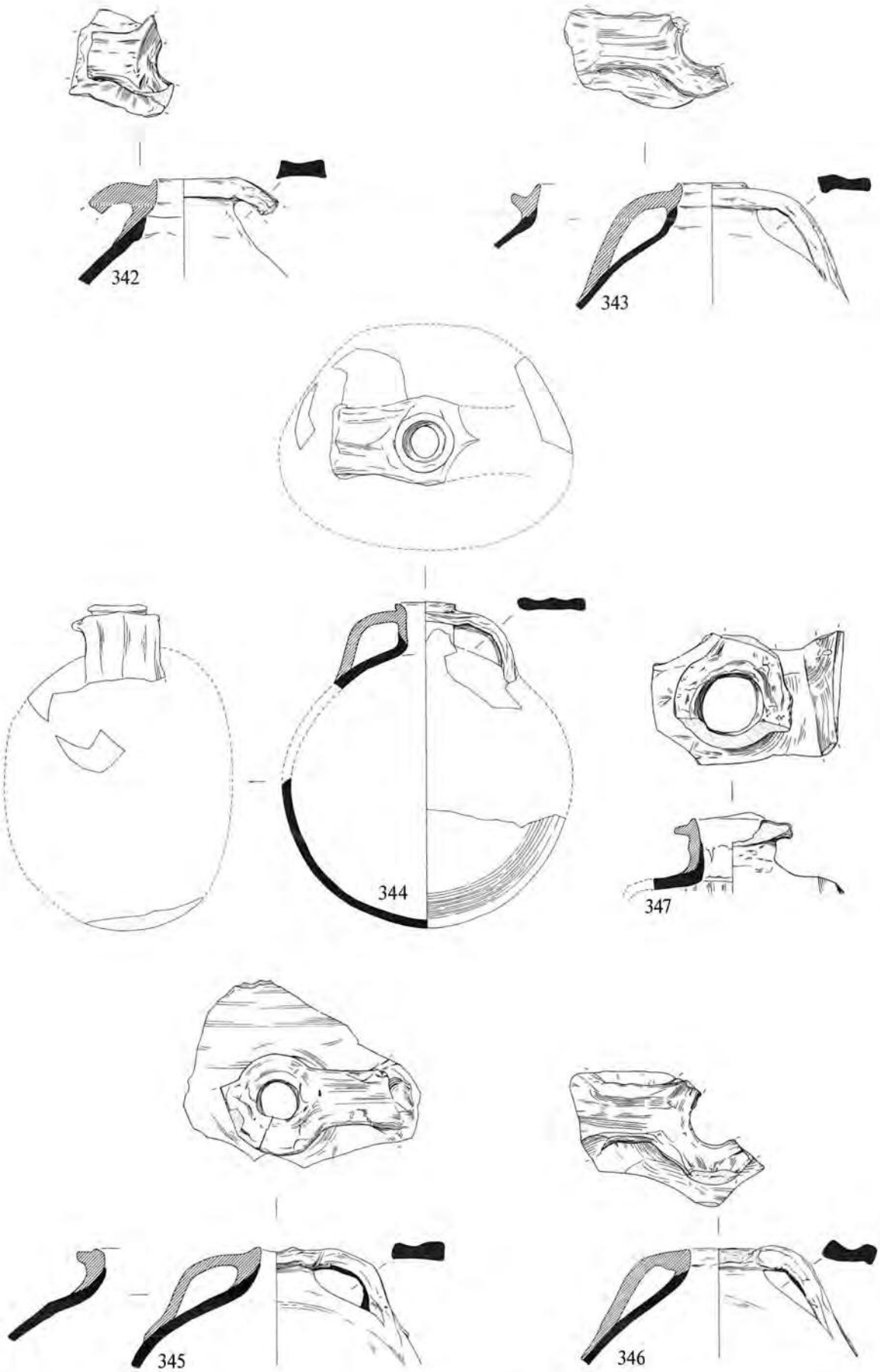


Fig. 176 Pottery. Thetford Ware. Scale 1:4.

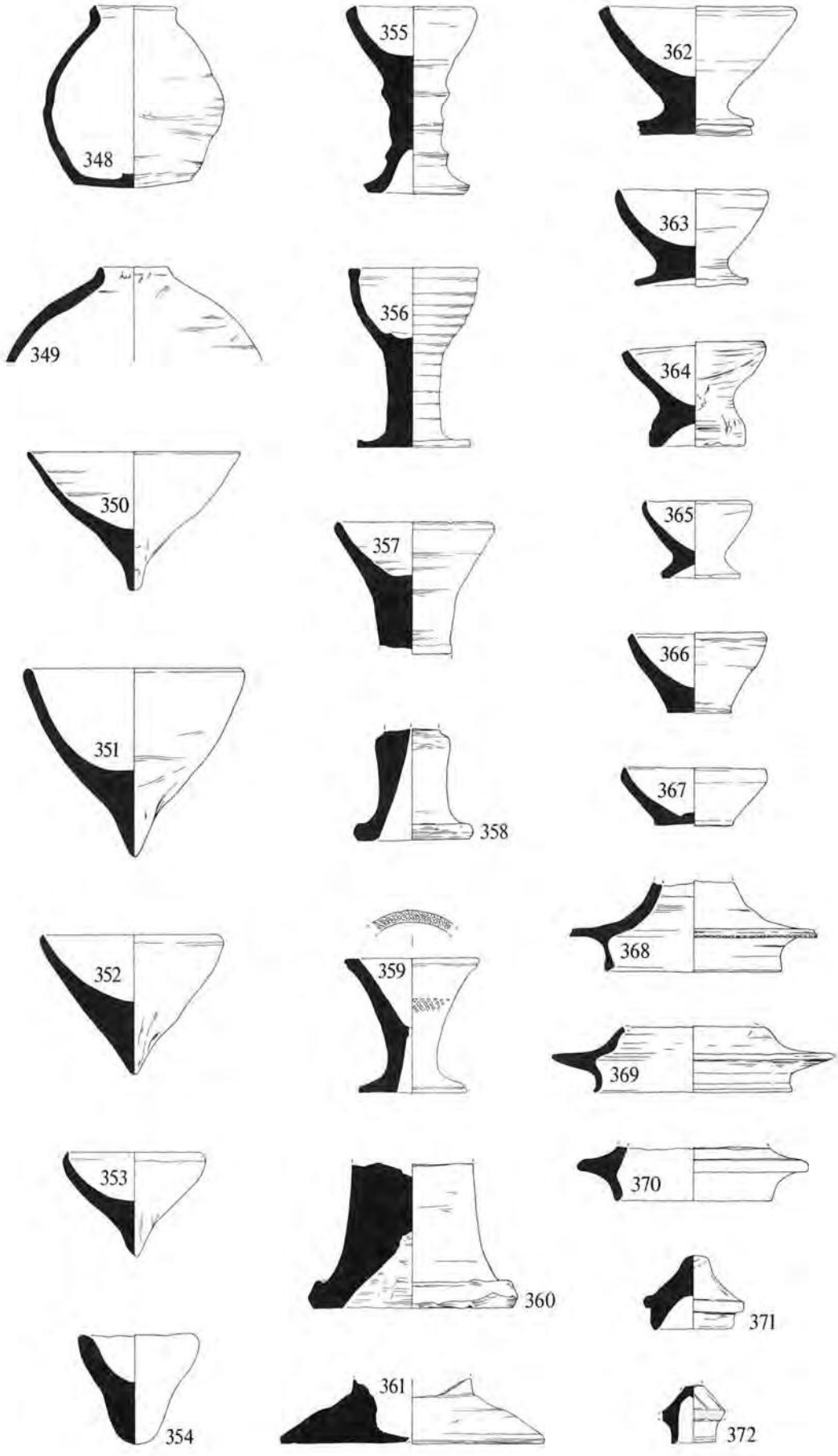


Fig. 177 Pottery. Thetford Ware. Scale 1:4.

364. Smooth. Medium pinkish grey. Rare.
*K*1, Site 2N. TAHM T.977.82h.
365. Smooth. Light greyish buff. Cracked. Rare.
*K*1, Site 2N.

DD Shallow cup. Rare.
366. Smooth with rough exterior. Medium brownish grey. Rare.
*K*1, Site 2N.
367. Medium. Rim irregular. Rare.
*H*19, Site 2N (715).

E. Lids
368. Medium. Surfaces mottled red and dark grey, core dark grey. Extrnal soot patches and heavy soot deposit inside flange. Rare.
*P*N22 A/B and *P*N64, Site 2N (933 and 1077).
369. Medium-fine. Interior and core light grey. Rare.
NW of *H*6, Site 2S (126).
370. Medium. Light brown margins. Rare.
*P*N71, Site 2N (1098).
371. Medium. External soot. Rare.
Bury Road TL 869 824.
372. Medium. Rare.
Area B, Site 6 (1344).

F. Ring Vases
Fig. 178,
373. Medium. Rare.
*P*N38, *P*N47, S of *P*N49A, above *P*N55, Site 2N (909, 992, 996, 1029).
374. Medium. Approx. internal diameter 17cm, external diameter 24cm. Rare.
*P*N36, Site 2N (905). TAHM T.977.81r.
375. Medium. Rare.
*P*N40, Site 2N (934).
376. Medium. Rare.
*P*3, Site 1 (1.182).
377. Medium. Possibly part of No. 373.
*P*N15, Site 2N (955).

Miscellaneous
Fig. 179,
378. Fine sandy fabric. Light brown margins.
'Star Lane and beyond', area TL 868 829 (1303).
379. Coarse sandy fabric. Dark grey, red margins. Fabric similar to flakey storage jars p.118. cf. No. 404.
*P*N4A or B, Site 2N (893).
380. Fine sandy fabric with high quartz content. Exterior dark grey, interior brownish grey, core red.
Above *K*1, Site 2N (1164).
381. Fine sandy fabric with some larger grits. Fired very hard.
*H*7, Site 2S (195).
382. Fine sandy fabric. Soot on rim.
*H*9, Site 2S (433).
383. Harsh sandy fabric. Core brown.
TL 8642 8272 (1996).
384. Medium sandy fabric. cf. No. 422.
*P*N25A, Site 2N (1162).
385. Fine sandy fabric. Similar decorations found at Langhale and Norwich.
Combustion chamber layer B3, *K*1, Site 2N (1228).
386. Fine sandy fabric. Fired very hard.
Topsoil *G*VIII, Site 2N (445).
387. Smooth ware. Surface pinkish brown, core dark grey. Unique form.
*G*XXIII, Site 2N (1017).
388. Coarse sandy fabric. External surface brown, rest black.
Below floor of *H*30 and above *H*15, Site 2N (884).
389. Medium sandy fabric. Surfaces dark grey, core black, margins brown.
Above *K*1, Site 2N (1286).
390. Fabric medium sandy with high quartz content. Surfaces and margins light grey. Soot on rim.
*P*N21, Site 2N (830).
391. Smooth ware. Light grey. Medium grey painted lines.
Above *K*1, Site 2N (1286).
392. Smooth ware. Light greyish buff. Light grey painted lines.
*K*2, Site 2N (1140).
393. Smooth ware. Surface brownish grey and orange, core light grey. Medium grey painted lines.
Below floor *H*30 and above *H*15, Site 2N (677).
394. Smooth ware. Light brownish buff. Medium grey painted lines.
*P*N57, Site 2N (1059A).
395. Fine sandy fabric. Medium grey with probable darker grey painted line.
*H*6, Site 2S (107).
396. Probable fine sandy Ipswich-type Ware. Medium grey.
*H*19, Site 2N (631).
397. Hard sandy fabric.
Above *K*1, Site 2N (1286).
398. Medium sandy fabric.
Above *K*1, Site 2N (1286).

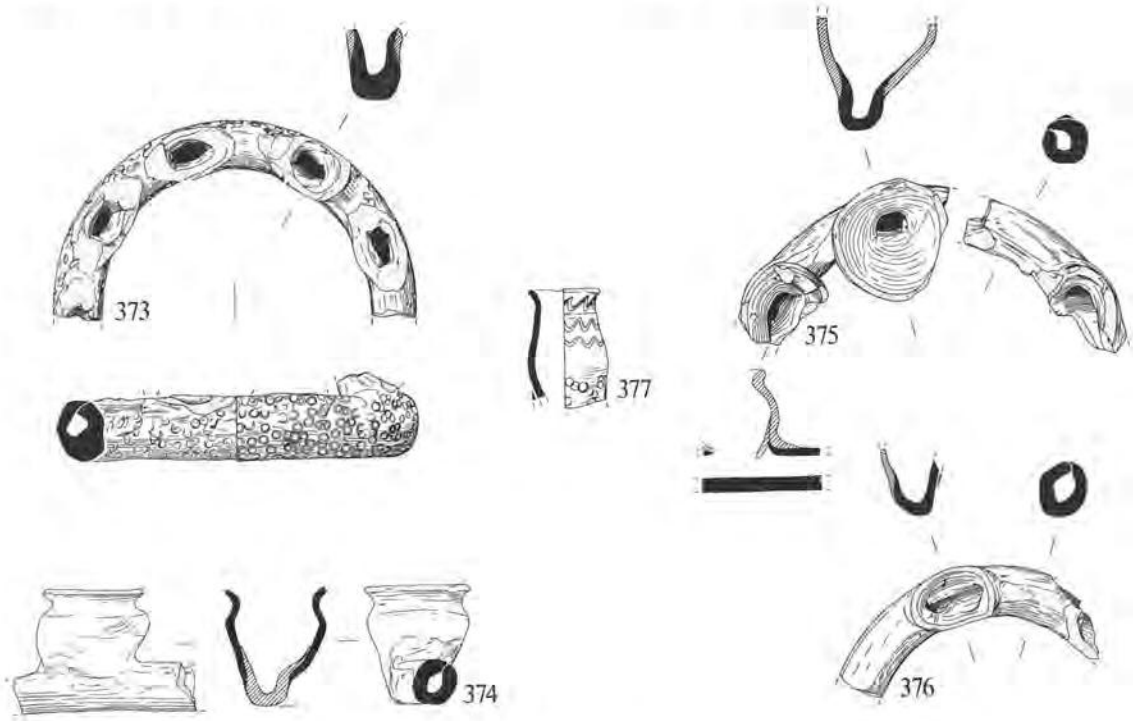


Fig. 178 Pottery. Thetford Ware. Scale 1:4.

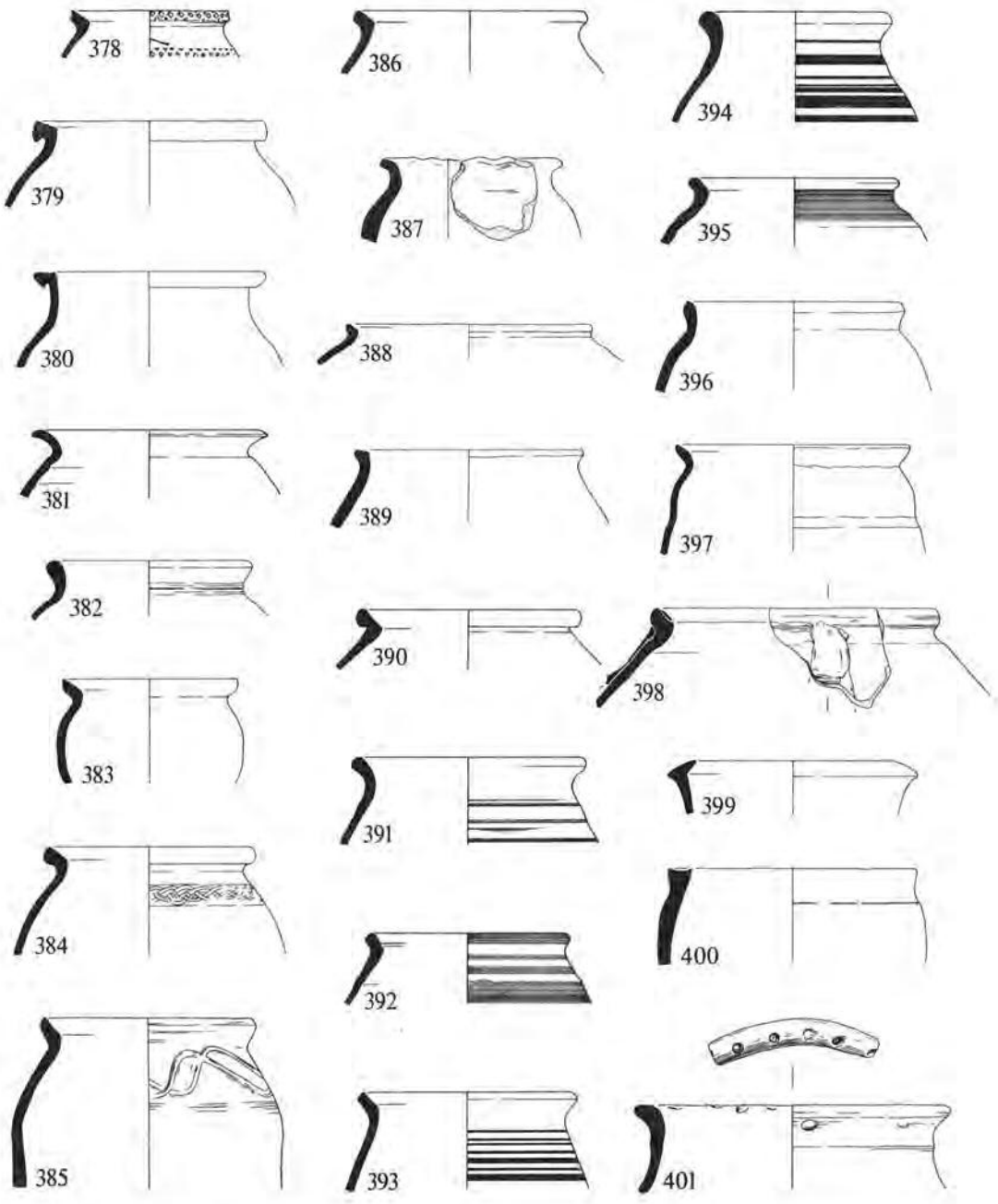


Fig. 179 Miscellaneous pottery. Thetford-type and other wares. Scale 1:4.

399. Fine sandy fabric, inclusions mostly quartz. Surfaces and core dark grey, light brown margins.
Topsoil *G*XXI/XXII, Site 2N (953).

400. Fine sandy fabric with irregular inclusions. Dark grey.
*K*1 stoke pit, Site 2N (1175).

401. Medium sandy fabric.
Above *K*1, Site 2N (1290).

Fig. 180,

402. Fabric basically fine sandy, laminated with white and yellow clay streaks. Inclusions include iron ores, chalk and occasional organic fragments. Internal surface flaked off. Light grey. Spout hole plugged with lead. Less than one-half of rim.
TL 8645 8254 (577).

403. Medium sandy fabric with high quartz content. Interior surface light brown. Approx. one-quarter of rim. (Side handles possible).
*G*XI, Site 2N (597).

404. Coarse sandy fabric, as flakey storage jars p.118. Dark grey flakey surfaces, red core. Three-quarters of rim (no side handles). cf. No. 379.
*G*XXII and *P*N25A, Site 2N (829 and 1162).

405. Medium sandy fabric. Dark grey with light brown margins.
*P*55, Site 2S (560).

406. Medium sandy fabric. Overfired, probably a waster. Dark grey. Approx. one-sixth of rim.
Topsoil *G*XIII/XVII, Site 2N (914).

407. Hard sandy fabric. Dark grey.
Above *K*1, Site 2N (1286).

408. Coarse sandy fabric. Light grey.
Sewer trench SW of Site 2S (238).

409. Medium sandy fabric. Light grey.
Above floor *H*S2, Site 6 (1320).

410. Fine sandy fabric.
*H*19, Site 2N (738).

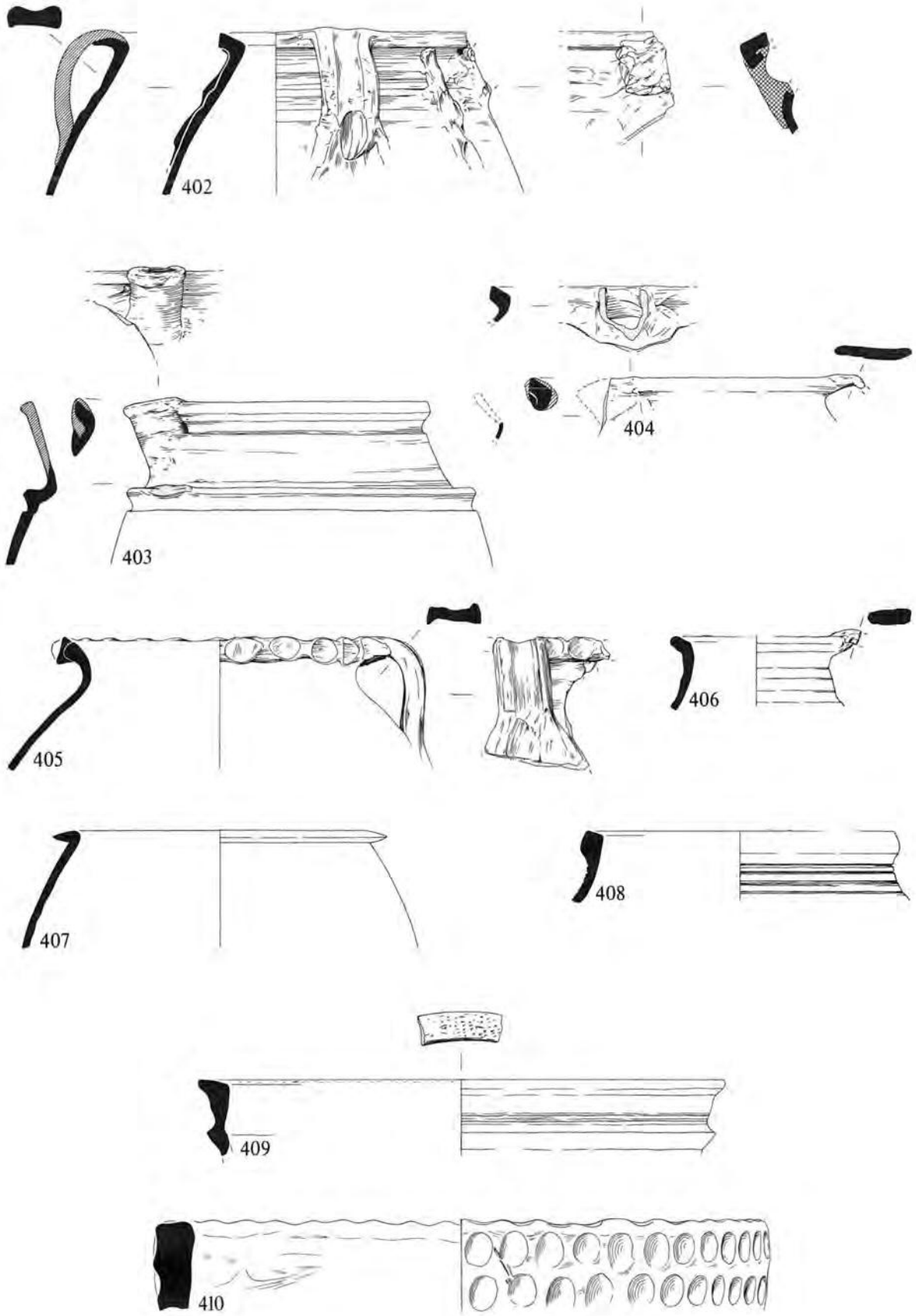


Fig. 180 Miscellaneous pottery. Thetford-type and other wares. Scale 1:4.

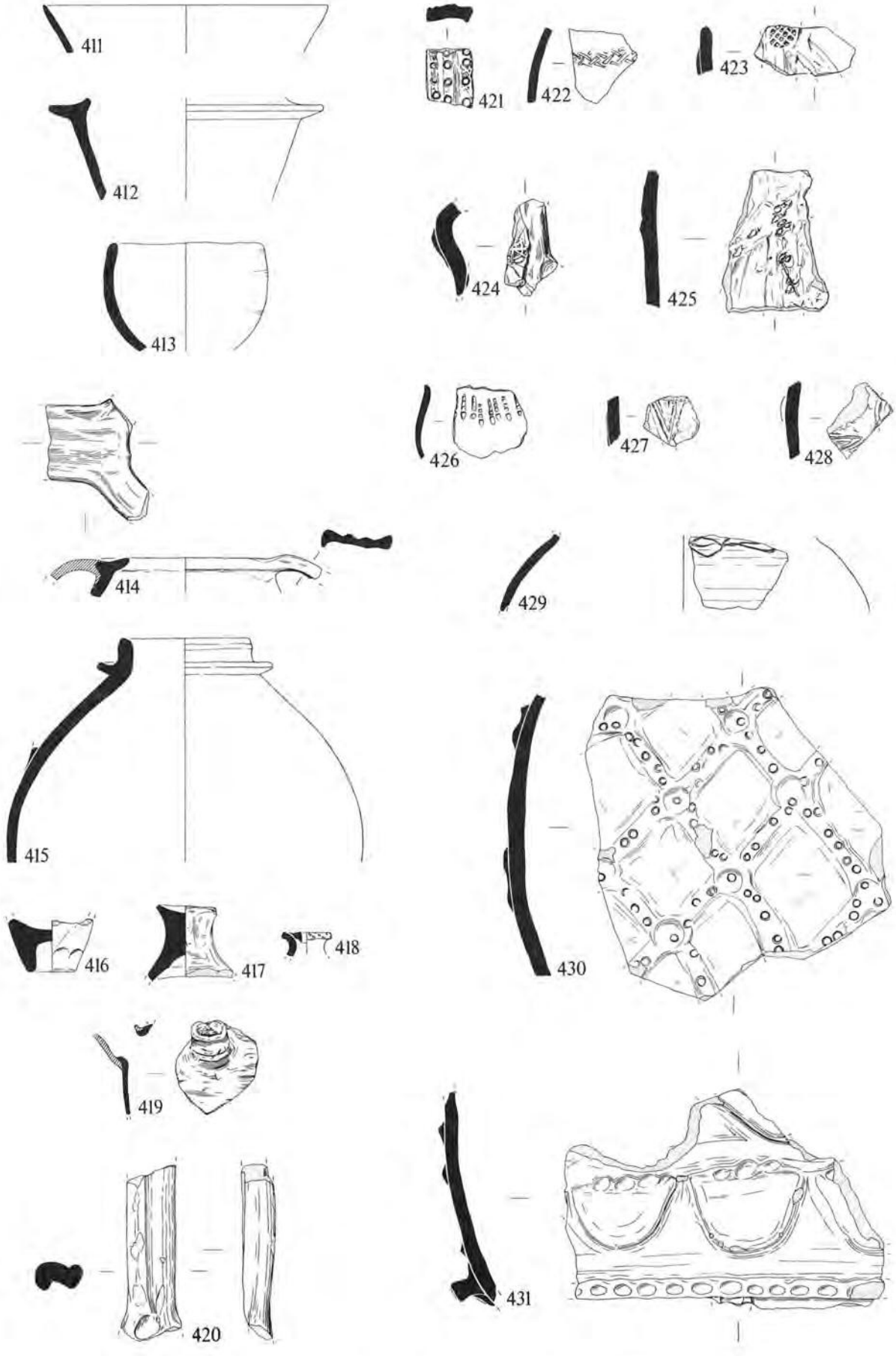


Fig. 181 Miscellaneous pottery. Thetford-type and other wares. Scale 1:4.

