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BARROW EXCAVATIONS IN NORFOLK, 1950-82

East Anglian Archaeology 29
Norfolk Archaeological Unit, Norfolk Museums Service, 1986

EAST ANGLIAN ARCHAEOLOGY

Barrow Excavations in Norfolk, 1950-82

by Andrew J. Lawson
with Jayne E. Bown, Frances Healy, Roy Le Hegarat and Fredric Petersen

with contributions from
J.R.B. Arthur, Leo Biek, Bill Corbett,
Elisabeth Crowfoot,
C.B. Denston, Mary Harman,
Veryan Heal, Janet D. Henderson,
Helen Keeley, Susan Limbrey,
Alison Locker, Donald Mackreth,
Peter Murphy, Richard Macphail, Richard Seale,
Ann Stirland, David Tomalin and
the late Calvin Wells

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Cover Illustration General view of the Bowthorpe excavation (as in Plate VIII)
Photo: Andrew Lawson (Ref. BMA 9)

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The excavation would not have been possible without the willing co-operation of the landowner, Hillcourt Farmers Ltd.; Andrew Lawson is particularly grateful to Mr C.J.Leech, the farm manager, for his interest and help during the excavation. Gratitude is extended to those who carried out the excavation, enduring the winter weather, especially Robert and Stephanie Rickett; to Alison Locker and Peter Murphy who have contributed specialist reports; to Donald Mackreth, Tony Gregory, and Andrew Rogerson for their comments on the finds and to the staff of the Norfolk Archaeological Unit for their support. The Department of the Environment gave consent for the excavation of this scheduled Ancient Monument.

Bowthorpe
Andrew Lawson wishes to thank Veryan Heal, Janet Henderson and Peter Murphy for their contributions to this report. Steven Ashley prepared the majority of the illustrations for publication. The author is also grateful to Norwich City Council, the landowners, for permission to excavate the site and especially Stuart Orrin for his co-operation during the project; Messrs Fairclough for access to the neighbouring water tower during the excavation; Messrs Stephens and Carter/Clima Ltd, for the loan of scaffolding and equipment; and to Eastern Gas and the Anglian Water Authority for their advice on supply mains.

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Andrew Lawson and Roy Le Hegarat wish to thank Breckland District Council, the landowners, for permission to excavate the site; Howson-Algraphy, an Operating Group of Vickers Ltd, the site lessee, for access to the site during development; R.G.Carter (Thetford) Ltd, the builders, for their co-operation during the excavations; Bob Chandler, Site Foreman; D.G.Aitkens, plant contractors, for delaying the burial of the 1978 site; Richard Macphail and Bill Corbett for their advice on the soils; Peter Murphy for his contribution on the environmental evidence; Ann Stirland for her report on the human bones. Peter Murphy wishes to thank Dr Gordon Hillman for his comments on the rhizomes and unidentified seeds. The drawings for this report were prepared by Denise Derbyshire.

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The Trustees of the Weasenham Charities have generously given the finds from the excavation to the Norfolk Museums Service.

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Abbreviations

Acc. No.	: Accession Number
BM	: British Museum Radiocarbon Dating Laboratory
HAR	: Harwell Atomic Energy Research Laboratory: Radiocarbon Dating Laboratory
KLM	: King's Lynn Museum
LBA	: Later Bronze Age
MS	: Manuscript
NCM	: Norwich Castle Museum
NRO	: Norfolk Records Office
OD	: Ordnance Datum
O.S.	: Ordnance Survey
SMR	: Sites and Monuments Record

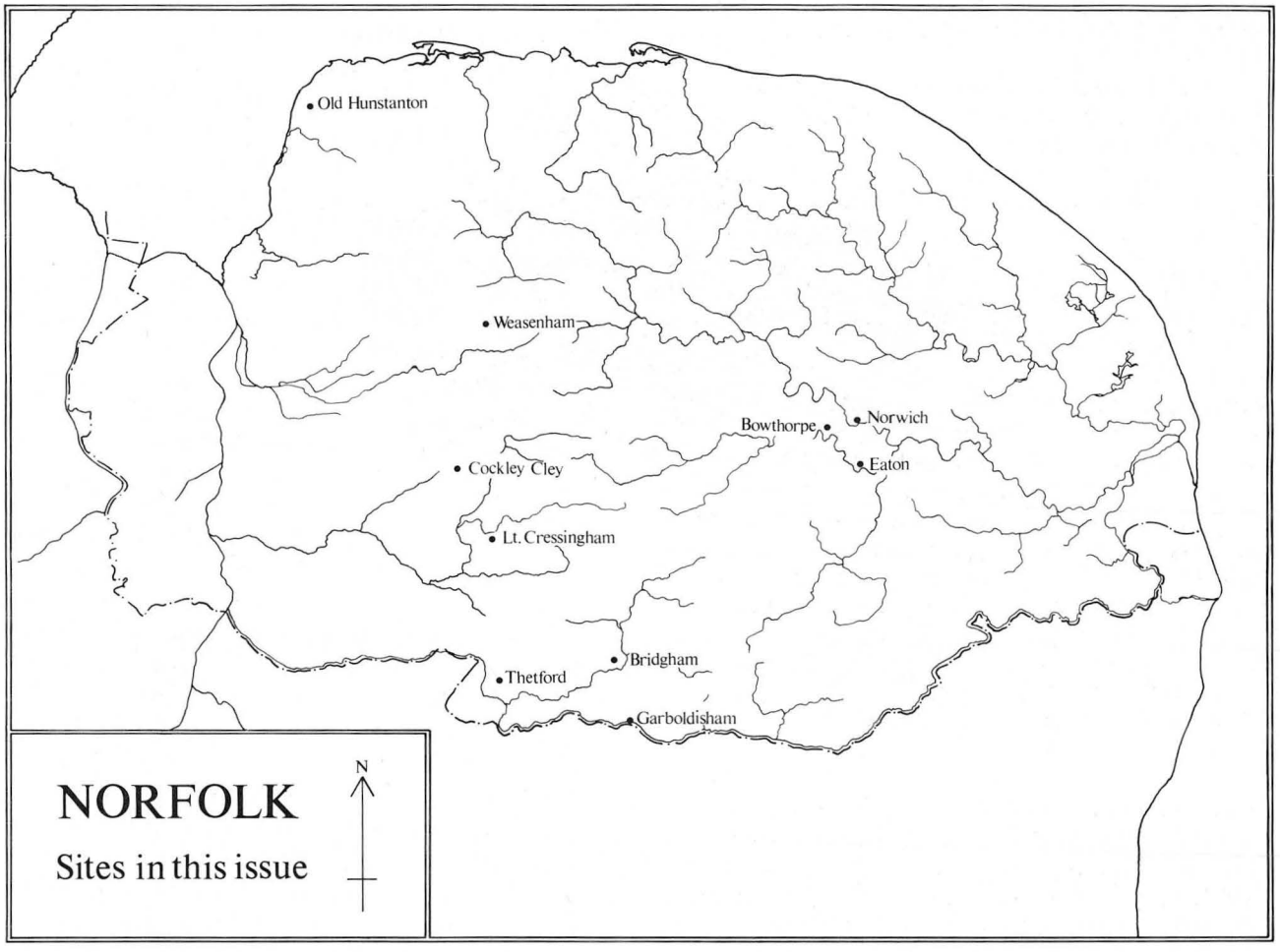

Old Hunstanton
Weasenham
Bowthorpe
Norwich
Eaton
Cockley Cley
Lt. Cressingham
Thetford
Bridgham
Garboldisham
NORFOLK
Sites in this issue
N

Illustration by Susan G. White, after an 1827 watercolour by S. Woodward of a barrow at Eaton, Norfolk

1. Introduction

by Andrew J. Lawson

In 1981 a survey of the barrows in East Anglia was published (Lawson, Martin and Priddy 1981). The aim of that work was to present the field evidence for the recorded monuments in the region. Although previous excavation of monuments was noted, an assessment of these excavations did not fall within the fieldwork brief. Prior to the survey 164 investigations of barrows had taken place in Norfolk alone but the publication of these investigations was sporadic and did not meet the standards demanded by today's archaeological researcher. At times only a scant reference to the excavation or a brief description of the finds appeared in print either in a journal or newspaper, but further information has been gleaned from manuscript notes and correspondence (especially those of Samuel Woodward in Norwich Castle Museum, Goddard Johnson in the Norfolk Record Office and Dawson Turner in the British Museum) or from labels attached to early museum accessions. Occasionally, the only information is that recorded on the County Sites and Monuments Record cards, some of which date from the 1930's.

With the exception of fifteenth- and sixteenth-century references to 'hill-digging', the earliest published accounts of barrow excavations in Norfolk appear at the very start of the nineteenth century. In the report of the levelling of a barrow on Buxton Common (Hevingham Site 1500) in 1798, Crowe (1800) describes the context of the urns he illustrates. Contextual description is also given by Gibson (1803) in his report on the discovery of an urn at Colney (Site 9335) in 1799. The first report to illustrate a barrow profile and to describe the method of excavation is that by Repton (1812) in presenting the results of the opening of a barrow on Stow Heath (Felmingham Site 7532). Unfortunately, he did not continue the practice in his references to the other barrows which he excavated in the vicinity (Tuttington Sites 7545/cl-3; Repton 1812, 355), nor was it adopted by his contemporaries.

In the earlier nineteenth century many important discoveries were made, but these remain largely unpublished. For example, the removal of four barrows at Sporle-with-Palgrave (Site 4598) in March 1813, revealed a most unusual series of Early Anglo-Saxon burials accompanied by a wide variety of grave-goods, yet no contemporary account appeared in print (Meaney 1964, 181-2; Steven Ashley in prep.). In his *'Outline of Roman Remains'* from Norfolk, Woodward (1831, 270) does not mention what were probably the first scientific excavations in the county, at Eaton (Sites 9459/cl and c3) although his correspondence (NCM) contains detailed observations and illustrations of his excavations (Lawson, Martin, and Priddy 1981, pl.X; Healy, this volume).

The most comprehensive early account from the county is the privately-printed work by Lukis (1843) which describes the sectioning of barrows at Bircham (Sites 1705/cl-4) in 1842 with the consequent discovery of gold-covered beads in an inverted urn. The only other find of Early Bronze Age gold from the county, and the finest example of a Wessex-style burial in Eastern England, is that from Little Cressingham (Site 5051), which was first described by Barton (1852) and is reviewed in this volume (p.6).

The later nineteenth-century accounts made little academic advance. Manning's (1859) notice of the examination of barrows in Bergh Apton (Sites 10308-11) and Thurton (Site 10312) contain a fine engraving of a Collared Urn, but the excavation account is extremely brief. The accounts by Chester (1859) of 'The discovery of Ancient British Remains' at Roughton (Sites 6735-44), Salthouse (Sites 6202-3) and Broome (Site 10622-3) or Ditchingham (Site 10611) in the same volume of *Norfolk Archaeology* are no more informative and are not illustrated. Both Manning and Chester describe prehistoric and Early Anglo-Saxon finds from the same mounds, yet the stratigraphic relationship of one to the other was clearly not questioned.

Twentieth-century accounts open with a fine report on the excavation of a barrow in Buckenham Fields, Hilborough (Site 5026) on the land of its excavator, Lord Amherst of Hackney. The barrow was excavated in quadrants with 'care and liberality' and finds recorded by co-ordinates drawn to measured lines through the centre of the mound. The publication was illustrated with a location map, sections and a plan (Hughes 1901).

The foundation of the Prehistoric Society of East Anglia in 1908 encouraged the recognition of flint artefacts, and the brief account by Miss Henderson (1914-5, 4-5) of the opening of a barrow on Salthouse Heath (Salthouse Site 6204 or Cley next the Sea Site 6186) in the second volume of the *Proceedings*, is notable if only for the first published reference in a Norfolk barrow report to flint flakes, presumably as an accepted indicator of date. Messrs Reid and Wright also contributed specialist comments in this note. In 1914 the Society sponsored a campaign of excavations at Grimes Graves, Weeting-with-Broomhill, to establish the nature and date of the flint mines. This work also led to the investigation of a mound at Grimshoe (Site 5640/cl), possibly a barrow. The results were inconclusive, but the report (Peake 1916, 106-12) was the most thorough so far and included drawn sections and plans which were not to be equalled for more than half a century. Unfortunately, this model report was not emulated. Williams's (1926) report on the excavation of a barrow at Cley next the Sea (Site 6178) in 1924, included a plan, but the photograph reveals the true state of the one-day investigation. The report by Watson (1931) of the investigation of another mound in an area of flint mines, at Great Massingham (Site 2301), illustrates the remnants of a Collared Urn from a pyre, but this is not accompanied by further illustration.

New standards were set by the publication of the 1934 excavation of an 'Iron-Age Tumulus' at Warborough Hill, Stiffkey (Site 1863; Clarke and Apling 1934). This report covers the site and its setting, lists antiquarian references and provides a detailed description of the excavation. However, this was the last excavation account published before the description of the virtually destroyed mound (Site 1005) at Harpley

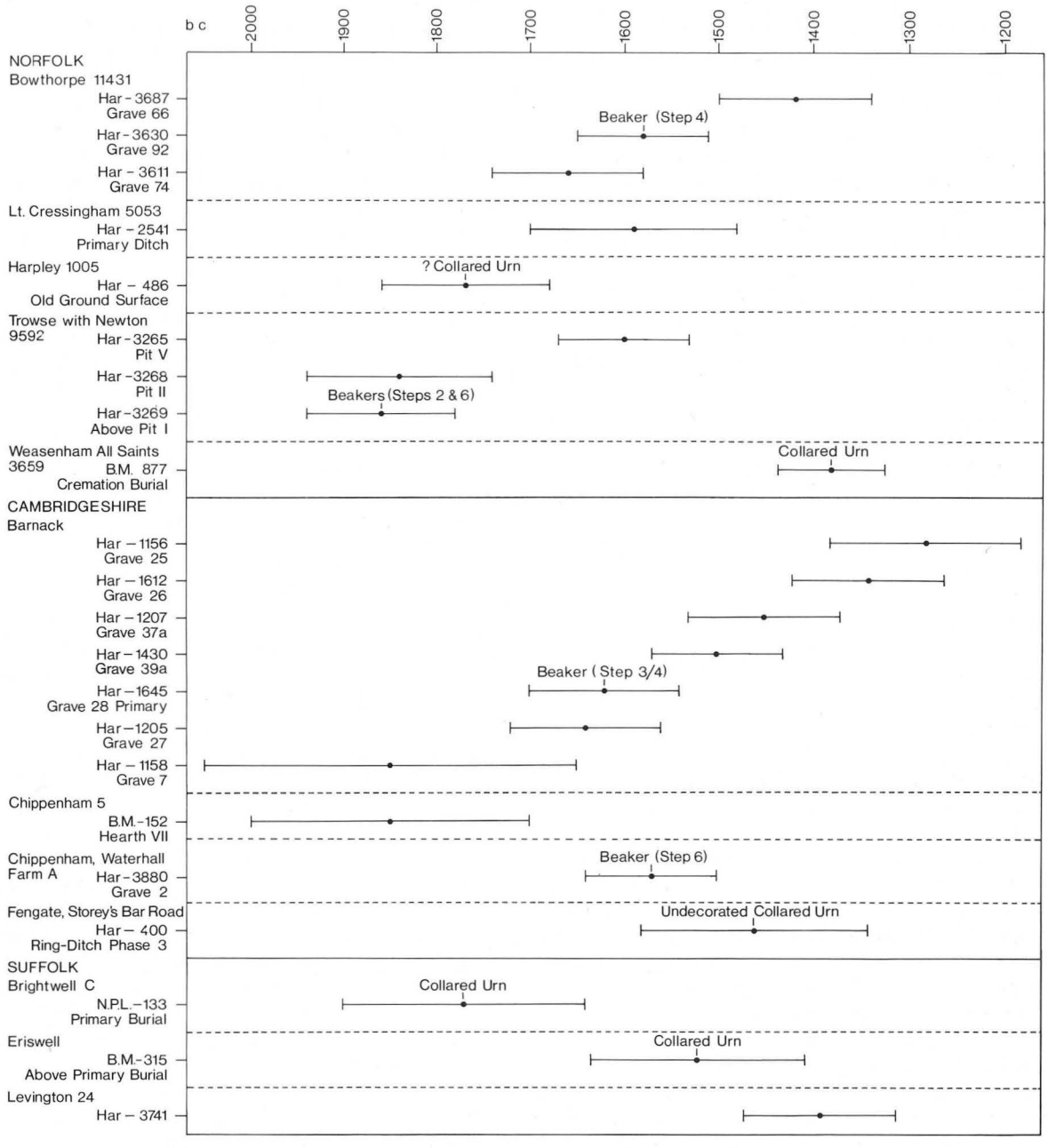


Figure 1 Radiocarbon dates from excavated prehistoric barrows in East Anglia

(Lawson 1976), although at least thirty-five excavations had been conducted in between.

Although these reports may have been acceptable at the time, all but the more recent lack information which is considered fundamental today. Frequently the location of the investigated barrow was so inaccurately described that it is not possible to identify the site with certainty, especially when the excavated barrow formed one of a group, as at Salthouse Heath (above). The failure to record the areas and depths investigated has led to difficulty in assessing the comprehensiveness of the excavation, while the absence of stratigraphic and contextual records makes relative dating virtually impossible and renders contemporary associations unidentifiable. On many occasions meticulous excavation does not appear to have been considered necessary, with the result that many artefacts that may have helped with a broader interpretation of the site were certainly missed.

The intention of this volume is to review hitherto unpublished barrow excavations in Norfolk since 1950. At least twenty-four excavations have taken place during this period (Lawson, Martin and Priddy 1981, table I, 38). The following sites produced no dateable evidence and no record was made of the excavation: 1950, Felbrigg (Site 6401); 1958, Sparham (Site 3021); 1964, Costessey (Site 7887); *c.*1970, Hethersett (Site 9464); *c.*1970, Weasenham All Saints (Site 3655).

The site at Hill Close, Feltwell (Site 5188) excavated in 1965, though indisputably an Early Bronze Age cemetery, contained no evidence for a covering mound or surrounding earthworks that might have indicated a barrow (Healy 1984a, 87, 116).

Since the publication of the barrow survey, the results of excavations between 1958 and 1967 at Trowse with Newton (Site 9592; Healy 1982) and a number of investigations at Witton, including those of a substantial barrow (Site 6920), which had been excavated between 1954 and 1956 (Lawson 1983, 248) have been published. The excavations at Harpley in 1973 (Site 1005) were published in 1976.

This volume contains brief notes, based on the available evidence, for the investigations in 1953 at Brigham (Site 6011), in 1963 at Cockley Cley (Site 2688), in *c.*1963 at Garboldisham (Site 6112), and in 1968 at Old Hunstanton (Site 1263). The remaining eight sites, including Sweet Briar Road, Norwich (Site 366), which was excavated in 1982, are reported in greater detail.

The results of these excavations enable a more detailed interpretation of Early Bronze Age barrows to be presented. Some sites, for example Weasenham All Saints (Sites 3659-60) and the previously published Harpley barrow (Site 1005) situated on sandy heaths, had been largely destroyed by ploughing prior to excavation. They appear to have been small bowl barrows, only one of which (Site 3660) was lightly ditched, set amidst groups of more elaborate monuments. Other sites display a more complex, but remarkably uniform plan with two encircling ditches, such as Eaton (Sites 9549/c3-4); Little Cressingham (Site 5053); Bowthorpe (Site 11431), and Sweet Briar Road, Norwich (Site 366), and the already published Trowse with Newton (Site 9592).

This second group of sites demonstrates (for the first time in Norfolk) that ring-ditches frequently identify the sites of flattened barrows. As none of these contained a totally intact mound it is impossible to suggest how many episodes of barrow modification or intrusion took place. The excavation of the intact barrow at Witton (Site 6920; Lawson 1983, 24) demonstrated the complexity of an intact site, while further afield the recent excavation of the remnant of a barrow at West Ashby, Lincolnshire, has revealed fourteen episodes of activity, many of which would not have been interpretable had the mound been destroyed (Miss Naomi Field, pers. comm.). The site at Bowthorpe, Norwich (Site 11431) may well have been as complex, but any remodelling of the mound or insertions in the body of the mound had been totally removed prior to excavation, leaving only partial evidence for the history of the site fossilized beneath the level of the plough. Aerial photography in the region has recorded possible barrows with three concentric ditches which may have been as complex, if not more so, than the excavated example at Barnack, Cambridgeshire (Donaldson 1977), but the body of evidence formerly sealed within their mounds is now lost.

The orderly state of modern excavations allows the identification of traces, such as coffin stains, which may well have been missed by earlier, heavy-handed techniques of investigation. A well-documented stratigraphic record enables the excavator to recognise intrusive material, whether cultural or natural. The sampling of sealed contents for biological and botanical remains which are occasionally only assessed beneath the microscope, and the application of specialists' knowledge to this information, has made possible the interpretation of early environments.

The relating of artefactual material to the stratigraphic record leads to a more precise account of events at the site, even if such events are as widely spaced in time as the Bronze Age and medieval periods. Sometimes excavated mounds prove not to be of the anticipated Bronze Age date, as at Stiffkey (Site 1863; Clarke and Apling 1935).

The application of radiocarbon dating to organic material from sealed contexts offers, for the first time, a series of chronometric dates for barrows in the region. As a result of this technique some further mounds, such as at Gallows Hill, Thetford (Site 5744; below) have been shown not to date from the Bronze Age, but the range of radiocarbon dates now available from earlier prehistoric barrows in East Anglia (Fig.1) spans the period 2000-1200BC, justifying their traditional placing in the Early Bronze Age (Burgess 1974, 168-9). These dates indicate the contemporary use of the Beaker and Collared Urn ceramic traditions and suggest that the use of barrows had generally ceased before the adoption of Bucket Urns and the more extensive cremation cemeteries in the Deverel-Rimbury style. (The excavation of a complete monument or the discovery of further cremation cemeteries, which are rare in Norfolk, may disprove such a claim; see also Lawson, Martin and Priddy 1981, 14, 98).