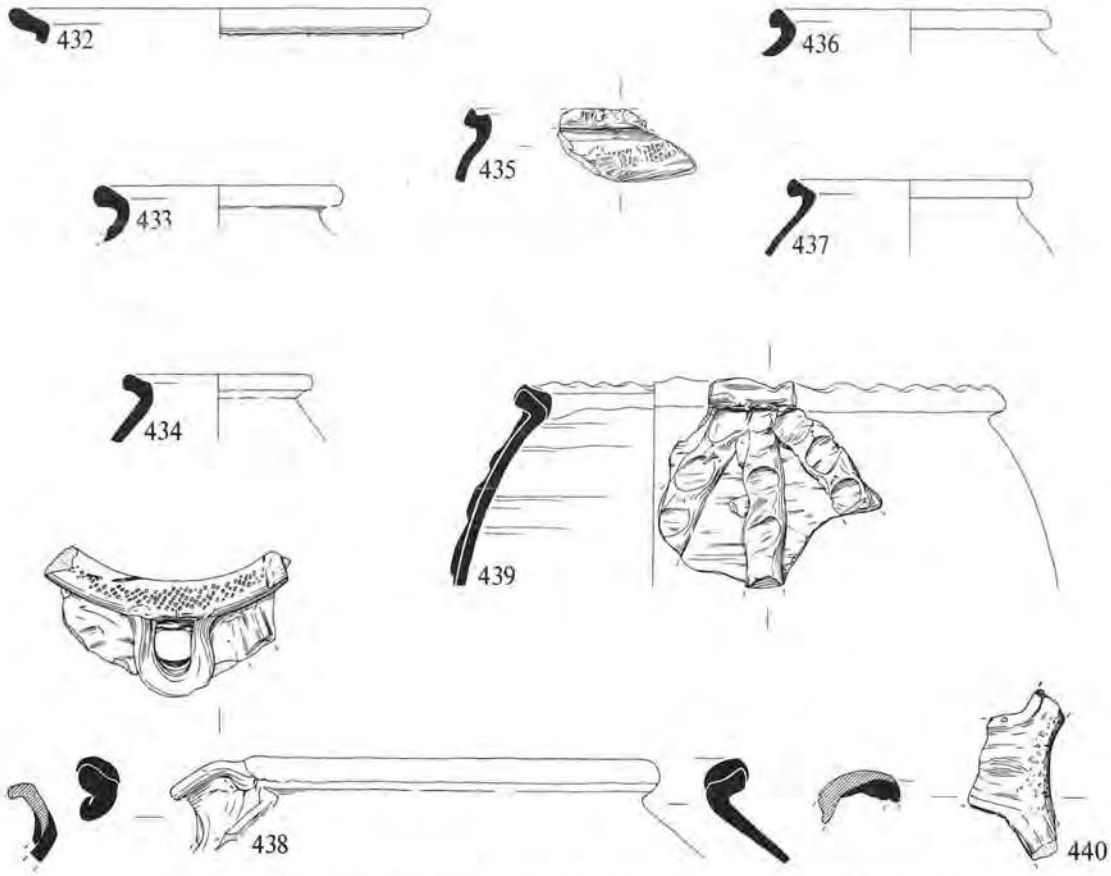


Fig. 182 Miscellaneous pottery. Thetford-type and other wares. Scale 1:4.

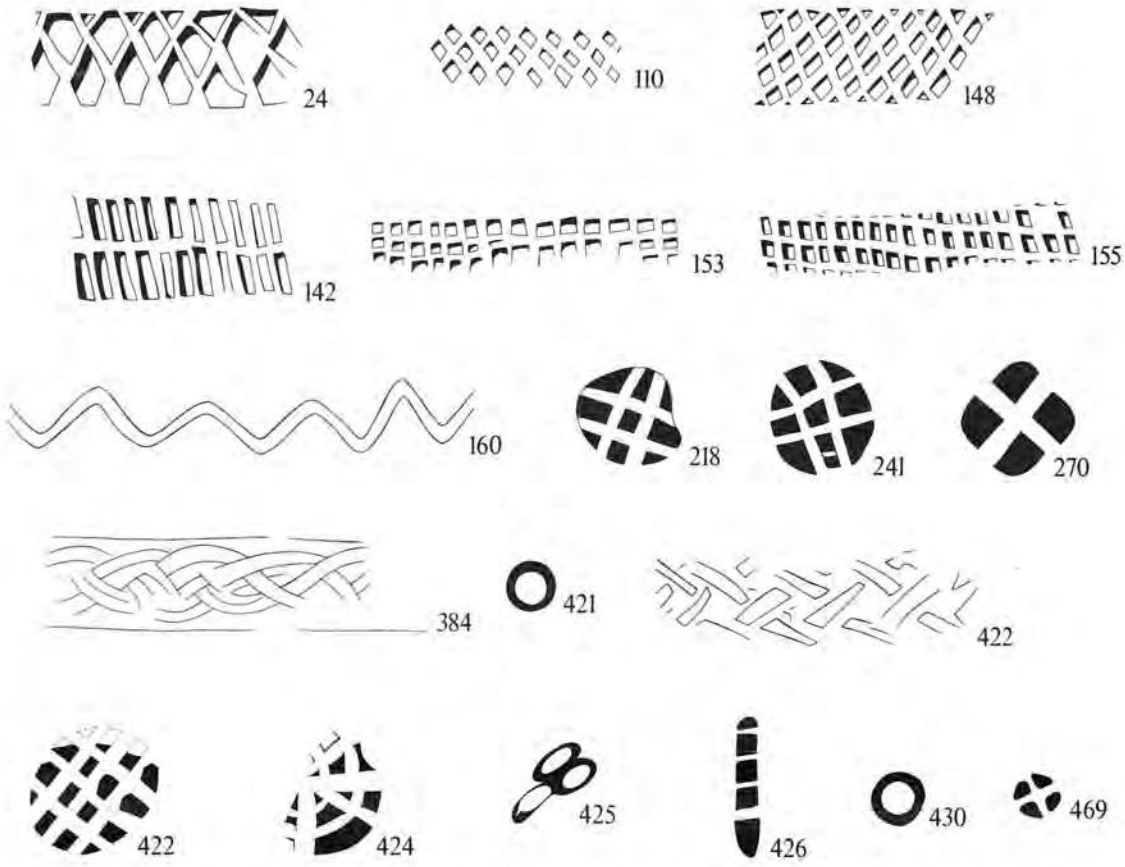


Fig. 183 Decorative motifs on Thetford Ware and Early Medieval Ware (No. 469). Scale 1:1.

Fig. 181,

411. Medium sandy fabric. Dark grey.
*G*XIV, Site 2N (676).

412. Fine sandy fabric. Pinkish red.
Below floor *H*30 and above *H*15, Site 2N (677).

413. Medium sandy fabric with organic inclusions. Exterior dark grey, interior light grey, rim light brown, core light grey.
Topsoil above *H*19 and *P*N26, Site 2N (656 and 949).

414. Coarse sandy fabric. Dark grey with thin light brown margins. Interior flaking.
*G*II, Site 2N (752).

415. Medium sandy fabric. Handle broken off. Soot lower exterior body.
*P*n 69 and topsoil above, Site 2N (1111 and 1112).

416. Apparent base. Medium Thetford fabric.
*P*N69, Site 2N (1112).

417. Lid knob or pedestal base. Medium Thetford fabric.
*H*6, Site 2S (100).

418. ?Lid knob. Medium Thetford fabric.
Below *R*2 W of *H*6, Site 2S (442).

419. Grey sandy fabric similar to medium Thetford Ware but with finer more irregularly-shaped inclusions than usual. Unique.
*P*E7, Site 4 (1124).

420. Hard sandy fabric. Few.
*P*N22 A/B, Site 2N (933).

421. Medium sandy fabric. Unique decoration.
*P*N18C or D, Site 2N (834).

422. Medium sandy fabric. Dark grey with thin light brown margins. cf. No. 384.
*H*5, Site 2S (101).

423. Medium-fine. Surfaces light brown, core medium grey.
Black soil, Site 3 (409).

424. Medium. Surfaces brownish grey, core orange. Underfired, probably a waster.
No. 7 Newtown (1296).

425. Medium.
*P*N55, Site 2N (1109).

426. Sandy fabric, not Thetford Ware. Dark grey to black, part of interior surface brownish grey. Possible Frisian or Flemish import.
Topsoil *G*IV, Site 2N (431).

427. Fine black sandy fabric. Could be Early Saxon or imported.
Combustion chamber layer A, *K*1, Site 2N (1167).

428. Sandy fabric, rather laminated in appearance. Light grey.
Combustion chamber, *K*1, Site 2N.

429. Coarse sandy fabric. Dark grey with light brown margins.
*G*XXI, Site 2N (712).

430. Medium Thetford Ware.
Filling of oval feature *H*6, Site 2S (262).

431. Coarse sandy fabric as flakey storage jars p.118. Exterior surface dark grey, interior surface missing, margins dull red, core grey.
Below *R*2 NW of *P*29, Site 2S (446).

Fig. 182, Nos. 432-440 No. 7 Newtown (1296).

432. Medium. Greyish brown and orange. Cracked under rim.
433. Medium. Twisted.
434. Medium. Orange, grey sooted rim. Twisted.
435. Medium. Orange. Twisted.
436. Medium. Surfaces orange, core grey, external grey soot patches.
437. Medium. Orange, exterior brownish grey.
438. Medium. Orange with some grey patches. Interior cracking.
439. Medium. Orange with partly grey core and grey patches.
440. Medium. Orange.

Fig. 183, Rouletted patterns, stamps, and incised lines on Thetford Ware, and Early Medieval Ware (No. 469).

St. Neots-type Ware.

Fig. 184,

441. Dark grey to black.
Topsoil above H19, Site 2N (963).

442. Surfaces pink, core black.
*H*9, Site 2S (313).

443. Black. External soot.
*P*N22 A/B, Site 2N (933).

444. Exterior and rim brown, interior and core black.
*P*60, Site 2S (616).

445. Greyish brown.
*P*54, Site 2S (522).

446. Dark grey to black.
Topsoil *G*XIII/XVII (914).

447. Surfaces red, core black. External soot.
*H*9, Site 2S (469).

448. Surfaces red, core grey. Burnt patches on rim.
Topsoil area B, Site 6 (1344).

449. Surfaces reddish brown, core dark grey. Sooted rim.
*H*4, Site 1 (1.242).

450. Grey.
Below *R*3 W of *H*6, Site 2S (291).

451. Surfaces reddish brown, core dark grey.
*G*XXIV, Site 2N (1078).

452. Surfaces red, core black. External soot.
*G*XXIII, Site 2N (990).

453. Reddish brown. Sooted rim.
*P*22, Site 2S (335).

454. Purplish brown.
*P*N3A-C, Site 2N (748). TAHM T.977.85.

455. Dark grey.
*H*4, Site 1 (1.242).

456. Dark reddish brown. Soot on exterior.
*H*6, Site 2S (208).

457. Exterior pink, interior and core dark grey. Soot inside rim.
Below floor *H*30 and above *H*15, Site 2N (614).

Early Medieval Ware

Fig. 185,

458. Sandy. Dark grey. Soot on exterior.
Topsoil above *H*5, Site 2S (93).

459. Sandy. Surfaces red, core black. Soot on exterior.
*P*36, Site 2S (295).

460. Sandy. Surfaces red, core black. Soot on exterior.
Topsoil above *H*9, Site 2S (304).

461. Coarse sandy. Surfaces orange, core dark grey to black.
Above *K*1, Site 2N (1290).

462. Sandy, with much quartz. Orange, with black soot patches on rim.
*G*XVIII, Site 2N (635).

463. Sandy. Surfaces red, core black. Soot on rim and exterior.
Topsoil *G*XVI/XVII, Site 2N (661).

464. Sandy. Surfaces red, core black. Soot on exterior.
*H*19, Site 2N (631).

465. Sandy. Surfaces red, core black. Soot on exterior.
Below *R*3, NW of *P*29, Site 2S (71). TAHM T.977.89.

466. Coarse sandy, with many brown ?iron ore inclusions. Surfaces light orange, core medium grey.
*G*XXIV, Site 2N (1058).

467. Sandy with high quartz content. Dark reddish brown with internal red patches. Heavy sooting interior and exterior, especially at rim.
*G*XXV, *P*N64 and *P*N68, Site 2N (1071, 1077, 1081). TAHM T.977.92.

468. Sandy. Surfaces greyish brown, core medium grey.
*G*IX/XIII, Site 2N (920).

469. Sandy. Surfaces brownish red, core dark grey. Soot on exterior.
*P*49, Site 2S (562).

470. Sandy. Black. Soot on interior and exterior.
Topsoil above roads, Site 2S (144).

471. Sandy. Surfaces red, core dark grey. Soot on rim and exterior.
*P*36, Site 2S (295).

472. Sandy. Surfaces orange and grey, core dark grey, interior margin orangish brown. Soot on exterior and rim.
*P*36, Site 2S (295).

473. Sandy with many chalk inclusions. Dark orange with orangish brown exterior. Soot on exterior.
Topsoil *G*XVII/XVIII, Site 2N (650).

474. Sandy with chalk inclusions. Dark grey with orange external margin. Heavy soot on interior. Sherd appears burnt.
*K*1, Site 2N.

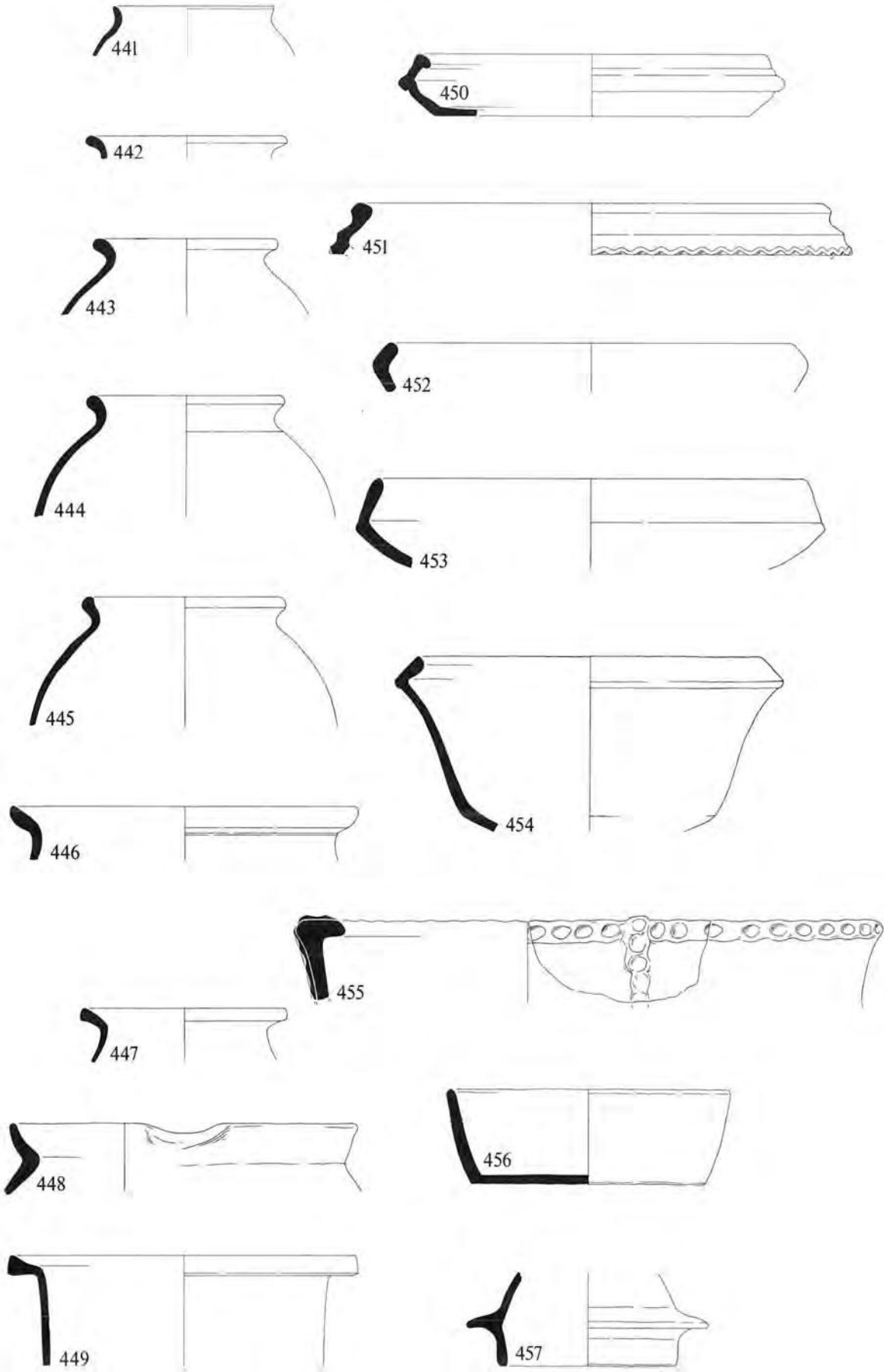


Fig. 184 Pottery. St. Neots-type Ware. Scale 1:4.

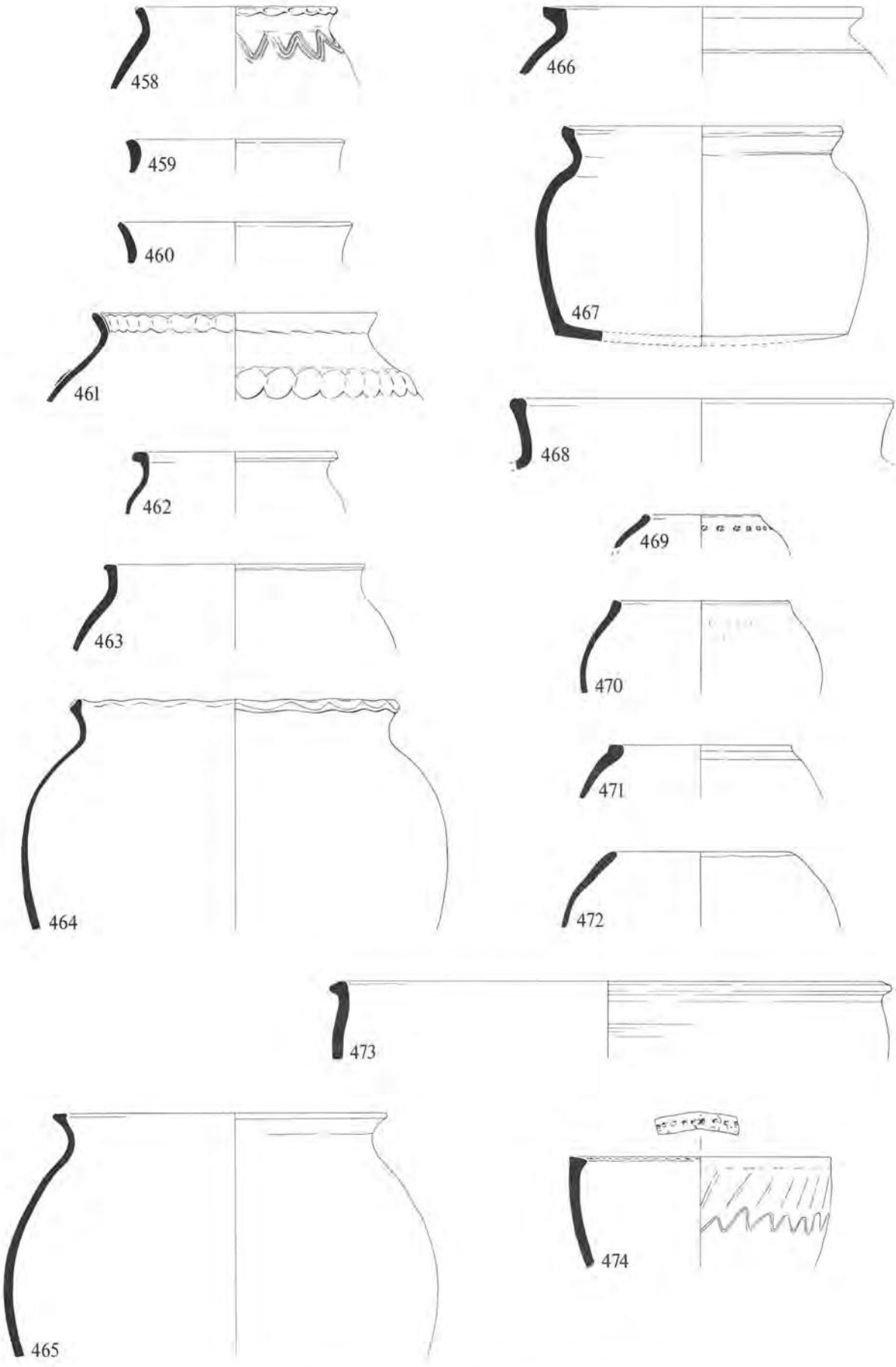


Fig. 185 Pottery. Early Medieval Ware. Scale 1:4.

X. Madder Dye Production

A basal sherd now lost but identified as TH by Knocker, with a diameter of *c.* 30cm and, therefore, probably from a bowl, was coloured light purplish pink on its inner surface. Absorption spectrometry by C.P. Cole of the Paint Research Station indicated that the colour was caused by the use of the pot in the production of madder dye (Biek 1963, 105-6, 109-12, Fig. 3, pl, II, N). *P*S5, Site 6 (1200).

XI. Bone and Antler Objects

All bone identifications were carried out by Peter Lawrance, formerly of Norwich Castle Museum, except for the bird bones which were identified by Don Bramwell.

Combs (Figs. 186-7)

All combs are of antler, unless otherwise stated. With the exception of three connecting plates, probably from double-sided combs, all are of the single-sided, composite variety. The structural terminology used here is that suggested by Galloway (1976). All rivets are iron. All combs are described except a lost tooth segment from *H*14, Site 2S.

Slightly curved connecting plates, end tooth segments projecting above the back, and incised and ring-and-dot decoration show the similarity of Thetford combs to those from Anglo-Scandinavian York (Waterman 1959, Fig. 16; MacGregor 1978, Fig. 29).

Fig. 186

1. Connecting plate with three holes, one with rivet; incisions along both bases; probably from double-sided comb with teeth of different gauges; rib of sheep or horse; hearth in 'alley', *H*2, Site 1 (1.53b).
(not illustrated) Connecting plate fragment with two surviving holes and incisions along both bases; almost certainly from the same comb as 1.53b; 'alley', *H*2, Site 1 (1.60).
2. Part of comb; four surviving holes, three with rivets; ring-and-dot and incised decoration; *P*6, Site 1 (1.204b).
(not illustrated) Connecting plate fragment with two surviving holes with rivets, and incisions along one base; hearth above *P*11, Site 1 (1.219b).
(not illustrated) Tooth segment, teeth missing; length 24mm; sewer trench W of Site 2S (93a).
3. Part of comb; eight surviving holes, six with rivets, and one with bone 'dowel' (adjacent to rivet near right-hand end); incised decoration; below clay floor, *H*5, Site 2S (144).
4. Tooth segment fragment with one hole; *P*37, Site 2S (286).
5. Part of comb; five surviving holes with rivets; incised decoration; in upper floor of *H*13, Site 2S (501).
(not illustrated) End tooth segment fragment; one hole with rivet; *P*51, Site 2S (586).
6. Part of comb; three surviving holes with two rivets; incised decoration; *H*24, Site 2N (773).
7. Pair of connecting plates; two surviving rivets; incisions along one base and on parts of other; rib of sheep or pig; *H*17/18, Site 2N (808).
8. Connecting plate fragment; four surviving holes, two with rivets; incised decoration; *P*N4A or B, Site 2N (872).

Fig. 187,

9. Part of comb; six holes with rivets; *P*N4A, Site 2N (876).
10. Connecting plate fragment with two surviving holes; ring-and-dot and incised decoration; *P*N4A, Site 2N (877).
11. End tooth segment with rivet; faintly incised lines on one face; *P*N25, Site 2N (881).
12. Comb with three rivets and incised decoration; perhaps sawn from the central part of a larger comb; *P*N22A/B, Site 2N (897).
13. Pair of ?connecting plates; three surviving rivets; broad incisions along part of base; rib of sheep, horse or ox; *P*N18D, Site 2N (949).
14. Part of comb; three surviving rivets; incised decoration; *P*N50, Site 2N (989).
15. Connecting plate fragment; two surviving holes; incised and ?sawn decoration; layer 8, Site 1092 (15).
16. End tooth segment with one hole; incised decoration on top edge; nineteenth-century pit (80) cut into layer 78, Site 1092 (33).
(not illustrated) Tooth segment; teeth missing; two holes; length 20mm; layer 92, Site 1092 (37).
17. ?Connecting plate fragment; incised decoration; one end knife-trimmed; layer 92, Site 1092 (38).
18. Tooth segment; two holes; ring-and-dot decoration on back; layer 96, Site 1092 (59).
(not illustrated) Two tooth segments; teeth missing; each with one hole; lengths 15mm; layer 96, Site 1092 (60 and 63).
(not illustrated) Tooth segment; teeth missing; two holes; length 23mm; layer 96, Site 1092 (65).
19. Connecting plate fragment; two surviving holes; incised decoration; layer 96, Site 1092 (71).
20. Connecting plate fragment; one surviving hole; incised decoration; layer 96, Site 1092 (84).
(not illustrated) Tooth segment fragment; teeth missing; one surviving hole; layer 96, Site 1092 (84).

Bone Strips with Iron Rivets (Fig. 188)

Rectangular bone strips invariably formed from split and trimmed ribs, and often found in pairs joined by two or three iron rivets, are of uncertain function. Their short length, the lack of incisions along their long edges, and the fact that they are set so far apart, all suggest that they are not bone comb connecting plates. They cannot be knife-scales because, with one exception, all iron knives found have whittle tangs. Layers 92 and 96 in the north-west corner of Site 1092 contained large quantities of worked bone waste, apparently derived from the manufacture of such strips (p.190).

(not illustrated) Fragment with two rivets set 60mm apart; sheep or horse; *P*21, Site 2S (197).

Fig. 188,

21. Pair with two rivets; sheep or horse; *P*32, Site 2S (240).
(not illustrated) Fragment with one hole; indeterminate bone; make-up of *R*3, W of *H*6, Site 2S (304).
22. One strip with two holes; possibly sheep; *P*41, Site 2S (362).
23. Pair with three holes and one surviving rivet; possibly horse; *P*51, Site 2S (590, one strip not illustrated).
24. Pair with three rivets; horse or ox; *H*31, Site 2N (687).
(not illustrated) One strip with two holes set 62mm apart; total length 80mm; probably sheep; *H*19, Site 2N (702).
25. Pair with three rivets; sheep or horse; *P*N3A-C, Site 2N (757).
26. Pair with two rivets; incised decoration on both strips;. sheep or pig; *P*N8, Site 2N (802).
27. Pair with three rivets; horse or ox; *H*20, Site 2N (935).
(not illustrated) Fragmentary pair with holes set 51mm apart; probably sheep; *H*20, Site 2N (943).
(lost, not illustrated) Fragment with one hole; *P*N47, Site 2N (951).
(not illustrated) Fragment with one hole; probably sheep; associated with human burial, area B, Site 6 (1242).