Barrows were only one element in the Bronze Age landscape, but seldom has it been possible to relate them to contemporary settlements, ceremonial monuments, land utilisation systems or their living environments. In Norfolk, the barrow at Old Hunstanton (Site 1263; below) stands close to the only extensively excavated early-second-millennium settlement in the county (Kinnes in prep.) but contemporaneity can only be inferred. The Eaton barrows (Sites 9549/cl-4; below) stand adjacent to the area investigated by Wainwright

(1973; Site 9544) which included a number of unexplained shafts containing Neolithic and Beaker pottery set in an area of both earlier Neolithic and later Iron Age occupation, but any link between this occupation and the barrows is tenuous. The sites in Norwich are situated close to a natural focal point at the confluence of all the major rivers of eastern Norfolk, an area within which numerous crop-mark sites and isolated finds of all prehistoric periods have been found. However, Bronze Age settlements have not been located and investigated in proximity to the majority of barrows either in this area or elsewhere in the county, although elsewhere barrows may have been constructed over domestic sites and houses (Gibson 1981).

A secondary role for barrows is evident from the recurrent finds of Iron-Age sherds in the upper fills of the ditches of all the extensively investigated Bronze Age barrows reported in this volume. As a result of the destruction of the mounds no trace of structures on the summits of them remains, and the suggestion that occupation took place there remains conjectural. The sherds in ditch fills may alternatively have resulted from the deposition of rubbish on arable fields which surrounded the mounds or, if the mounds were not already being ploughed over, from the deliberate dumping of domestic refuse in the partially-filled ditch.

The total history of a barrow will never be traced by excavation once the mound has been flattened, as the bulk of the information will have been destroyed. Proof of date may be a minimum requirement, but such basic information could be gained from restricted excavation. With limited resources available, the total excavation of monuments which might have been largely destroyed could be questioned; such resources might be directed more rewardingly to the investigation of intact monuments under threat. However, before the publication of this volume, the available evidence from barrows and ring-ditches in Norfolk was so limited that the investigation of any threatened example was considered justifiable, especially where it was scheduled as an Ancient Monument.

Individual barrows within a group should not be regarded as separate entities as they are clearly only components of a larger cemetery. Their true interpretation is only possible if the entire group, including the area between the monuments, is excavated. It is unfortunate that there has been a lack of such large-scale excavation projects in Britain, but the recently published barrows at Trelystan, Powys (Britnell 1982) demonstrate the potential.

January 1983

2. The Excavation of a Round Barrow at Little Cressingham, 1977

by Andrew J. Lawson

I. Summary

In 1977 the excavation of a mound in the Little Cressingham barrow group demonstrated that the site was surrounded by two successive concentric ditches. The site is considered to have contained a barrow, although all vestiges of the mound have been ploughed away and no graves were discovered. The pottery and a single radiocarbon date suggest a date in the sixteenth century bc for the construction and modification of the monument. Both earlier and later activity on the site is attested by ceramic finds. The monument was probably built at about the same time as the other barrows in the group, one of which contained a Wessex I-style burial. Environmental evidence suggests that the site was situated throughout its history in an open landscape frequented by common domesticated animal species and with arable cultivation nearby.

II. Introduction

Little Cressingham is situated immediately west of Watton and 35km west of Norwich on the north-eastern edge of the Norfolk Breckland. A barrow group containing seven recorded monuments lies 1.5km south-west of the village on the gently rising ground above the Blackwater stream, a tributary of the River Wissey. The barrows are situated on Cretaceous Upper Chalk. The surface of the chalk has been damaged under periglacial conditions so that its surface has a patterned, polygonal relief. Although varying depths of soil mask this relief so that the ground surface above the chalk is even, the pattern of the relief is seen in crop growth and on bare cultivated land by changes in soil colour (Pl.II and III). To the east and south the chalk above *c.*135ft (41m) OD is mantled by the characteristic Breckland Pleistocene chalk-sand drift. Rendzina and brown calcareous soils

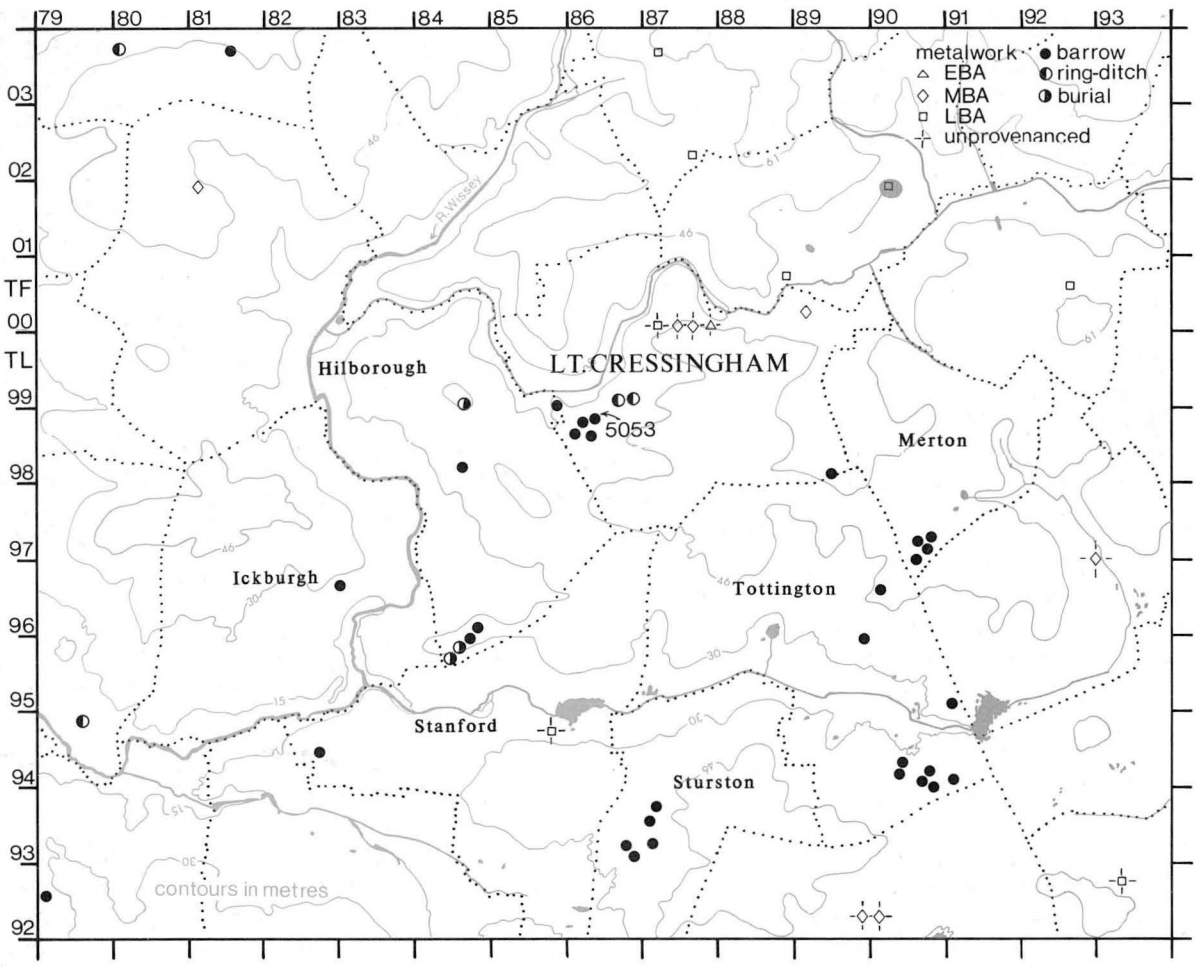


Figure 2 Distribution of barrows and other Bronze Age sites in the Little Cressingham area. Scale 1:100,000 (based on the 1976 O.S. 1:2500 maps with permission of H.M. Stationery Office. *Crown Copyright reserved)*

have formed on the chalk, but more acid brown earths and podzols which support heathland, are found on the drift (Corbett 1973, 8-13, 91-2). Wide tracts of heathland survive to the south in a Ministry of Defence Training Area within and adjacent to which other barrow groups and isolated monuments survive (*viz.* [Sites 7373-78] 8km south-east; Sturston [Sites 8305-9] 7km south and Sparrow Hill, Merton, [Site 4055] 5km east-south-east: Fig.2).

The importance of the Little Cressingham barrow group results from the nineteenth-century discovery of a rich grave-group. The discovery was reported by Thomas Barton in a letter, dated 5 July 1849, to Henry Harrod, then Hon. Secretary of the Norfolk and Norwich Archaeological Society (MS NCM, Archaeol. Dept.). A modified version of this letter accompanied by an etching by Henry Ninham was subsequently published (Barton 1852). Barton, who lived at Threxton House, 2km to the east of the discovery, probably did not excavate the finds but described the circumstances as follows:

> A labourer digging found at a depth of about fourteen inches a skeleton and with it two bronze daggers, a Gold Breastplate, a gold box with the remains of two others, part of what I suppose to have been a gold armilla and a large quantity of beads all of which through the kindness of Sir Francis Goodriche on whose property they were discovered are now placed upon the table . . . The field in which they were discovered is called 'The Triangle' from the circumstance of its being surrounded by three road . . .
>
> The field being nearly level does not indicate a Tumulus to have been there, but upon close examination of the spot it is quite evident there has been one as the different strata of earth can be distinctly traced in circles, the *outer one being of Chalk*. Upon referring to the Title deeds of the property I find this field was at a former period described as *'The Hills Field'* which fully establishes the fact of there having been Tumuli there at some period and which were probably removed for the purposes of Agriculture. The skeleton was *not* in the centre but about midway between that and the west side with its head to the *South* and the feet drawn up, which I believe the ancient mode of internment by the Britons[1].

The description of the skull was taken from a letter of C.B.Rose, Surgeon of Swaffham:

> It was that of a male about the average stature and with a skull somewhat remarkable for its thickness, not that there is a deficiency of space of brains, for the individual who carried it upon his shoulders had an average share of the intellectual portion in addition to a large development of that portion said to be the seat of the animal passions . . . the subject of this enquiry possessed no very amiable qualities his predominating feeling or sentiments being 'Cautiousness' and 'Love of approbation'—he had passed the meridian of life and made good use of his masticatory organs, I should question his being much of an Anchorite or one of those who was 'for abolishing black-pudding and eating nothing with the blood-in'. But this little concerns us, he is gone—Requiescat in pace. By the side laid the two bronze daggers the largest of which is 8½ inches long 2¾ inches wide at the base and tapers to a point with a rib up the centre for additional strength. Six rivets remain by which it was fastened to the handle and which I suppose was of wood as nothing remained of it but black mould . . . The beads which are of ruder workmanship were lying by the neck and many were broken by the slightest touch—they are of amber but time has much changed their appearance . . .
>
> (The gold boxes) are of fine gold good workmanship slight in texture . . .
>
> On the breast laid a thin gold ornament weighing about *7dwts* it is ornamented by strait (sic) lines drawn at right angles there are small holes around the edge by which it was fastened to the dress . . .
>
> These are all I believe that were found.

These finds were exhibited at the Society of Antiquaries of London on 17 March 1870 (*Proceedings* 2nd Ser. IV, 456) and subsequently assessed by Thurnham (1871, 454) and quoted by many later authors including Piggott (1938, 92 and Fig.22). However, the best representation of the objects are near-contemporary watercolours by Frederick Sandys (NCM: Bulwer Coll. 1223, B58.235.951 and 1223, B114.235.951; and Dawson Turner MSS: B.M. Add. MS. 23.054, f.98-100). These (Pl.I) show the gold boxes to be more complete than they are today, and illustrate different numbers of amber beads than now survive, restrung by Barton[2]. The surfaces of the larger dagger originally retained plant impressions and this is reproduced in the engraving included by Thurnham (1871, Fig.158). Barton did not fail to notice these impressions as, in a lecture given in Watton on 26 February 1854, he stated that: 'the body which was laid with the legs drawn up after the most punative method was covered by braken or fern the impressions of which are still visible . . .' (NRO MS BAR 107, p.15). Thurnham's engraving reconstructs the point of the dagger, but indicates that the butt was by then damaged, so that only four rivets remained, as today.

Analysis of the larger dagger in 1959 by Dennis Britton has shown its composition to be an impure bronze with 12.75% tin (Norfolk Museums Service 1977, 32). In 1950 the finds were purchased from the Barton family by the Castle Museum, Norwich.

The 1849 find is the most spectacular of the few 'Wessex Culture' graves in East Anglia (Piggott 1938, 92) and is the only example of a Wessex I burial in the region, the daggers and the sheet gold objects being characteristic grave-goods of this group of burials (ApSimon 1954).

The assemblage of amber beads, bronze daggers, gold breastplate and unusual boxes can be most closely compared with the grave group from Upton Lovell G.2(e), Wiltshire (Annable and Simpson 1964, no.231). Although both sets of gold boxes may have been made in the same workshop, the detail of the breastplate is said to lack the symmetry and precision of the other known gold plates with groove-and-dot decoration and, hence, was probably not made by the same master goldsmith as the others (Taylor 1980, 46-7).

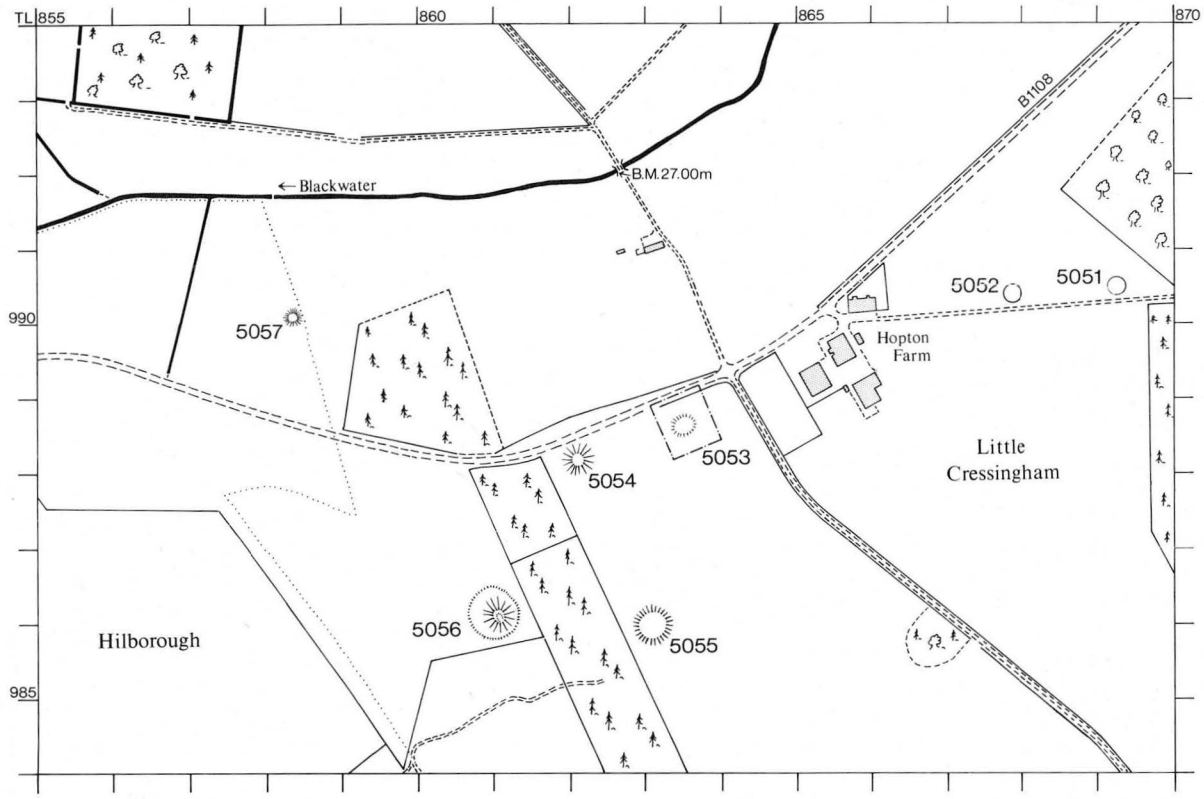


Figure 3 Distribution of mounds and ring-ditches (sketch plotted) in the Little Cressingham group. Scale 1:10,000 (Based on the 1974 O.S. 1:2500 maps with the permission of H.M. Stationery Office. *Crown Copyright reserved)*

The large dagger from Little Cressingham belongs to the Armorico-British series of daggers, characteristic of Wessex I, and is the type-fossil of Gerloff's (1975, 73) Form B, a group closely related to Form A (Type Winterbourne Stoke), an example of which was found with a flexed inhumation during the unrecorded excavation in 1968 of a barrow at Cockley Clay (Site 2688) described on p.107. These two Norfolk finds are isolated occurrences of daggers in graves midway between concentrations of finds in Wessex and Yorkshire. Hence, coastal links between the two areas via the eastern seaboard have been suggested (Gerloff 1975, 82-3). It has also been suggested that all the amber from Wessex-style graves derives from the Norfolk coast (Taylor 1980, 45). Despite its presence in the Little Cressingham burial and its occurrence on Norfolk beaches, no positive proof of this claim can be offered. An alternative explanation for the presence of amber in Wessex graves which indicates 'directional trade' resulting from the demand of the local élite', has been presented by Shennan (1982, 40).

A date in the late sixteenth century BC has been suggested for these dagger forms, due to the similarity of associated grave-goods with finds in Mycanean shaft graves (Gerloff 1975, 96-7). However, similar daggers belong to Reinecke's A2 phase in central Europe, for which *radiocarbon dates* in the sixteenth century suggested a corrected date in the eighteenth century BC for comparable metalwork (Burgess, 1979, 211). Radiocarbon dates from the barrow at Kernonen en Plouvern, Finistère, France, have been used to support this dating. A single date of 1480 ± 120 BC (Gif—1149) was obtained from charcoal in the upper levels of a tomb which contained three wooden caskets, one of which held bronze daggers of Gerloff's Forms A and B. However, the date of 1960 ± 120 BC (Gif—805) obtained from one of the caskets and those of 1250 ± 120 BC (Gif—806) from charcoal in the mound, and 1200 ± 120 BC (Gif—807) from charcoal beneath the mound, indicate that the fifteenth-century date cannot be accepted unreservedly, although the thirteenth-century BC dates were discounted by the excavator (Briard 1970, 44) as they may have been contaminated. Despite the reservations, a late fifteenth- or early sixteenth-century BC date would seem most appropriate for Wessex I and the Little Cressingham find.

Despite the importance of the 1849 discovery, the precise location of the find spot was not recorded. On 16 June 1936 Leslie Grinsell and Rainbird Clarke identified the remains of a barrow (Site 5051; TL 8691 9904) 45 to 50 paces in diameter and 2ft (60cm) high in 'The Triangle' (Fig.3). A circle of chalk fragments in the ploughsoil agreed with Barton's earlier description, and implies that the spot marked by the Ordnance Survey (1:10,560; 1906 edition) for the 1849 find is inaccurate. Grinsell and Clarke also identified a further five mounds nearby (Sites 5053-57).Although Grinsell (1936, 185; 1953, 201) described the 1849 find in his classic work on the ancient burial mounds of England, he surprisingly does not refer to the other barrows. One of the barrows, Bell Hill, (Site 5056) is among the largest in Norfolk (Lawson Martin and Priddy 1981, 25), yet it is not recorded on early maps and remained unnoticed until 1936. On the tithe apportionment map of 24 October 1844 (NRO 809) this barrow stood under a plantation. The barrow to the north-east (Site 5054) stood under 'Furze Cover'. The barrow to the north (Site 5057) which lies on the parish boundary with Bodney (Hilborough civil parish) at 'Warren Corner', while the two to the east (Sites 5053-5055) stood in 'Coney Hill

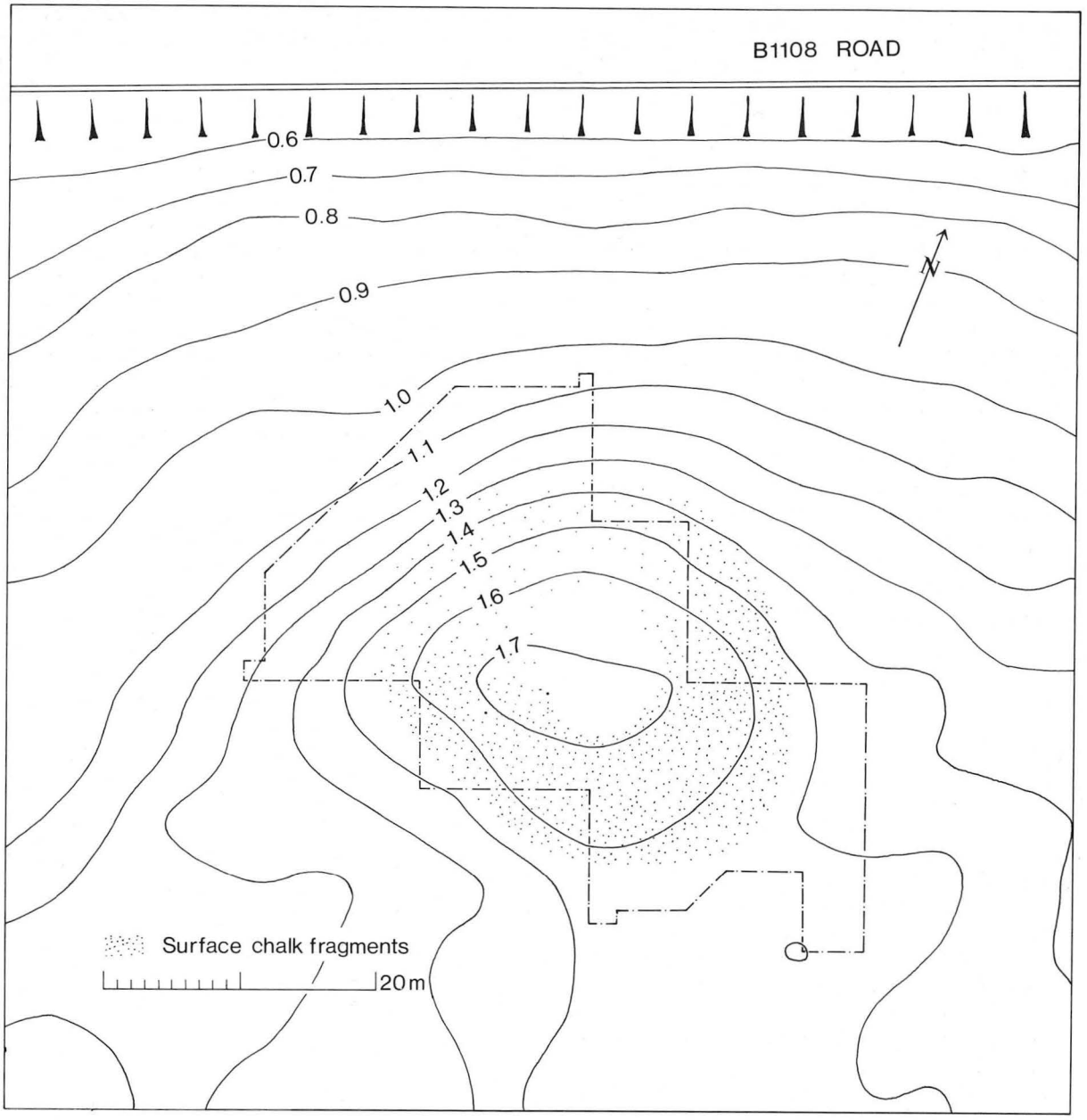


Figure 4 Contour plan of the excavated barrow, Site 5053. Contours in metres above site datum (at 33.84m OD). Scale 1:500

Ley'. The last two names suggest that the mounds were merely regarded as artificial Breckland warrens (compare with other warrens; Sheail 1971, 34). The northern part of 'The Triangle' was also described as 'Furze Cover' and it may have been as a result of the agricultural improvement of the land in 1849 that the burial was discovered.