Needles (Figs. 189-90)

Elisabeth Crowfoot comments 'Tools like these are used for auxiliary textile techniques such as netting, and looped needle-netting, practiced in the north from the Bronze Age onwards (Hald 1950, 461-2, Fig. 282). With the warp-weighted loom, they have an additional use. Marta Hoffmann (1964, 145-6, Fig. 62) describes how in the Faeroes "Two exactly similar needles (*tiglar*, pl.) were placed at the selvage and held the cords (*tiglabaand*) which were used to fasten the edges of the woven cloth to the uprights in order to maintain an even width".' Of thirty needles recovered, fourteen are illustrated. The remaining sixteen were found in the following contexts: Site 2S, *H*6, *R*1 make-up, *R*3 make-up, hearth above *P*27, soil above *P*27, *P*36; Site 2N, *H*19, *H*20, *H*29, *P*N4A or B, *P*N12B (two), *P*N18A; Site 4, *P*E1 (two), *P*E4, *P*E5. All are made from horse fibulae or III/IV metapodials, but they are normally fashioned from pig fibulae (Williams J., 1979, 310).

Fig. 189,

28. Hearth in 'alley', *H*2, Site 1 (1.53a); 29. *P*D, Site 1 (1.170); 30. Point missing, *P*14, Site 2S (22); 31. *H*5, Site 2S (146); 32. *P*29, Site 2S (208); 33. Point missing, *P*29, Site 2S (220); 34. Upper floor *H*13, Site 2S (568A); 35. Below *R*3, area of *H*12, Site 2S (583); 36. *P*N3A-C, Site 2N (768); 37. ?unfinished or ?scoop-like implement, *H*17/18, Site 2N (885).

Fig. 190,

38. *H*20, Site 2N (933); 39. *P*N50, Site 2N (1003); 40. *H*25, Site 2N (1064); 41. Curved stem, *P*E5, Site 4 (1095b).

Pins (Fig. 190)

42. Possibly red deer antler tine; incised and drilled anthropomorphic decoration on one side of pierced head; lower filling of *H*3, Site 1 (1.203).
43. Possibly horse fibula; point missing; topsoil above *H*6, Site 2N (60).
44. Metapodial of sheep or deer; original form of damaged head uncertain; curved projection on right-hand side possibly unbroken; roughly chamfered narrow end either broken or deliberately shaped; make-up of *R*2, area of *H*12, Site 2S (527).

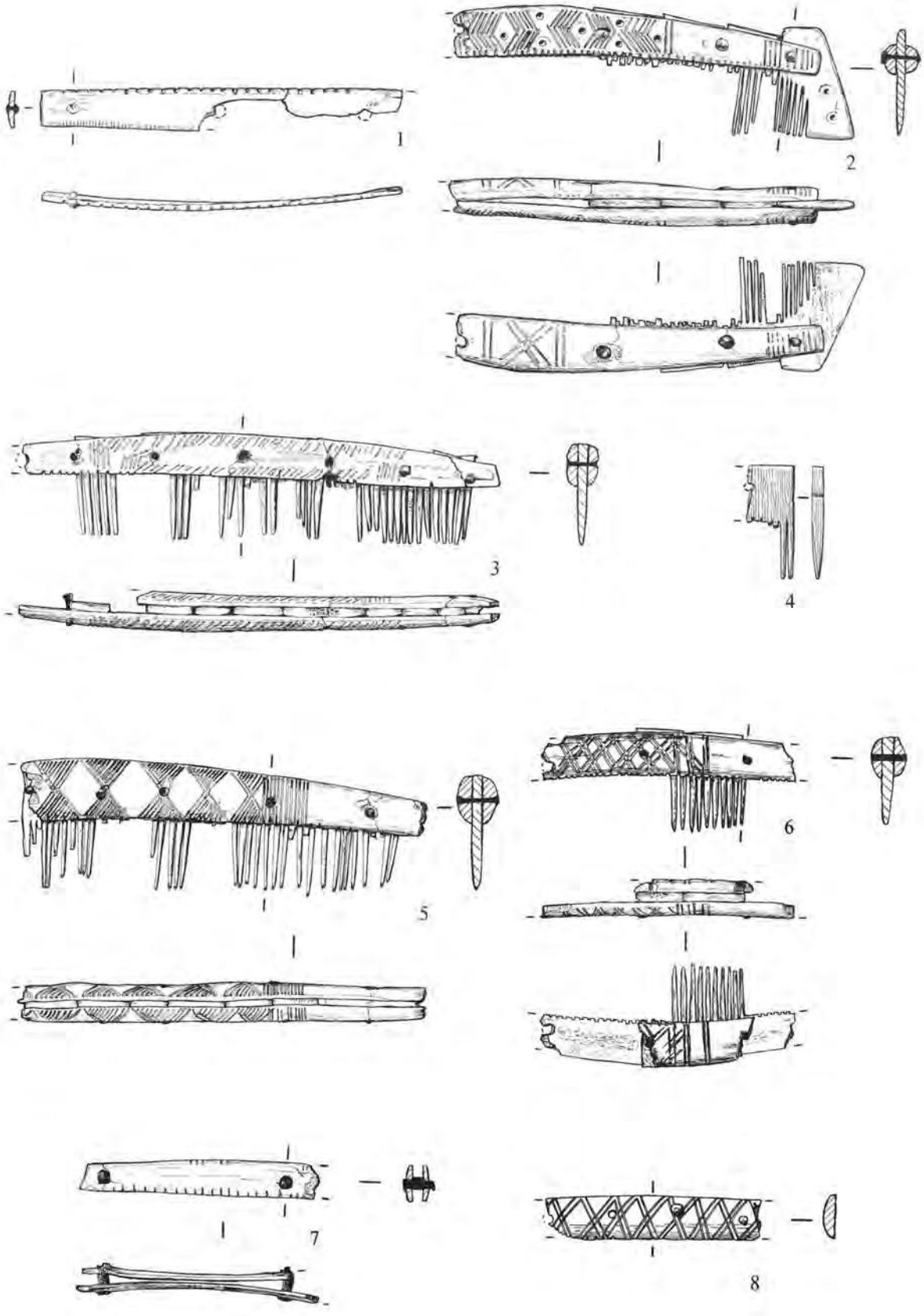


Fig. 186 Bone and antler combs. Scale 1:2.

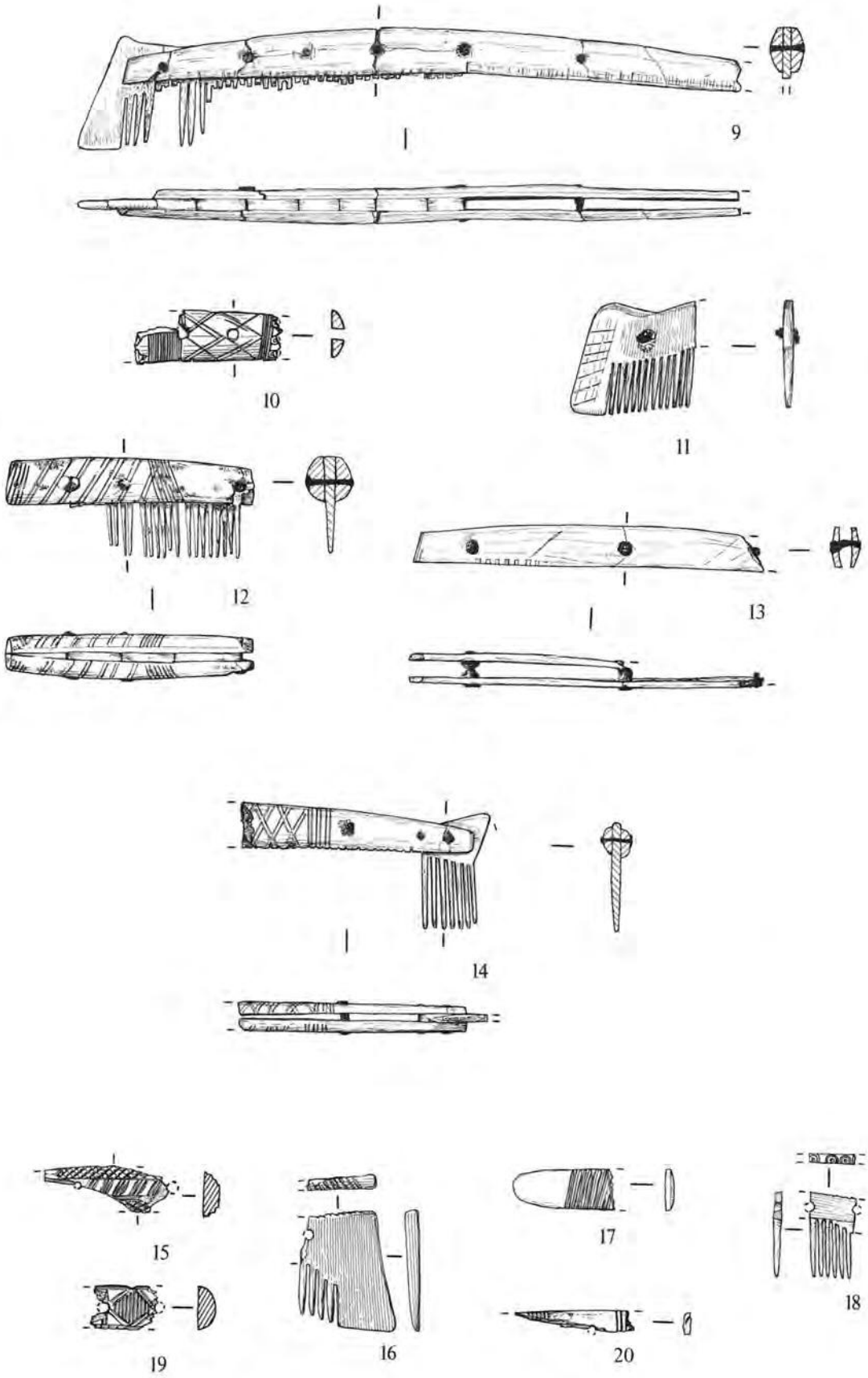


Fig. 187 Bone and antler combs. Scale 1:2.

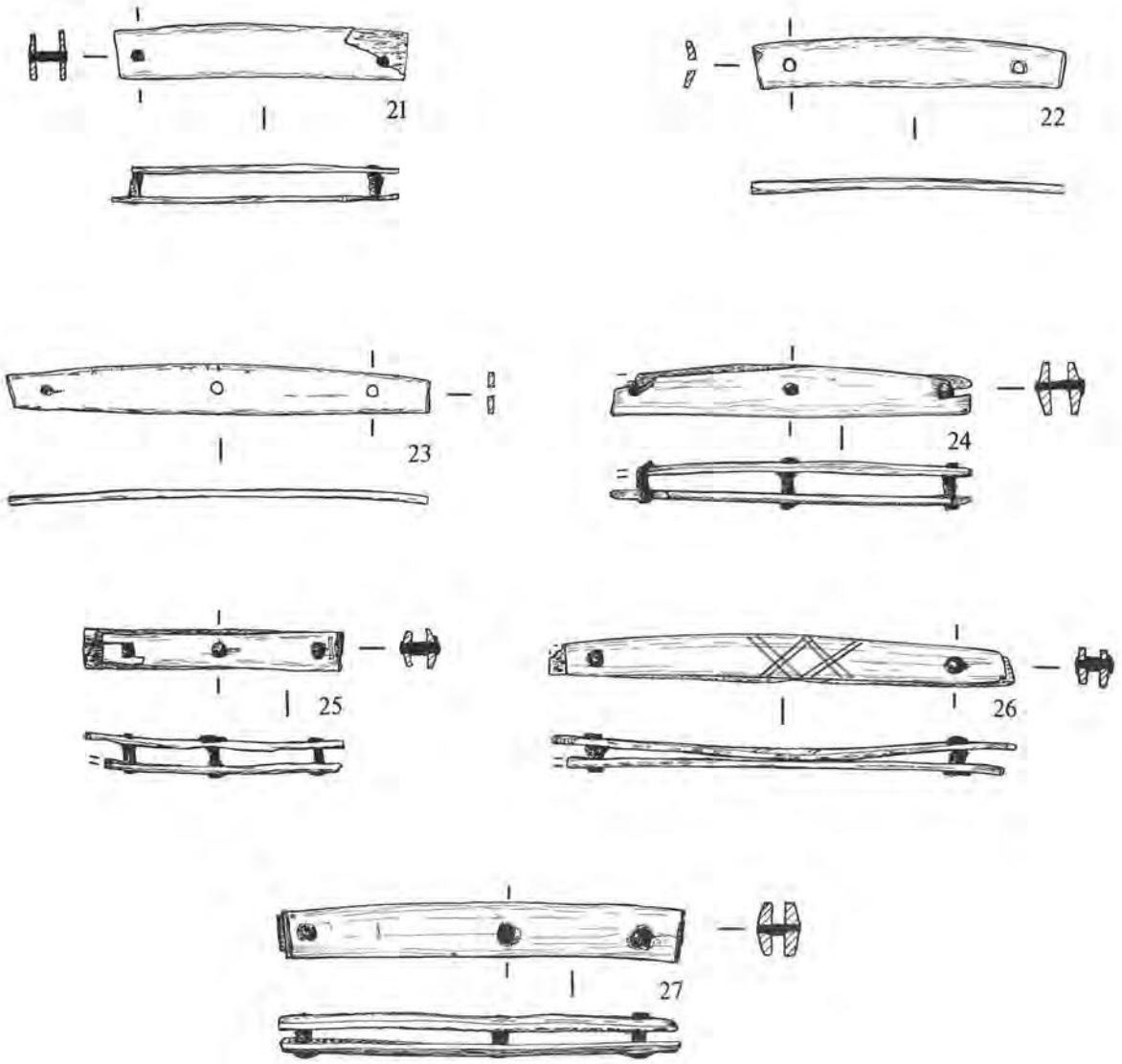


Fig. 188 Bone strips with iron rivets. Scale 1:2.

45. Horse III/IV metapodial or red deer/sheep metapodial; head perforated by fifteen holes; *P*N27, Site 2N (918).
46. Not examined; incised decoration suggesting a Romano-British date, but perhaps post-Roman in view of stubby form; surface find in area centred TL 8637 8287 (1368).

Double-Ended Implements (Figs. 191-3)
This general class of tool is characterised by being pointed at one end and broad at the other. The latter is often scooped out on one or both faces to form an 'inverted thumb-nail' concavity. Sections are normally sub-rectangular, and surfaces are polished. Decoration is usually confined to the broad end. Their function(s) is uncertain, although Elisabeth Crowfoot considers that they could have served as pin beaters. However, the absence of double-pointed tools with rounded sections, (e.g. Brodribb *et al.* 1972, Fig. 62) so common on Early and Middle Saxon sites, is noteworthy. Waterman (1959, 85) suggested that York implements similar to the Thetford examples could have served as smoothers or burnishers, or even as styli. Examples from Bedford have been recovered from medieval and Post-medieval contexts (Baker *et al.* 1979, 291, nos. 1533 and 1549). All except three of the Thetford pieces are made from III or IV metapodials of horse, although similar objects from Northampton are mostly of antler (Williams J., 1979, 33, Fig. 138).

Fig. 191,
47. *P*7, Site 1 (1.241).
48. Fragment of pointed end; *H*6, Site 2S (84).
49. *H*5, Site 2S (90a).
50. Incised decoration on one face; burnt; filling of oval feature, *H*6, Site 2S (225).
51. *H*5, Site 2S (370).
52. Sheep or deer metapodial; below clay floor *H*8, Site 2S (434).

Fig. 192,
53. Fragment; incised decoration on one face; in upper floor *H*13, Site 2S (567).
(lost, not illustrated) Similar to No. 58, but undecorated; *P*60, Site 2S (614).
54. Broad end missing; *P*N36, Site 2N (697).
55. Pointed end missing; incised decoration on one face; *H*26, Site 2N (703).
56. Groove on one face; *H*17/18, Site 2N (737).
57. Lightly incised decoration on one broad and one narrow face; *P*N12C, Site 2N (795).
58. Lightly incised decoration one one face; *P*N18B, Site 2N (919).

Fig. 193,
59. Lightly incised decoration on all faces; *H*20, Site 2N (934).
60. Horse fibula; incised decoration on one face; *P*N18D, Site 2N (948).
61. Incised decoration on all faces; *P*N48, Site 2N (952).
62. Area B, Site 6 (1167).
63. Sheep metapodial; broad end broken or roughly knife-cut; unstratified, SW of Site 2S (1415).

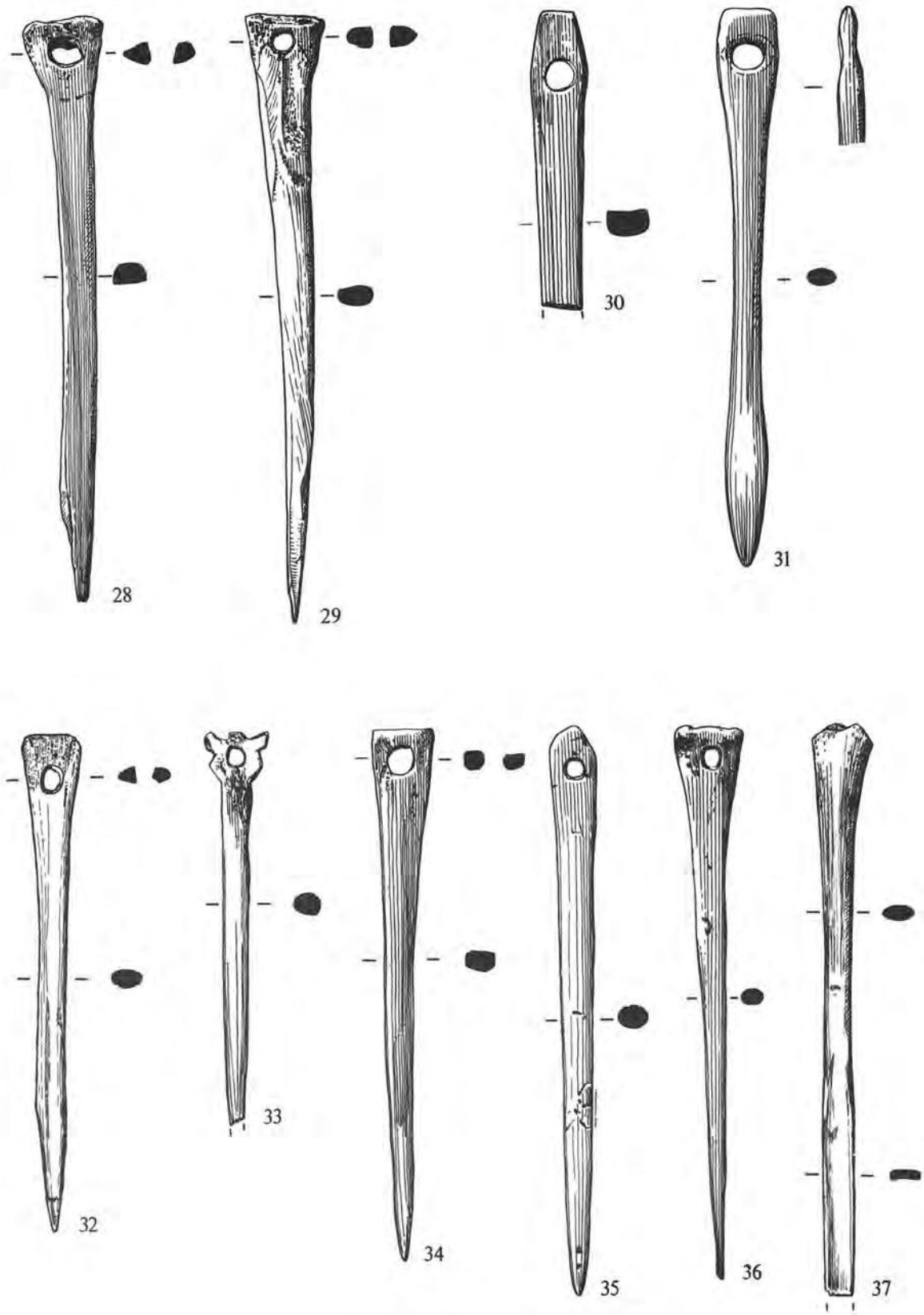


Fig. 189 Bone needles. Scale 1:1.

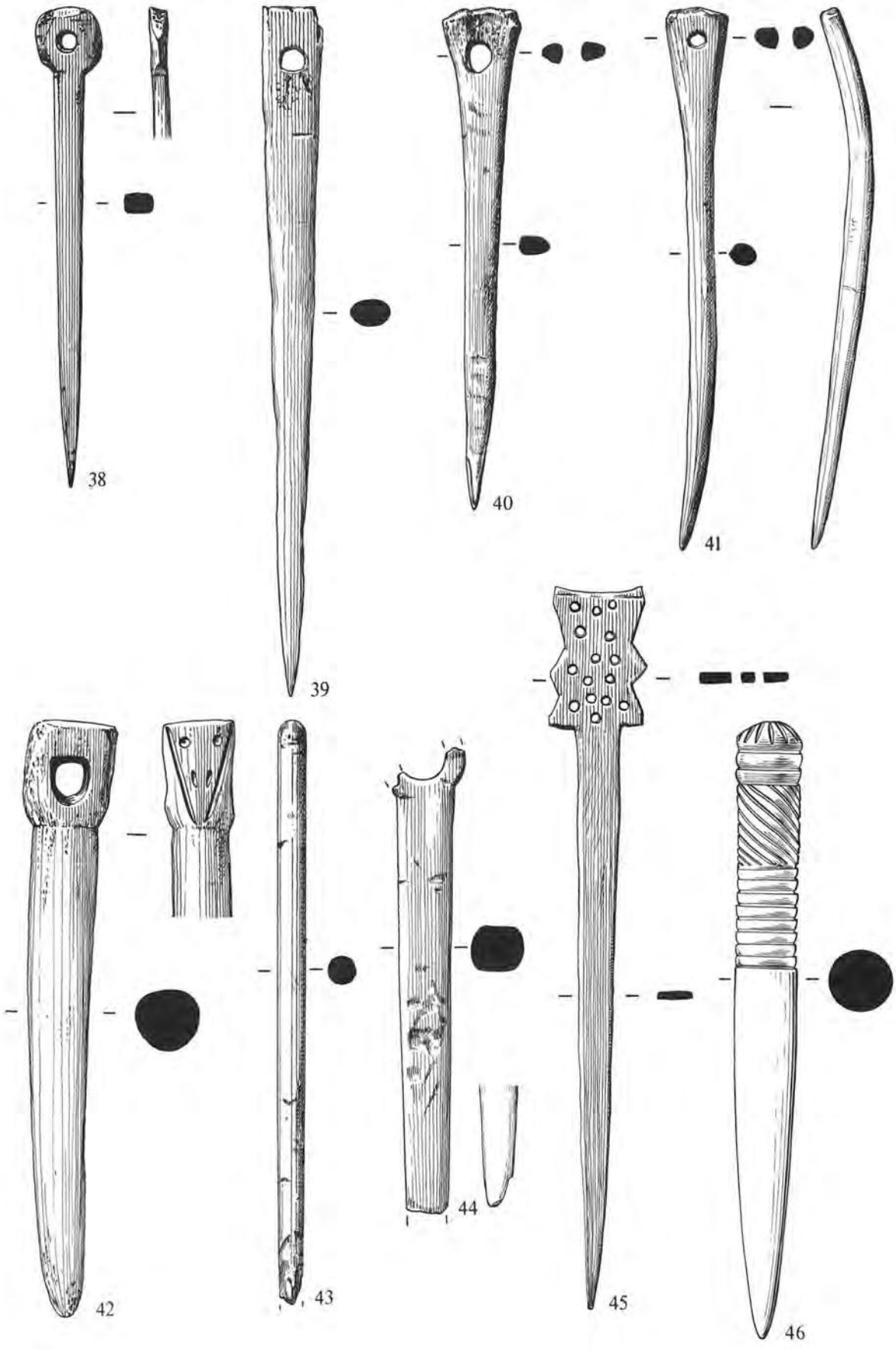


Fig. 190 Bone needles and pins. Scale 1:1.

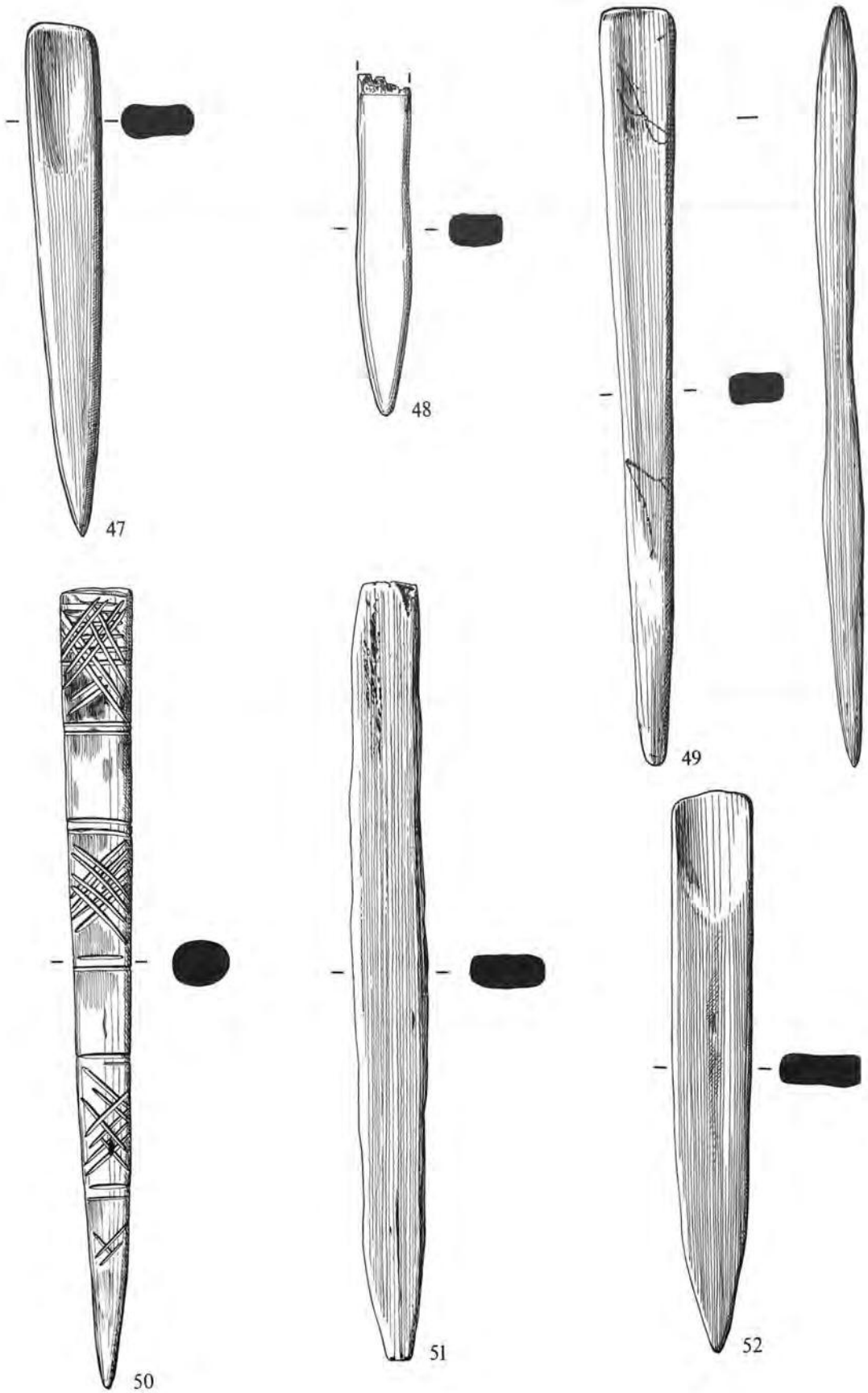


Fig. 191 Bone double-ended implements. Scale 1:1.