The origins of the name 'Bell Hill' (Site 5056) and the local legend that it contained the bells of the parish church are unknown.

All the barrows were described by Grinsell and Clarke as bowl barrows, and none possessed a visible ditch or outer earthworks. In his 1854 lecture, Barton discussed the significance of banks and ditches around barrows and noted (NRO BAR 107, facing p.23) 'a tumulus in Cressingham with bank (next to) the Brandon road' suggesting that he had not only noted another barrow, but also its morphology. Alternatively he may have considered the outer ring of chalk at the 1849 site to have been an outer bank.

Aerial photographs (Cambridge Univ. Coll. 2/4 23-25) taken by Professor St. Joseph in the early 1950's revealed a seventh monument (Site 5052) showing as a soil-mark to the west of Site 5051. This is an alternative, but less likely, site for the 1849 burial (Pl.II and III)[3].

In 1956 and 1967 the seven sites were scheduled (A.M.No.260). At the time of original scheduling in 1956, Site 5054 still stood in pasture.

By 1973, all but two (Sites 5056 and 5057) of the barrows were being ploughed and the edges of the others eroded. Due to the importance of the mounds, a Preservation Order was placed on the four largest mounds in 1976 (Sites 5054 to 5057). By this time, however, there was little trace of the two (Sites 5051-2) in 'The Triangle'. The seventh mound (Site 5053) had been reduced to less than 30cm in height and was not considered sufficiently well preserved to warrant protection. On its ploughed surface a ring of chalk fragments some 20m in diameter suggested that its structure was similar to that described in 1849, and

consequently excavation was proposed. Following a contour survey (Fig.4) and the collection of surface material excavation commenced in November 1977 and was concluded in December.

III. The Excavation

Method

Quadrants were established about the highest point of the surviving mound and, initially, two opposed areas (north-west and south-east) were opened so that continuous sections across the site could be recorded (Figs.5 and 6). Topsoil was removed by machine. The modern ploughsoil (*2*), a dark greyish-brown loam was, on average, 20cm thick. However, this overlay a dark yellowish brown ploughsoil (*3*), of which approximately 20cm depth survived. Subsequent cleaning of the opened areas by hand exposed weathered chalk (*8*) interrupted by linear periglacial features (*10*) and amorphous hollows filled with pale brown loam throughout the area. The surface of the chalk undulated and a fine dark yellowish brown loam (*4*) filled the depressions. These areas of loam contained Late Neolithic, Beaker and later sherds, flint flakes and a few animal bones. A fine flint scraper was found within the upper fill of one of the frost-wedges (Fig.8).

Two completely filled concentric circular ditches ran through the opened areas, their common centre lying *c*.2.5m north-west of centre of the excavation. Although the outer ditch (*7*) was easily recognised from its fill of brown loam, the inner ditch (*6*) was packed with chalk. It was this material which had appeared on the surface as a ring of chalk fragments. Four sections were cut across the ditches against the sides of the quadrants, with two additional sections to the north-west and south-east, the latter section cutting only the outer ditch. Following the recording of the sections, the north-east and south-west quadrants were opened to expose most of the area within the inner ditch. In all, 945.5m^2 were opened.

Within the area contained by the circular ditches no trace of the barrow mound survived. Plough furrows, which were particularly marked in the chalk fill of the inner ditch, and subsoiled incisions suggested that all vestiges of the monument had been ploughed away.

No graves were detected and the only archaeological features within the barrow were two shallow hollows (*110, 111*).

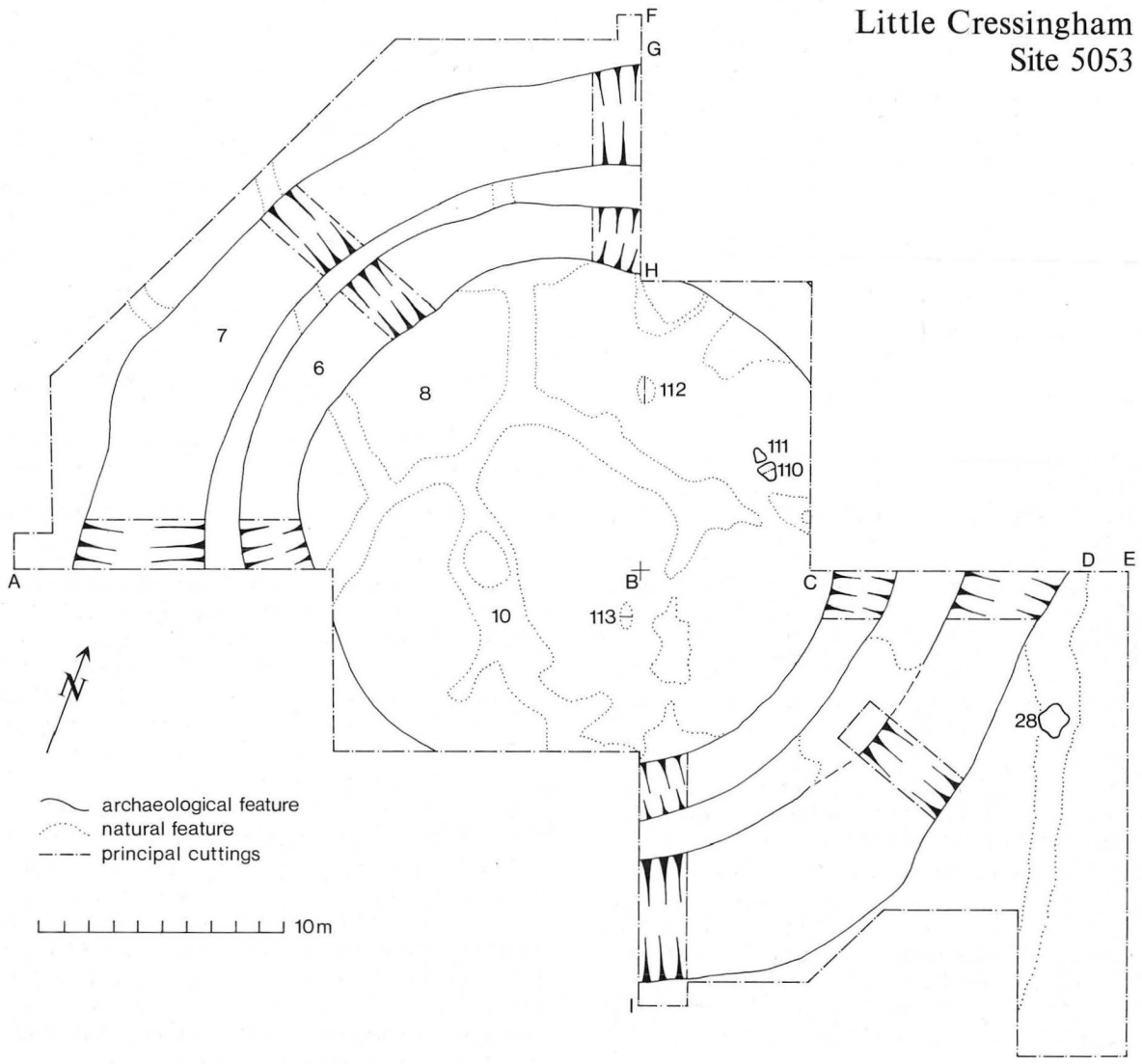


Figure 5 General plan of the excavation. Scale 1:300

The inner ditch

The circular inner ditch (*6*), with internal diameter of *c.*22m, had a consistant flaring profile which varied in width from 2.8m to its greatest width of 3.5m in the west, and in depth from 1.8m in the north to 1.95m in the north-west. The ditch had a narrow flat bottom between 0.4m and 0.8m wide. While the sides rose steeply at first they were weathered back closer to the surface. All the sections showed that the ditch had weathered naturally over a considerable period and a soil horizon had consolidated the mature profile. Beneath this horizon the fill consisted of interdigitated lenses of fine rain-washed chalky silt and coarser chalk granules and blocks with occasional lenses of darker, more humic, silt[4]. This material had presumably weathered from the sides and lip of the ditch. The accumulation of larger flint nodules and chalk blocks at the centre of the profile had resulted from gravitational sorting. The only cultural materials recovered from this fill were two flint flakes from layer *64*, an undiagnostic fragment of bone and two carbonised cereal grains from *66* and *68*. In addition, a small perforated chalk object was recovered from *66* (for all context numbers: see Appendix: Microfiche).

The soil profile, which varied in thickness from 15cm to 25cm in the lowest part, consisted of a chalk-free, dark brown, fine sandy loam containing a few pebbles. Archaeological material included only three small flint-gritted sherds from *53* and *71*. In the north cutting a pocket of burnt material ((*54*):1.0×0.4m) 2cm beneath the surface of the soil profile (*53*) provided charcoals from large timbers of oak and hazel/alder, and small twigs of *Prunus* sp. (ident. C. Keepax). A radiocarbon determination of 3540±110 bp (HAR-2541; 1590±110 bc)[5] was obtained from this sample.

Above the soil horizon, the depression of the ditch had been deliberately backfilled with chalk rubble, although in some sections (east, south and west) the lower part of this deposit was discoloured by sandy silts and weathered chalk, where presumably it had been mixed with topsoil during quarrying. In the north, the dumped material contained little chalk and was principally chalky loam. In the south section, topsoil (*83*) had been dumped on the inner slope of the hollow prior to the deposition of chalk rubble. All this re-deposited material probably derived from the outer ditch (*7*; below). The mixed material contained Neolithic pottery from *9*, Beaker from *55, 82* and *83* and Bronze Age pottery from *53* and *81*. Two flint flakes in *61* and a few undiagnostic fragments of bone from *61, 63, 81* and *83* were also recovered, while five flint flakes were found in the re-deposited chalk in *52*.

The outer ditch

The circular outer ditch (*7*), with an internal diameter of 29.5m, lay between 1m and 2.5m outside the inner ditch. Its weathered profile was between 4m (in the north) and 5m (in the north-west) wide and between 1.65m (in the north) and 1.8m (in the south) in depth, being altogether more massive than the inner ditch. The flat base varied from 1.4m to 1.7m in width. From the base the straight sides rose less steeply than in the inner ditch with the result that only the lip was weathered. The product of this weathering, which consisted of layers of fine grey rain-washed silts and chalk lumps, filled only the corners of the ditch, barely covering its base. Thereafter, the lower ditch was filled with light grey-brown fine, sandy soil which also contained flint pebbles, chalk granules and larger lumps which tended to collect in the centre of the ditch. These deposits accumulated to a depth of 60-70cm, except in the west and north-west where they accumulated to a depth of only 20-30cm in the broad profile. A Beaker sherd was recovered from the primary weathering (*18*), Beaker and Bronze Age sherds from the lower part of this fill (*16, 17*), while Iron Age and Romano-British sherds occurred in the higher levels (*13, 14, 43, 44*). Five flint artefacts from *34* and *43* and a few bone fragments from *13, 14* and *43* were also recovered, together with carbonised cereal grains which included *Hordeum* sp. in *14* and *Triticum* sp. in *26*. Above the light grey-brown soil, the fill was markedly darker and contained little chalk. It consisted of a very dark greyish brown sandy loam containing pebbles and some chalk lumps, which were concentrated at the ditch centre. This loam varied in thickness from 25cm in the north, to its deepest at 75cm in the north-west and contained Iron Age sherds in *41* and *91*, Romano-British in *12, 22*, and *91* and residual Bronze Age in *12* and *101*.Flint flakes from *91*, burnt sandstone pebbles from *41* and *101*, equine bone fragments from *101*, bovine from *12, 22* and *32* and undiagnostic fragments from *41* and *91* were also recovered. The outer ditch was completely filled so that it was no longer visible on the surface. The final fill consisted of a dark yellowish brown sandy, almost chalk free, loam which was *c.*40cm thick in all sections. As this fill was lighter in colour than the underlying soil, it is suggested that it had accumulated more quickly than the latter. The final fill contained Iron Age sherds from *11* and *31* and Romano-British from *11* and *21*. A single flint flake from *11*, burnt sandstone and a few pig, horse and ox bones were also recovered.

The mound

No mound material survived within the circuit of the inner ditch to indicate its dimensions or the form of the barrow. However, in the north and east cuttings, the final fill of the inner ditch (*50* and *27* resp.) lay obliquely above the redeposited chalk (*60* in the east) or chalky loam (*51* in the north) which filled the upper part of the inner ditch. It is suggested that this unconformity marks the limit of the mound when refurbished by the chalk from the outer ditch. Hence, before the inner lip of the outer ditch weathered, a berm of 2 to 3m would have existed between the ditch and the mound. No trace of an earthwork outside the larger ditch could be traced.

Features

Within the inner ditch circuit four small features which cut the chalk bedrock were investigated. It is probable that two of these (*112, 113*) were not man-made. Although their upper fills contained medium brown loam, these blended into grey chalky loam and the limits of the features were indistinct. Only one small Neolithic sherd, probably intrusive, was found in the upper fill of *112*. The other two features (*110, 111*) were closely-set irregular hollows penetrating no more than 8cm into the chalk (Fig.7). The former contained burnt bone and many sherds of Bronze Age pottery. Outside the outer ditch a small patch (*28*) of pot-boilers (1.3×1.5m) was located in the fill of a periglacial feature. The feature also contained a mixture of Beaker and Bronze Age sherds.

IV. The Artefacts[6]

Metalwork

Prior to excavation a metal-detector survey recovered metalwork from the surface of the area to be excavated[7]. During the excavation one iron object, possibly a buckle-pin from *3* and a small fragment of copper alloy sheet from *50* (S.F.No.6) were recovered, but neither is considered significant.

Stone

(Fig.8)

A small perforated lump of chalk (Fig.8,No.1) was recovered from the lower fill of the inner ditch (*66*). Owing to the nature of the bedrock on the site, it is possible that other similar objects may have gone unnoticed during the removal of compacted chalk rubble layers during the excavation.

Flint

(Fig.8)

The numbers of flint artefacts are so small that statistical comparison between those from early and later contexts is meaningless. Only two flakes were recovered from the fill of the inner ditch (*64*), three from the soil profile (*83*) and seven from the chalk packing (*152* and *61*). Three small flakes were found in material (*50*) possibly eroded from the mound. The secondary and final fills of the outer ditch (*11, 23, 34, 43, 91*) contained only eleven flint artefacts. The remainder came from the ploughsoil (*1-3*) and subsoil (*4*), the latter possibly containing intruded material. A well made *end-scraper* (Fig.8,No.2) from the surface of a frost-wedge (*10*) is worthy of note.

Nearly all the flint artefacts are small flakes and are corticated with a milky white surface. Those from the secondary fill of the outer ditch (*91*) are light grey in colour, those from the soil profile of the inner ditch (*83*) grey, while a few from the final fill of the outer ditch (*11*) and the ploughsoil are uncorticated.

Pot-boilers and burnt sandstone fragments, presumably from domestic fires, indicate activity in the

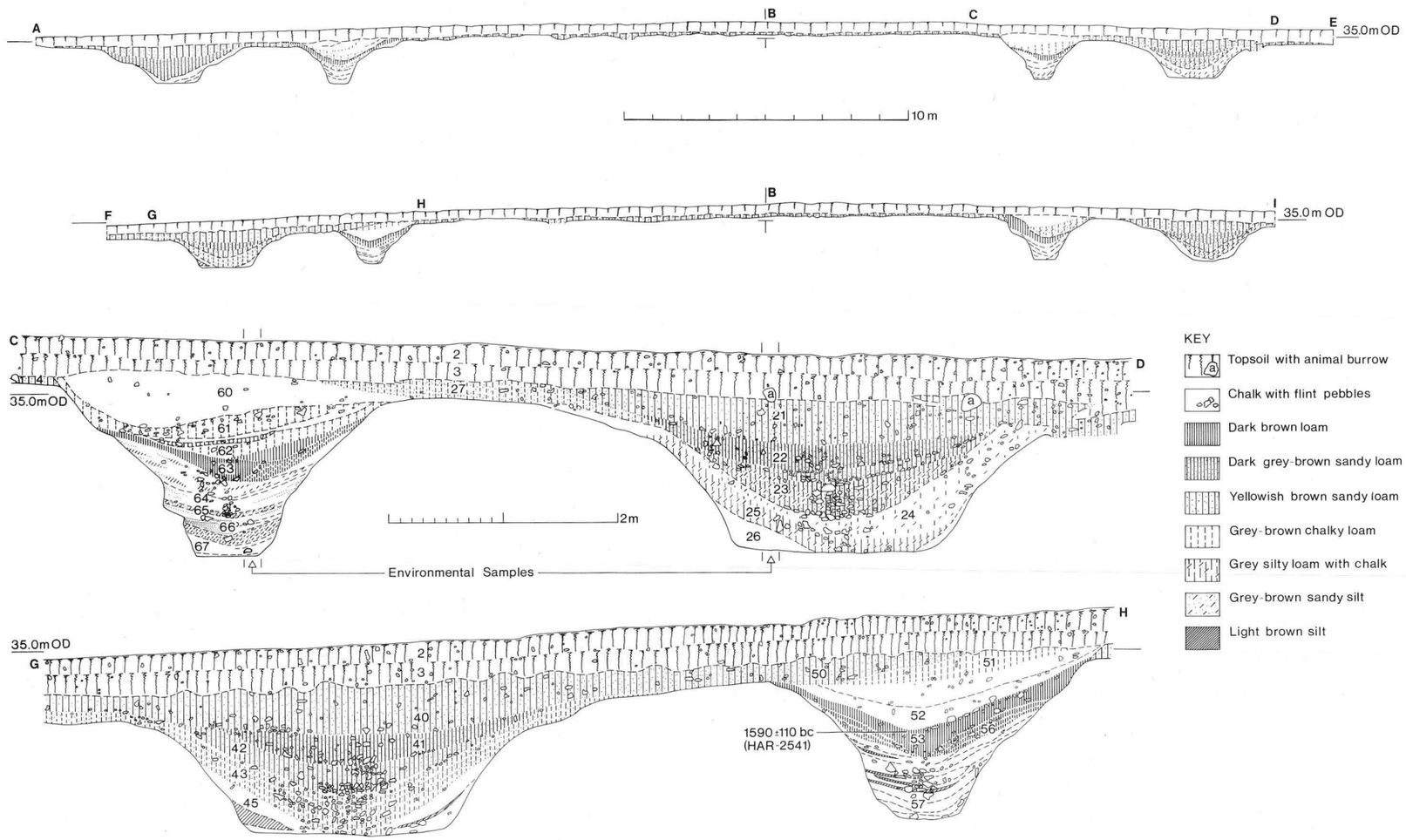


Figure 6 Principal sections across the site (A-E; F-I; scale 1:200) and ditches (C-D; G-H; scale 1:50)

vicinity of the ditch at a time when the soil profile of the inner ditch (*83*) was exposed, and in the secondary (*41, 101*) and final (*21*) fill of the outer ditch.