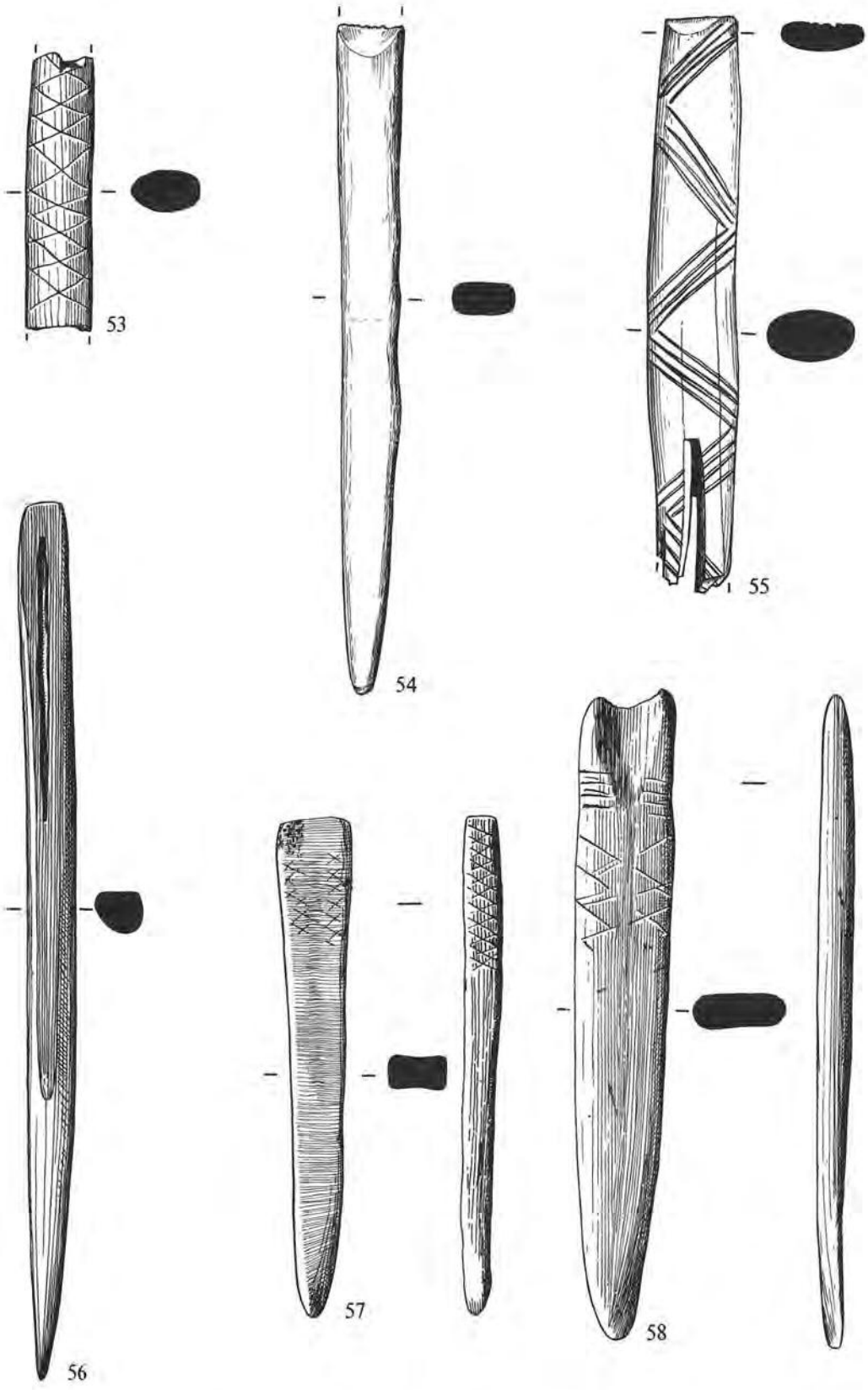


Fig. 192 Bone double-ended implements. Scale 1:1.

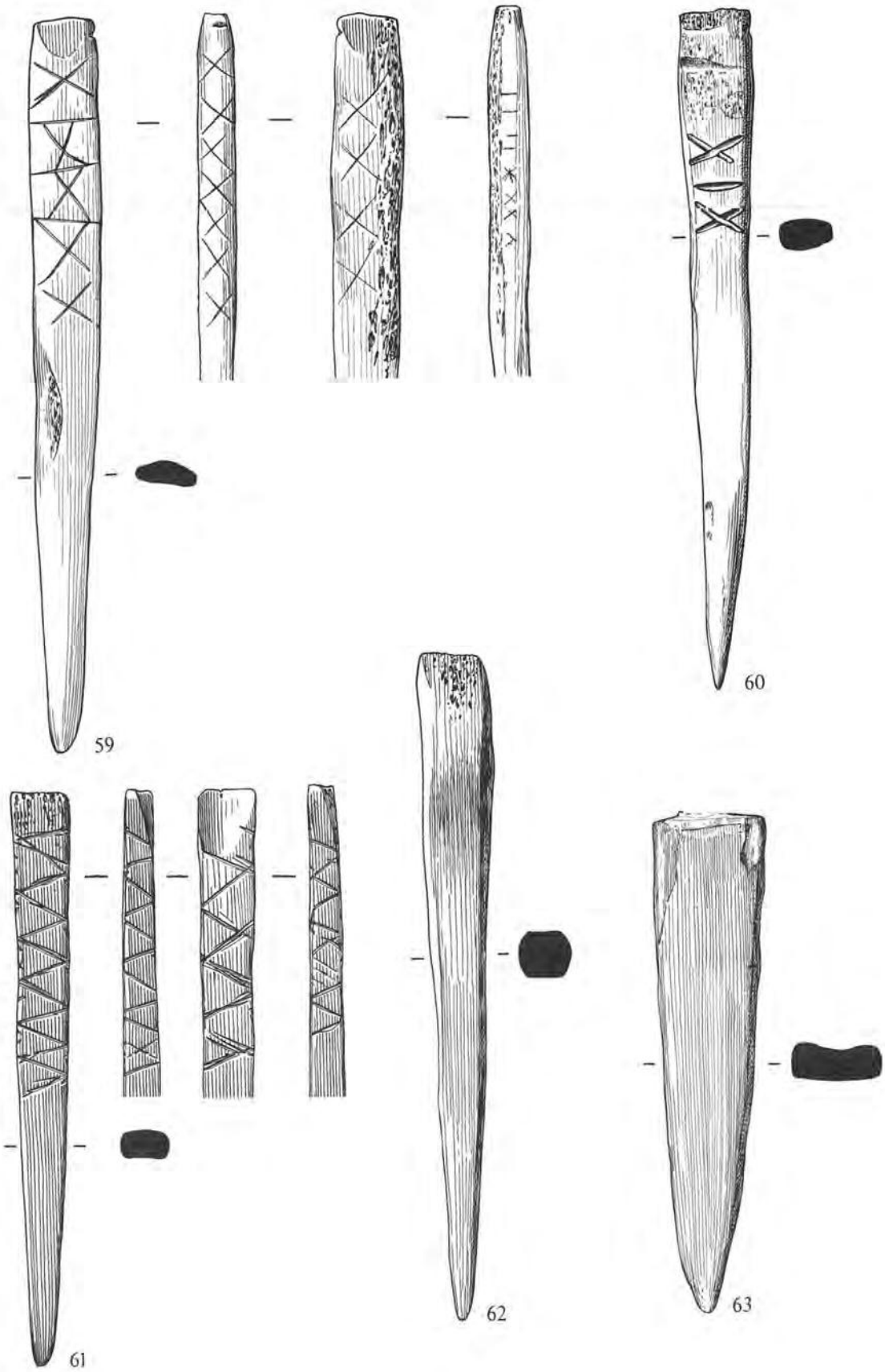


Fig. 193 Bone double-ended implements. Scale 1:1.

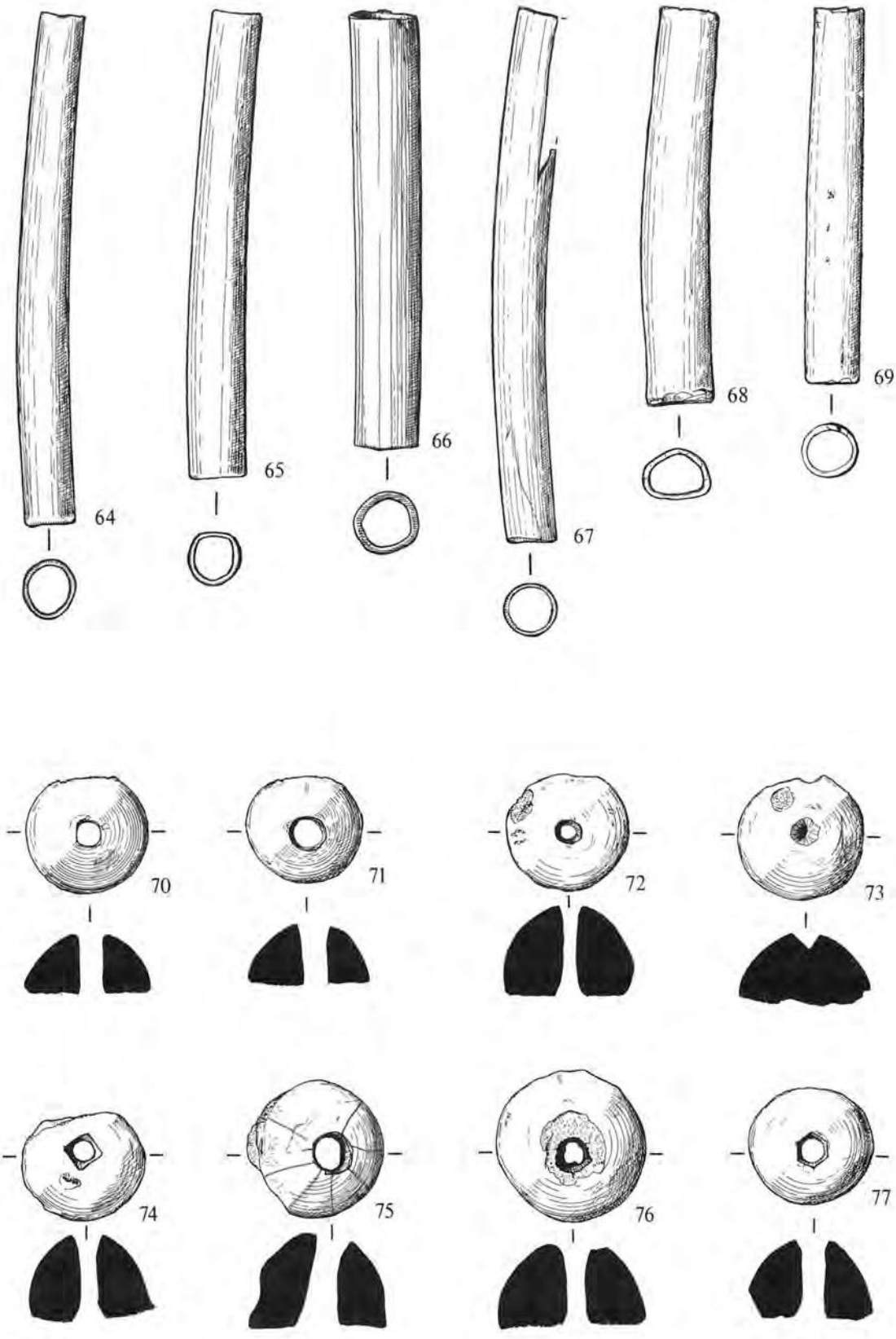


Fig. 194 Nos. 64-9, bone tubular objects. Scale 1:1.
Nos. 70-7, bone spindle-whorls. Scale 1:2.

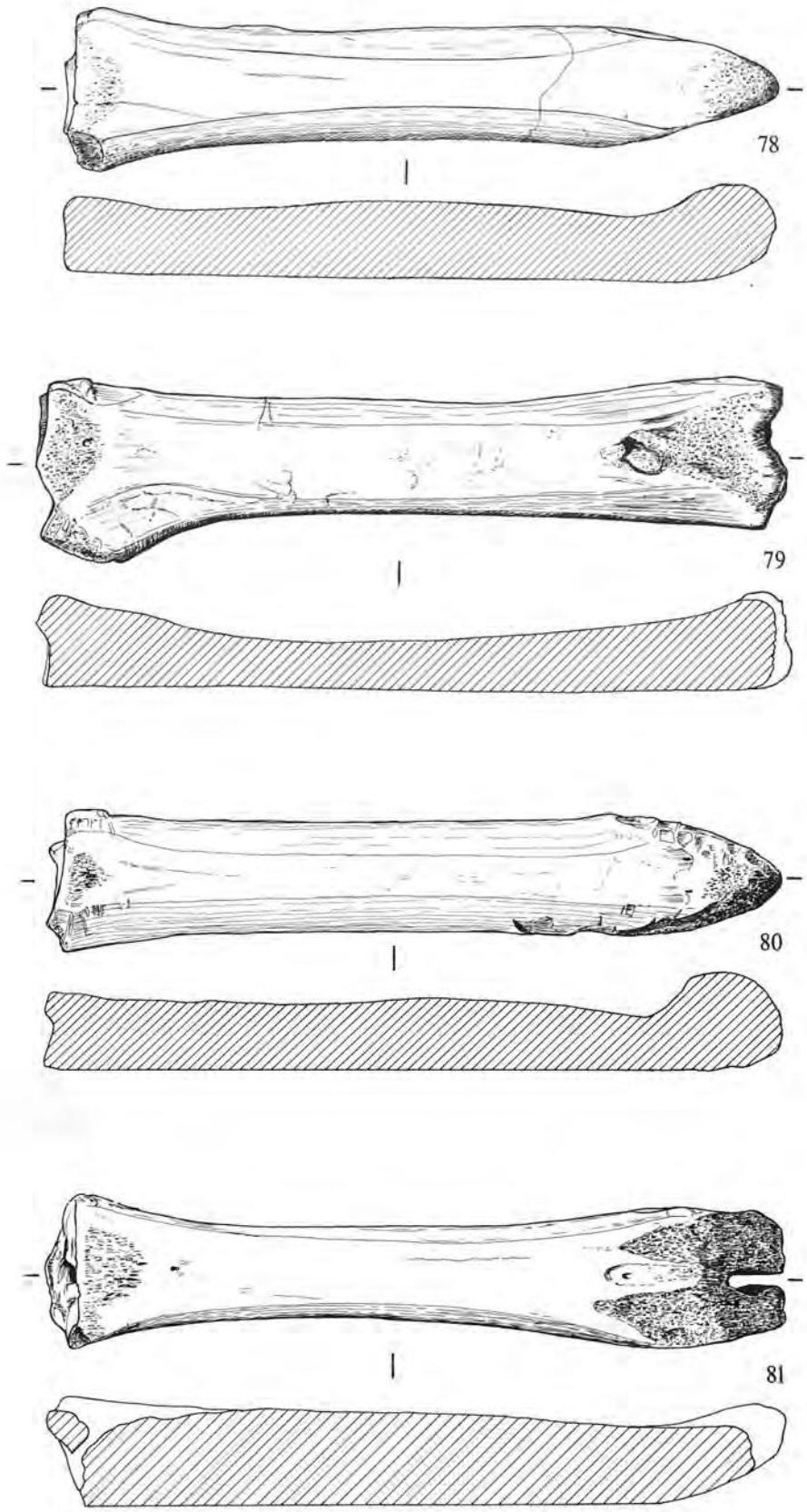


Fig. 195 Bone skates. Scale 1:2.

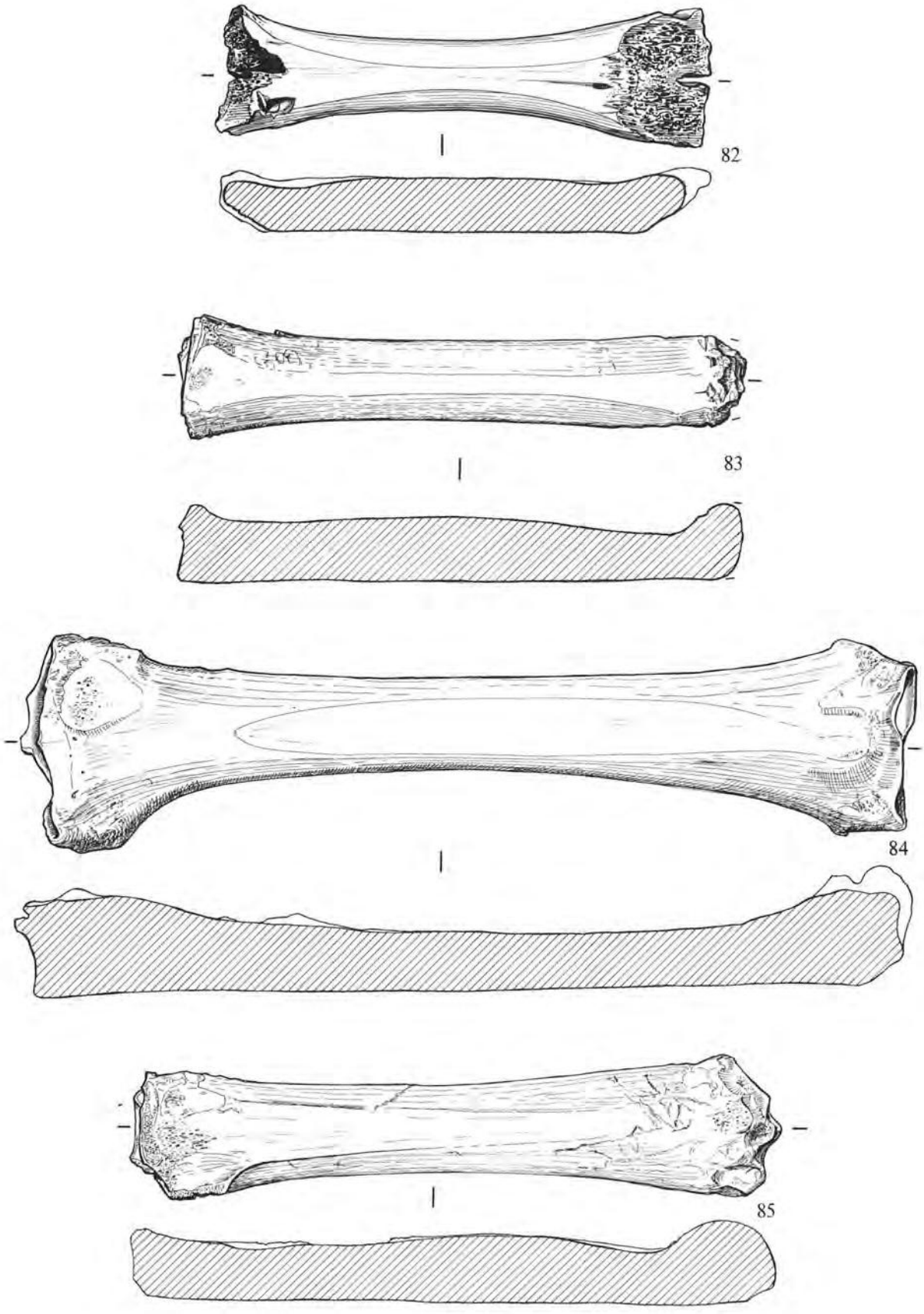


Fig. 196 Bone skates. Scale 1:2.

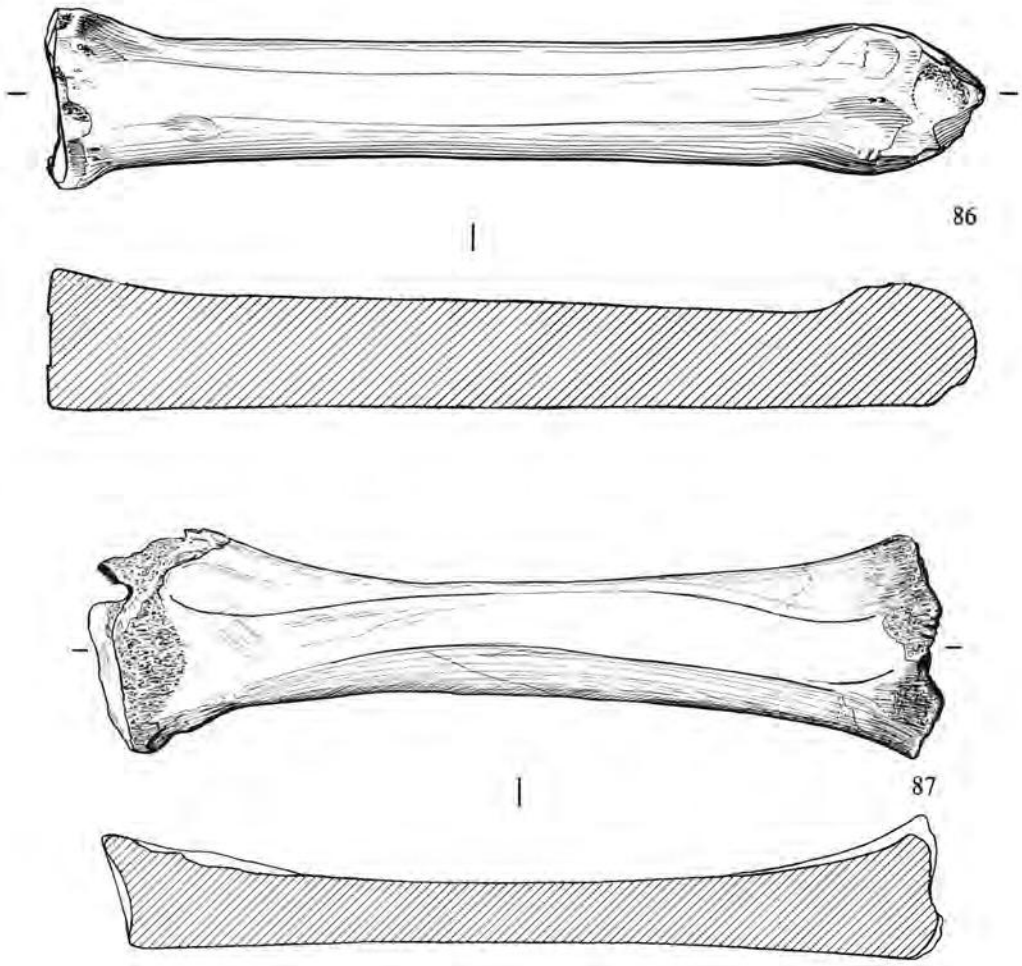


Fig. 197 Bone skates. Scale 1:2.

Tubular Objects (Fig. 194)
Seven roughly circular sectioned objects of polished bird bone were considered by the excavator to be pot-stamping tools, although, even allowing for shrinkage of pottery during firing, their diameters are rather larger than any circular stamps recovered (Fig. 183, Nos. 421 and 430). They are clearly not related to composite hinges of the Roman period (Frere 1972, 149-50). Similar objects occur at Northampton (Williams J., 1979, 318, Fig. 141, nos. 103-4).

Fig. 194,
64. Goose R ulna; central hearth, *H*7, Site 2S (290).
65. Goose L ulna; *H*8, Site 2S (378).
66. Crane tibiotarsus or ulna; below *R*2, W of *H*6, Site 2S (422).
67. Goose R ulna; below clay floor of *H*8, Site 2S (435).
68. Goose R humerus; above upper floor of *H*13, Site 2S (609).
69. Goose R ulna; *P*N3A-C, Site 2N (758).
(lost, not illustrated) length 73mm; lower filling *P*N57, Site 2N (1029).

Spindle-Whorls (Fig. 194)
The thirty-five surviving whorls (ten are lost) are all cut from the proximal ends of horse or ox femora. The eight illustrated pieces show the size range and include unusual examples. Soil conditions have caused a weight reduction and, therefore, present weights are not given. One unfinished example (No. 73) was found. Stone and pottery whorls are listed on p.111 and p.117 (Figs. 148 and 152).

The unillustrated examples were found in the following contexts: Site 1, lower filling *H*3, *P*3, *P*12; Site 2S, topsoil above *H*5 (two), *H*5, *H*6 (two), above *H*7 (two), above upper floor *H*13, *H*14 (three), *P*36, *P*41 (three), unstratified; Site 2N, *H*17/18, *H*19 (two), *H*29 (four), *P*N15, *P*N18B, *P*N57; Site 3 black soil; Site 4, cobbles; Site 6, above clay floor *HS*2, below clay floor *HS*2 (two), *P*S3, area B; Site 1092, *P*158.

Fig. 194,
70. *P*3, Site 1 (1.182b); 71. Topsoil above *H*5, Site 2S (94); 72. *P*41, Site 2S (367); 73. Partially drilled holes in either face, *H*26, Site 2N (662); 74. Hole cut square on upper face, *H*19, Site 2N (755); 75. Incised lines on upper face, *H*32, Site 2N (1010); 76. Above clay floor *HS*2, Site 6 (1169); 77. Hole cut to hexagon on upper face, area B, Site 6 (1216a).

Skates (Figs. 195-7)
The identification of these objects is no longer in doubt (MacGregor 1976). There are no examples with attachment holes.

Fig. 195,
78. Toe end pointed and upswept; transverse scoring on upper surface; horse metacarpal; filling of oval feature, *H*6, Site 2S (354).
79. Horse radius; *H*12, Site 2S (557).
80. Toe end pointed; transverse cuts on upper surface; horse metatarsal; *P*55, Site 2S (566).
(lost, not illustrated) length approx. 205mm; *P*60, Site 2S (615).
81. Upswept toe end; ox metatarsus; *P*N24, Site 2N (850).