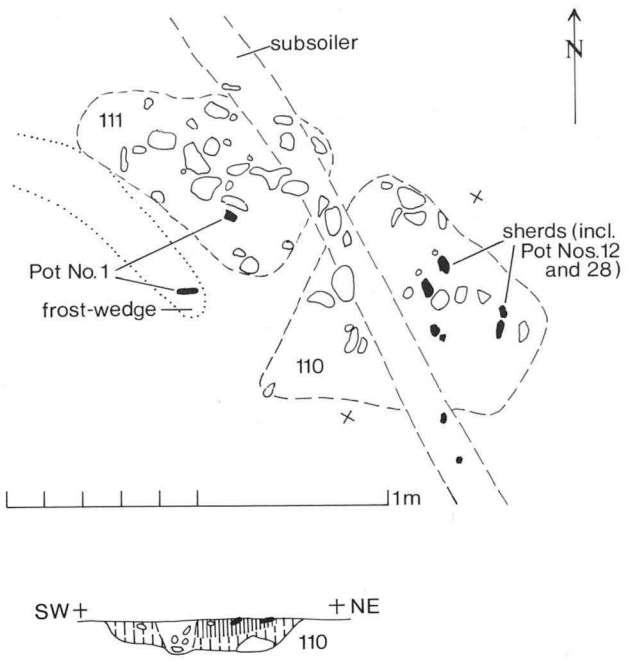


Figure 7 Plan and section of Features *110* and *111*. Scale 1:20

Pottery

(Fig.9)

During the excavation, a total of 234 sherds of prehistoric, Romano-British and medieval pottery was found. The provenances of these sherds are shown in Table 2 (microfiche). All the sherds are small and only those with distinctive features, from the earlier phases of activity on the site, are illustrated.

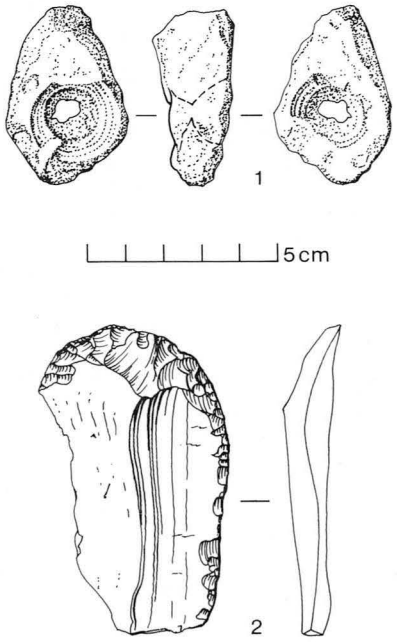


Figure 8 Artefacts of chalk (1) and flint (2). Scale 1:2

Neolithic (Fig.9)

The date of this pottery is suggested by form and decoration, as a variety of fabrics is represented.

1. Rim, neck and shoulder of **bowl.** Expanded rim with small projections on top, probably resulting from damage; exterior decorated with vertical grooves above horizontal line of finger-nail impressions; interior decorated with arched grooves. Exterior light brown; interior black. Medium hard crumbly fabric, crushed shell filler. From *4*, S.F.14 and *111* (rim); also three small sherds of similar fabric from *4*, and possibly one sherd from *112*.
2. Rim and neck of **bowl.** Exterior decorated with zone of short vertical grooves above zone of oblique grooves; interior decorated with incised chevron. Exterior medium brown; interior black. Soft corky fabric with shell inclusions, dissolved from surface. From *9*; S.F.11; and one amorphous sherd.
3. Sinuous neck of **bowl.** Expanded at rim, decorated on exterior, interior and on top with finger-tip impressions. Surfaces medium brown, core black. Medium hard fabric with crushed flint filler. From surface of *8*, S.F.7, rim and five amorphous body sherds, also six unprovenanced sherds of similar fabric.

The sherds attributed to the first phase of activity at the site are wide-mouthed shouldered bowls in a coarse flint-gritted fabric and are decorated on their rims, necks and shoulders. Such characteristics are to be found on Middle Neolithic pottery of the third millennium bc. The simplicity of the decoration, with the use of finger-tip ornamentation, probably allies the Little Cressingham vessels closer to the Ebbsfleet style (Burchell and Piggott 1939, 409-20) than the more elaborate Mildenhall style (Clark 1960, 228-40) which is commonly ornamented with fine channelling. The Little Cressingham vessels are not typical of the Ebbsfleet style and hence may represent a development on this theme. The occurrence of these wares in Norfolk has recently been reviewed by Frances Healy (1984b). Ebbsfleet Ware occurs on only two, or possibly three, other sites in the country, the best example coming from Eaton Heath, Norwich (Site 9544; Wainwright 1973, 12), while Mildenhall Ware is found on twelve sites and, hence, these finds make a valuable addition to the local collections.

It is doubtful that the Neolithic wares at Little Cressingham were contemporary with the Beaker pottery (below), although the two were found in similar subsoil (*4*) and re-deposited soil contexts. Middle Neolithic and Beaker pottery was found beneath a barrow at Stonea, Cambridgeshire, but here it was demonstrated that they were in succeeding stratigraphic contexts (Potter 1976, 28).

Beaker (Fig.9)

4. Thin body sherd. Exterior decorated with closely-set horizontal lines of overlapping comb impressions. Exterior and core buff-brown; interior dark brown/black. Medium hard with fine flint filler. From base of *3*, S.F.10.
5. Sherd, similar to No.4, but decoration more widely spaced. Interior beige, core grey. From base of *4*, S.F.8.
6. Sherd from neck. Exterior decorated with close-set horizontal lines of string impressions. Exterior pale orange-brown; interior black. Soft fabric with no obvious inclusions. From *17*.
7. Sherd, similar to No.5. Exterior orange/buff; interior beige; core black. From *18*.
8. Sherd, similar to No.5, but decoration bolder. From *83*.
9. Sherd. Exterior decorated with horizontal lines of deeply-impressed ?string. Exterior reddish brown; interior dark greyish brown. Medium hard fabric with fine flint filler. From *83*.
10. Sherd. Exterior decorated with tooled grooves. Dark grey-brown. Soft fabric with fine flint filler. From *83*.
11. Rim with plastic rustication. Buff, soft fabric with sparse ?chalk filler. From *83*.
12. Body sherd. Exterior decorated with scratched lines in crude geometric design. Exterior reddish brown; interior black. Medium hard fabric with crushed shell and ?flint filler. From *110*, S.F.15.

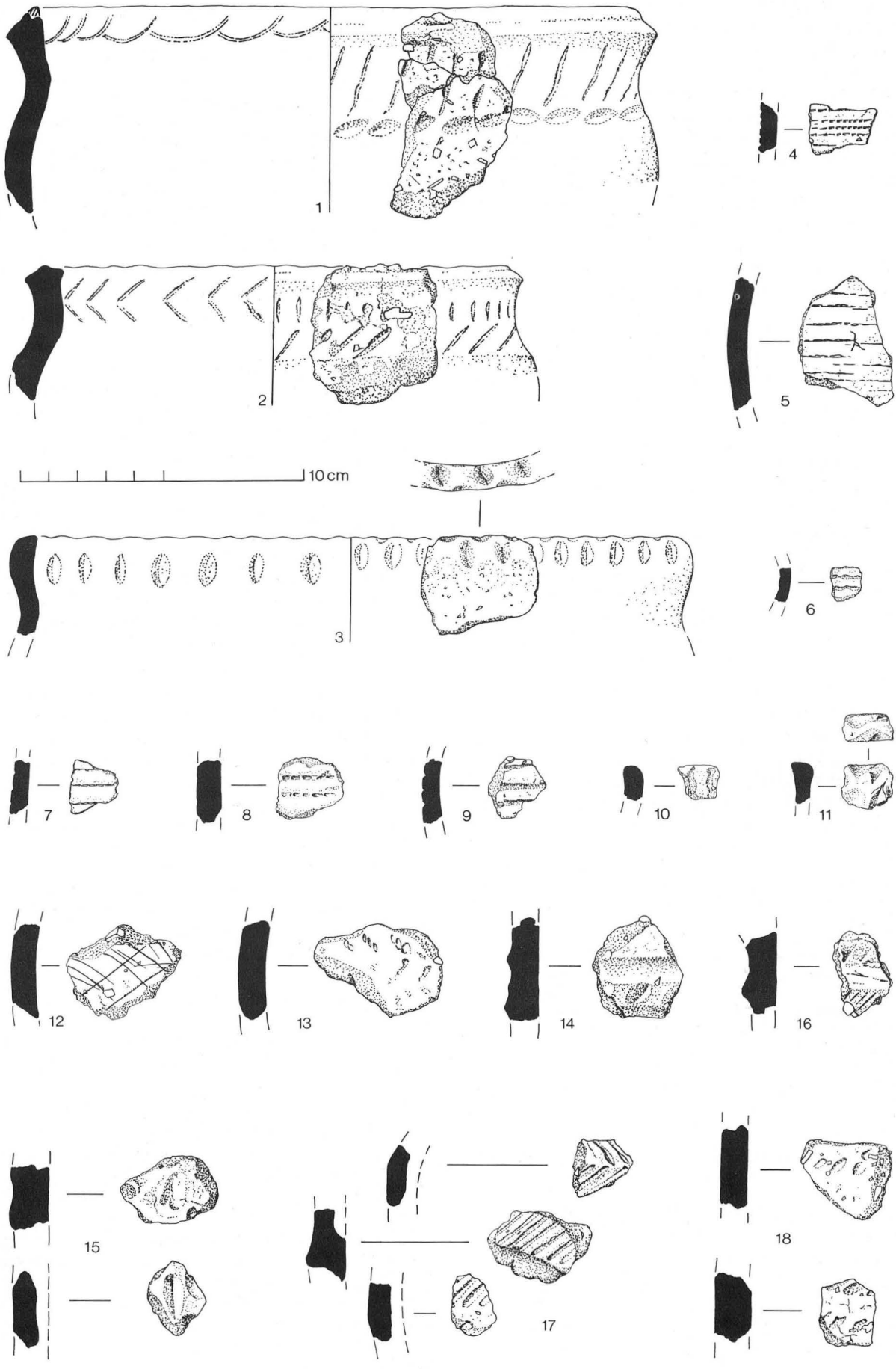


Figure 9 The pottery. Scale 1:2

The sherds described as Beaker are too small to allow identification of the form and style of the vessels from which they came. The use of horizontal comb-impressed or string-impressed lines is undiagnostic as these techniques are used in many of the Beaker traditions defined by Clarke (1970). However, the small sherd (No.6), possibly from the neck of a fine vessel, may be attributable to an All Over Corded (AOC) Beaker. The sherd (No.5) from the belly of a vessel decorated with discontinued horizontal lines is almost certainly from an East Anglian (EA) Beaker and it is probable that a number of the other sherds may also belong to this tradition.

The incised lines forming a crude lozenge pattern seen on No.12 are best attributed to Beakers of the later (S_{3-4}) Southern traditions. Four other sherds (Nos.10,11,14 and 16) may belong to more heavily moulded or rusticated Beaker vessels, although the last two (Nos.14 and 16) may also be from Food Vessel-type wares.

In the scheme proposed by Lanting and van der Waals (1972), the AOC or EA sherds belong in their developmental steps 2 and 3 in the East Anglian-Kentish focal area, whilst that of the later Southern series belongs in steps 6 or 7. The former would be dated *c.*1950-1800 bc, whilst the latter would be dated 1700-1500 bc by them (1972, 44). The longevity of the AOC group, and (almost certainly) the EA group, have been underestimated, as more recent finds (for example at Mount Pleasant, Dorset; Longworth 1979, 90) have shown. So that a more coherent date for the Beaker material in the sixteenth or seventeenth century bc would be plausible.

Early Bronze Age (Fig.9)
Those sherds described as Early Bronze Age have a variety of fabrics, but are generally thicker than those already described. They have an orange exterior and dark grey-brown interior and are medium hard with a crushed flint filler. Only those described below are otherwise distinctive.

13. Body sherd decorated with horizontal zone of short oblique impressions of impressed string. Exterior buff; interior orange/buff. Soft fabric with ?chalk inclusion. From base of *4*, S.F.13.
14. Body sherd. Exterior surface raised into ridges with oblique finger-tip impressions between. Exterior dull orange-brown; interior black. Medium hard fabric with fine flint filler. From *16*, S.F.4.
15. Thick body sherd. Exterior decorated with plastic finger-tip impressions. Exterior buff; interior dark grey-brown. Soft fabric with sparse flint filler. From *81*.
16. Two sherds, similar to No.14. From *82*.
17. Five body sherds. Exterior decorated on carination by incised chevron surfaces reddish brown, darker core. Medium hard fabric with fine flint filler. From *110*, S.F.15.
18. Four body sherds, three decorated. Exterior decorated with rows of dull oblique impressions. Exterior orange-brown; interior dull grey-brown. Medium hard fabric with flint filler. From *110*, S.F.15.

The cultural affinities of the pottery described as Early Bronze Age are difficult to define due to the extremely fragmentary state of the material. The fabrics, and decorative techniques are, however, consistent with better-preserved local vessels of the early second millennium bc which vary in the amount of their decoration from a complete absence to ornate.

Late Bronze Age or Iron Age (not illustrated)
The sherds assigned to this period are dark brown or black with a hard fabric and fine flint filler, although occasional oxidation of the surface has occurred. Such fabrics are found at West Harling (Clark and Fell 1953) and other sites which suggest a date in the first half of the first millennium BC by comparison with similar wares in southern and eastern England (Champion 1975; Barrett 1980). Two of only three rim sherds (*41, 50*) are of simple form compatible with such a pottery tradition. One sherd (*41*) bears a finger-tip impression. A few sherds have scored surfaces. This surface treatment is seen as more positive evidence of an Iron Age date, especially as those sherds from context *91* include a late Iron Age cavetto rim. Whereas most of the Late Bronze Age/Iron Age sherds were recovered from the upper layers of chalky fill (*13, 14, 43*) in the outer ditch and later deposits, those with scoring come from the uppermost fill of the outer ditch (*31, 91*).

Miscellaneous Prehistoric (not illustrated)
In addition to the sherds described above, there were a number of featureless grey-brown flint gritted sherds, that were too small to be diagnostic.

Romano-British (not illustrated)
Sherds of local grey coarseware including one sherd decorated with a sinuous groove were indicative of a human presence in the Romano-British period. Two sherds (*11, 21*) from the final fill of the outer ditch were of a fine reddish brown fabric with black surfaces and date from the mid-first century AD. Other finds include one sherd of a buff-ware flagon (*3*), a sherd of an amphora (*7*) and a fragment of brick (*50*).

Saxo-Norman and Medieval (not illustrated)
A small quantity of small abraded sherds was collected from superficial layers. These hard grey-to-dull-brown gritty sherds included a Saxo-Norman handle (*3*) and three sherds of glazed Grimston-type ware (*2,3*).

V. Zoological and Botanical Evidence

Animal bones

by Alison Locker

A total of 136 animal bones was recovered during excavation and the following species were identified: ox (*Bos* sp.), horse (*Equus* sp.), pig (*Sus* sp.), ovicaprid (*Ovis* sp./*Capra* sp.), red deer (*Cervus elaphus*), and domestic fowl (*Gallus* sp.). Additionally what may be two fragments of burnt human phalanges were recovered from context *110*.

The small quantity of bone and its poor state of preservation precludes any detailed comment. However, a few observations have been made. The majority of the recovered bones came from the outer ditch and there were no certain identifications from the inner ditch. Pig (*Sus* sp.) only occurs in the final fill of the outer ditch. The associated pottery at this level suggests a Romano-British date for the keeping of these animals. The domestic fowl humerus is far better preserved than any of the other bone and coming from context *4* may well be intrusive. The poor state of preservation of the rest of the bone means that no observation of butchery could be made, nor could any measurements be taken. All these bones probably represent food debris, the red deer metatarsal (heavily fragmented) being evidence of hunting.

Sieving in contexts *61* and *63* produced a few tiny fragments of bone that were unidentifiable.

Land snails

by Peter Murphy

Column samples from the two barrow ditches and 'spot' samples from fossil periglacial and post-glacial features were examined. Shells were extracted from 1kg sub-samples of these deposits using the method described by Evans (1972, 44). The snails identified are listed in Tables 4-6 (microfiche). In the following discussion, information about the ecology and history of the snails is taken from Evans (1972) and Kerney and Cameron (1979).

The Pre-Barrow Features

At least two categories of natural features pre-dating the barrow are distinguishable. The earlier of these consisted of a polygonal system of linear features formed under periglacial conditions. A sample of sandy fill from one of these produced a single damaged shell of *Pupilla muscorum* and some whorl fragments of a large snail in the family Helicidae. These shells and fragments may, however, be intrusive since these fossil periglacial features directly underlay the modern soil.

There were also larger sand-filled features of less well-defined form in the chalk and these were cut at several points by the barrow ditches. A 1kg sample from the outer lip of the outer ditch produced a few whole shells and fragments of *Pomatias elegans, Pupilla muscorum, Helicella itala, Trichia* cf. *hispida* and *Cecilioides acicula* (Table 4: microfiche). *P. elegans* is intolerant of winter cold and was absent from Britain in the Flandrian until about 6000 BC. The fill of this feature is, therefore, apparently of post-glacial date, but too few shells were present for any ecological interpretation.

The Bronze Age and Later Deposits (Fig.10)

The barrow mound and any soil which it might have sealed had been totally destroyed, and all environmental evidence for these periods comes from the ditches. Both ditches had a primary fill of chalk lumps mixed with patches of humic sandy soil, probably representing fallen turves and topsoil. In places finely laminated sediments consisting of alternate layers of sand and silt-sized chalk particles were observed (for example, *67* in the inner ditch). The inner ditch showed a well-defined buried soil (*63*) formed over the secondary fill once a stable profile was established. This was overlain by dumped sandy and chalky deposits (*60 61* and *62*) representing a deliberate backfilling. In the outer ditch the soil was much less clear, but a phase of stability is apparently marked by high frequencies of shells at about 110-120cm. The upper fills of this ditch (e.g.*21*) were generally sandy. Differences in concentrations of shells per kg of soil between the two ditches are most easily explained in terms of the rates of accumulation of the fills.

Samples of layers *21* and *61* were oven-dried and mechanically sieved. The results, expressed as percentages by weight of each fraction, may be summarised as follows:

	21	*61*
<0.063mm (silt and clay)	2.58	5.00
0.063-0.25mm (fine sand)	56.76	48.63
0.25-2.0mm (medium-coarse sand)	35.94	34.43
>2.0mm (flints and chalk lumps)	4.72	11.94

The coarse material (larger than 2mm) consisted of chalk fragments and flints eroded directly from the sides of the ditch, but the bulk of each sample consisted of well-sorted sand. This sand is thought to have been initially wind-sorted during the Pleistocene (Cornwall 1976): it is, in fact, redeposited cover sand (Corbett 1973, 8-13). It is, however, possible that there was some secondary wind-deposition of sand whilst the ditch fills accumulated; indeed wind-blown sand was deposited in the trenches during the excavation. The sample from *61* is rather less well sorted, with a higher proportion of fines and stones. This appears to reflect its more heterogeneous origin as a dumped deposit.

Discussion

The snail assemblages recovered from these ditches consist almost entirely of 'open-country' species throughout (Tables 5 and 6: microfiche). *Pupilla muscorum, Vallonia costata* and *V. excentrica* are by far the commonest snails in all samples: in assemblages from the outer ditch containing more than 150 shells these species make up 83-87% of the total. Most of the remaining shells are of the 'open-country' species *Helicella itala, Truncatellina cylindrica* and *Vertigo pygmaea,* with the 'catholic' taxa *Cochlicopa* spp. and *Punctum pygmaeum,* which are found in a wide range of habitats, both shaded and open. Woodland species make up an insignificant proportion of the total, and there is reason to believe that several of these woodland types may be derived from older deposits: the Clausiliidae are represented by very weathered apices, and the eroded scraps of *P. elegans*, a snail common in scrub and open disturbed habitats, very probably came originally from the sandy post-glacial features mentioned above. The shells of other 'shade-loving' species are unweathered, but these snails occur only at low frequencies. There is, therefore, no evidence for any stages of scrub development during the formation of these ditch deposits: the immediate vicinity of the site has remained open since the construction of the barrow.

The Breckland heaths are variable in character, depending on edaphic conditions, but include areas of *Calluna* and *Pteridium*—heath and of *Agrostis* and *Festuca* grass-heath (Tansley 1953). Heath vegetation partly invaded by gorse, pine, birch and hawthorn is to be seen within the perimeter fence of the Stanford Training Area, close to the barrows. The area around the barrows was no doubt covered with similar vegetation before enclosure. However, just after their construction the chalky barrow mound and its ditches would have provided an atypically calcium-rich substrate very suitable for colonisation by molluscs and covered by a calcareous type of grassland, probably resembling the present-day Breck grassland A (Watt 1940). This grassland community consists largely of a thin cover of *Festuca ovina* with about 50% bare ground, and develops only on thin calcareous soils. The unusually high levels of *Pupilla muscorum*, a snail commonly found on earth bare of vegetation, probably reflect the presence of this, or a similar, plant community. *Pupilla* would also have readily colonised the unstable sandy fills of the ditches and any accumulating wind-blown sands.

Open country assemblages containing large proportions of *Pupilla* have been reported from some other Breckland prehistoric sites: a barrow at Risby, Suffolk, an Iron Age enclosure at Barnham, Suffolk (Murphy 1984a, 16) and the top-most fill of an abandoned mine shaft at Grimes Graves (Evans and Jones 1981). The maintenance of open conditions at these sites is attributed to grazing, though undoubtedly climatic and edaphic factors also influenced local vegetation. The resultant mollusc faunas at Little Cressingham, Risby and Barnham show low species diversity, though the assemblages from the upper fill at Grimes Graves are richer in species, no doubt partly reflecting the hummocky ground and more varied local habitats left by mining, in which snails inhabiting earlier secondary woodland were able to persist. In general, however, species-poor assemblages dominated by xerophiles may prove to be typical of post-clearance phases at sites on the chalk-sand drift of the Breckland.