Fig. 196,
82. Upswept toe end; damaged heel end; horse metacarpal; *H*19, Site 2N (867).
83. Pointed toe end damaged; horse metatarsal; *H*20, Site 2N (940).
84. Horse radius; *P*N51, Site 2N (1005).
(not illustrated) Damaged toe end pointed; complete length approx. 200mm; horse metatarsal; cobbles, Site 4 (1074a).
85. Horse metatarsal; cobbles, Site 4 (1074b).
(lost, not illustrated) Length approx. 220mm; cobbles, Site 4 (1075).
(not illustrated) Under surface burnt and worn through to medullary cavity; length 242mm; horse radius; *P*N25, Site 2N (1132).
(not illustrated) Toe end missing; complete length approx 235mm; ox metatarsal; *P*S4, Site 6 (1188).

Fig. 197,
86. Toe end pointed; ox metatarsal; *P*S9, Site 6 (1257).
87. Ox radius; layer 212, ditch 141, Site 1092 (83).

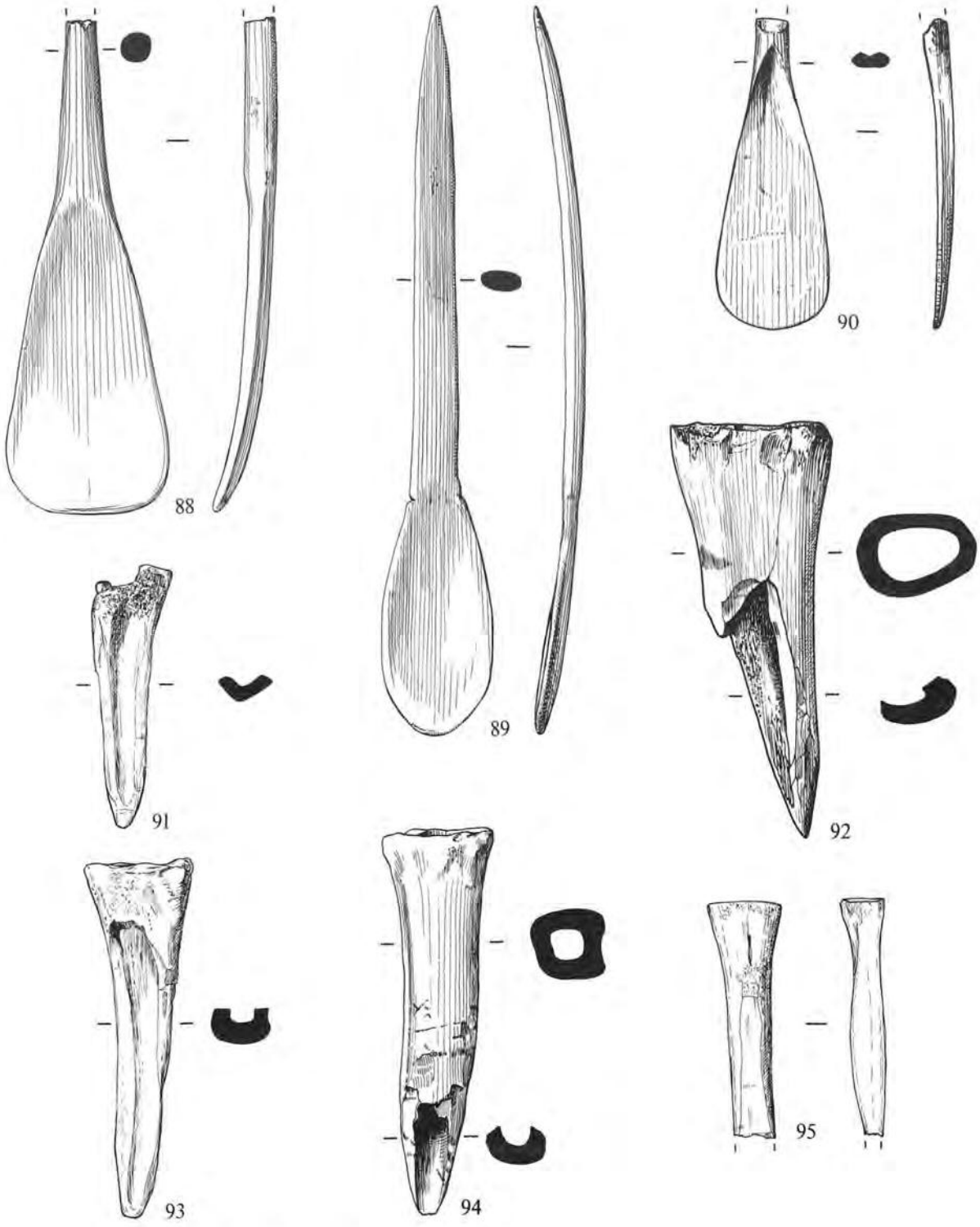


Fig. 198 Nos. 88-90, bone spoons. Scale 1:1. Nos. 91-5 bone gouges. Scale 1:2.

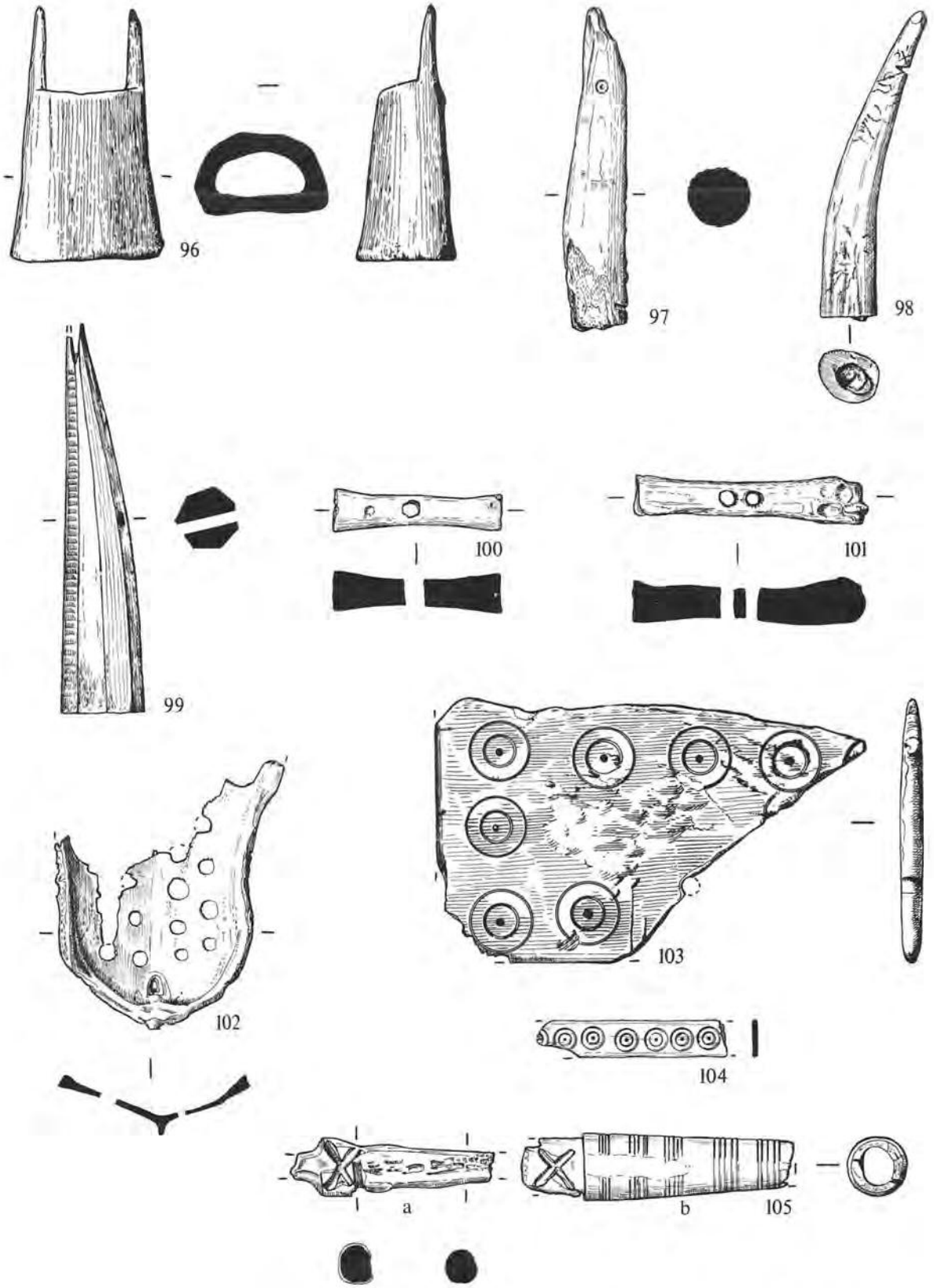


Fig. 199 Bone objects. Nos. 96, 99, 103 and 105. Scale 1:1. Nos. 97-8, 100-2, 104. Scale 1:2.

Spoons (Fig. 198)
All are made from horse fibulae or III/IV metapodials.

Fig. 198,
88. *P*16, Site 2S (39).
89. *P*24A, Site 2S (132).
90. Faint incised decoration on one side of junction of bowl and handle; 'midden', *H*8, Site 2S (236).

Gouges (Fig. 198)
Four examples, three socketed, have roughly split and knife-trimmed points polished by use. Only one (No. 92) retains a sharp point, while the rest are blunted, apparently by wear. Another piece, (No. 95), although fragmentary, may be part of a gouge. The function of these objects in uncertain (MacGregor 1982, 96-7) and 'gouge' is used only as a term of convenience.

Fig. 198,
91. Proximal end of metapodial, probably red deer; black soil, Site 3 (400).
92. Probably horse radius; *P*55, Site 2S (568).
93. Ox metatarsal; *P*N4A, Site 2N (880).
94. Red deer metatarsal; cobbles, Site 4 (1073).
95. Metatarsal probably of sheep; knife-trimmed anterior and posterior surfaces; proximal end sawn flat; distal end missing; above clay floor of *H*S2, Site 6 (1170).

Cord-Making Tool (Fig. 199)
96. Elisabeth Crowfoot has supplied the following note: 'This object is clearly a version of the tool known in England as a "lucet", used for making square cords. Later examples are flat-shaped pieces of wood or bone, often with a handle, and above it sometimes a hole, through which the completed part of the cord can be passed and held, while the thread is manipulated with two loops round the "horns" at the top (Hald 1975, 42-6, fig. 88, 93-101). An interesting point in this example is that here a hollow bone with a hole down the centre has been used, as in the central hole of the "nancy" used for knitting cords — modern children usually use a cotton-reel, though in this tool there are always more than two pins or horns (Hald 1975, figs. 89 and 90).' Sheep metapodial; *P*13, Site 1 (1.249).

Worked Antler Tines (Fig. 199)
97. Red deer, each end roughly knife-trimmed; solitary ring-and-dot motif; above *P*J, Site 2S (19).
98. Red deer, sawn proximal end and knife-trimmed point; notch cut into edge near point; unstratified, Site 2S (459).
(not illustrated) Red deer, sawn proximal end; length 125mm; above *P*10, *H*4, Site 1 (1.163a).

Tool of Uncertain Use (Fig. 199)
99. Indetermine limb bone cut to heptagonal section with sawn broad end; damaged bifurcated point; drilled transverse hole; polished overall. Elisabeth Crowfoot comments: 'The points are rather small and close together for it to have been used as a lucet (cord-making tool). It could, perhaps, have been something like the nineteenth-century gold-embroiderer's hand distaff, where the gold thread is passed between the points and held in position by them while the couching stitches are inserted, though in this case it would probably have had a handle.' *P*S9, Site 6 (1255).

Toggles (Fig. 199).
These objects are common on Late Saxon sites, but their precise function in unknown (for discussion see Williams J., 1979, 313). Elisabeth Crowfoot remarks that their use as bobbins or shuttles would not have been assisted by either the holes or the squared ends.

Fig. 199,
100. Pig metatarsal or metacarpal; one transverse hole; each end sawn; *H*19, Site 2N (870).
101. Pig III metatarsal; two transverse holes; *G*XIII-XVII, Site 2N (879).

(?) Strainer (Fig. 199)
102. Goose sternum; roughly circular holes; *P*37, Site 2S (287).

Casket Fittings (Fig. 199)
Wooden caskets decorated with bone strips are known from the late Roman to the early medieval period (for a summary see Williams J., 1979, 315).

Fig. 199,
103. Probably scapula of sheep or horse; ring-and-dot decoration; one hole; parts of two edges survive; sewer trench W of Site 2S (93b).
104. Rib, possibly of sheep or horse; ring-and-dot decoration; both ends broken; possibly part of a strip with rivets (p.00), rather than a casket mount. *P*52, Site 2S (584).

Peg and Tube (Fig. 199)
105. Peg (a): sliver of mammal bone, knife-trimmed with groove around three-quarters of circumference next to deeply incised cross; both ends missing. Tube (b): bird ulna decorated with lathe-turned incised rings and deeply incised cross; surface worn smooth in one area; both objects burnt. They are certainly complimentary, but their function is unknown; *P*N68, Site 2N (1046a and b).

Decorated Mounts (Fig. 200)
The function of these carefully decorated objects is obscure. They appear to be unparalled. Both are worked from red deer metapodials.

Fig. 200,
106. Decorated with interlace in relief and incised lines; three drilled holes along both long edges forming pairs not truly perpendicular to long axis; upper rounded surface worn along full length; make-up of *R*2, N of *H*12, Site 2S (580).
107. Incised decoration; three pairs of holes not truly perpendicular to long axis; upper rounded surface worn; *P*I, Site 5 (1101).

Flutes (Fig. 200)
108. Crane L. tarsometatarsus; *P*N57, Site 2N (1030).
109. Crane R. ulna; ditch 63 above *P*158, Site 1092 (82).
Graeme Lawson has contributed the following discussion:

The remains of two musical instruments survive from excavations in Thetford: a complete end-blown flute from a Late Saxon pit on Site 2 North and a portion of another from Site 1092. Both are of bird-bone, and the musical identification of even the incomplete specimen is in little doubt.

The complete pipe, which has already been noted and illustrated by Professor Megaw (1968, 149 and pl. XXIII D), consists of a lightly worked tarsometatarsus (crane) trimmed by knife to a length of 191mm. The natural cavity of the bone, which is sub-rectangular in cross-section, extends throughout the whole length of the instrument, and one of the four external surfaces has been pierced so as to provide three finger-holes and one sound-hole (Fig. 200, a-c, d).

The block or fipple, which would have served to channel the air precisely across the inside surface of the sound-hole, is missing. It would probably have been of wax or clay, although in this particular case the uniform shape of the interior of the mouthpiece allows the possibility of there having been a small bone or wooden plug instead. The sound-hole itself is roughly D-shaped, as is usual among such instruments, and is set some 17.5mm from the end of the mouthpiece, a point at which the bore of the cavity is now approximately 6 × 3.5mm in diameter.

The three finger-holes are located close to the opposite end of the instrument, there being some 93mm of unperforated bone between them and the sound-hole. They have each been cut with the point of a knife, as was the sound-hole, a fact that can be seen from their slightly irregular shapes and tapering cross-sections. They are spaced at 18 and 22.5mm apart (edge-to-edge), with diameters of approximately 3mm each, and the third and most distant of them is located some 24mm from the end. Over these last 24mm the bone begins to expand from its relatively regular oval/rectangular cross-section to an irregular 'bell' measuring 11 × 6mm internally: this is a natural feature of the bone, which would of course have expanded in its original unworked state towards joints at both ends.

The instrument is not without parallels among other medieval finds from this country, although its date puts it among the earliest of our present assemblage. Indeed, among published examples only the fragmentary wooden pipe from Hungate, York, comes close to a confirmed Anglo-Saxon dating, and in any case it is probably of a different type altogether (tenth or eleventh century: Megaw 1968, 149-50; Richardson 1959, 63 and fig. 19). There are, however, several pipes of similar form known from slightly later medieval times, of which the twelfth/thirteenth-century bone pipe from Rose Lane, Canterbury, is one of the best known examples (Megaw 1968, 149-50, pl. XXIII). More recently the excavation of a site at Flaxengate, Lincoln, has produced another with a date of as early as *c*.A.D.930-60[21]. These two early specimens are now of considerable importance for our understanding of the folk-instrumental assemblages of the Anglo-Saxons, since our evidence is so far otherwise restricted to the remains of the fine stringed instruments of Sutton Hoo, Taplow and Bergh

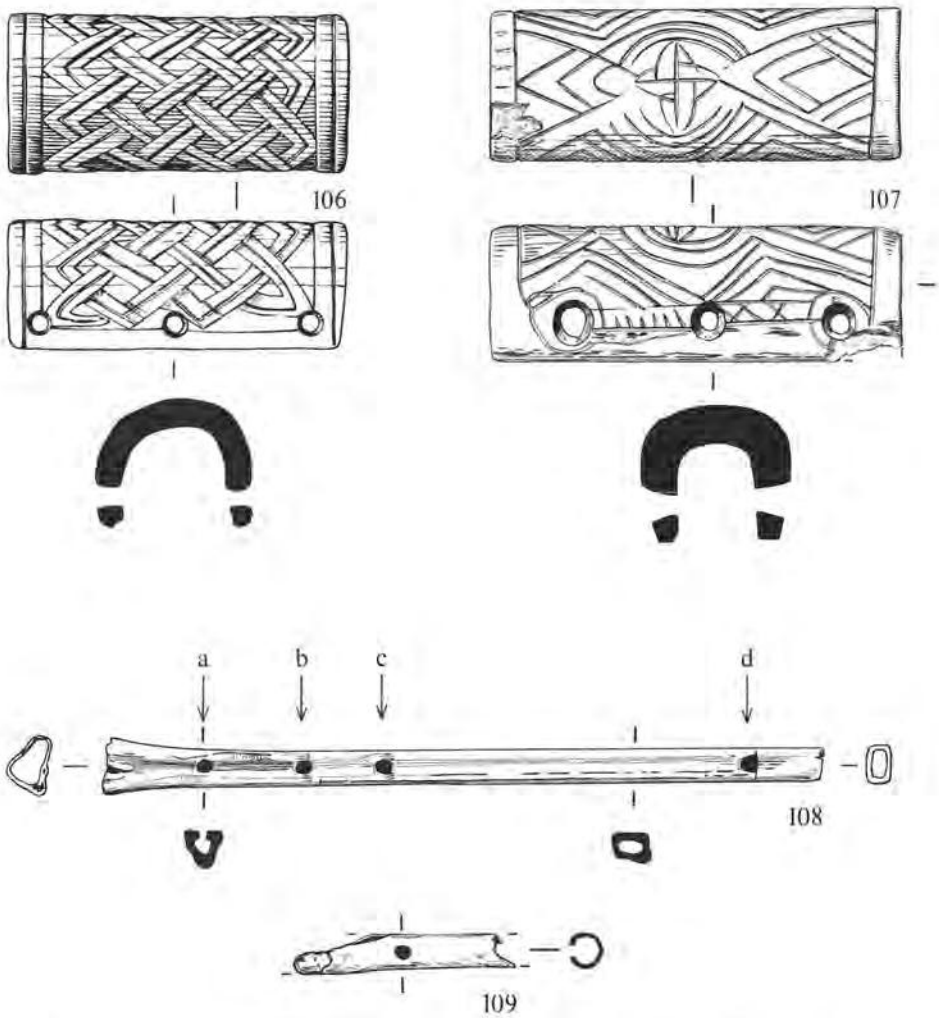


Fig. 200 Nos. 106-7 bone objects. Scale 1:1. Nos. 108-9, bone flutes. Scale 1:2.

Apton type (Bruce-Mitford 1970; Lawson 1978).

The number of finger-holes present is interesting, although its exact significance is uncertain. It has of course already been suggested that three would have been the maximum that could have been played with one hand (Megaw 1968, 338). Nevertheless, such a mode of performance cannot be regarded as the only possible reason for its employment, since experiments demonstrate that four finger-holes would have been similarly compatible. There is, moreover, a significant possibility of some kind of numerical symbolism, such as we know to have been associated with many other instruments at least later in the Middle Ages. The magical qualities of the number three, in particular, have been extensively employed in a variety of ways throughout early European instrumental design (Andersson 1930, 159).

Of equally uncertain significance is the tuning of the instrument as it survives today. By passing a narrow jet of air across the inside of the sound-hole a tuning of ?b flat'', c''', d''' and ?f''' can be reconstructed (i.e. all holes closed, one open, two open, all open, in ascending order from the distal end). This compares with Megaw's reconstruction of b'', d''', e''', f sharp''' for the Canterbury specimen. Its validity is, however, very much open to debate. Quite apart from any distortions that could have resulted from a thousand years of burial, such tests can not allow either for over-blowing or for only partial covering of each hole, which could have made a great difference to the end result. At the same time it is difficult to be sure that the instruments themselves were not intended to be adjusted in some way, as for example in certain more recent cases where basic tuning was modified by the addition of internal deposits of wax. For this reason it will be particularly important in future to pay considerable attention to internal as well as external detail during conservation of such finds, despite the temptation to try to play them. Indiscriminate insertion of lumps of plasticine in order to replace lost fipples ought, perhaps, to be avoided.

The second instrument from Thetford is much less complete, consisting of 58mm of the right ulna of a crane. It has been lightly worked by knife, with its tubercles smoothed off and finger-holes inserted. Of the latter two remain, about 18mm apart, while the roughly circular cross-section of the bone itself measures 8mm in diameter internally. Similarly pipes of crane ulna are also known, a virtually complete specimen being recovered recently from a site at Wicken Bonhunt, Essex (report in preparation).

Handles (Fig. 201)

These are presumably handles for tanged tools, probably knives, although Nos. 111 and 112 could be related to the polished tubular objects of unknown function (Nos. 64-9). Nos. 111-3 are made from sheep or goat metatarsals.

Fig. 201,

110. Split from indeterminate limb bone, with sawn ends and roughly knife-trimmed outer surface; irregular longitudinal cavity with iron staining; transverse ?suspension hole at one end, and notch to receive ? end of knife blade at other; *H*6, Site 2S (185).

111. *H*5, Site 2S (227).

112. Outer surfaces lightly polished; make-up of *R*3, W of *H*6, Site 2S (301).

113. Incised decoration on all four lightly polished surfaces; transverse hole near both ends and notch at one end; area B, Site 6 (1214).

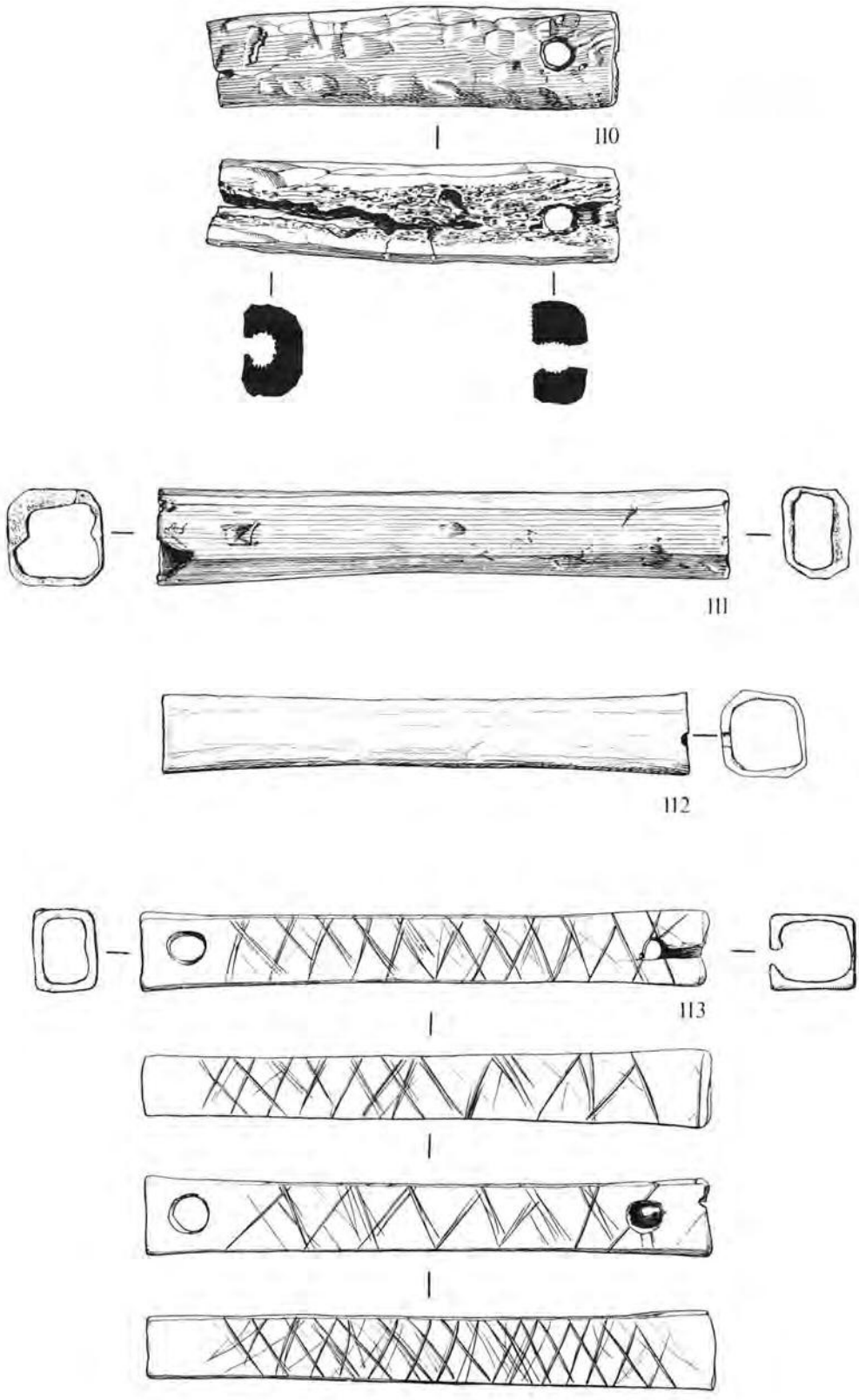


Fig. 201 Bone handles. No. 110. Scale 1:2. Nos. 111-3. Scale 1:1.

XII Leather (not illustrated)
by June Swann

Fragments of leather, all in poor condition, were recovered from the partly waterlogged basal layer (212) of ditch 141, Site 1092. All appear to be cattle hide, but it is uncertain whether some of the pieces have delaminated. Four pieces do have some structure, but are not illustrated.

A. Probably part of a turnshoe sole with edge-flesh seam of 4-5mm length (about the average for medieval shoes).
B. Possibly part of an upper with lasting margin, with diamond holes which are rather large for the thickness of the leather, possibly indicating a thonged construction, which would be not inconsistent with a tenth-century date.
C. Piece with scalloped edge-flesh holes, suggesting a top edge.
D. Corner of skin, flank, suggesting shoemaker's waste.

I am grateful to John Thornton for his opinion on these fragments.

XIII. Textiles (not illustrated)
by G. M. and Elisabeth Crowfoot

Nos. 1 and 2 were examined by G.M. Crowfoot in the 1950's, but are now lost. Numbers 3 to 5 were found during pottery sorting and have been examined by Elisabeth Crowfoot.

1. 'Dark pitch-like substance.'
This shows remains of two different textiles, both in plain weave, one fine, the other coarse. The fine weave has a count of 6× 8 threads per 5mm = 12 × 16 threads per cm, the coarse one about 4 × 4 per cm. In both cases the thread is Z spun. There is also an impression in one place of a textile in plain weave (tabby), probably similar to the fine weave remains. These are no doubt the remains of woollen cloths. P.54, Site 2S.
2. Impression of textile on fired clay.
This impression shows a coarse plain weave (tabby), threads about 5 × 5 per cm. In both warp and weft (which cannot be distinguished) the thread is Z spun and in both it varies greatly in thickness. It is probable that this impression was made by a woollen textile. Above *R*3, W of *H*6, Site 2S.
3. On sherd from storage jar, impression of textile below one thumb-mark, area 1.3 × 1.5cm; spinning Z in both systems; tabby weave; count 9/9 threads per cm. About 3cm away on the side, a small very sharp impression 0.9 × 0.8 overall, probably from a different fabric, as Z and S threads can be seen; the lie of the threads suggests a twill. *PN* 27, Site 2N.
4. All over one surface of adjoining fragments of fired clay, *c.*5.0 × 5.0cm overall, impression of textile, with possible folds; the spinning is not clear, though on a few threads there are possible Z fibres, and it is uneven; tabby weave; count *c.*12/14-16 threads per cm. Unstratified, probably from *K*1.
5. On sherd from storage jar, impression of textile above one thumb-mark, 2.0 × 0.9cm overall; one thread system Z spun, the other cannot be clearly seen; tabby weave; count 12/14 (7 on 5mm) threads per cm; from contractors' trench at TL 8646 8273.

The appearance of three impressions on the two sherds (Nos. 3 and 5), two tabby weaves of rather similar style with round even thread, and one small ?twill impression on the side of the sherd from pit N27, with coarse-fibred yarn, suggests that all these were made by woollen fabrics. The impressions all over the fired clay from the kiln (No. 4), on the other hand, are almost certainly from flax; the unevenness of the thread, and the flatness of the fabric, are typical of medium grade linen cloth throughout the medieval period.

Part V
Zoological and Botanical Evidence

I. Human Bones

The 1948-57 Excavations
from a report by Calvin Wells

Difficulties of handling and storage arose during and after the excavations and, unfortunately, confusion ensued because bones were neither cleaned not marked in the field. Many of the burials were jumbled and can no longer be re-assembled as individual inhumations. The late Dr. Calvin Wells examined all surviving bones some years after the material had been confused. A full report is lodged at Norwich Castle Museum while a brief summary is here presented of all burials of known provenance.

Site 2S

H5 Three femoral fragments from two or possibly three individuals.

H12 Burial; cranial fragments and most post-cranial bones; female, aged ?35.

P41 Frontal bone with nasal bones attached, with fragment of a parietal, ? young adult female.

Site 2N

PN4A or B Cranial fragments; young adult, ? male.

GVI Cranial fragment; adult.

GXVIII, Cut into *PN30* Crouched burial; female, aged 25-30. 'This extremely long and narrow skull is quite different from any other at this locality. It closely resembles the neolithic type and may quite possibly be of that period.'

Site 3 It is not possible to identify burials *H1-4* amongst the bones examined by Dr. Wells, but the following were present: male, aged 40; probable male aged about 28; female aged 30-35; child aged about 7; child aged about 3.

Site 5 The muddling and loss of bones from this site were particularly severe. Of twenty-three individuals surviving, Dr. Wells identified ten children, including one newborn infant, one female adolescent aged 14, and twelve adults, including four females, two probable females, five males and one probable male.

Site 6 Burial cut by pit S6; female aged 22.

Site 7 Burial 1; adult female.
Burials 2 and 3; not examined.
Burial 4; cranium and post cranial bones; male, aged 25-30.
Burial 5; cranial fragments, vertebrae, clavicle; male aged 20-25.

Williamson Crescent

Burial adjacent to re-used stones; female aged 30-40.
Burial probably associated with Walsingham ampulla; adult male.

Other human bones

The vast majority of bones examined by Dr. Wells are unprovenanced, but appear to derive from various burials found in the Williamson Crescent, Nelson Crescent, and Bury Road areas (Dunmore with Carr 1976, Fig. 3) in the late 1940's and 1950's.

Site 1092 by D.A. Birkett

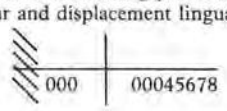
The bones consisted of rather fragmentary remains mostly in poor condition. In view of their scattered nature and the lack of complete bones, no comprehensive report can be assembled and the contexts can be dealt with separately.

P22 Skull fragment.

P80 Scraps of eroded long-bone shafts showing no particular features.

Layer 96 An adult femoral head and neck. The additional small bone does not resemble an infantile fibula to my mind and I would hesitate to confirm it as human.

Layer 125 The upper part of a left radius and ulna. Parts of two mandibles. One of these shows an abnormal dental arcade, probably due to overcrowding producing rotation of the left first molar and displacement lingually of the second molar.

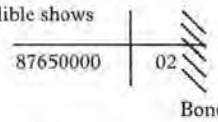


Bone broken

4, 5 etc = tooth present
0 = tooth lost post-mortem

No caries is present. Slight wear on 6, none on 7 and 8 suggesting a young adult.

The second mandible shows



Bone broken

The 2, 5 and 7 show enamel loss and erosion probably due to post-mortem damage. Only slight wear is present, again suggesting a young adult.

P126 Small scraps.

P135 This consisted of a set of much eroded and fragmented bones. There are enough fragments of long bones to establish the presence of at least two bodies and signs in the epiphyses and the skull fragments suggest there was one adult and one adolescent (16-20 years), of which one was male and one female. No pathology was seen.
It is odd that the same fragments of bone (occipital area, orbit roofs and part of frontal bone, mastoids and inner ear, lower femoral shafts and upper tibial shafts) should be preserved from each skeleton. There were no arm bones, vertebrae, ribs, base of skull etc.

Burial 137 a) A disintegrated skeleton showing no pathology but with a whole right humerus and sufficient markings to suggest that this was a young adult male of 176cm (5ft 9in) height.

Teeth

87604321	12345678
87654321	12345678
	C

C = Caries present

Little tooth wear on third molars, gross wear on first molars.

b) A fragment of a child's skull with a set of twelve child's vertebrae.

Post-hole 189 Part of a right mandible

87650000

The 6 is very worn, but the 8 not at all, suggesting a young

adult.

Ditch 141 Fragments of bone, predominantly femora, were found in the following layers of filling: 145, 165, 197, 199, 202, 211 and 212. At least nine individuals are represented in the three excavated stretches of ditch. No bones show signs of pathology, wounds or other trauma.

II. Animal Bones

by Gillian Jones

Knocker's Excavations

A proportion of the animal bone material from the 1948-52 excavations was studied and reported on by J.E. King and M.I. Platt (Sites 1-5, about 1500 bones) and M. Jope (Site 6). A combined report was made and is held with the excavation archive by Norfolk Museums Service. The bones are stored by the Department of the Environment. Some data on the cattle, sheep, cats, dogs and birds have been published by Clutton-Brock (1976) and on the dogs by Harcourt (1974). Most of these cattle and sheep bones and all but one (a humerus, length 87mm) of the cat and all the dogs are from Late Saxon contexts.

Domestic Mammals

These were represented by bones of cattle (323), sheep or goat (145), goat (four horn cores), pig (101), horse (twenty-six), dog (eleven plus nine skeletons) and cat (eight plus ten skeletons). In brackets are the number of bones from well-dated contexts, from Sites 1-5 only; since the basis on which bone was selected for study is not known, the figures can only give a rough guide to the relative importance of each species. The most useful data are the measurements, which are summarized with the material from Site 1092 in Table 11. Miss King noted that in dog B 'the lower half of one fibula is flattened and fused to the tibia, probably as a result of injury. The third and fourth lumbar vertebrae are fused, and these, together with the first and second lumbars, show signs of exostosis'. Another fragment of dog 'shows that the skull has been cut longitudinally in half'. A similar cut was observed at North Elmham Park, Norfolk (Noddle 1980). The cats are notable for their number and for the number of young ones. The ten skeletons consisted of two kittens, five 'young cats', two not fully adult and one adult. They may have been killed for their fur.

Wild Animals

These consisted of red deer (eighteen pieces of antler, all sawn off), roe (two skull fragments and an antler), badger (one bone), fox (one) and rat (four). Hare was present, but from uncertain contexts.

Birds

It was not possible to check the contexts of the fowl and domestic geese so there may be some unstratified or topsoil examples included. Remains of some eighty-six fowl and fourteen domestic geese were found. Both Platt and Jope observed the great range in size of the fowl bones (Table 11 and Fig. 203), greater than in the much larger sample at Hamwih.

Miss Platt wrote 'The peacock may possibly have been domesticated, but is more likely to have gone wild. Mr. Lethbridge has a recollection of hearing of wild peacock in East Anglia in recent times, no doubt "escapes" '. Of the crane, Mrs. Jope wrote 'This bird is reported as breeding at Glastonbury Lake village in the first-to-second centuries BC and remained common in England and Ireland until medieval times, breeding in East Anglia until about 1600 (Witherby 1940, 453)'. All these species are from well-dated contexts.

Aelfric asks, 'How sayest thou, Fowler? How doest thou ensnare birds?' 'I snare birds in many ways; sometimes with nets, with snares, with lime, by whistling, with a hawk, with traps' (The Colloquy, early eleventh century, lines 123-6). We have an insight here into the skills, possibly specialist skills, involved in catching these birds. Hawk bones were not found at Thetford and only one, a sparrow hawk, was found at Late Saxon Elmham (Bramwell 1980).

Anser anser	Greylag goose	1
Anas platyrhynchos	Mallard	3
Anas penelope	Wigeon	3
Anas clypeata	Shoveller	1
Aythya ferina	Pochard	1
Pavo cristatus	Peacock	2
Megalornis grus	Crane	(flute, Fig. 200, No. 108)
Haematopus ostralegus	Oyster-catcher	1
Corvus corax	Raven	1

Table 9 Bird bones from Knocker's Excavations

Site 1092

The animal bones reported on here, from a peripheral area of the Late Saxon town, are associated with occupation and industrial activity mainly of the eleventh century. Agricultural activity was considerable even within the town (Darby 1952, 141), but with a population of four to five thousand, some of the meat must have gone through a market system. The material is summarized in Table 10.

Preservation and recovery (non-sieved) was good, with fish and frog bones, costal cartileges and small bone splinters surviving.

The bones came from ditches, pits and smaller features. Cattle, sheep, pig and fowl were found in most contexts; bone working waste, the dog and the horse bones were concentrated in the ditches; cattle bones were found throughout, but rather more sheep, pig and fowl were from the pits (particularly 15 and 158). This may be explained by a difference in use of the pits and the ditches; the latter contained industrial waste, iron slag, etc. There may also be an effect from recovery. Wilson (1978) observed a greater average size of bone fragment from ditches than from pits at Appleford, Oxfordshire.

The minimum number of individuals was worked out (cf. Chaplin 1971) for each main context, and these totals were added. The same method was used in studying the mandibles. Horn cores were not used for calculating the minimum number.

Cattle

The cattle would have stood about 1.14m (3ft 9in) high at the shoulders (average of height estimates from metapodia, Fock 1966), compared to about 1.30m (4ft 3in) of a modern Friesian cow. A proportion of the cattle were raised for their market value (meat, hide, horn, bone), though some of the immature ones will have been culls due, for example, to poor health or unsuitability for the plough team. These were slaughtered at two to four years old. Half the jaws were fully adult, about five years old and upward; ie. they were working and/or breeding beasts.

Method

There was not a large number of mandibles of any of the

	Min. No. of individuals	% of 3 main species	Fragments	% of 3 main species	horn core	skull	jaw	teeth	vertebra	scapula	humerus	radius & ulna	pelvis	femur	tibia & fibula	carpal & tarsal	metapodial	phalanx
Cattle	46	33%	919	36%[22]	375	59	53	45	59	35	27	38	24	17	25	42	55	65
Sheep/ Goat	48	35%	650	38%	43[23] 28	61	49	38	72	77	39	55	42	24	50	15	45	28
Pig	45	32%	394	26%		53	99	52	9	20	14	18	14	9	27	17	56	6
Horse	10		78			—	1	1	62	—	—	3	3	1	4	2	1	—
Dog	16		43+1	skeleton		1	6	5	3	1	7	6	1	1	3	3	2	4
Red Deer	0		4		4													
Cat	2		2												2			
Mole	1		1				1											
Frog	4		14															
Toad	1		1															
Fowl	29		169	*Gallus* variety														
Goose c.f. Domestic	13		37	*Anser anser* variety														
Wild Goose	3		5	see text														
Duck	3		11	*Anas platyrhynchos* variety														
Wild Duck	3		3	see text														
Buzzard	2		2	*Buteo buteo*														
Crane	1		1	*Megalornis grus*, fragment of a flute (Fig. 200, No. 109)														
Total Identified			2334															

Table 10 Summary of Animal Bones from Site 1092

three main domestic animals. They were grouped into six stages (Bourdillon and Coy 1980), as follows: the youngest three groups end at the initial signs of wear on the first, second and third molars respectively; the fourth group covers the coming into wear of the third molar; the last two groups are dentally mature; in group six teeth are wearing flat in ruminants, concave in pigs (for cattle, M_3 at stage k or later, Grant 1975a). The cattle were aged thus: (minimum number at each stage) 1; 4; 2; 0; 5; (2). The two in the last group were very worn upper jaws.

Long bone maturity: there were no bones of calves; of bone elements which fuse early (at one to one-and-a-half years in modern terms) two were unfused and fifty-two were fused (distal humerus, proximal radius, phalanges 1 and 2); of mid-fusing elements (two to two-and-a-half years) three were unfused and thirteen fused (d. metacarpal, d. tibia) and of late-fusing elements (three to four years) more were unfused than were fused—nine to seven (p. femur, calcaneum, p. tibia, d. radius).

Cattle Horn Cores

Most of the horn cores came from the bone working areas, the upper layers of ditch 141, and also pit 158. Other features producing quite a quantity of cattle bone contained no horn cores (ditch 63—forty-four pieces, pit 15—seventy-one pieces). Fig. 202 shows the size and shape of the complete horn cores; the range is similar to those from Elmham, although one is longer and there were none of Elmham's very thick ones. The horn cores were recorded as described by Armitage and Clutton-Brock, 1976 (details and photographs in archive). Most (twenty-one) are in the short group (96-149mm outer curvature), a

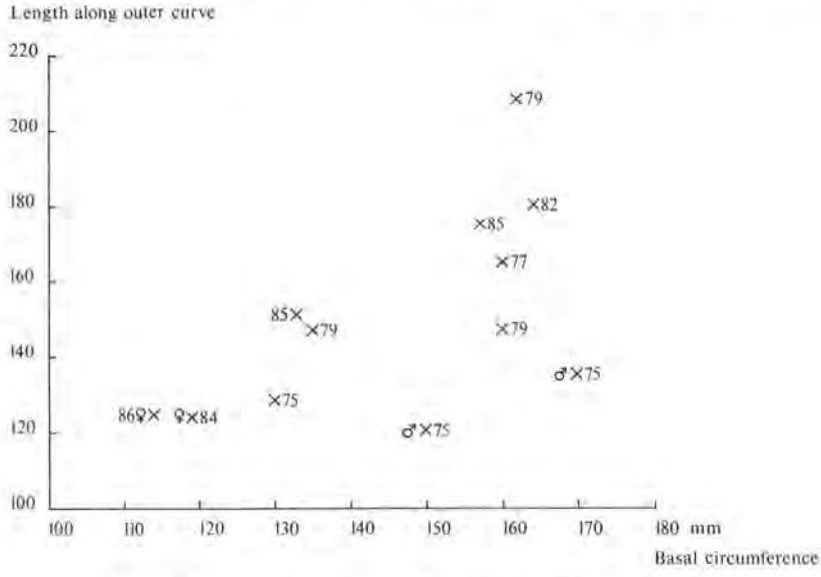


Fig. 202 Cattle horn cores from Site 1092.
Basal shape index: $\frac{\text{Min basal diameter} \times 100}{\text{Max. diameter}}$

few (eight) were longer (150-200mm) and one was long (208mm). Generally they show a simple curve, one being virtually straight, twenty-nine curved and six showing some degree of torsion. No polled animals were found.

It was not easy to identify horn cores to bulls, steers and cows with confidence. Several robust ones of oval shape (basal shape index 63%, 65%, 74% and 75%) curved forward and down as is expected in bulls. Most others curved forward or down; two, doubtless cows, (index 79% and 85%) have a slight upward twist. In many the bone near the tip was thin.

A few horn cores were unmarked, but most had been chopped round the base to take them off the skull. Six of them were also sawn all round, a short distance up from the base (Pl. XX). The explanation for this apparent doubling of effort must be that the horn workers received them already cut off and then sawed off the flaky basal part of the horn sheath, which would make it easier to separate the horn from the bony core and would provide a neat horn sheath to work on. Three cores were sawn across the tip which would give a hollow tube plus the solid tip. The sawing was carefully done, with a blade, 1.0-1.2mm thick.

Sheep and Goat

Sheep and goats were present. The number of sheep and goat horn cores (minimum number of individuals) was thirty-seven and seventeen, that of scapulae fourteen and two, and of metacarpals eight and zero. It is believed that most of the bones were sheep and that the goat horns are industrial waste and were probably traded (see below). The size of the sheep was similar to sheep at Elmham and other Saxon sites and a body weight of about 75lb has been suggested by Noddle. Thetford being a town site, it is not justifiable to argue that the age structure of butchered animals represents that of the live flocks. The stages were as follows (the method is described above in the section on Cattle): 0; (1); 12; 4; 3+(3); 1. Figures in brackets are from upper jaws or single M_3s. The group of twelve would have been about two-to-four years old. 29% of sheep were dentally mature when slaughtered, in contrast to 54-70% at Elmham, where flocks were evidently kept primarily for wool. It is quite likely that surplus sheep from such flocks, such as those with poor quality or colour of wool, or in poor health were sold at Thetford.

Study of the maturity of the long bones adds at least four young lambs which do not appear in the jaw record. Four-fifths (fifteen unfused/seventy-nine fused) of the parts of bones which in modern sheep, fuse at about one to two-and-a-half years, were fused, and of the late-fusing parts, more were immature than mature (twenty-one/sixteen).

Sheep and Goat Horn Cores

The bone sample was interesting for its horn cores. Most (fifteen) were from rams or wethers, impressive creatures with large spiralling horns. The form was similar to those illustrated by Noddle (1980). Six small horns (none measurable) are thought to be all from ewes. Many were sawn or chopped, showing that the horn was removed. They came chiefly from different contexts from the cattle, and also the goat horn cores; the main area of boneworking waste above ditch 141 contained none, though there were three in pit 158. The pieces of skull found were mainly of small-horned sheep (two large: nine small) and it may be that some of the large horns arrived as articles of trade, as is probably the case with goat and cattle.

Notable was a piece of skull from a four-horned sheep (Pl. XXI). The direction and form of the horns is similar to that of the Jacob sheep. Four-horned sheep are discussed by Noddle, a horn with bifurcate growth being found at Elmham. They are found occasionally in the archaeological record, for example at Iron Age Longthorpe, Peterborough (King, pers. comm.), Saxon Hereford (Noddle, pers. comm.) and Saxon Portchester (Grant 1975b, pl. XXV). The form of the latter is similar. A four-horned sheep is shown in the Luttrell Psalter (from the East Anglian school, *c.* 1340): the tail is almost to the hock and the wool is a nearly uniform dark grey, shown long and wavy (folio 169, British Library slide K8458).

There was just one polled skull; it had a slight scur. No hornless sheep were found at Elmham and only one was found at Saxon Portchester. This is in contrast to the medieval iconographic evidence discussed by Armitage and Goodall (1977), in which polled sheep are more common than horned.

Goat

The goat horn cores seem to be boneworking rather than butchery waste. Males predominate (10:3 females) and the horns have been chopped from the skull; few of the bones of the rest of the skeleton were thought to be goat and none of the pieces of skull with broken off horn cores was goat. Most of the goat, and the cattle horn cores were found above ditch 141 and in pit 158. There is an association between goat and cattle in the Domesday royal render from Thetford of goat skins and cattle hides (Dunmore with Carr 1976[2]).

Pig

Using the minimum number count, a third of the animals were pig, which is much higher than at most Iron Age and Roman sites, including the Roman East Anglian sites of Scole (Jones 1977a), Brampton (Jones 1977b) and Stonham Aspall (Harcourt 1966). Pork and bacon was an important item in the Saxon diet. The measurable bones are similar to those at Elmham. However, 87% were from young animals, with most being slaughtered around one to three years old, which, like the sheep, is in contrast to the unusual situation at Elmham where more than half the pigs were mature and many were old. The mandibles were aged as follows: 1; 5(+2); 11(+1); 4(+2); 3(+1); 1. Evidence from the maturity of the long bones adds at least four sucking pigs not present in the jaw record. The number of very early-fusing bone elements was five unfused and three fused (corocoid process of scapula, acetabulum); of elements which fuse at two to two-and-a-half years in modern pigs twenty-eight were unfused and eight were fused (distal tibia, d. metapodials III & IV, calcaneum); and all late-fusing elements were unfused (eight unfused: d. femur, p. tibia, d. radius), i.e. no long bones from animals certainly more than three-and-a-half years in modern terms were found.

Horse

There were rather few horse bones. They were spread across many contexts, eight producing one horse bone each. Some of the vertebrae and ribs from two mature individuals were found in the layers over ditch 141; one of these is pathological (see below). Butchery was not observed on the vertebrae, which were complete (in contrast to the much chopped cattle vertebrae), but the ribs were all cut through medially. This is probably from

butchery, but it is possible that some horse ribs were used in boneworking. Butchery marks were not seen on any other bones; marks on the head of a femur are probably dog gnaw marks. The bones were less fragmented than the cattle bones. Horse meat seems to have been eaten, but it was not treated in the same way as beef. Possibly, horse meat being generally old and tough, it was taken off the bone and boiled.

At least six individuals were adult (late-fusing epiphyses), one was old (a very worn M_3) and one was immature (an unfused calcaneum). There were no complete measurable long bones, but the horses were small: compare the illustrations on the Bayeux Tapestry where the mounted soldiers' feet are quite close to the ground.

Dog

Remains of at least sixteen dogs were found, including one skeleton, an adult male from ditch 169. This dog was more than two years old (sciatic tuberosity of the pelvis fused), but not old and would have stood about 54cm (21in) at the shoulder (measurements are given in Table 11). It has received blows on the muzzle, probably from a stick, resulting in lesions on both nasal bones and maxillae. After death the backbone appears to have been divided between the second and third lumbar vertebrae. No other marks were observed so these cuts are more likely to be from fitting the carcass into a restricted space, the base of the ditch, than from butchery. Marks were not seen on any of the other dog bones. Of eleven ageable individuals, five were young—one two or three months and four six to fifteen months; one of the adult dogs had very worn teeth. Why there should be so many young dogs is not known. Dog meat is eaten in many parts of the world at the present time (Harcourt 1974). Two complete long bones give height estimates of 53cm (20½in) and of only 25cm (10in). This last, a radius, was curved; it is smaller than any recorded by Harcourt for the Saxon period, though dogs as small and smaller are recorded from Roman times. Was this a merchant's lap dog?

Deer

The only deer remains were pieces of red deer antler. A shed antler had a circumference of 146mm, taken just above the burr. Neither the Thetford excavations nor Elmham produced much sign of hunting, except for bird catching. This is not true of all Saxon sites; at Portchester 5% of the bones were of deer (Grant 1975b).

Cat

Cats are often found on Saxon sites. These two were of average size (tibia GL 101).

Mole

The mole mandible, from pit 15, was found 2m below the modern ground level and there was no sign of mole action. It is, therefore, not thought to be intrusive.

Frog

Frog was present in four contexts, which is not surprising on a low lying site.

Toad

Toad was present in one context.

Bird

The bird bones were kindly identified and commented on by Dr. D. Bramwell. They are summarised in Table 10 (cf. Knocker's Excavations, Table 9).

Poultry provided a significant part of the Saxon diet. The fowl bones from Site 1092 and the earlier excavations range greatly in size. There is an interesting small variety of fowl present. A femur, length 60mm (Fig. 203) and a coracoid length 42mm are smaller than any at the very large samples at Elmham and Hamwih. Half the bones came from pits 58 and 158. 76% were mature (at least twenty-two mature individuals and seven immature). The goose bones are comparable in size to Elmham and Hamwih. They were not as numerous as at Elmham, but still numerous enough to support Bramwell's suggestion that the Saxons were responsible for an increase in goose keeping. Of Roman sites in Norfolk no geese were found at Scole, Brampton or Stonham Aspall, and one bone, possibly wild, was found at Brancaster. All the bones were mature. Domestic poultry probably included duck, bones of *Anas platyrhynchos,* the domestic duck or wild mallard being fairly numerous (eleven bones).

The buzzard indicates woodland nearby. The other wild birds are water birds. Smaller goose bones are from a Brent Goose—*Branta bernicla* (one bone), a probable Barnacle or White Fronted Goose—*Branta leucopsis* or *Anser albifrons* (one) and a probable Pink Footed Goose—*Anser brachyrhynchus* (three). The smaller wild ducks represented are one Mallard or Pintail—*Anas acuta* (one), one possible Wigeon—*Anas penelope* (one) and one smaller—Shoveller/Tufted duck size—*Anas clypeata/ Aythya fuligula* (one). This last was juvenile and, this species, therefore, probably bred locally (GL coracoid, nearly mature, 45.0).

Boneworking

The layers over ditch 141 produced a quantity of bone and hornworking waste. Horn cores are discussed above. Antler was found with the worked bone, a shed burr sawn through above the brow tine, three other pieces, all sawn,

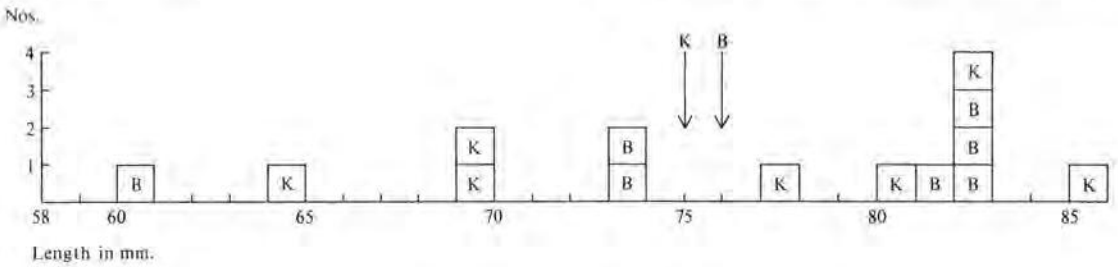


Fig. 203 Fowl femora: greatest lengths. K = Knocker's sites. B = Site 1092. Vertical arrows indicate the mean for each group.