Carbonised cereals

by Peter Murphy

A few carbonised cereal grains including indeterminate wheat (*Triticum* sp.) and barley (*Hordeum* sp.) were recovered from 1kg samples taken for the extraction of molluscs, and a single grain was collected by hand during excavation from context *14* (S.F.No.5). An attempt was made to recover more cereals from larger samples of these contexts by flotation,

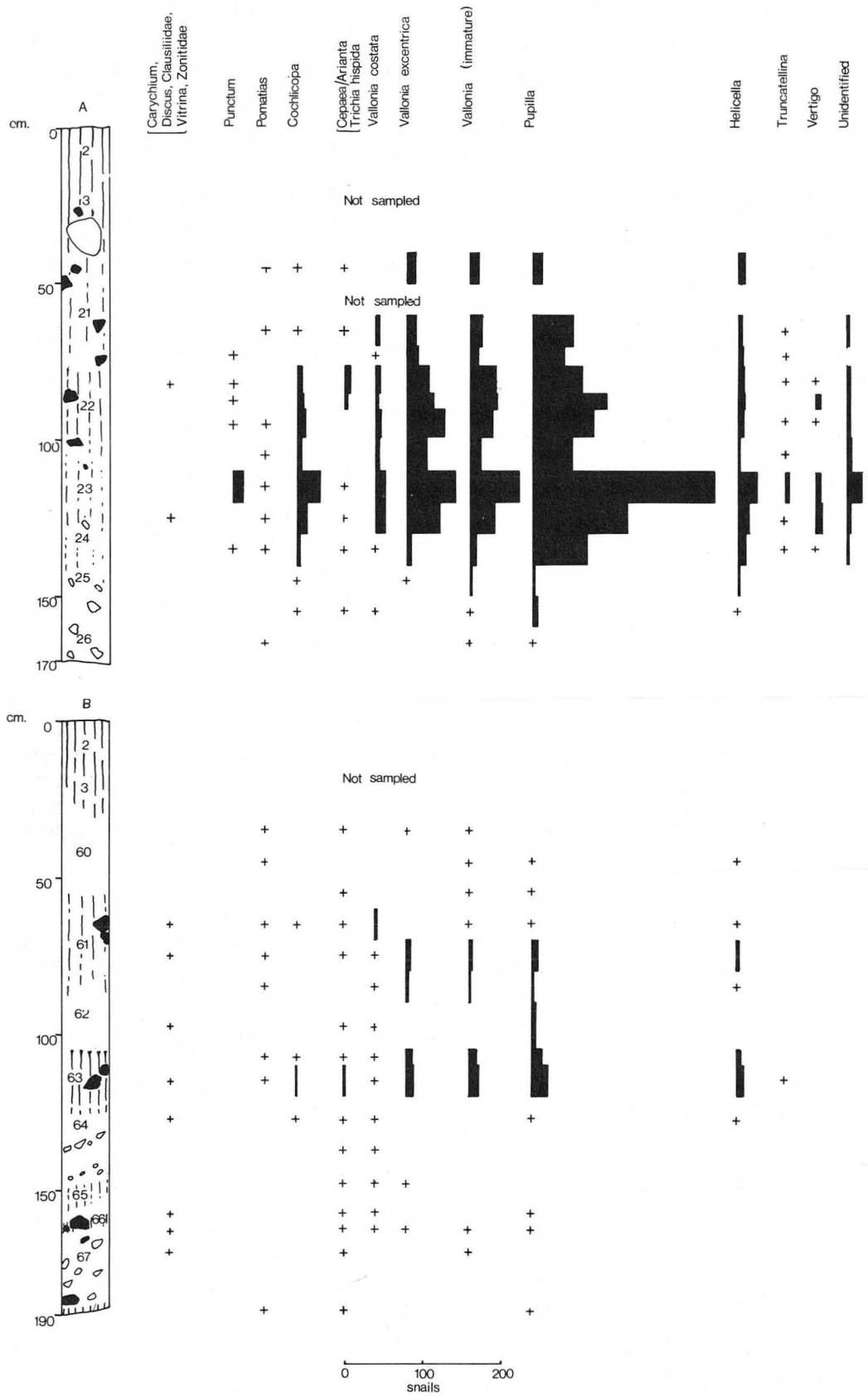


Figure 10 Summary diagram showing absolute frequencies of mollusca in the outer ditch (A) and inner ditch (B)

but in no case were any further grains or spikelet fragments observed. The taxa identified are listed in Table 7 (microfiche).

Most of these grains are in an extremely poor condition, and cannot be closely identified. The barley grain (*Hordeum* sp.) from context *62*, is rounded in cross-section, however, with traces of a raised line along the ventral furrow, and may be of a naked variety.

The significance of such a small sample of grains is difficult to assess, though they may reflect nearby domestic activity. It is, however, interesting to note that samples from layers of the inner ditch, which contained Beaker pottery, produced only barley. On the basis of a very small number of cereal impressions on pottery, Helbaek (1952) concluded that 'the Beaker people . . . were principally barley growers'. Recent reassessment of Helbaek's results (Dennell 1976) suggests that conclusions of this type may not be generally applicable: prehistoric arable farming may well have been based on barley in areas of light calcareous soils, but on heavier soils wheat may have been of greater importance. The soils of the chalk-sand drift in the Breckland are suitable for barley growing, and spring barley is the main cereal crop in the area nowadays (Corbett 1973, 29). Legge (1981) has reported six-row hulled barley and emmer from a Bronze Age midden deposit at Grimes Graves, but at present nothing further is known of pre-Iron Age cereal farming in the Breckland.

VI. Interpretation

The site contained two circular concentric ditches which are thought to have been quarries for the construction and modification of a round mound within their circuits. It is assumed that this mound was a barrow, although no burials or graves were located, despite the excavation of the entire central area. No evidence for the morphology and history of remodelling of the mound can be presented as it had been completely removed, together with any underlying soil horizon, before the excavation commenced. The apparent mound on the contour survey resulted from differential weathering of the chalk bedrock, that beneath the mound being protected from dissolution until the removal of the mound.

A number of Neolithic sherds were recovered from the subsoil (*4*) within the central area, indicating activity on the site in the third millennium bc prior to the construction of the mound. Although two features cut into the chalk bedrock of the central area were investigated, neither can be said to be related to this Neolithic activity. Fossil mollusca indicate an open environment throughout the period of accumulation in the ditches. This open environment itself must indicate an earlier human presence around the site, and conforms with a growing body of evidence that substantial areas of calcareous soil in the Breckland were cleared and farmed by the Bronze Age, although opinions differ as to the extent of early clearance on other soil types in the region (Murphy 1984b, 20-2).

The earliest constructional phase of the monument for which there was evidence was represented by the inner ditch. This ditch weathered naturally until a soil formed across its stable profile. The process of stabilization need not have taken more than a few decades as observations at the experimental earthwork on Overton Down, Wiltshire, show. The single radiocarbon determination of 1590 ± 110 BC (HAR-2541:3540 ± 110 bp) from the soil profile suggests that the ditch was dug in the Early Bronze Age. The finds from below the soil horizon in the inner ditch included only flint flakes and unidentifiable animal bones (context *64*) and no ceramic evidence was retrieved to corroborate the radiocarbon date.

Renewed activity at the site is indicated by the deliberate backfilling of the depression over the inner ditch. The re-deposited material consisted first of topsoil (*83*) or mixed loam and chalk, and then chalk. The mixed material contained residual Neolithic (*9*), Beaker and Early Bronze Age sherds. The seventeenth- or sixteenth-century BC date suggested for the Beaker pottery, together with the radiocarbon determination implies activity around the early mound prior to its remodelling, if not at its initial construction. Initially, the mixed material was dumped on the outer slope of the inner ditch and it seems most reasonable to suggest that it originated from the digging of the outer ditch. Had this material eroded from the mound, it would have started to collect on the inner slope of the ditch.

The broad outer ditch was dug immediately outside the inner ditch. As no mound material remained, the limit of the refurbished mound could not be ascertained with certainty, although it is suggested that a berm of 2m to 3m existed within the ditch circuit. By the Romano-British period, the ditch had become backfilled and as medieval sherds occurred in the overlying ploughsoil, it was apparently invisible by that date. The absence of chalk from the upper fill of the outer ditch presents another problem for the fate of the mound. The mound was probably removed, either as a useful source of 'marl' or purely to facilitate ploughing in the mid-nineteenth century, when the area was converted to arable farming. A similar procedure probably led to the discovery of the grave group in 'The Triangle' in 1849.

The burial from Little Cressingham discovered in 1849, belongs to the earlier group (I) of rich Wessex-style burials, the inclusion of the gold objects and straight-sided dagger being characteristic of this phase, which is traditionally placed in the later seventeenth or sixteenth century bc. The radiocarbon date of 1590 ± 110 bc from the inner ditch of the excavated barrow is of the same order, and hence the two monuments, if not the whole group, may have been in use at approximately the same time. Although the burial is arguably the most important Early Bronze Age find in the county, the site has no broader sociological context. Whereas barrows are relatively common in the Breckland, other contemporary finds are rare and settlements have not been investigated beyond the fen edge (Bamford 1982). Barrows at Hilborough (Site 5026, Hughes 1901), Ickburgh (Site 5037, Wake 1941) and Merton (Site 4055) have been excavated, but none has produced prehistoric finds. Crouched inhumations were recorded at Hilborough (Site 5026) and Ickburgh (Site 5037) while two further burials (Sites 5040 and 11801)—one crouched—from flat graves, appear to continue the barrow group at Hilborough.

The only known Beaker from the vicinity accompanied an inhumation found in Bodney (Site 5018) on the high ground 1.5km west of the Little Cressingham barrow group (Glendenning 1932; Clarke 1970, Fig.1062). This beaker was of a handled form (SH_3(A)). The earliest handled Beakers, which include the Bodney example, are thought to predate Wessex I burials. A date of *c.*1650 bc is suggested for these vessels, as radiocarbon dates in the mid-sixteenth century bc are associated with a slightly more developed form (SH_4(C)) (Clarke 1970, 252). Hence, it is unlikely that the Bodney burial and the Little Cressingham barrows differ widely in date, but that in the intervening period a change of burial rite was introduced within the local community, possibly reflecting a new social order.

Undiagnostic 'Bronze Age' sherds have been reported from Ickburgh (Site 5038) and Ashill (Site 4698) and an axe-hammer from Ickburgh (Site 5036). An unprovenanced flat axe is reported from Little Cressingham (Site 5058), but all other bronze metalwork from the area is later in date[8].

Although barrows and later metalwork suggest that the area was well populated, and environmental evidence implies an open farmed landscape, little more can be said of the social organisation or status of the population as contemporary settlements are unknown.

End Notes

1. The identity of the 'title deeds' is not known. However, it is by no means certain that the name, 'The Hills Field', necessarily refers to barrows. The will of John Emerson, dated 7 December 1707 (NRO WLS LXI/7/11) describes his estate as 'there unto belonging (to the) late John Hills lying and being in "Cressingham Parva"'. Maps of 1781 (NRO WLS LXI/7/7) and 1863 (NRO WLS XVIII/27) also record that the fields to the N of 'The Triangle' were owned by a Mr Mills. Hence 'The Hills Field' is more likely to record a personal name, especially as the extant barrows are unrecorded before 1936, although the name 'hill' was commonly applied to barrows between the fifteenth and eighteenth centuries (Lawson, Martin and Priddy 1981, 6).
2. Barton apparently did not re-string all of the beads as comparison of the following figures shows:

Type	*Illustrated*	*Surviving*
Pendant	7	7 + 2 fragments
Disc	6	3 + 2 fragments
Fusiform	4	4
Small flat	*c.*47	30 + ? fragments
TOTAL	*c.*64	*c.*48

3. On 24 March 1940 A.Q.Watson visited the barrow group describing three of them in his notebook (NCM Archaeology Dept.) as follows:

   No. 1 (Site 5057): 36 yds diam., above 10ft high. No bank or ditch, undug; one small scraper found.
   No.3 (Site 5056): 80 yds diam., 20ft high. 'had been dug into in years past. No ditch or bank.'
   No.4 (Site 5054): 'This is an arable field and is only a lump.'

   No.2 was described as follows:
   'This is a very peculiar working as it appears to be a natural ridge which has been adapted and is a long mound 70 yds long, 25-26 yds wide and 9-10ft high. An old boundary mark shows on each end and there are 3 Iron tablets on posts on it one at each end and one in the middle. These bear the following inscription

   B
   WATA
   1869

   Squared stones are set close to them at each end and similar stones observed near the boundary running at right angles. ?Is this possibly another variety of a Long Barrow?'
   The boundary posts and stones are marked on the 2nd edition (1906) 1:10560 OS map and the parish boundary between Little Cressingham and Hilborough zigzags at the position of the described long mound as noted on Watson's accompanying sketch map. However, the mound no longer exists, but the possibility remains that a long barrow formerly existed and had been the cause of the diversion of the parish boundary.
4. Samples from the finest layers (*64, 66*; Fig.6) of the primary fill in the east cutting were taken for the assessment of their remnant palaeomagnetism. The technique proved to be unsuitable in this instance.
5. Using the 5568 ± 30 years half-life.
6. The finds have been donated by the Clermont Estate to the Norfolk Museum Service (Acc.No.87.984).
7. Further details of the finds from this survey are contained in the County's Sites and Monuments Record.
8. MBA metalwork includes palstaves (Sites 2739, 9002), a pin (Site 12615) and side-looped spearheads (Sites 2708, 4677, 8948), while LBA metalwork includes a hoard (Site 8777), swords (Sites 2723, 8743) socketed axes (Sites 4676, 4709), a chisel (Site 14455), spearhead (Site 4697) and a gold torc (Site 4663).

3. The Excavation of a Ring-ditch at Bowthorpe, Norwich, 1979

by Andrew J.Lawson

I. Summary

The excavations in 1979 of a ring-ditch at Bowthorpe, Norwich revealed the remains of an Early Bronze Age round barrow surrounded by two concentric ditches. Earlier activity on the site is attested by Beaker pottery and a small number of features. Beneath the former mound was a central contracted inhumation placed in a coffin possibly designed to represent a log boat. Ten satellite burials were discovered both cutting, and cut by, the inner ditch. In addition, a further grave *c.*3m deep was discovered beneath the outer ditch. The majority of these graves also contained contracted inhumations in coffins identified from stains in the sand subsoil. A concentration of phytoliths in one grave suggested the use of grass among the grave furniture. Grave-goods were few but radiocarbon dates indicate a date in the middle of the second millennium bc for the use of the monument. At one stage in the barrow's history a series of pits, one containing a cremation in an inverted Collared Urn, was placed around the mound. Later activity at the site is demonstrated by the presence of Iron Age and Romano-British pottery in the upper fill of the outer ditch.

II. Introduction

A single ring-ditch at Bowthorpe was discovered and recorded on aerial photographs by Derek Edwards of the Norfolk Archaeological Unit on 29 June 1976 (Pl.VII).

Bowthorpe lies 5.5km due west of the centre of Norwich. The medieval parish had formed part of Forehoe Hundred, but was incorporated into the Earlham district of Norwich City in 1968 when suburban expansion of the city was planned[1]. The ring-ditch (Site 11431; NGR TG 1723 0989) is situated at 110ft (33.5m) OD on a low ridge, the end of which projects as a spur into the valley of the River Yare (Figs.11 and 12). Above *c.*90ft. (27m) OD glacial sand caps the Pleistocene Norwich Crag, itself covering the Cretaceous Upper Chalk which is exposed below *c.*70ft (21m) OD in the Yare valley immediately to the south. In response to a plan to build light industrial factory units on the site, rescue excavation of the ring-ditch commenced on 24 May 1979. A contour survey prior to stripping showed that virtually no earthwork was detectable on the previously ploughed site (Fig.13).

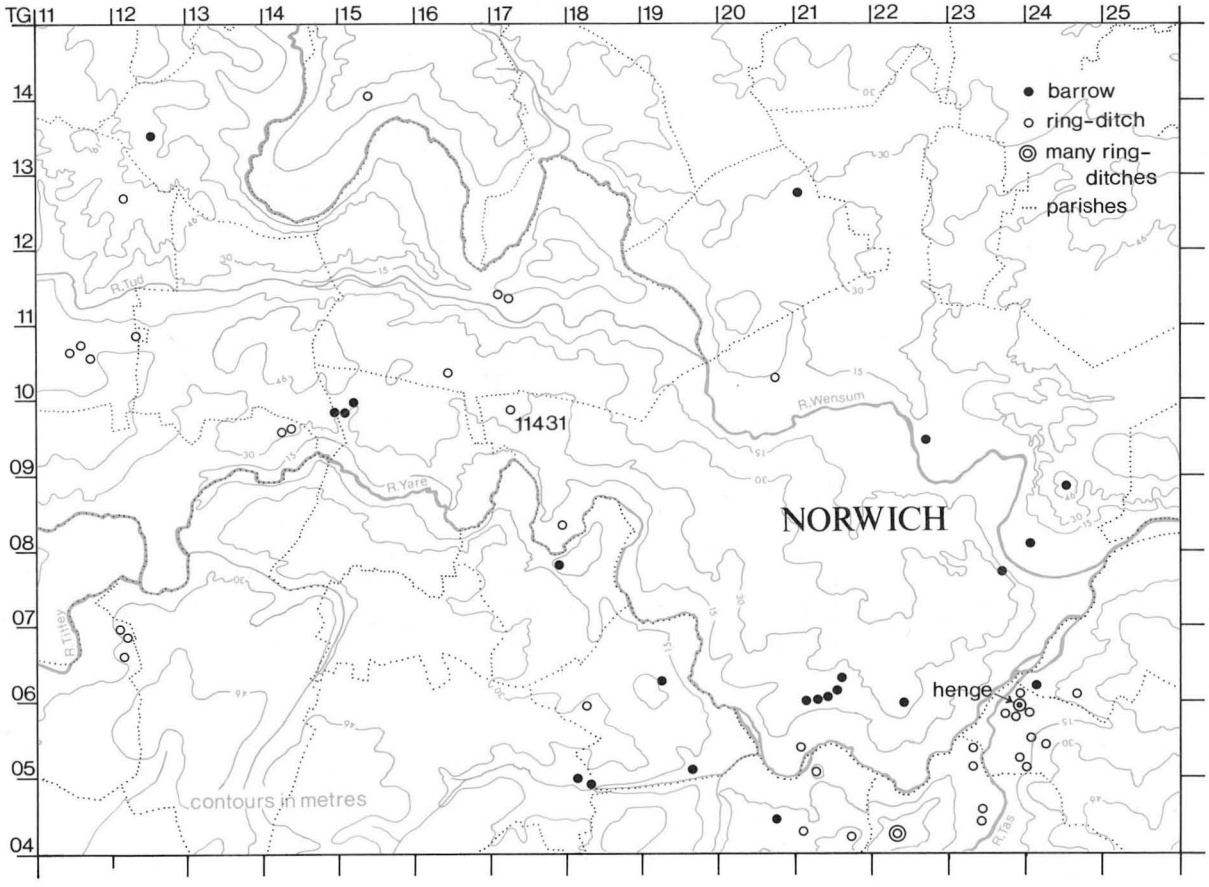


Figure 11 Norwich and its western environs showing the situation of the Bowthorpe ring-ditch (Site 11431) and other recorded barrows and ring-ditches. Scale 1:100,000