				Range	Mean	N
Cattle	K	Metacarpal	GL	159-199	180.4	22
			DW	44-64	53.6	21
	1092		GL	175,186,189,196		
			DW	42-61	52.5	10
	K	Metatarsal	GL	197-224	208.0	15
			DW	45-57	51.2	9
	1092		GL	193,200,205,217,229		
			DW	45-57	49.3	10
Sheep	1092	Horn core	L outer curve	161-278	202	8
			Bas circ	115-150	136.6	10
	1092	Scapula	index	0.95-1.11	1.036	8
	1092	Humerus	DW	26-33	29.07	14
	K	Radius	GL	123,144,149, 150,154,155		
			PW	27,30,—,35,—,29		
	1092		PW	28-33	30.56	8
	K	Tibia	DW	21-39	25.75	8
	1092		DW	24-28	25.86	14
		Metacarpal	GL	K-120,127.1092-117,127		
			DW	K-26,26.1092-23,—		
		Metatarsal	GL	K-131,131.1092-121,133		
			DW	K-24,—.1092— —,23		
Goat	1092	Horn core	L outer curve	210,215,215,216,276		
			Bas circ	91-163	136.6	10
Pig	K	Humerus	DW	31-41	36.6	7
	1092		BT	31,35,36		
	K	Tibia	GL/DW	165/21		
	1092	Metacarpal	GL/DW	III-65/18.IV-75/17		
	1092	Metatarsal	GL/DW	III-76/—.IV-84/15		
Horse	K	Radius	GL/PW/DW	314/76/58		
	K	Tibia	GL/PW/DW	341/90/71; 348/92/70		
	1092		DW	69,69		
	K	Metatarsal	GW/PW/DW	265/52/50		
	1092		DW	47		
Dog	1092	Skeleton: Skull (as Harcourt, 1975): I (GL) *c.* 193, II 102, III *c.*89, IX 91, X 53, XI 68, 69, XII 36, XV 76, 77, M_1 22.5, 22.5; Snout length index 46%, snout width index 40%; GL—Humerus 164,164; Radius 166,166; Ulna 192; Femur 176,177; Tibia 188,188.				
	1092	Mandible	XV/M_1	78/24, 77/22, *c.*72/20.5		
	1092	Radius	GL	89		
	1092	Tibia	GL	176		
		Humerus	GL	K-57,70,73.1092-74		
	K	Radius	GL	55,61,62,67,69		
	1092		GL	57,57,63,66		
	1092	Carpometacarpus	GL	35,37,38,39,43		
	K	Tibiotarsus	GL	89,98,111,118,126		
	1092		GL	95,95,98,100,113		
	K	Tarsometatarsus	GL	58,68,74,90		
	1092		GL	63,66,67; 79		
Goose, domestic	1092	Ulna	GL	150		
	1092	Carpometacarpus	GL	85,87		
	1092	Femur	GL	83		
Duck	1092	GL-Coracoid	57; GL	Coracoid 57; Femur 52		
?domestic	1092	Femur	Carpomc GL	85, 87		
		Carpomc	56; Tarsomt.	48		
Mallard	1092		GL	Humerus 90,92; Radius 72; Carpomc. 56; Tarsomt. 48		

Summaries are given here of the measurements of bones from Knocker's site (K) and Site 1092. For the latter, the measuring points used are as defined by von den Driesch (1976).
Abbreviations:
GL: Greatest Length
P/DW: Proximal/distal width
(=Breadth prox/dist)
Bas circ: Basal circumference
BT: Breadth of trochlea (pig)
scapula index: glenoid cavity to base of spine/min. anterior posterior L of shaft
N: Number in sample

Table 11 Measurements of Animal Bones

and some comb fragments (Fig. 187, Nos. 16-20). A few sheep-sized ribs and fragments from the long bones probably of cattle and sheep were worked. But most of the material consisted of more than 600 pieces of rib, a selection of which are shown on Plate XXII, nearly all believed to be of cattle. Some may have been of horse (see Horse section), but horse ribs are not so wide and flat nor so smooth as cattle ribs.

The method appears to have been to chop the rib to the required length. The edges were carved away with a knife (fifty of these splinters were found) and the rib was then split into its two flat surfaces. The inner cancellous bone was rubbed down till it was nearly smooth, giving a flat piece of bone, 1 to 1.5cm wide and of varying lengths. A third were less than 2cm, half were 2 to 4cm and the rest were longer, generally less than 7cm. In twenty-eight of them a hole was made, 1.9 to 3.4mm in diameter, of a fairly rough finish. Most were broken at the hole, this presumably being the reason for their disposal. A few pieces of similar material were found in other parts of the site, pits 14 (eleven pieces), 15, 158 and 180, post-holes 37 and 58, layers, 30, 36, 156 and 160.

A number of finished examples, sometimes in pairs with iron rivets, were found by Knocker (Fig. 188). Their function is obscure, but they are certainly not comb connecting plates.

Cannon bones were utilised (cf. skates Figs. 195-7). On Site 1092, the lower end of a horse metatarsal and a cattle metacarpal were found sawn cleanly off. A bone similar to the latter was found at Roman Brancaster, much more roughly done. Fourteen cattle metapodia were unused.

Butchery

Butchery was not recorded systematically, but the following was noted. Ribs were cut into short sections; half of the cattle-sized and a quarter of the sheep-sized ribs bore chop marks. Several cattle axis vertebrae were cut right through transversely, this probably the point of detachment of the skull. Twenty-two sheep vertebrae were split sagitally, fairly close to the midline (twenty-five were not so split). This may indicate that there were specialist butchers.

Pl. XXIII shows a sheep skull with a small triangular hole in it, presumably from a knife. A sheep head was chopped off behind the axis and then chopped roughly sagitally, through the atlas and the basal part of the skull; no doubt the brain was used.

Butchery is also discussed in the Horse and Dog sections above.

Abnormalities

The following were observed:

Cattle: a mature left maxilla (P^4 in wear and $M^{1\&2}$ wearing flat) with the third molar absent; a first phalanx showing some exostosis.

Sheep (or goat): one mandible with the usual periodontal disease at the first molar; eleven were normal (three of them fully adult); a mandible with the first and third molars worn in an unusual, stepped pattern (Pl. XXIV); a deciduous tooth retained between the upper fourth premolar and the first molar (lost post mortem) (Pl. XXV); a horn core with a slight posterior notch like that described by Noddle (1980); a humerus with slight exostosis on the distal end, laterally; a radius with some exostosis round the proximal joint: not an old animal, as the ulna was not fused to the radius; ? sheep: two ribs apparently broken and healed.

Pig: an immature fifth metacarpal with a flat circular growth of bone on the lateral side (Pl. XXVI), perhaps an injury from tethering.

Horse: eleven thoracic vertebrae, probably from one individual, showed exostosis on the spines of the anterior half of the series and, in the posterior half, two pairs were fused together; a pelvis, probably from the same horse, and showing slight exostosis on the surface caudal to the acetabulum, was not fused to the sacrum. Lumbar vertebrae were normal. Some roughening of the surface of horse vertebrae appears to be common.

Fowl: a tarsometatarsus of a hen has a pathological swelling on the shaft.

Detailed measurements, photographs of cattle, sheep and goat horn cores, a table showing the species found by features, detailed recording of the sheep mandibles, epiphyseal fusion of the three main species, the anatomical analysis of the bird bones, as well as the bones themselves are held by Norfolk Museums Service.

Grateful acknowledgement is made to Bob Wilson of the Oxford Archaeological Unit for help with identification and for general discussion.

III. Fish Bones

by Andrew K.G. Jones

Introduction

This report is concerned with three groups of fish bones recovered from excavations in Thetford dated to the tenth and eleventh centuries. Two groups were recovered from the excavation at Site 1092 in 1977 while a smaller assemblage was retrieved from excavations directed by Group Captain G. Knocker in 1948-9 on Sites 1, 2 South and 2 North. Bones from Knocker's sites have been studied by the staff of the British Museum (Natural History), their comments being included following the identifications.

Methods

Fish remains have been recovered using two methods. All the bones from Knocker's excavation and the majority of the bones from Site 1092 were collected by hand from the soil. Seven soil samples sieved to 250 microns by Peter Murphy proved to contain fish bones and these form the third assemblage. The bones from Site 1092 have been identified using modern comparative skeleton collections housed at the Environmental Archaeology Unit, University of York. Nomenclature follows Wheeler (1969).

Sites 1, 2 South and 2 North

A small number of fish bones were submitted to the staff of the Fish Section of the British Museum (Natural History) in the 1950s. Messrs. N.B. Marshall and A.C. Wheeler made the following identifications.

'Cod (*Gadus callarias*) (now known as *G.morhua*): articular bone of lower jaw and vertebrae, from *P*N3, Site 2N: vertebrae from *P*N4, Site 2N, Plaice (*Pleuronectes platessa*): first interhaemal spines, from *H*6, Site 2S. Perch (*Perca fluviatilis*): scale from a fish five or six years old, 11 to 13 inches in length, from between *R*1 and 2, west of *H*6, Site 2S. Jaw, possibly pike (*Esox lucius*), from Site 2N. Unidentified fish bones were found in *H*T1 and *P*F, Site 1 and *H*5 and south of *P*J, Site 2S. Unidentified fish scales

were found in *H6*, Site 2S.

It is interesting to note that of the few fish bones found, two should be sea fish. No doubt they were brought by boat up the Little Ouse.'

Site 1092

Layer 8	1 caudal vertebral centrum, cod, *Gadus morhua;* 1 precaudal vertebral centrum, cod; 2 unidentified fragments.
Clay surface 11	1 fragment probably cod family, Gadidae gen. et spp. indet.
Layer 53, *P*14	1 fragment, probably cod family.
Layer 60, *P*14	1 dentary fragment, cod family, cf. cod, *Gadus morhua* or ling *Molva* sp.
Layer 19, *P*15	1 unidentified fragment; 1 palatine fragment, cod.
Layer 27, *P*15	1 caudal vertebral centrum, cod; 1 rib unidentified; 1 branchiostegal ray, unidentified; 1 cranial fragment unidentified; 1 unidentified fragment.
Layer 35, *P*15	1 left cleithrum fragment, cod; 1 right cleithrum fragment, Cyprinidae; cf. tench, *Tinca tinca*; 5 unidentified fragments.
Layer 59, *P*15	1 parasphenoid fragment, cod family.
Hearth 25	1 maxilla, cod; 2 unidentified fragments.
Layer 30	4 unidentified fragments.
Layer 36	1 maxilla, cod; 1 post-temporal, cod; 1 branchiostegal ray, probably cod family; 8 unidentified fragments.
Ditch 63	2 branchiostegal rays, probably cod family; 2 articular fragments, cf. cod; 1 precaudal vertebral centrum, cod.
Layer 96	1 large cleithrum, haddock, *Melanogrammus aeglefinus*; 1 large caudal vertebral centrum, haddock; 1 1st or 2nd vertebral centrum cf. cod, with cut mark suggesting decapitation; 1 precaudal vertebral centrum, cod; 1 small hyomandibular, cod family; 14 unidentified fragments.
Layer 103, *P*99	1 precaudal vertebral centrum cod.
Layer 162, *P*158	1 pterygoid, cf. cod.
Linear feature 204	1 caudal vertebral centrum, cod.

Table 12 Site 1092: Fish bones collected by hand

Layer 53, *P*14	2 vertebral centra, herring, *Clupea harengus*; 3 vertebral centra fragments, herring; 1 large fish tooth, probably cod family; 3 unidentified fragments.
Layer 62, *P*15	2 vertebral centra, herring; 1 otic bulla, herring; 1 basioccipital, herring; 1 vertebral centrum, eel, *Anguilla anguilla*; 1 scale fragment, probably Cyprinidae; 38 unidentified fragments.
Layer 134, *P*129	3 vertebral centra, herring; 4 scale fragments, probably Cyprinidae; 1 caudal vertebral centrum, cod family; 11 unidentified fragments.
Layer 166, *P*158	1 post-temporal, herring; 3 scale fragments, probably Cyprinidae; 12 unidentified fragments.
Layer 172, *P*158	2 vertebral centra, herring; 1 vertebral centrum, eel.
Layer 173, *P*158	1 vertebral centrum, herring; 3 vertebral centra, eel.
Layer 177, ditch 141	1 precaudal vertebral centrum.

Table 13 Site 1092: Fish bones collected by sieving soil samples

Discussion

The three groups of fish bones recovered from the various excavations in Thetford are interesting in several ways. Each assemblage presents a slightly different picture of the fish-eating habits of the people living on the sites. Similarly, each assemblage reflects both the different methods of recovering small bones from archaeological deposits and the attitude of the excavators towards such bones.

The bones from Knocker's excavations had presumably been collected during the sorting of the animal bone. Considering the vast amount of soil moved during those excavations, the quantity of fish bone recovered is very small. Recent work at other excavations in Norwich (Jones, 1938), Great Yarmouth (Wheeler and Jones 1976) and Ipswich (Jones forthcoming) has shown that urban deposits in East Anglia yield abundant fish bone. Furthermore, the recent excavation in Thetford at Site 1092, where fish bones were recovered by both hand-picking trowelled spoil and by sieving relatively small quantities of spoil, demonstrates that fish bone is also abundant in Thetford. The conclusion that must be drawn is that early excavations in Thetford overlooked large quantities of fish bone. Nevertheless, both freshwater (perch and possibly pike) and marine fish (cod and plaice) are reported.

The excavations at Site 1092 produced two groups of fish bones, one recovered while excavating deposits by hand, the other extracted from soil samples processed in the laboratory by Peter Murphy. The hand-picked material is dominated by marine species, notably cod. The cod family, Gadidae, almost exclusively comprises marine fish, many of which grow to over a metre in length. While some are solitary, many species form shoals and are, thus, relatively easy to catch in large numbers. Traditionally, long lines bearing several baited hooks were used to catch gadids; today, however, trawlers are most frequently used. The one British freshwater gadid, the burbot, *Lota lota*, has not been recorded from excavations in this country. While it is possible that burbot remains are present in the Site 1092 material, the majority of the gadid fragments that have not been assigned to species are too large to have come from this fish. Furthermore, the gadid remains that have been identified to species are from either cod or haddock. One cyprinid cleithrum, tentatively assigned to tench, was recovered from these excavations.

Seven of the nine soil samples processed by Peter Murphy produced identifiable fish bones. While large gadid remains were present in these samples, they are not the commonest fish remains to be recovered. Herring is present in six of the seven samples and eel is present in three samples. Clearly these small-boned fishes were abundant in the deposits at Thetford and must have made a considerable contribution to the diet of the inhabitants.

Conclusions

While the cautious observer would note the very small quantity of fish bone that was presented to the staff of the British Museum (Natural History), all the evidence suggests that both marine and freshwater fish contributed, in roughly equal proportions, to the diet of the inhabitants of the town. However, the picture that emerges from Site 1092, where more objective methods were used to recover fish bone, is rather different. Surprising though it is, marine fish, from large cod and haddock to herring and flatfish, appear to have been the most commonly eaten fish

in eleventh-century Thetford. While it is possible that some of the marine fishes, in particular herring, were preserved before transportation to the town, the presence of large cod head bones suggests that whole fresh fish were also imported. Freshwater species are present, but not in large numbers; eel appears to be the only local species to have played a major role in the diet and economy of the town.

IV. Molluscs from Site 1092

by Peter Murphy

Acidic soil conditions had resulted in the destruction of almost all land molluscs with the exception of large durable shells of *Helix aspersa,* (which were fragile and pitted), and intrusive shells of *Cecilioides acicula.* The marine molluscs were likewise poorly preserved. Counts of shells collected by hand at the site are given in Table 14.

Ostrea edulis L. (oyster)	191
Mytilus edulis L. (mussel)	52
Cerastoderma edule (L) (cockle)	6
Littorina littorea (L) (winkle)	4
Nucella lapillus (L) (dog-whelk)	2
Helix aspersa Müller (garden snail)	14

Table 14 Molluscs: minimum numbers of individuals

These hand-collected shells were fairly evenly-distributed in the refuse deposits. Two further contexts, however, (layer 166, *P*158 and layer 220, *P*221) contained large numbers of mussel valves in a very fragile state. Since wet-sieving would have resulted in severe fragmentation it was difficult to obtain accurate counts, though careful excavation of a 40×20×20cm block of 166 in the laboratory produced sixty-six mussel valves, four oyster valves and a fragment of cockle shell.

Many of the oyster valves have been attacked by a boring organism, possibly *Cliona,* and some specimens are riddled with perforations (cf. Korringa 1951, 32). Tubes of the serpulid worm *Pomatoceros* are common, and some lower valves are attached to separated oyster valves and in one case to a rounded flint pebble. Several of the mussel valves have a heavy incrustation of *Balanus balanoides.* The matrix of 166 included fragments of barnacles together with some Foraminifera, presumably imported with intertidal mud.

The shell sample from this site is closely comparable in species composition to an early medieval sample from Whitefriars, Norwich (Ayers and Murphy 1983, 34-7). At both sites, large deposits of mussel valves are present, together with a scatter of shells of a wider range of species in other contexts.

V. Plant Macrofossils from Site 1092

by Peter Murphy

The sandy deposits at the site were generally well-drained and fully aerobic. Charred plant remains were extracted from 3kg samples of these dry deposits by manual water flotation in the laboratory, collecting the flot in a 250 micron mesh sieve. A few contexts contained plant remains preserved in waterlogged conditions: 62 and 134, both layers within pits, and 177 and 212, lower layers of the ditch 141. These deposits consisted almost entirely of sand, with a very low organic content. A 'wash-over' technique was found to be an effective means of extracting fruits and seeds from 1kg samples of these deposits.

The flots were sorted under low power of a binocular microscope. The non-floating residues were washed out over a 500 micron mesh sieve, dried, and sorted under the microscope for small faunal remains.

Plant remains identified are listed in Table 15.

Discussion

The seed samples from the damp lower layers of ditch 141 (177 and 212) consist largely of wetland species, common on damp soils and in shallow water. *Ranunculus sceleratus, Polygonum hydropiper, Lycopus europaeus, Bidens cernua* and *Juncus* spp. are particularly abundant. The presence of some standing water in the ditch whilst these sediments formed is indicated, though seasonal fluctuations in the water-table probably led to periodic drying: *Bidens cernua* is particularly common where water stands only during the winter (Clapham *et al.* 1968, 383). Further evidence of wet conditions is provided by numerous ephippia of Cladocera in both ditch samples. The mean water-table appears to have been similar to, or slightly higher than, that of today.

Samples from wet deposits in rubbish pits (62, *P*15 and 134, *P*129) produced seeds of a range of ruderal, segetal and scrub plants. The species identified are ubiquitous in early medieval urban deposits. Remains of a few plants whose fruits and nuts may have been consumed are present (sloe, bullace, bramble, hazel and elder), but the majority of seeds from these deposits are probably derived from the weed vegetation of the immediate vicinity.

Heathland plant communities growing on dry sandy soils survive locally today, and no doubt were present around the Saxon settlement, but seeds of plants particularly characteristic of heathland are rare in these samples.

Fragments of mature oak wood (*Quercus* sp.) and twigs of hazel (*Corylus* sp.) were present in 62. The twigs are straight, though broken into short lengths, and are 10-12mm in diameter. Several are cut obliquely. It seems possible that they are derived from a wattle structure.

Small numbers of charred grains of six-row barley, bread or club wheat, wild or cultivated oats and rye were recovered, and 172, *P*158 produced a rachis internode of rye. A single fruit of hemp (*Cannabis sativa*) came from 212. Hemp requires deep moist soils with a relatively high humus content for successful cultivation (Percival 1918, 349), so in the Breckland, hemp production must have been confined to the river valleys.

VI. Soil Samples

Sites 2 South and 3

by I.W. Cornwall

*H*5, floor. Silty rather than clayey. Many burnt crumbs of the material with charcoal.

*H*5, ash over floor. Alkaline reaction (pH9.1), highly calcareous. Present in acid extract: Iron, calcium (much), magnesium (little), sulphate (plenty), chloride (trace). No heavier metals. Nitrate and phosphate absent. Sulphate is water-insoluble in original form. Acid-insoluble residue: silica, charcoal and burnt clay crumbs. Minute flakes of mica. Probably consist (apart from the acid-insolubles) chiefly of calcium carbonate and calcium sulphate, with a good deal of iron, originally in the ferrous condition, and unimportant amounts of other substances. This composition is consistant with the conclusion that the deposit is largely wood ash from which the water-soluble constituents

Sample No.	1	12	13	14	16	17	19	20	21
Context No.	53 *P*14	62 *P*15	134 *P*129	164 Ditch 141	177 Ditch 141	166 *P*158	172 *P*158	173 *P*158	212 Ditch 141
% flot. sorted	100	100	100	100	100	100	100	100	50
Cereal indet.	7	—	—	—	—	8	6	2	—
Hordeum sp.	—	—	—	1	—	1	—	—	—
Hordeum vulgare L.	9	—	—	—	—	—	—	—	—
Avena sp.	—	—	—	—	—	1	1	1	—
Triticum aestivum s.l.	c.f.2	—	—	—	—	1	—	—	—
Secale cereale L.	1	2	—	—	—	—	—	—	—
Secale cereale L. ri	—	—	—	—	—	—	1	—	—
Cannabis sativa L.	—	—	—	—	—	—	—	—	1
Characeae indet. oo	—	—	1	—	—	—	—	—	—
Ranunculus sp.	—	—	—	—	1	—	—	—	1
Ranunculus sceleratus L.	—	—	—	—	28	—	—	—	28
Papaver argemone L.	—	—	14	—			—	—	—
Reseda sp.	—	—	1	—	—	—	—	—	—
Caryophyllaceae indet.	—	—	1	—	11	—	—	—	3
Montia fontana L.	—	—	—	—	1	—	—	—	2
Chenopodium album L.	—	2	8	—	—	—	—	—	3
Chenopodium sp.	1	—	1	—	—	—	—	—	—
Atriplex patula/hastata	—	—	—	—	—	—	—	—	1
Rubus fruticosus agg.	—	2	1	—	—	—	—	—	1
Potentilla sp.	—	1	—	—	—	—	—	—	—
Aphanes c.f. *microcarpa* (Boiss + Reuter) Rothm.	—	—	—	—	—	—	—	—	2
Prunus spinosa L.	—	2	—	—	—	—	—	—	—
Prunus domestica ssp. *insititia*	—	3	—	—	—	—	—	—	—
Polygonum convolvulus L.	—	—	—	—	—	—	—	1	—
Polygonum aviculare agg	—	1	—	—	—	—	—	—	1
Polygonum cf. *lapathifolium* L.	—	—	—	—	4	—	—	—	—
Polygonum hydropiper L. nu + per	—	—	—	—	16	—	—	—	40
Rumex acetosella agg.	—	—	—	—	1	—	—	—	3
Urtica urens L.	—	1	100+	—	—	—	—	—	—
Urtica dioica L.	—	2	1	—	9	—	—	—	6
Corylus avellana L. frag	—	2	2	—	—	—	1	—	—
cf. *Anagallis arvensis* L.	—	—	1	—	—	—	—	—	—
Solanum nigrum L.	—	36	—	—	—	—	—	—	—
Lycopus europaeus L.	—	—	—		11	—	—	—	10
c.f. *Ballota nigra* L.	—	—	1	—	—	—	—	1	—
Sambucus nigra L.	—	34	16	—	—	1	1	5	—
Bidens cernua L.	—	—	—	—	—	—	—	—	45
Lapsana communis L.	—	1	—	—	—	—	—	—	—
Cirsium/Carduus sp.	—	—	—	—	1	—	—	—	—
Compositae indet.	—	—	—	—	—	—	—	—	1
Juncus sp.	—	13	17	—	100+	—	—	—	3
Carex sp.	—	—	1	—	3	—	—	—	—
Gramineae indet.	2	—	—	—	—	—	2	1	1
Indet. (seeds)	—	1	1	—	3	—	—	—	2
Quercus sp. w	—	+	—	—	—	—	—	—	—
Corylus sp. w	—	+	—	—	—	—	—	—	—

Taxa are represented by fruits or seeds apart from:

frag.	fragments
nu + per	nutlet with perianth
oo	oogonia
ri	rachis internode
w	wood
+	present

Table 15 Plant Macrofossils from Site 1092

have been washed out in the course of time by percolating water. Organic matter very slight.

*H*7, black peaty material. Darker colour due to humus (decomposed vegetable organic matter) and much charcoal. Peaty in consistency, decalcified, and little mineral residue. Decayed rush or hurdle flooring.

*H*7, post-hole (which one is not recorded). No wood structure preserved, much organic matter, decayed post with charcoal, iron slag and fragments of rust and flints from the surrounding debris.

*P*J, dark brown soil in upper filling, associated with 'some green stained bones'. Copper impregnated soil. The sample was a large mass of rather friable sandy material, heavily impregnated with copper salts which had preserved small fragments of organic matter (shells of hazel nuts, fish bones etc), together with much oak charcoal and lumps of iron rust. Tin was not found so that it appears to be a deposit from copper ore or a copper smelting process.

*P*22, lower filling. Few fragments of mussel shell and very little charcoal, unlike most of the other samples. Probably natural rapid silting.

*P*22, red silty layer. The red colour is due to grains and small lumps of fine silty material, fired in the open to a red heat. It is not daub. Even after firing, the material is still relatively incoherent. It is possibly the effect of a fire having been lit in the pit before the insertion of the liner. There are some small fragments of charcoal.

*P*22, shell layer. The mussel (*Mytilus* sp.) is in the enormous majority. There are a few shells of oyster (*Ostrea* sp.) and of cockle (*Cardium* sp.), the latter noticeably on the small side. Winkles (*Litorina* sp.) and whelk (*Buccinum*) are also represented in a small way. A single specimen of a top shell (*Trochus*. of. *cinereus*) was probably not useful as food and is a

chance occurrence. Also found were fragments of bone, including several from the maxilla of an ox, and teeth of ox and pig. The accumulation apperars to be mainly food debris, dumped into the pit.
*P*29, lower filling of sticky soil. Much phosphate, somewhat calcareous, and much organic matter.
*P*33. Highly organic; ammonium salts and nitrate in appreciable amounts. Could well be cess, though decaying vegetable organic matter shows traces of this content also.
*P*41, greenish black filling. Slightly calcareous (owing to presence of ashes shown by much charcoal) with much organic matter, decay of which has reduced iron and salts thereof. Probably largely of natural formation in view of the relative absence of sizeable stones, shells, burnt clay and other evidence of human activity. Ash and charcoal are widespread and light and could easily have been blown or washed in.
*P*41, light brown soil, beneath clay layer. Locally very dark, owing to organic matter. Bone, charcoal and burnt flints suggest ash and fire sweepings.
*P*41, light brown soil beneath clay layer. Organic matter only slight. Charcoal, bone and other extraneous substances almost absent. Probably deliberate filling of clean earth in a single operation.
*P*45, lower filling. Very calcareous. Humus low, with little charcoal or other foreign material, small granules of chalk and clean yellow sand. Probably mainly natural.
*P*45, upper filling of dark brown soil and ash. Light grey-brown when dry. Slightly calcareous, humus only slight. Hardly any charcoal or other foreign material, but a single small sherd of pottery and a few shell fragments suggest a filling probably mainly natural.
*P*45, burnt patch in uppermost filling. Charcoal, ash, burnt clay crumbs, cracked flints, twelve or so carbonised seeds (peas).
Site 3, black layer. No visible vegetable structure. Dark colour is mainly due to carbon, not humic material. If it is thatch, it is burnt, not decayed.