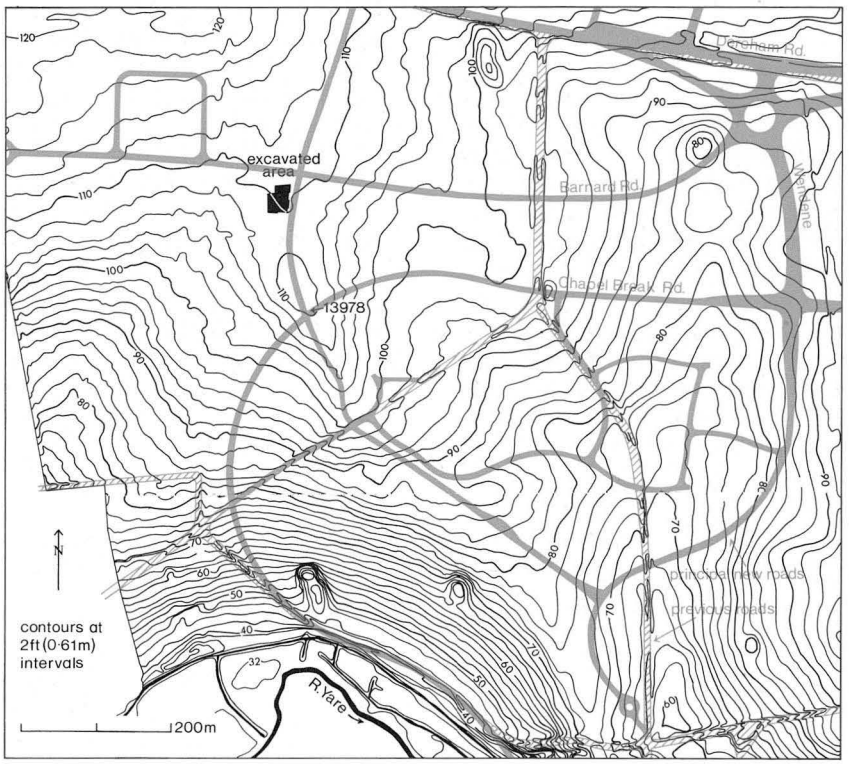


Figure 12 The topography of the site. Scale 1:10,000

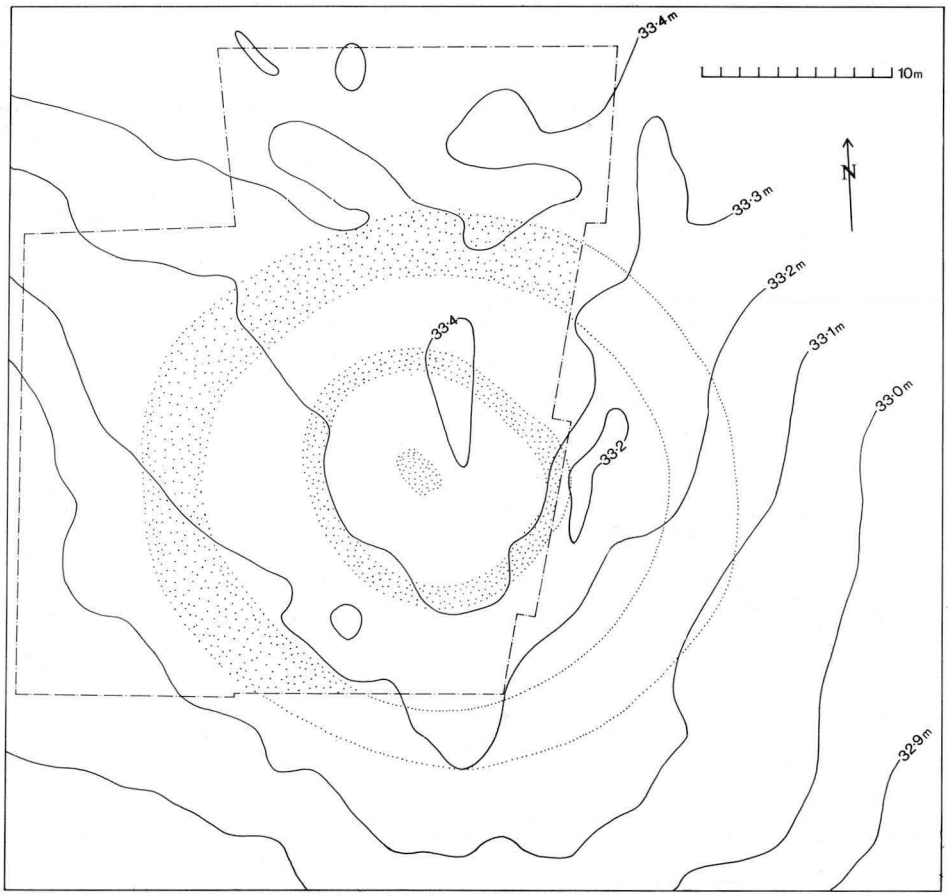


Figure 13 Contour survey of the site prior to excavation. Scale 1:400

III. The Excavation

Method

Topsoil (*2*) was mechanically removed from an area *c.*33.5m by 31m to a depth of 30cm (Fig.14). Subsequent cleaning by hand revealed two concentric sub-circular ditches surrounding a central grave. Ten satellite graves, together with a cremation, other pits and features were also observed and it was obvious that the site contained the remnants of a round barrow (Pl.VIII). The fill of the exposed features was usually so similar to the subsoil which they cut that they were only apparent under damp soil conditions and when freshly cleaned. Consequently, box sections were cut across all features so that their profiles could be drawn with certainty. On the west side of the site the natural subsoil was covered by a layer of accumulated soil (*79*) up to 40cm thick beneath the topsoil. this layer masked the outer lip of the larger ditch and a small tangential linear ditch (*93*; Fig. 34). Elsewhere beyond the outer ditch, the yellow sand subsoil (*5*) was exposed.

No mound material remained, but within the area defined by the outer ditch the subsoil (*7* and *9*) principally consisted of a smooth-textured, mottled, greyish light brown, stone-free sand (stippled in Fig.14). Presumably, this had formerly been part of a deeper fossil soil profile that had been protected by a mound, but which had been truncated by recent ploughing. The subsoil had been frequently penetrated by burrowing animals (principally moles) which made the detection of small features, such as stake-holes, impossible.

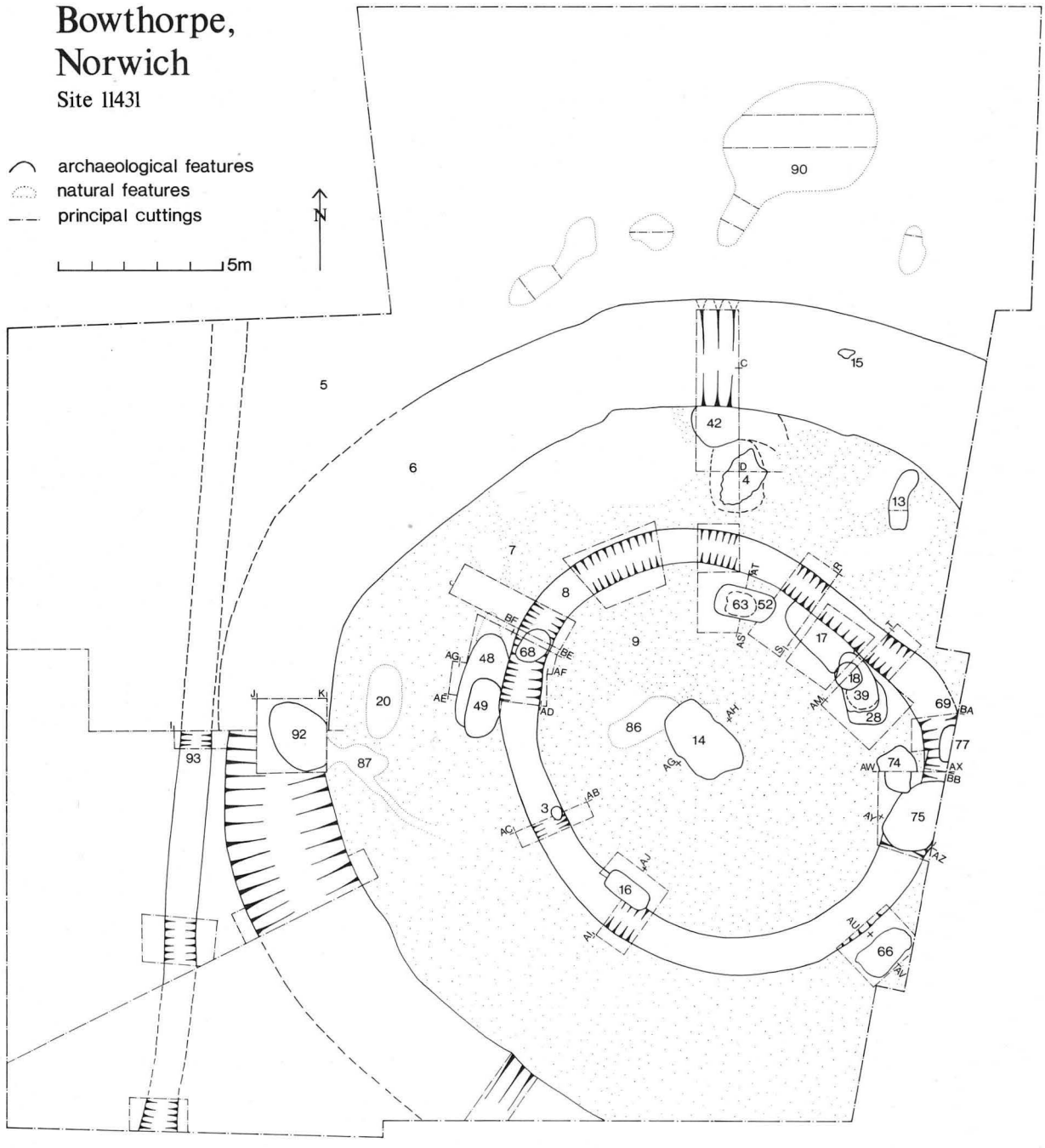


Figure 14 General plan of the excavation. Stippling represents a brown sand which may have been a truncated fossil soil. Scale 1:200

Vertical sections through the subsoil exposed many fine illuviated horizons or pans. At times these pans were cut by archaeological features, but frequently their development was not noticeably effected by the soil change from natural sand to feature fill. These pans did little to stabilise the loose-textured sand in which deep excavation was impossible without shoring or the battering of edges.

Excavation of the eastern side of the monument was not possible because of the presence of water and high-pressure gas mains.

The outer ditch

The outer ditch (*6*), with an internal diameter of *c.*21.5m, was sectioned in a 1.25m wide cutting in the north, while a 6m length was excavated in the south-west. The weathered profile was *c.*2.7m wide. On the north, the ditch was 1m deep, with a flat bottom 0.8m wide[2]. On the south-west, the ditch was more steep-sided with a narrow flat bottom 0.4m wide (Fig.34). The primary fill (*33, 34,* lower *88*) was almost indistinguishable from the natural, suggesting rapid initial infill. The secondary fill was considerably darker and, although uniform in the west section (*73*), contained darker lenses (*31, 32*) in the north, which possibly represented periods of slow accumulation with intermittent episodes of rapid accumulation (*30*). The uppermost fill contained many flint artefacts and Iron Age pottery which was also collected during the cleaning of the exposed surface of the silted ditch. In the north, a final filling of the ditch could be distinguished (*25*), but in the west, where this final fill was not as apparent, an arbitrary layer (*71*), 10cm thick, was defined. Beyond the ditch, in the south-west, up to 40cm of a similar soil (*79, 81*) had accumulated above the natural. This also contained Iron Age and Romano-British sherds.

The outer ditch overlay the edge of a pit (*42*; Fig.37) on the north and a grave (*92;* Fig.34) on the west.

The amorphous nature of the ditch fill meant that it was not possible to suggest whether material had eroded from earthworks on either side of the ditch.

The inner ditch

The sub-circular inner ditch with an internal diameter of between 10m and 12m, (*8*), was completely sectioned in nine cuttings. It varied in width from 0.9m to 1.3m and in depth from 0.4m to 0.9m, being deepest in the east. The fill was consistent in all cuttings, being a light yellowish grey sand frequently crossed by brown illuviated horizons, and usually being slightly greyer at the top. Occasional darker grey lenses in the fill probably represent turves that had rolled down from the lip of the ditch. In places the ditch was very steep sided (Fig.20). Bearing in mind the loose nature of the subsoil, such a profile would suggest that little time had elapsed between the digging of the ditch and its refilling, but there was no evidence that it had been deliberately backfilled. On the south-west, many fine silt layers (*24*) were observed in the primary fill as if washed in by rain shower over a short period.

The inner ditch partly cut through two graves (*17* and *49*) and an oval pit (*48*), itself also cut by a grave (*49*) (Figs.20 and 24). On the east, the circuit deviated as if to avoid another grave (*28*). However, three other graves (*16,75,77*), an urned cremation (*3*) and a pit (*68*) cut the ditch after it had become backfilled (Figs.18, 31, 32, 35 and 36).

The tangential ditch

A linear ditch, 1.2m wide and 0.3m deep, cutting the natural sand (*5*), was discovered on the west side of the outer ditch and passing very close to it. The ditch did not apparently cut the accumulated soil layer (*79, 81*) which marked the lip of the outer ditch, but was sealed by it. The dark orange-brown fill (*93-95*) was virtually identical to the overlying layer (Fig.34).

The graves

The Central Grave (14; Figs.15 and 16; Pls.VIII and X)

A sub-rectangular area, filled with mixed pale grey, yellow and dark brown sands (*60*) delimited by a brown pan, marked a centrally-placed grave. The grave was orientated approximately south-east to north-west. At a depth of 70cm, a dark brown and black stain identified a large, former, wooden object (below p.43) pointed at the south-east end and squared at the north-west. The central fill (*70*) of this object was a mottled dark brown sand with with black flecks. This deposit projected above the level of the top of the object to a height of 25cm possibly represented a turf stack. The former wooden container had a semi-circular cross-section and a thick squared north-west end which had a rounded inner face and near vertical outer face. The base of this object contained the indistinct remnants of a contracted inhumation lying on its left side. The position of the long bones was marked by a powdery white residue surrounded by a purplish-brown sand. No grave-goods were found, but a sticky light grey deposit beyond the skull in the south-east may have represented a decayed organic object. The only finds from the grave fill (*60*) were a few flint flakes and pot-boilers.

The Satellite Graves

Graves occurred in the north (*52*), north-east, (*17;28* and *39),* east (*74* and *75; 77*), south-east (*66*), south-west (*16*) and west (*62,92*).

Grave 16 (Figs.17 and 18: Pls.XI and XII)

Identified on the surface as a rectangular feature cutting the fill (*50*) of the inner ditch. The grave was flat bottomed, but apparently expanded below the surface to a maximum width of 1.1m. The grave contained a sub-rectangular, plank-built coffin, identified by a dark brown stain in which the lateral boards projected beyond the terminal boards. A thin black stain falling obliquely through the section within the coffin probably represented a lid. Mineral replacement of the wood suggest (p.00) that the coffin may have been of oak. The fill (*36*) of the coffin was identical to the overlying (*16*) and surrounding (*35, 37*) fills of mixed sands. In the base of the coffin was the clear silhouette of a contracted inhumation lying on its left side, appearing as a black granular deposit. The head, to the south-east, was surrounded by a purple-brown deposit, possibly a grass-filled pillow (below p.43) contained within a rectangular stain, probably resulting from the decay of a wooden frame. Neither finds nor grave-goods were recovered from the grave. However, two small circular stains, one behind the head, the second above the lower legs, may have represented organic containers[3].

Grave 17 (Figs.19, 20 and 21)

This grave appeared on the surface as a sub-rectangular area of pale brown sand (*29*), with a central fill of dark brown mottled sand. It was cut by the inner ditch on the north-east, by a grave (*39*) and, subsequently, by a pit (*18*) at the south-eastern terminal. The rounded base contained the dark grey-black rectangular stain of a coffin containing a contracted inhumation on its left side with the head to the south-east and identified as a black, granular deposit. The coffin was concave in profile with steep ends and had possibly been hollowed from a tree trunk. Although the ends could only be detected to a height of *c.*20cm, it is suggested that the sides of the coffin may have been higher, supporting a lateral deposit of mottled yellow and dark grey-brown sand, although no stain was observed at a higher level. No grave-goods were found, but the upper grave fill contained flint flakes, a scraper (S.F.10) and pot-boilers.

It is possible that the central dark brown sand was the fill of a later intrusion. This suggestion could not be substantiated although a change in the fill of grave *17* could be detected to a depth of 85cm.

Graves 28 and 39 (Figs.19 and 22)

The fills of these two graves were so similar to each other and to the surrounding natural sand that interpretation was exceedingly difficult. Grave *39*, however, lay directly above *28.* Both lay just within the inner ditch. Although *39* cut grave *17* the relationship between *28* and *17* was not demonstrated. In one section it appeared that another grave cut *39* to a depth of 58cm, but this could not be traced in the opposing section although there was some corroborative evidence in plan. Grave *39* (and the possible later intrusion) was cut by a small pit (*18*).

Grave *28*, expanded below the surface, had a flat bottom on which a contracted inhumation had been placed on its right side with the head to the north-east. The skull and legs were marked by a black granular deposit (*59*) and a brown pan marked the line of the spine. No grave-goods survived, but two small Beaker sherds (S.F.6 and 11), flint flakes and pot-boilers were found in the upper grave fill.

In grave *39*, a crouched inhumation had been placed on the irregular bottom, on its left side with head to the south-east. A black granular deposit (*58*) marked the scant remains of the skeleton which lay slightly obliquely, the head being higher than the pelvis. The fill contained a few flint flakes and a pot-boiler. A retouched flint artefact (S.F.13), possibly a projectile point or knife, found at a depth of 79cm, may have been part of the grave-goods.

Grave 49 (Figs.23 and 24)

An oval feature cut a pit or gully (*48*), and lay outside the inner ditch (*47, 61*) which just cut the fill of the grave (*49, 62*). A black granular deposit (compare with *16, 39, 28* above), 5cm above the flat base of the grave, suggested the former position of a body. Although no distinct outline was visible, it is suggested that a flexed inhumation had been placed on its left side with head to the south. The south end of the grave (*62*) contained flint flakes, but no grave-goods were detected.

Grave 52 (Figs.25 and 26)

Dark grey-brown sand formed an oblong marking the position of a grave 40cm within the inner ditch. The grave overlay pit *63.* A thin