Ditch 111, Site 1092
by W.M. Corbett

Sample locations are shown on Sect. AB (Fig. 93).
Sample a. The particle-size distribution curve of the aeolian fraction is similar in shape to that of sub-surface horizons on uplands in Breckland. It is bimodal with the principal mode at about 125um (3 o) and a secondary mode around 210um (2.25 o). A minor difference in the location of the secondary mode can be explained by the coarser size class interval used in the surface drift project when the Thetford samples were collected.
Sample b. The particle-size distribution curve is unlike any sub-surface horizon in drift on uplands in Norfolk and Suffolk. A minor mode does occur at 125um (3 o) indicating inclusion of some material similar to sample (a), but the principal mode is at about 420um (1.25 o). This is about the upper limit for aeolian material. It suggests that the bulk of this sample is of non-aeolian origin. The obvious alternative process is water sorting.

Part VI
Conclusions

I. Topography and Development

No evidence of Middle Saxon occupation was revealed on any of the sites described in this volume. The only finds of this date were the Ipswich-type Ware sherd from Trial Trench 4 of Knocker's 1959 excavations close to the Red Castle under which there were abundant traces of activity of this date, a probable Ipswich-type sherd from Site 2 North (Fig. 179, No.396) and the Northumbrian styca from pit 14, Site 1092. The absence of late ninth-century Stamford Ware also indicates a lack of activity before *c.*900 on any of the excavated sites. Apart from pits N64, 67 and 68, which were filled in the twelth century or later other contexts appear to belong to the tenth and eleventh centuries. A maximum of two hundred years is an extremely short period into which must be crammed such a large quantity of activity. Indeed, the period may be shorter as Road 1 on Site 2 South, which was laid down *c.*925/950, sealed only slight traces of activity (Huts 10 and 12, iron small finds west of Hut 6). However, the manner in which the road swung to avoid Hut 7 suggests that either the excavated structure or something in the same location existed before this date.

Just as the lack of late ninth-century activity on the sites described may be explained by their generally peripheral position within the town, so may the rapid decline of occupation in the late eleventh century. It would be reasonable to assume that outlying areas would be the last occupied and the first abandoned in an urban development which covered such a vast area at its maximum expansion. It will have been clear from Part II that our knowledge of the true line of the town defences is still uncertain; but if the evidence of their probably late ninth-or early tenth-century date recovered on Site 1092 is typical, then the defences must have been constructed around an area that at the time was not completely built-up or occupied. Expansion over the line of the defences in the late tenth or early eleventh century is demonstrated on Site 1092, and this might suggest that by then there was no space left in the enclosed area[24]. The pre-Conquest churches of St. Margaret and St. George (and possibly All Saints' and St. Benet's) indicate further zones of extra-mural settlement.

The enormous defended, but non-rectangular area, of the late Saxon town south of the river (*c.*60 hectares) and its possible adjunct to the north (*c.*15 hectares) bears a certain resemblance to the suggested lay-out of late Saxon Cambridge (Addyman and Biddle 1965, Figs.12 and 13), although there the size of the enclosed town is much smaller and the defended west bank little more than a bridgehead. Suburbs, or at least expansion beyond disused defences, are present at Thetford as they were at Cambridge where water-filled ditches would have been less easily abandoned; however, no firm dating evidence for the digging of the King's or Cambridge ditches is available.

It remains uncertain whether Thetford north of the river was defended in the pre-Conquest period as Green and Clarke (1963) suggested. Late Saxon activity is indicated by only two pottery find-spots (both of which could be post-Conquest) and by the centrally located Domesday church of St. Peter. Two other churches, St. Cuthbert and St. Lawrence might, on dedication evidence, be pre-Conquest (Dunmore with Carr 1976, 18). The paucity of archaeological evidence can be explained by intermittent observations of limited re-development. If a northern defended area is accepted, then the disposition of the two defensive semi-circuits strongly suggests that an important central point was a crossing of the Little Ouse on or very close to the present bridge on Bridge Street. London Road, which approaches the bridge from the south-west, was turnpiked in the eighteenth century, but its line is probably much older. Bridge Street and Whitehart Street continue the route through the medieval and modern town and there is no reason for believing that they are of recent date.

Dunmore with Carr (1976, 8-11) stressed the importance for the origins and growth of the town of two fords, *Ditchenford* or possibly *Redford* to the west near the Red Castle, and ?*Theodford* to the east, the crossing point of the Icknield Way over the two rivers. The former lies close to Early and Middle Saxon occupation (Knocker 1967; Davison 1967, 191 and 194). No such site is known near the latter, although possible Ipswich-type Ware was recovered in Rainbird Clarke and Barbara Green's 1962 excavations at Thetford Castle. No pre-Danish material has come to light near the central bridge suggested above as being of importance in the Late Saxon town, but again this may be for want of excavation. If this crossing point and the northern defences were proved to be of Late Saxon date, then the significance of the two peripheral fords would be reduced, and Thetford would appear as a double riverside settlement analogous to a considerably smaller Cambridge.

Another East Anglian riverside town defended in the Late Saxon period, perhaps at an early date, was Ipswich. A defensive ditch on the west side of the town was followed by two phases of Saxo-Norman activity (Dunmore *et al* 1976, 135-39). On the east margin of the town, a ditch associated with Thetford Ware was superseded by a larger ditch thought to have been dug in 1204 (West 1963, 291-5), but according to the published evidence it contained only Thetford Ware. The pre-Conquest defensive circuit approximated to the medieval and the enclosed area at Ipswich included more than 40 hectares.

Carter (1978, 180 and 202) has shown that the settled area in Norwich in 1066 had reached about 200 acres (80.9 hectacres). Much of this area was extra-mural, on both sides of the river. The construction of Norwich Castle involved the destruction of ninety-eight houses. The 15 acres covered by the castle gives a figure of 0.15 acres per house. When this sum is multiplied by the total of Domesday burgesses, a figure of just over 200 acres is reached. A similar multiplication for Thetford using the

figure of 943 burgesses in 1066 arrives at 58 hectacres (144 acres). This accords well with the defended area south of the river (*c.*60 hectacres), but does not account for the additional *c.*15 hectacres that may have been occupied north of the river, nor for the presence of suburbs. The shortfall may be explained in various ways: either the Norwich house area calculation is for some reason inapplicable to Thetford; or there was no settlement north of the river; or non-burgess inhabitants, many of whom may not have been enumerated in Domesday (Darby 1952, 141), occupied the missing areas.

Davison (1967, 195) has stated that Thetford 'inherited no regular pattern of streets and walls' but was subject to 'a certain amount of elementary planning'. This planning is visible in the plan of his vast area excavation (Fig. 2, Site 5756; Davison 1967, Fig. 40), but is less obvious in Knocker's work. Site 2 South shows a fairly constant alignment for roads 1-3 with the flow of traffic being interrupted by intermitent pit-digging, particularly in the later eleventh century. Unfortunately, the junction of roads 1-3 with roads 1A-3A, which would have formed an approximate right-angle, lay outside the north-west corner of Site 2 North. If the roads found on Site 6 were a continuation of roads 1-3, then this far from straight route extended for at least 400 m. Other possible roads observed variously by Knocker and others (Dunmore with Carr, 1976, Fig. 3), are too disparate and few to demonstrate the presence or otherwise of planning on any scale. Overall control of the lay-out of the town is highly likely, and a similar central power must have supervised the construction of the defences. Davison (1967, 191) has suggested an 'open-plan' with arterial roads laid out to connect different zones, but this must remain only a possiblity in view of the comparatively small areas excavated. Davison noted that his street frontages were not built-up as in a normal medieval pattern, but the roads on Knocker's Site 2 North and South seem to have been heavily flanked with buildings. Previous warnings about generalising from limited areas to the whole town (Biddle 1976, 139; Davison 1967, 195) need not be repeated, but it is now probably too late to discover whether Thetford was 'essentially unplanned' (Biddle 1976, 140). However it is clear that over two centuries and 60 hectacres a measure of control was exercised by some organising authority in some areas at least.

Perhaps the greatest difficulty in the way of understanding the pattern of development in Thetford south of the river is the absence of an intact street pattern surviving into recent times. Whereas with the use of medieval documents and early cartography considerable gains in knowledge may be made in the topographical study of a town that has continued to be occupied until the present (e.g. Norwich, Carter 1978), with Thetford no such exercise is possible. The road pattern that existed before the expansion of the present century, Brandon, London and Bury Roads, St. Mary's Road, Star and Mill Lanes and Nuns' Bridges Road, is depicted on Martin's map of *c.*1740, but there is no earlier cartographic evidence. Whether any of the routes lie along Late Saxon predecessors is unknown. Early desertion south of the river has ironically removed all other streets from the map, so that results are forthcoming only from pitifully limited archaelogical excavations.

A striking feature of Thetford south of the rivers is the widespread distribution of human burials (Dunmore with Carr 1976, Fig. 3). Many of these can be associated with late Saxon/medieval churches, but others appear too far distant from any known church site to be thus associated. In this latter category may be included the concentration from the Williamson Crescent/Icknield Way area north-west of Site 3 and those in the vicinity of Site 5. Single burials and stray fragments were excavated on Sites 2 South, 2 North and 6 and Site 1092. On the latter, two pecularities were a small pit (135) crammed with human and animal bones, and a scatter of human long bones in the basal layer of ditch 141. Some burials may be pre-Saxon (for example that in grid XVIII, Site 2 North). The vast majority, where such things were recorded, appear to have had their heads to the West and to have been unaccompanied, and were, therefore, probably Christian. It is likely that the bulk of such burials can be explained by two possibilities: either late Saxon Thetford was blessed with more churches than we now have record of (cf. a previously unrecorded church excavated by Brian Ayers in Norwich in 1979); or that parts of the deserted late Saxon town south of the river were used for burials by the inhabitants of the medieval town. Both possibilities are probably true. Site 5, which contained burials with only Late Saxon pottery in the grave fillings, produced very little evidence of occupation, and could, therefore, have been within a formal burial ground of early date. On the other hand, other burials were medieval: an adult male skeleton dug out by contractors north-west of Site 2 North in November 1948 was accompanied by a medieval ampulla (Spencer 1980, 16, no. 39): the reused Late Saxon sculptured stones from Williamson Crescent also suggest a late burial.

II. Craft, Industry, Trade and Agriculture

The evidence for Thetford's status as a flourishing manufacturing centre in the late Saxon period is entirely archaeological, but with the exception of the pottery industry this evidence consists of artefacts and residues rather than structural remains of industrial processes. It is noteworthy that there are few significant concentrations of evidence relating to particular crafts; rather it appears that most areas were given over to diverse small-scale activities. The battery of pottery kilns excavated by Davison (1967, Fig. 53) in the south part of Site 5756 are an exception to this diversification.

Silversmithing, perhaps never a widespread craft, is evidenced by two crucibles from the northern part of Site 2 North. It should be noted that Thetford possessed a mint from at least the reign of Eadgar, and probably much earlier in the tenth century. Numerous crucibles from Sites 2 South, 2 North, 4, 6 and 1092 show that the working of copper alloy was widespread. Chalk moulds for casting bars of non-ferrous metals, probably copper alloy, were found on site 2 South and 1092 and a fine sandstone mould for a cross came from the filling of hut 21, Site 2 North. Soil above pit J, Site 2 South, was thought to contain 'copper slag', perhaps detritus from copper working. Large quantities of iron slag were noted by Knocker on Sites 2 South, 2 North and 6, but unfortunately none (except a few fragments in pottery bags) has survived. Various features contained concentrations of slag, such as pit 68, Site 2 South, a hearth above pit N25, Site 2 North, and make-up of the roads in various places. Smelting and smithing slags were prolific on Site 1092, but again no hearths or furnaces were recorded *in situ*. Knocker found several metalworking tools, a hammer, a chisel, punches, and a file. It is likely that many

of the metal artefacts, so abundant on all sites, were produced locally.

Sawn antler tines and horn cores demonstrate that bone and antlerworking were widespread. The north-west corner of Site 1092 produced the only concentration of boneworking debris, above the filling of the defensive ditch, 141. Approximately 600 fragments of cattle and possible horse ribs had been worked into strips, probably intended as pairs to be rivetted together. Finished examples, of unknown function, were found on Sites 2 South, 2 North, and 6. An unfinished bone spindle-whorl came from hut 26, Site 2 North.

Artefacts representing stages of textile production, heckles, spindle-whorls and needles, were found in various contexts again without any notable concentrations. The absence of loomweights may be fortuitous, or perhaps the use of unbaked clay and of natural flints with holes may have precluded their recovery. Cord making is represented by a bone lucet from Site 1. Iron awls and creasers suggest leatherworking, although only a few poorly preserved fragments from the base of ditch 141, Site 1092 survived the dry soil conditions. Tanning would have been carried out nearer the rivers. The processes of construction of timber buildings and portable wooden objects, obviously a major occupation in the town, have left no trace apart from two adzes, a saw, and spoon bits. The *c.* 180 iron knives must be regarded as general purpose tools used in a variety of crafts and everyday activities. A pot sherd from Site 6 was discoloured by use in madder dye production, but it is impossible to assess the importance of an industry from a single find.

As might be expected, the pottery industry, for which Thetford is now renowned, has left the most extensive and enduring traces. The relative economic importance of the industry is impossible to calculate, though it must have been smaller than the indestructability of sherds allows us to consider. It is likely that pottery was produced in Thetford from early in the life of the town, although the three kilns on site 2 North are relatively late. If it is true that the eleventh century saw a shift from town to country in the pottery industry (Hurst 1976, 314 and 345), then the importance of potters in Thetford must have diminished to insignificance or extinction by the twelfth century. A better picture of the town's pottery industry must await the publication of the kilns excavated by Davison in the north-west part of the town (Fig. 2, south part of Site 5756; Davison 1967, 192-3).

A problem associated with industrial activity concerns the interpretation of the origins of the vast deposits of ash recorded on Site 2 South and the lesser amounts on Site 2 North. Knocker considered and then dismissed the Danish attacks of 1004 and 1010 as likely causes (ash was not present in abnormal quantities on other sites) and he concluded that domestic hearths and ovens would not have produced such volumes. He opted for an unspecified industrial explanation. Manufacturing processes, which involved wood burning under oxidising conditions result in ash, but such quantities have not been recorded on sites with comparable industrial concentrations. Wind-blow or deliberate large-scale importation from nearby areas are both possible causes, but neither is completely satisfactory. Perhaps the intensity of industrial activity on Sites 2 South and 2 North and immediately adjacent parts (about which nothing is known) was much greater than other forms of archaeological evidence have demonstrated, and that life in this zone of the town was appallingly polluted.

Without doubt, the location of Thetford on the Little Ouse was in part dictated by the needs of trade, both to other areas of England through the great system of waterways flowing into the Wash, and to ports across the North Sea. Trading links to the former are well illustrated by the occurrence of Stamford and St. Neot's Wares, Millstone Grit, sandstone and limestone querns, and limestone spindle-whorls. Marine fish and molluscan remains suggest trading links with the East Anglian and Lincolnshire coasts. Overseas contact is represented by Rhineland lava querns and hones of Norwegian Ragstone and ? German Blue Phyllite. None of these types of import is uncommon as surface or excavated finds on late Saxon/medieval sites in Norfolk, and cannot be held up as significant examples of Thetford's trade with the Continent. Possibly more significant is the virtual absence of recognisable imported Continental pottery. This contrasts markedly with the common occurrence of such wares in Norwich. As Carter (1978, 203) has noted, Thetford is 'land locked' in comparison with Norwich. Perhaps, then, overseas trade was not of such importance to Thetford as others have suggested (Davison 1967, 189; Dunmore with Carr 1976, 8-9). However, the dearth of Continental imported wares may be explained by the peripheral nature of the excavated sites. River frontages, if excavated, might produce a very different ceramic story as might other areas of the town with high immigrant populations.

Despite the pre-eminence of industry and trade, 'it is clear that agriculture must have played an important part in the lives of the inhabitants' (Darby 1952, 141). Archaeological evidence goes no further than to show what animals and cereals were consumed as food within the town, and what animal bones were used for the production of artefacts. It gives no clue as to the time and effort spent by the townspeople in agricultural pursuits. However, the apparent intensity of land-use for accommodation, industry and burial within the town shows that there can have been little or no space available for agriculture (except perhaps for grazing in river meadows). The Domesday arable and pasture must have been without the town on both sides of the river, and from there must have come a supplement to the food resources normally acquired through trade as well as perhaps the ox-hides and goatskins due in render.

III. The Structures

Knocker gave the title of 'hut' to thirty-six complexes of features on Sites 1, 2 South, 2 North, and 6. These vary from clay floors with or without associated post-holes, to sunken areas, sometimes without certain shape and with or without associated post-holes and floors, groups of post-holes without other structural evidence, and general areas. Of the total, only five huts produced anything like convincing plans. Complete plans of post-hole buildings, such as those excavated in 1964-6 (Davison 1967) are notable for their absence. This lack can be explained by the excavation techniques employed and by the stratified nature of most of Knocker's sites, which prevented large areas from being stripped to the surface of natural.

The techniques were most effective in the discovery of cellared structures, i.e. hut 3, Site 1, hut 21, Site 2 North, and less certainly hut S3, Site 6, which were, in effect, little more than large rectangular pits. Huts 3 and 21 were

broadly similar to Davison's buildings J and L (1967 Figs. 51 and 52), although they did not involve the use of sill beams, raking struts to support ground level floors, or hearths. Hut T1 in the north-west area of Site 1 was thought to be a cellar, but in the absence of structural evidence it is best assumed to have been a flat-based, rectangular pit.

Hut 13, Site 2 South, had post-holes within the floor area and along the roughly bowed long sides. However the post-holes are incomplete and their relationship with the superimposed floor surfaces is uncertain. The adjacent hut 12 produced the largest concentration of post-holes but there is little discernible pattern in this group. Hut 7, Site 2 South, a particularly interesting structure, was not completely exposed. It comprised an oval sunken feature with a central hearth, inwardly raked post-holes along the long sides, and vertical post-holes at either end.

Huts consisting of clay floors were usually fragmentary and shapeless, although hut 8, Site 2 South, with its raised central hearth, and huts 26 and 31, Site 2 North, were roughly rectangular. Little can be deduced from the numerous huts represented by sunken areas and/or fragmentary floors such as huts 5, 6, 9, and 14, Site 2 South, and 17, 18, and 24, Site 2 North, except that they were situated in zones relatively free of pits.

The sites contained in this report have yielded remarkably little evidence to assist our understanding of Anglo-Saxon building techniques, but the depth of stratification on Sites 2 South and 2 North has shown that if other areas of the town with similar depth of deposits were excavated under modern conditions, there would be a real chance of recovering superimposed building plans with associated occupation layers. Such sequences, now well-known from waterlogged sites such as Dublin and York, are unlikely to be encountered in the other major East Anglian late Saxon urban centres, Norwich and Ipswich.

IV. The Pits

About 210 pits were recorded on Sites 1-7. These ranged from massive excavations with surface diameters of over 10ft (3m) and unknown depth to small features with 2ft (0.6m) diameters and depths of 1ft (0.3m). Slightly more than a third of the pits appear on sections in this paper, and it is intended that these illustrations should give a fair indication of the range of size, fillings, and function. It is with function that the major difficulties of interpretation arise. The pits on Site 1092 do not assist interpretation of function, despite being excavated and recorded with more exactness than those on Sites 1-7.

Cess Pits

Twenty-three pits contained either soil described as 'puggy', 'sticky', 'smelly', or 'green', or 'decayed vegetable matter'. Such descriptions may indicate deposits more normally referred to by archaeologists as 'cessy'. A soil sample from pit 33, Site 2 South, suggests that the filling may have been derived from a latrine, but this is not certain. It seems likely that in such a densely settled area sewage might have been most easily deposited in pits, although much may have been carted away as manure and cess layers in pits may only indicate the secondary disposal of sewage which had previously been deposited elsewhere. No evidence of latrine structures above pits was recorded.

Storage Pits

No clay-lined pits were found. Twenty-four pits were thought to contain wooden liners, but in no case is the recorded evidence sufficient to reconstruct the true form of the lining, while in many cases the sections show such linings to be highly unlikely. Often they would be safer interpreted as tip-lines of charcoal. Nevertheless, wattle linings can be suggested for some pits on the basis of stake-holes around the edge of pit bottoms e.g. pit 2, Site 1, and pit S6, Site 6. Pit 1, Site 1 appears to have had some form of secondary wooden lining with two upright posts reaching to the upper lip of the pit. The excavator interpreted this feature as a well and the posts as windlass supports. The evidence of other nearby pits dug to a much greater depth without reaching the water-table renders this interpretation untenable.

Wells

It might be expected that some of the deeper pits, not bottomed in Knocker's excavations, may have been wells. The deepest, pit 45, Site 2 South, was emptied to 32ft (9.8m) below the ground surface, and the lowest excavated filling was wet. Other pits with depths below the ground surface of *c.* 20ft (6m) plus were pit J, Site 2 South, and pits N13A-C, and N71, Site 2 North. No certain information has been obtained on the present water-table in the area of Sites 1, 2 South, and 2 North, although it is probably lower now than in the Saxo-Norman period because of modern drainage. It is improbable that circular pits serving as wells would not have contained timber shafts, at least where cut through sand and gravel, and such shafts would have been built within construction pits. There is no evidence for timber shafts, and only vague indications of construction pits, e.g. pits N13A-C, Site 2 North. However, the use of circular wickerwork revetments, which have left no trace, is a possibility. It is difficult to understand the purpose of such deep and dangerous excavation, if they were not intended as wells. The apparently circular and abrupt narrowing in the base of pit 158, Site 1092, could have held some form of wooden lining intended to hold water. The lowest filling in this inadequately recorded pit was certainly wet, and the environmental evidence from the base layer of ditch 141 suggests that the water-table may have been slightly higher than that of today.

Quarry Pits

Requirements for sand and gravels may have been met by the digging of pits; the small size of pit area in relation to depth being explained by the shortage of space in a built-up area. However, it is by no means certain that sand and gravel requirements were sufficient to merit such a vast number of pits. Mortar does not seem to have been used in the excavated areas, except for Site 7 (and presumably some other churches, and occasionally in domestic structures elsewhere in the town e.g. Davison 1967, 192). Sand was certainly needed for potting, but the gravel need for road surfaces was of a larger grade than would have been available over most of the area of the town. Extraction of the subsoil for iron ore is not a possible explanation for pit digging. W. M. Corbett (pers. comm.) considers that the iron content of the Thetford sands and gravels is negligible.

Rubbish Pits

Undoubtedly considerable quantities of domestic and industrial refuse found their way into pits. This may have often been a secondary use, and it is unclear whether any pits were intended from the outset as rubbish receptacles.

In conclusion, the many possible functions for pits, such as cess and rubbish disposal, storage, wells, gravel

and sand extraction, cannot, in the majority of cases, be demonstrated, although without doubt pits of all these types were in use at Thetford.

Postscript

There is no doubt that the post-war expansion and redevelopment of Thetford presented an unrivalled opportunity to investigate and understand the growth and decline of a major Late Saxon town. The town had a population of 4500 in Domesday (Darby 1971, 141) and again in 1951 before the figure rose to 13,700 by 1971. The greater part of the opportunity presented by this expansion has been missed; few chances for major excavation will occur again. Those that do should not be ignored, especially if they might answer some of the important remaining questions such as the dating of the defences, the degree of Late Saxon occupation north of the river, and the location and nature of the commercial waterfront.

This corpus has presented many facts, but few thoughts. It is hoped that after the full publication by Carolyn Dallas of Davison's large-scale excavations of the 1960's, the time will then be right for an analysis of the mass of information recovered by both Knocker and Davison.

Endnotes

1. Between 25 April and 3 May 1949, work was suspended while the team excavated part of the Early Saxon cremation cemetery at Illington 10km north-east of Thetford.
2. Knocker's notes make it clear that this clay was natural. Its occurrence is difficult to explain, and clay has not been recorded elsewhere in the Thetford terrace gravels.
3. All wood and charcoal identifications were carried out by Mrs. F.I. Balfour-Browne, British Museum (Nat. Hist.)
4. Alan Sorrell painted a reconstruction of this hut (Sorrell 1981, 104).
5. Knocker considered it most likely that the kiln load was fired within the combustion chamber despite the numerous whole pots found on the oven floor.
6. Future publication by Carolyn Dallas of the six kilns (Fig. 2, south part of Site 5756) excavated by Davison (1967, 192-3) will include technical analysis of all the Thetford kiln evidence.
7. The possibility of surveying error by the excavator cannot be ruled out. The trenches' restricted size did not permit diagonal measurements.
8. The authors are grateful to Miss Jean Kennedy, Norfolk County Archivist, for this information.
9. Archaeological evidence suggests the ring-work was built in the twelfth century. D.F. Renn, however, preferred a date soon after 1066 (Knocker 1967, 134-5).
10. These coin were first briefly published by the author in Rigold 1958-9, and the present account was originally written for Gp. Capt. Knocker soon afterwards, but since revised.
11. Particularly in Blunt 1969, the fullest discussion of the coinage, where the present examples are again noticed and two of them illustrated.
12. Rushen Davis sale, Sotheby's, 1893, Lots 55 and 57. There are reservations about provenances from this sale.
13. Marion Archibald commends 'Since the above was written, a total of six St. Edmund Memorial coins, and possibly a seventh, have been found on excavations at three different sites in Northampton under the direction of Mr. John Williams (Williams F., 1979, 69; Williams J., 1979, 244). Bearing in mind that three more were found on a fourth site, Northampton Castle in the excavations of 1879-81 (Gunstone 1971, nos. 98, 100 and 105), it is clear that Northampton must also be considered as a potential mint for some of this issue.'
14. The necessity of shortening is exemplified by the finished drawings that Knocker had intended for publication: a Type Series of forty-seven blocks mounted with 732 pots, and a Site Series arranged by site, period and context with eighty-three blocks and 1837 pots.
15. The collection is held by Norfolk Museums Service. A selection is on display at Norwich Castle Museum. Sherds held at Thetford Ancient House Museum which appear in the Catalogue are given their accession number (TAHM).
16. These pots are closely similar to British Museum Dorestadt sample 1955, 10-8, 34.
17. In the British Museum.
18. Stamford forms, fabrics and glazes are described in Kilmurry 1977. A further description can be found in Kilmurry 1980.
19. I am grateful to Richard Hodges for examining the sherds.
20. I am most grateful to Carol Cunningham of Chelmsford Archaeological Trust for her work on this material. Her Level III report is lodged in the excavation archive.
21. Information courtesy of Lincoln Archaeological Trust (report in preparation).
22. % fragments excluding horn cores.
23. Includes sixteen which also appear in the skull count.
24. Observation of development of site 1092 in early 1984 has shown that there was fairly intensive eleventh century occupation with numerous pits and a hearth within a c.20m wide north to south strip at the extreme west end of the walled precinct (TL 869 822) immediately west of massive disturbances caused by the construction and demolition of St. Barnabas' Hospital. Eleventh-century pits were observed as far as 75m south of the inferred line of ditch 141.

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Index

Compiled by Susan Yaxley.

East Anglian Archaeology

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Contents

EXCAVATIONS IN THETFORD, 1948-59 and 1973-80