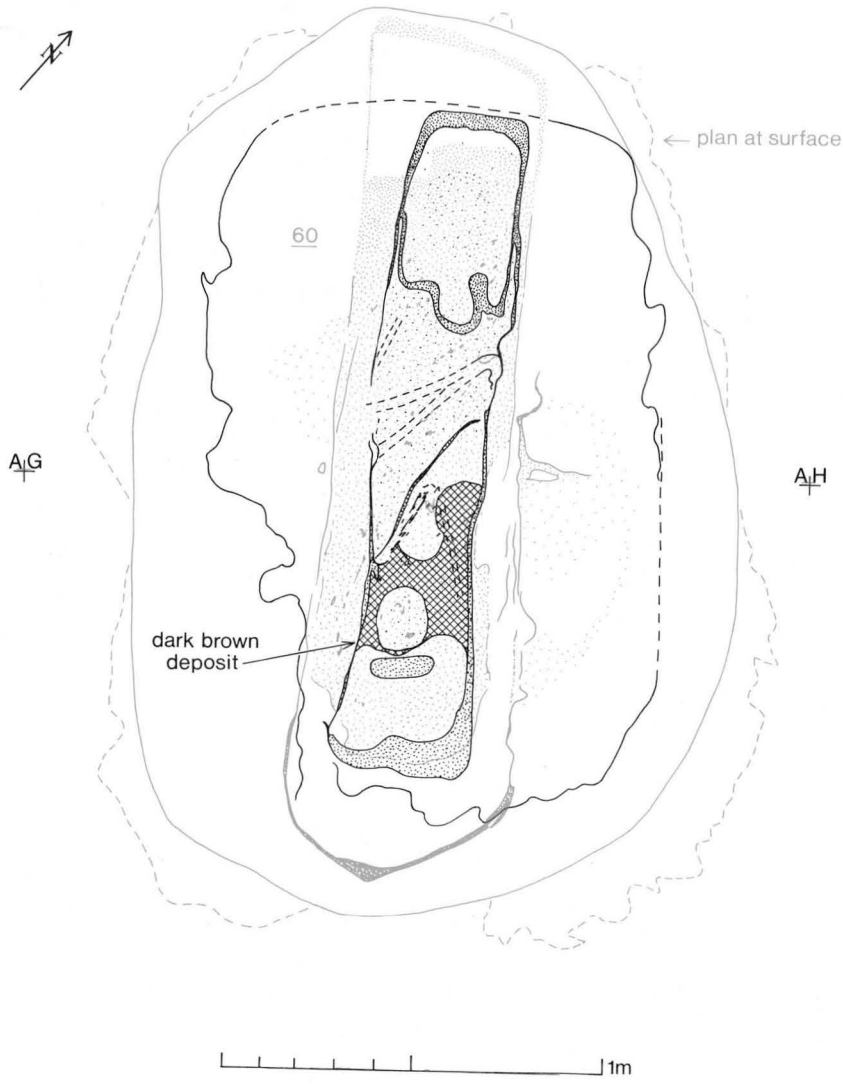


Figure 15 Plan of central grave (*14*). Scale 1:20

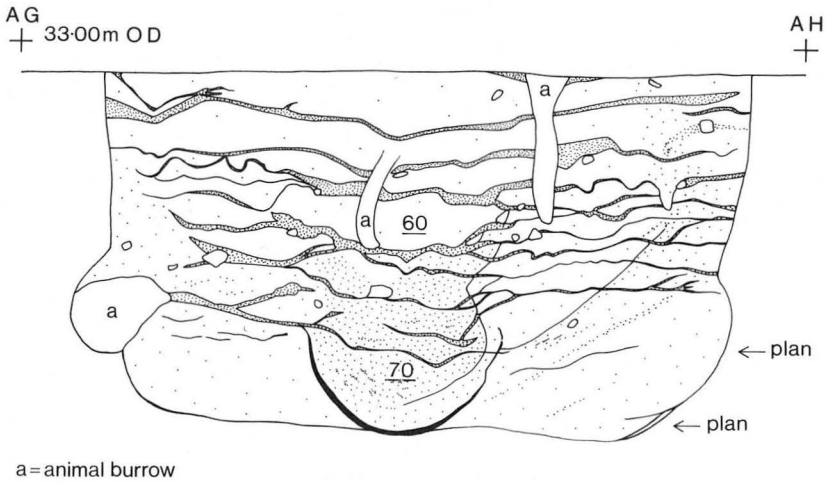


Figure 16 Section of central grave (*14*). Scale 1:20

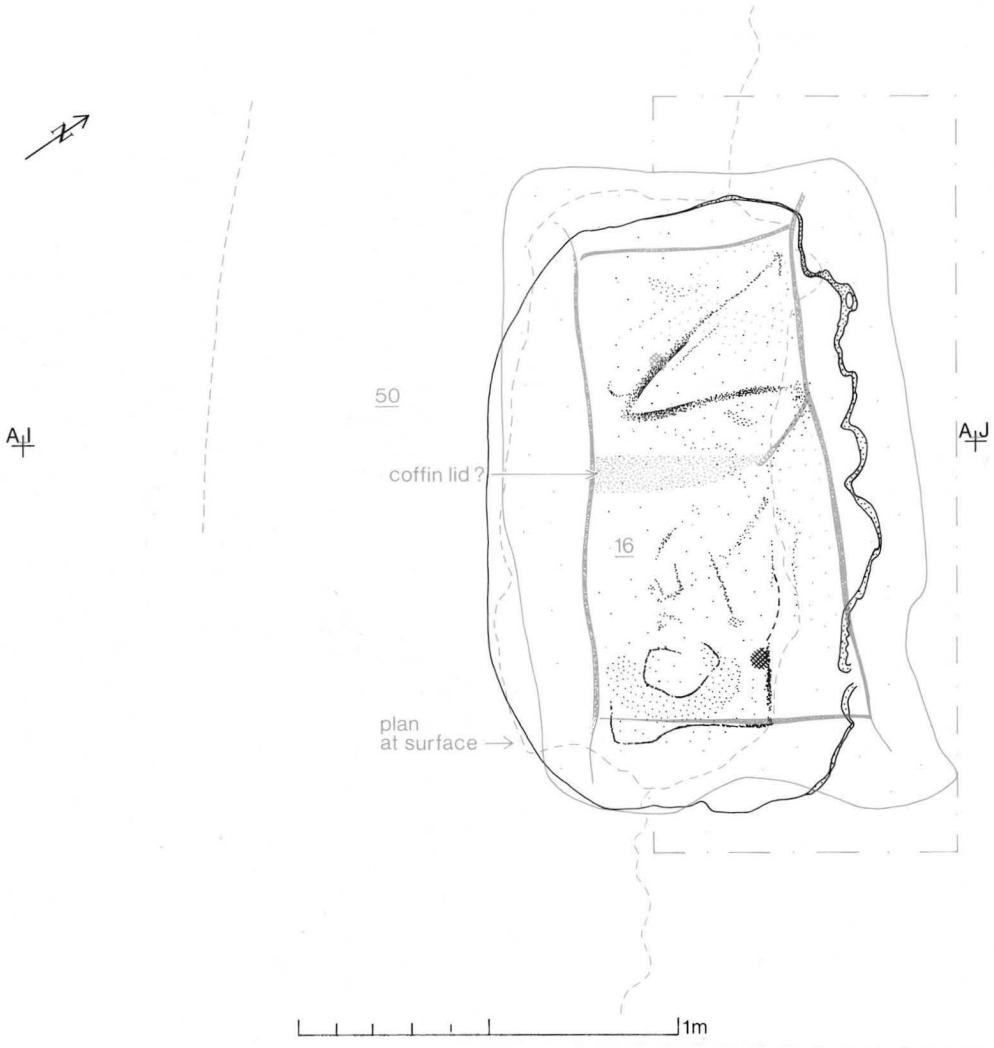


Figure 17 Plan of grave *16*. Scale 1:20

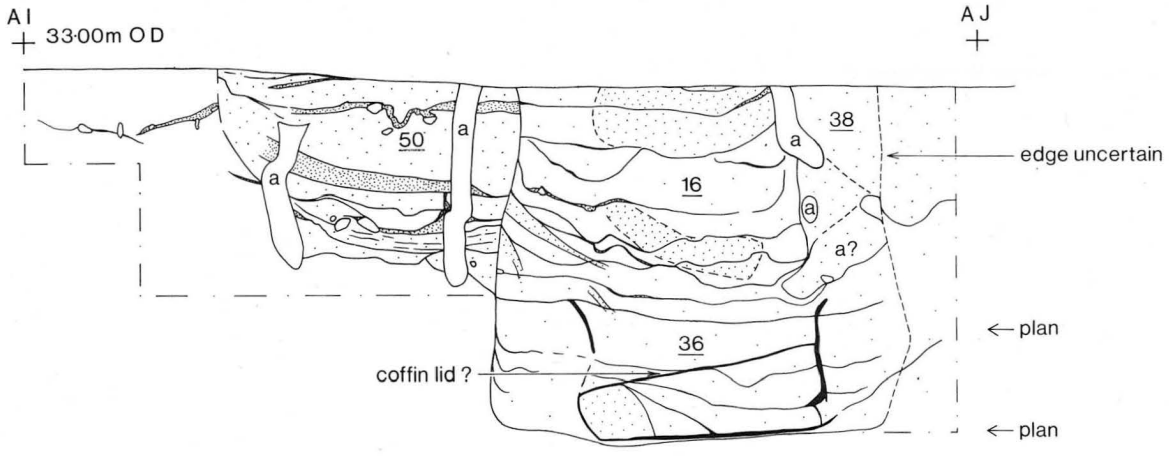


Figure 18 Section of grave *16*. Scale 1:20

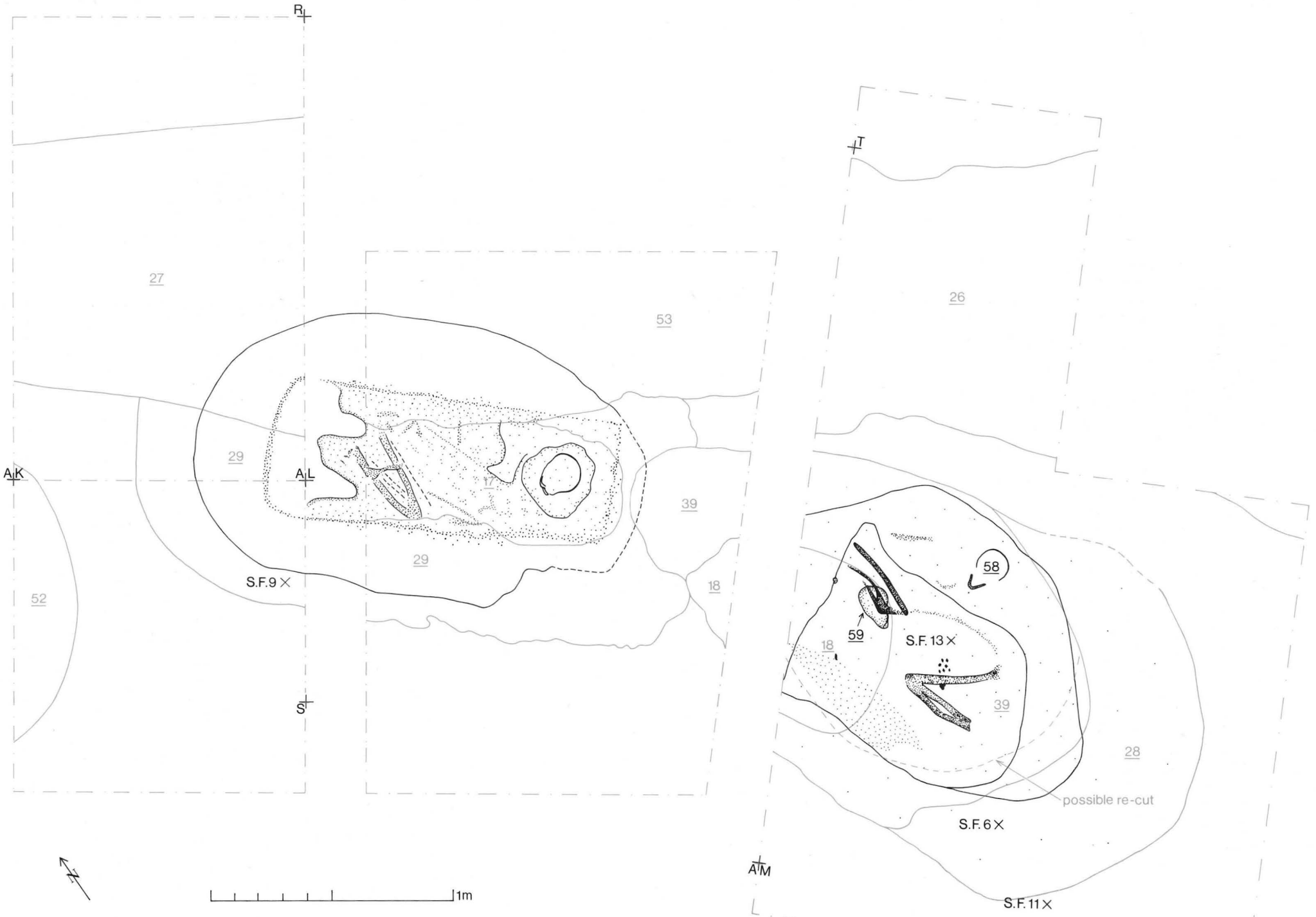


Figure 19 Plan of graves *17, 28* and *39*. Scale 1:20

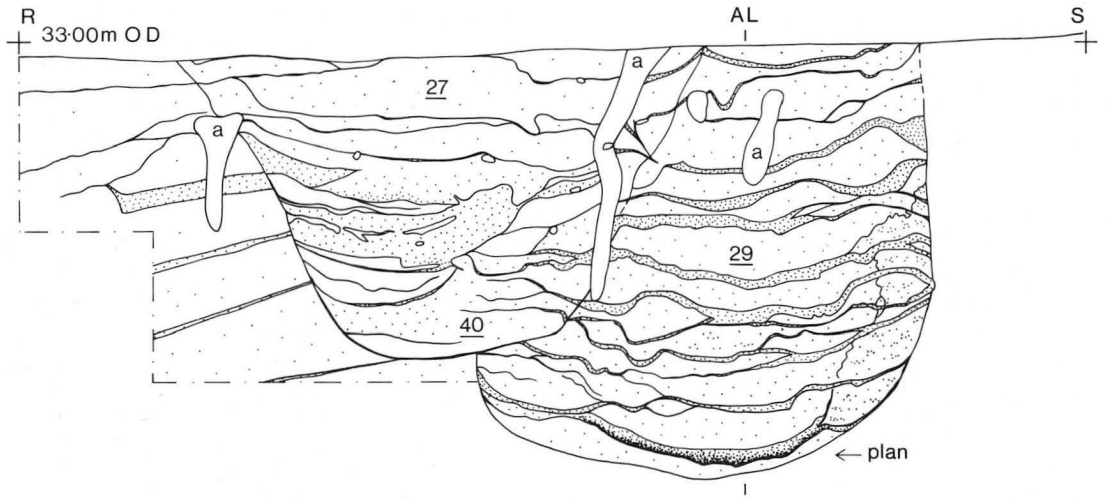


Figure 20 Section of grave *17* cut by inner ditch (*27, 40*). Scale 1:20

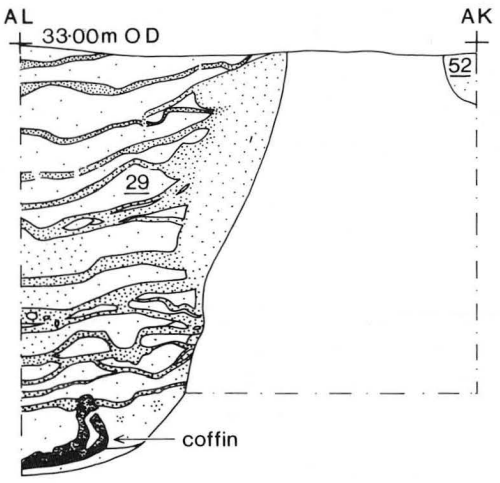


Figure 21 Longitudinal section of the western terminal of grave *17*. Scale 1:20

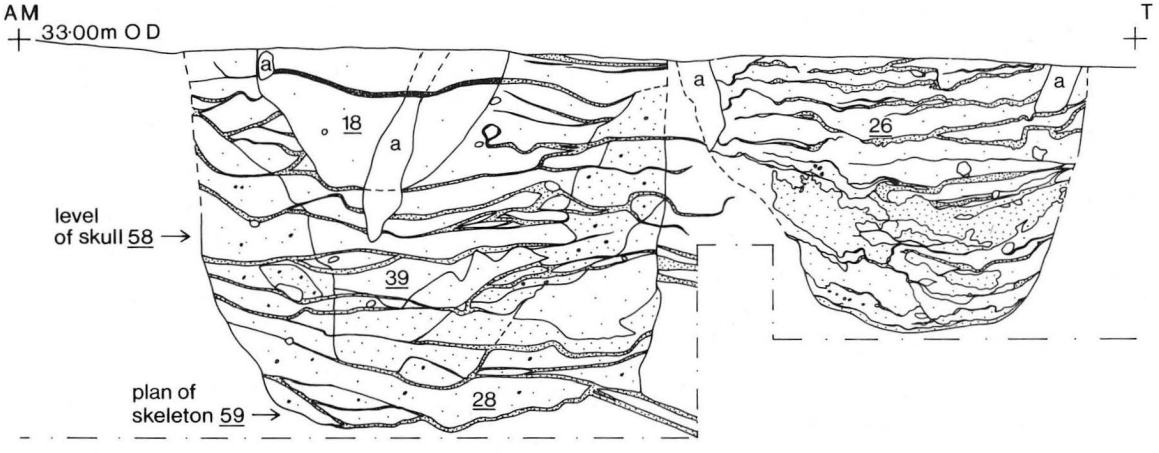


Figure 22 Section of graves *28* and *39*, pit *18* and adjacent inner ditch (*26*). Scale 1:20

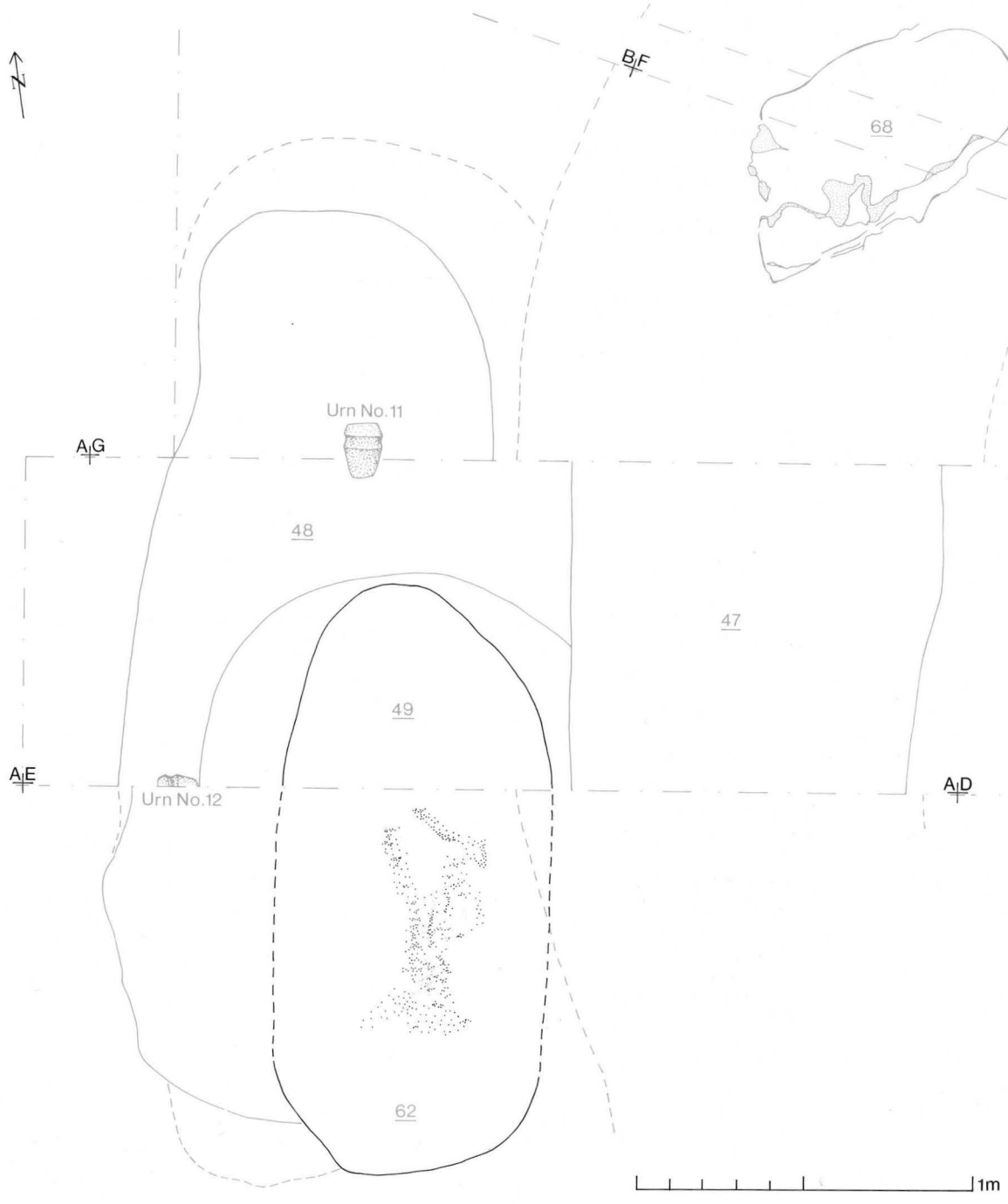


Figure 23 Plan of grave *49,* pits *48* and *68* and inner ditch (*47*). Scale 1:20

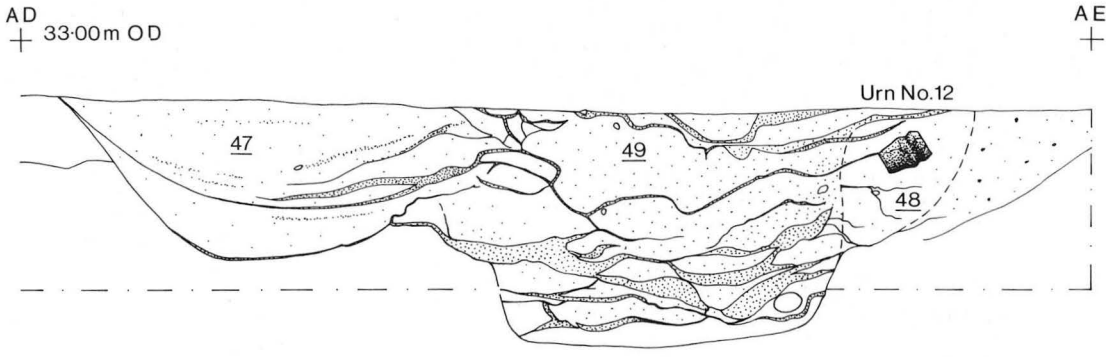


Figure 24 Section of grave *49* cutting pit *48* and cut by inner ditch (*47*). Scale 1:20

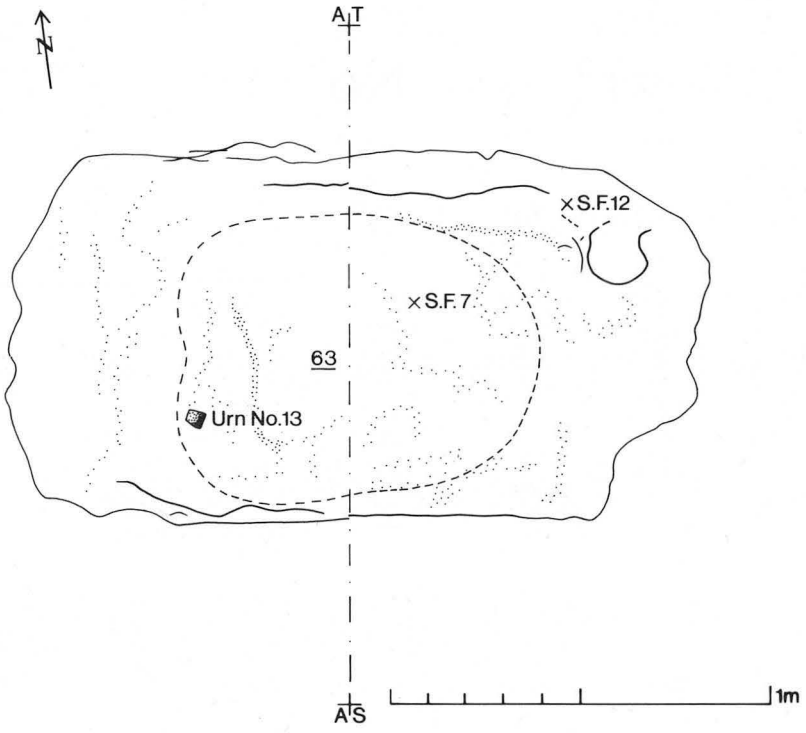


Figure 25 Plan of grave *52* and underlying pit *63*. Scale 1:20

black pan partly visible on the cleaned surface of the feature and running parallel to its sides suggested a timber lining or coffin within the grave. At a depth of 15cm a discontinuous dark stain suggested the former presence of a body, the head probably to the east. The lowest 5cm of deposit beneath the body consisted of a dark chocolate brown sand. Pot-boilers were found in the grave fill together with a small Beaker sherd (S.F.7) at a depth of 1cm and a flint scraper (S.F.12) standing on edge at a depth of 5cm. At a depth of 15cm and within the dark stain was a small tub-shaped pottery vessel (S.F.16; Urn No.13) lying on its side beside the lower legs of the body.

Grave 66 (Figs.27 and 28; Pl.XIII)
Light grey sand fill and a brown pan marked an oblong feature lying 40cm outside the inner ditch (*67*). On the flat base was a stain which included a high proportion of charcoal *c.* 1cm thick, concave in form and representing one continuous oak timber. Although the fill of this trunk was darkly stained, no body silhouette was observed. Had the remains of a body been similar to the black granular deposit in Grave *16*, for example, it would not have been distinguished against the black charcoal. It is assumed, however, that this feature was a grave. The fill contained only a few flint flakes and pot-boilers. A single radiocarbon determination of 1420 ± 80 bc (3370 ± 80 bp; HAR-3687) was obtained from the charcoal.

Grave 74 (Figs.29 and 30)
Grey-brown sand formed the fill of an oval feature lying 20cm within the inner ditch (*76*). The profile was 35cm deep with a flat bottom 55cm wide. The lower fill, particularly in the north end of the grave, contained a discontinuous deposit of charcoal, assumed to be the remnants of a partly charred wooden coffin. No body silhouette was observed on the flat base of the pit (see description of grave *66* above) and the only finds within the feature were a few pot-boilers. A single radiocarbon determination of 1660 ± 80 bc (3610 ± 80 bp; HAR-3611) was obtained from the charcoal. Grave *74* cut the north-west corner of grave *75*.

Grave 75 (Figs.29 and 31)
A uniform dark grey sand with very fine pans formed the fill of an oval feature which lay directly over the fill (*76*) of the inner ditch. The profile was vertical-sided and had a flat base. At the base, a thin black deposit marked the position of a rectangular structure, distorted at depth. This coffin, with concave section, contained the remnants of a contracted inhumation lying on its left side with its head to the north-east. Only the lower portion of the body was clearly discernible as a black deposit, but the upper limbs and skull, or organic grave-goods, were marked by a red-brown deposit. The grave fill contained a few pot-boilers. A retouched flint flake (S.F.131) was found within the distorted north-east end of the coffin, while a fine barbed-and-tanged arrowhead (S.F.100) lay outside the south-east corner of the coffin.

Grave 77 (Figs.29 and 32)
Full excavation of this oblong feature which cut the inner ditch fill (*78*). was not possible due to the proximity of the high-pressure gas main. However, the feature was found to contain a contracted inhumation lying on its right side, the head to the south. The body was marked by a black granular deposit, while a purplish-brown deposit surrounded the skull (compare with grave *14*). The grave contained neither finds nor grave-goods.

Grave 92 (Figs.33 and 34)
Box sectioning of the outer ditch exposed a feature lying beneath the ditch fill (*88*). An oval pit was subsequently exposed and excavated to a depth of 2.8m. (Although the drawn section does not clearly show the

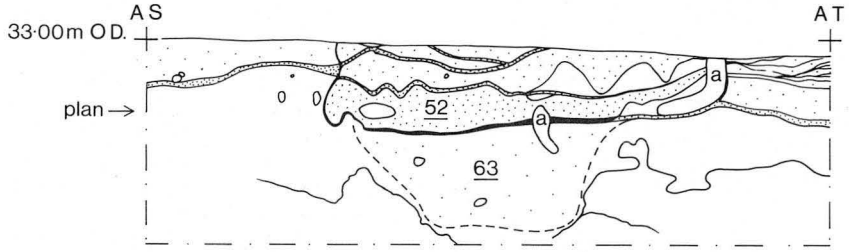


Figure 26 Section of grave *52* and underlying pit *63*. Scale 1:20

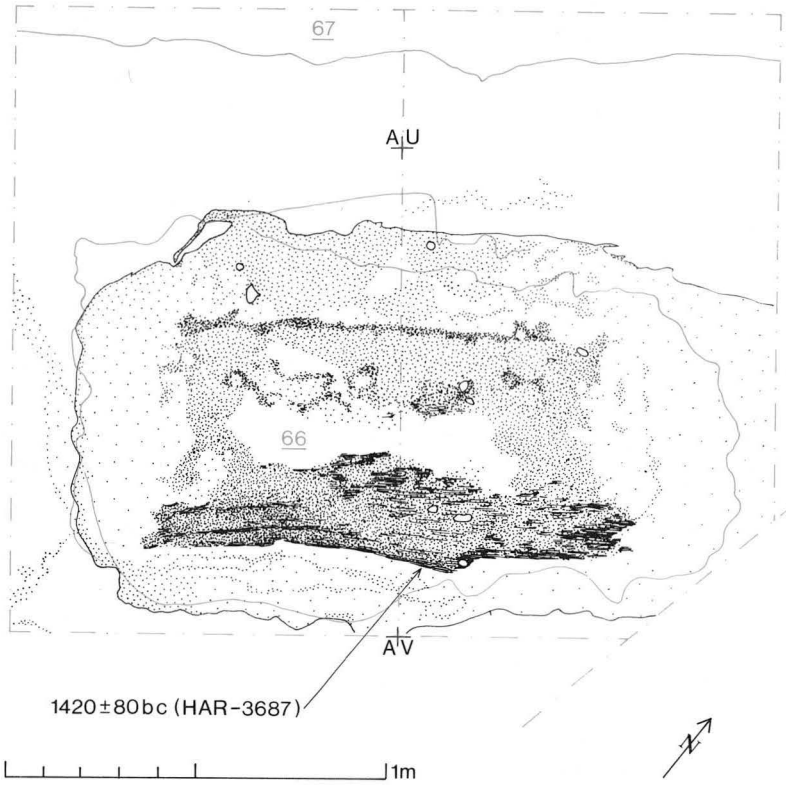


Figure 27 Plan of grave *66*. Scale 1:20

relationship of the pit to the outer ditch, this was clear before the section collapsed prior to recording). The base contained a rectangular structure marked by a dark brown stain, apparently a plank built coffin, 33cm deep, in which the terminal boards projected beyond the lateral boards. A thick cemented pan and a thin sticky black layer covered the base of the coffin. Within these layers no body silhouette could be detected. However, a thickening in the south end may have marked the position of the skull. Within the coffin were two flint flakes (S.F.132-3) in mint condition. In the north-west corner, an incomplete, badly crushed Beaker (S.F.135, Urn No.14) lay with its rim to the north-east. A flint flake (S.F.134) lay beneath the Beaker. Throughout the lower 1.2m of the grave a distinct change at the centre of the fill was visible. Appreciable quantities of charcoal lay on the west side of the fill and to the east of an oblique clay layer. It is suggested that the pit originally held a revettment or wooden structure, or held a substantial wooden post. A single radiocarbon determination of 1580 ± 70 bc (3530 ± 70 bp: HAR-3630) was obtained from the charcoal. No finds were made in the grave fill.

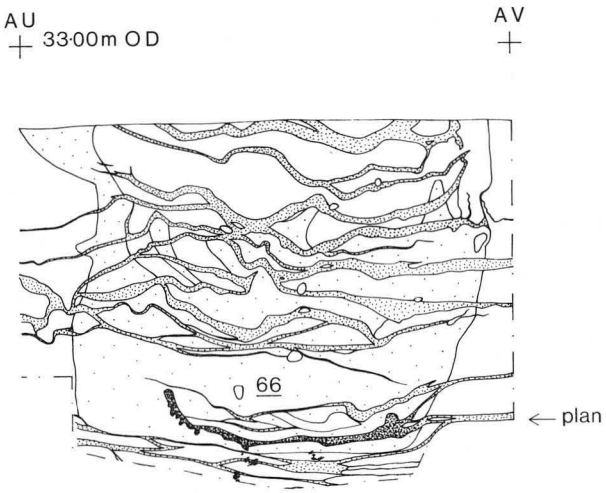


Figure 28 Section of grave *66*. Scale 1:20

The cremation
(Fig.35)

Only one cremation deposit was found. This was contained within an inverted Collared Urn (S.F.2; Urn No.15), which had been placed in a small pit (*3*), cut into the fill (*21*) of the inner ditch. Within the urn, the cremated remains of an adult human individual (below) formed a layer, 10cm thick, at the mouth of the urn (i.e. at the base of the deposit). The base of the urn had been crushed in.

Small pits

Three small pits (*18, 63, 68*) were discovered in the northern half of the barrow. From their spacing, and that of the cremation (*3*; above) it is suggested that they were regularly placed around the barrow[4], although no pits were found in the south-east quadrant.

Pit 18 (Figs.19 and 22)

60cm diameter, 37cm deep, with a black (?charcoal) layer running through the fill. Cuts graves *17, 28, 39* (and the possible re-cut of *39*). No finds.

Pit 63 (Figs.25 and 26)

Approximately 70cm diameter, 50cm deep with mixed grey and yellow sand fill with a marked number of stones. Underlies grave *52*. Finds comprise a few small flint flakes.

Pit 68 (Figs.23 and 36)

Oval, 1.1m by 0.9m, 50cm deep, with pale grey sand fill, the limit marked by a brown pan. Cut into the dark grey-brown sand upper fill (*64*) of the inner ditch. No finds.

Large pits

Two large pits were discovered, one (*42*) in the north, one (*48*) in the west.

Pit 42 (Fig.37)

2.5m diameter, 1.25m deep, with sloping sides. Upper (*43*) and lower (*44*) fills of reddish-brown sand, with a median fill of mid-brown sand with fine pans (lower part of *56*). In the centre was a deposit (*57*) of greyish sand, possibly the fill of a post-pipe, 30cm wide and 90cm deep, the limits of which were ill-defined. From the absence of finds (only one flint flake was found, in *44*), and the clean nature of the fill, it might be suggested that this was a natural feature, but it is difficult to envisage a phenomenon that would produce such a result.

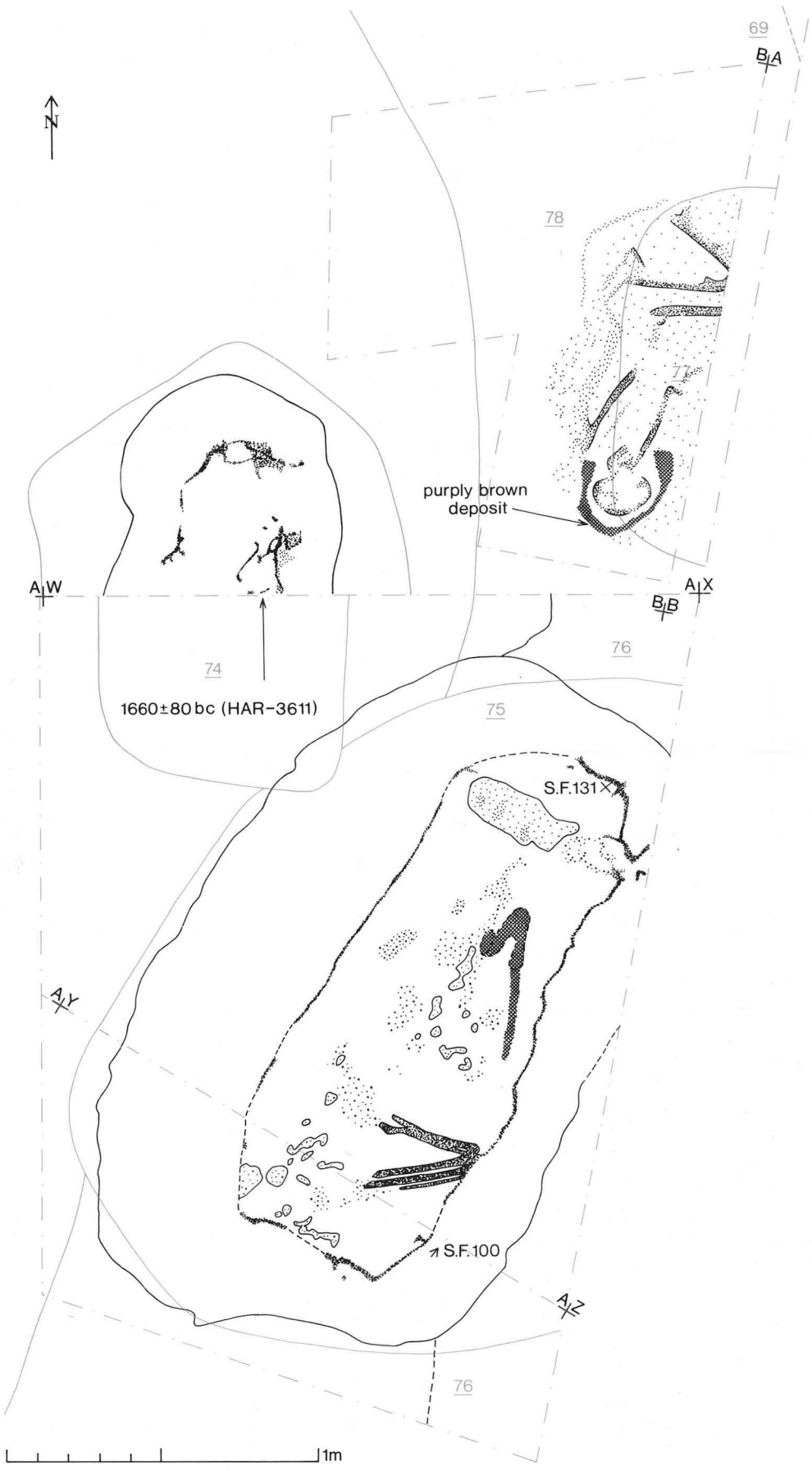


Figure 29 Plan of graves *74, 75* and *77* and their relationship to inner ditch (*76, 78*). Scale 1:20

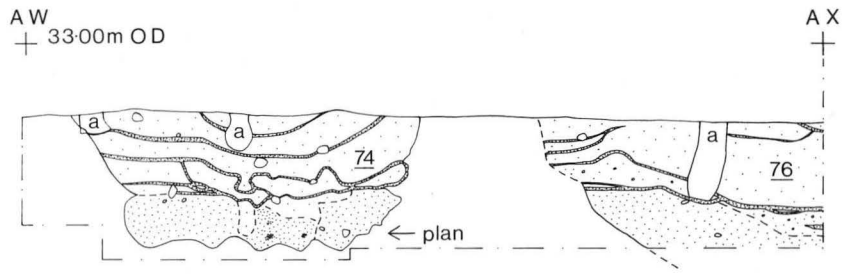


Figure 30 Section of grave *74* and adjacent inner ditch (*76*). Scale 1:20

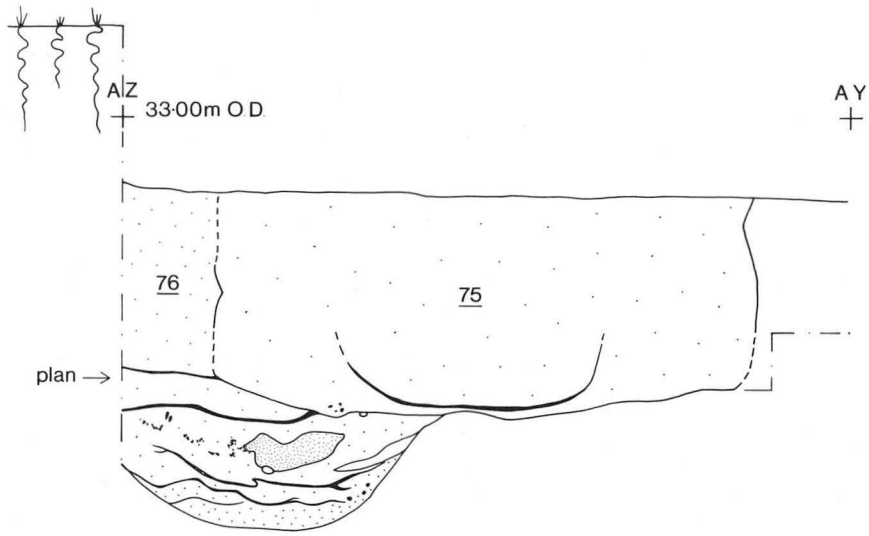


Figure 31 Section of grave *75* and underlying inner ditch (*76*). Scale 1:20

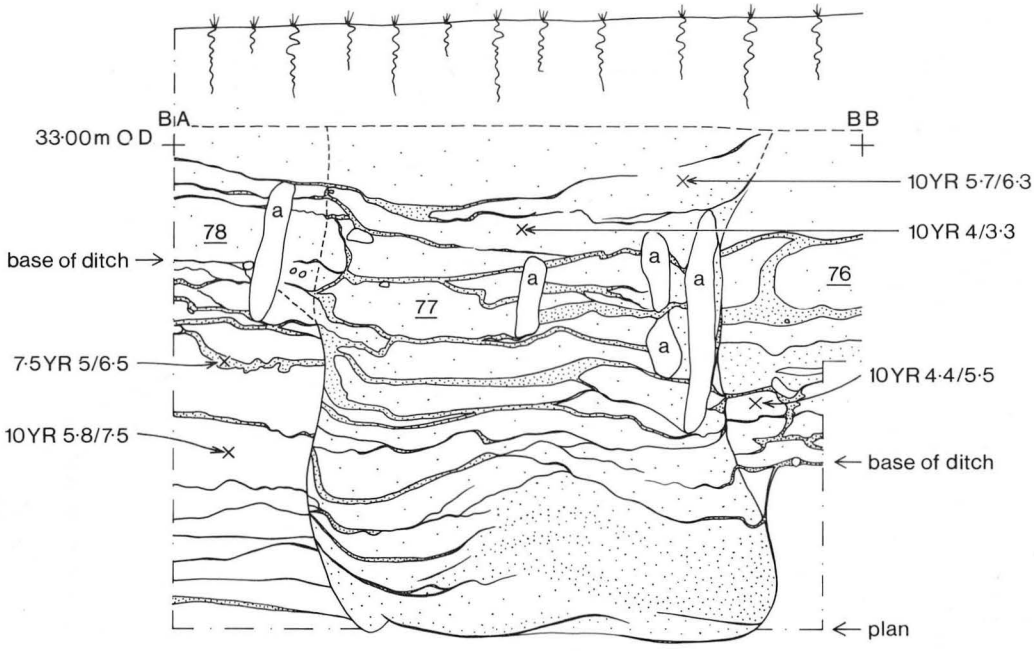


Figure 32 Longitudinal section of grave *77* and underlying inner ditch (*76, 78*). Scale 1:20

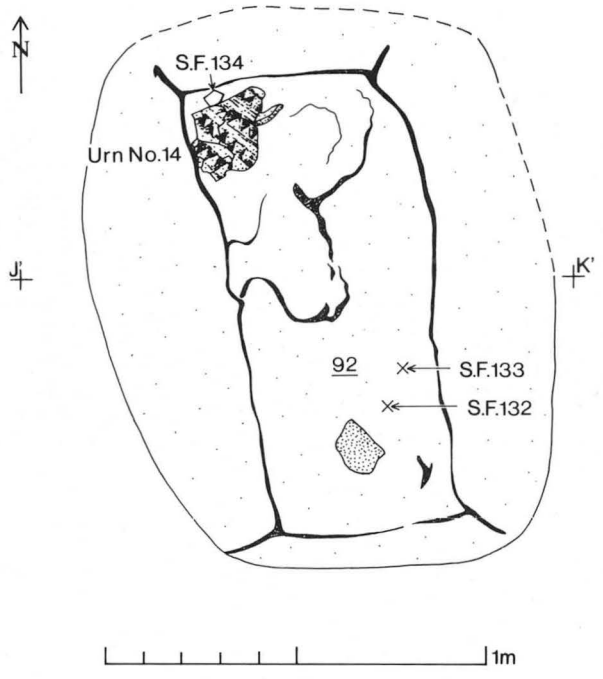


Figure 33 Plan of plank-built coffin and contents in grave *92*. Scale 1:20

Pit 48 (Figs.23, 24 and 38)
An oval pit or gully, 3m long, more than 1.25m wide and 32cm deep. The light grey sand fill was cut on the east by the inner ditch (*47*), which here contained very strong orange and dark brown pans. Grave *49* overlay the southern end. It contained two complete small Collared Urns lying on their sides, one (S.F.1, Urn No.11) at the surface, the other (S.F.10, Urn No.12) at a depth of 10cm, but otherwise only two small pot-boilers and one small flint flake.

Other archaeological features

Feature 4 (Fig.39)
In the north, between the two ditches, and hence stratigraphically unrelated, lay an area, 1.6m by 1.4m, which contained grey-brown sand overlain by a very dark grey/black sandy deposit containing large quantities of struck flint, pot-boilers, burnt sandstone pebbles and a fragment of jet, bone and pottery sherds, mainly of Beaker[5]. A large section of a Beaker (S.F.4; Urn No.2) lay crushed at one spot. Although the few remnants of recoverable bone were unidentifiable, a row of bovine molars (S.F.5) remained intact. Charcoals included hazel nutshells, cereals, oak and possibly maple (below).

Feature 13
In the north-east, a small pit, 85cm by 50cm and 20cm deep, with ill-defined edges, was identified. The fill of blackened sand with charcoal flecks was sterile of finds.

Feature 15
In the north, an area of blackened soil and pot-boilers, 25cm by 50cm, lay above the outer ditch fill (*6*). Although this contained only a few flint flakes, it is probably best viewed within the same context as the wider scatter of flakes and Iron Age sherds recovered from the surface of the infilled outer ditch.

Feature 69
On the north-east, the outer edge of the inner ditch was obscured by a thin layer containing charcoal and a pot-boiler. This layer was situated directly beneath the topsoil (*2*), but it is not known if it is a vestige of the barrow mound, or a post-destruction deposit.

Non-archaeological features

A number of large amorphous hollows were investigated, including *20* and *87* on the west, *86* in the centre, and *90* and *91* in the north. All these were considered to be natural features, the majority possibly the sites of trees. Feature *86*, although centrally placed, grave-shaped (2.3m by 1.0m) and cut by the central grave (*14*), did not have the appearance of an earlier, or perhaps primary grave. Feature *90* contained a few small sherds of prehistoric and later date, which are considered to be intrusive, while the surface of the surrounding natural (*89*) contained prehistoric, Romano-British and later sherds.

IV. The Artefacts[6]

Flint

(Fig.40)
Virtually all the flint artefacts are of a dark grey/black flint, frequently retaining cortex. From the large number of shatter pieces present, it is suggested that locally collected, poor quality, cobbles were the source of the raw material. The number and provenances of the artefacts retrieved is given in Table 8 (microfiche).

The majority of the artefacts (873) are simple flakes. These are largely irregular in shape and scrappy. There is no appreciable difference between the assemblages from the earlier and later contexts; consequently, this material is of little value for indicating the date of a specific context. Although the later contexts are dated by Iron Age pottery, the earlier assemblages would not look out of place in a Late Neolithic or Bronze Age context, when narrow flakes and blades are poorly represented and broad flakes are the norm. The few retouched pieces are similarly uninspiring, only the barbed-and-tanged arrowhead (S.F.100) and the possible projectile point or knife (S.F.13), both from grave fills, being worthy of attention. However, the mint condition of the three flakes (S.F.132-4) in the base of grave *92* warrant mention. They do not conjoin, but appear to have been struck from the same small nodule.

Many of the artefacts in the grave fills and inner ditch fill may be residual as pre-barrow, Early Bronze Age activity is attested on the site. Similarly, the majority of the pot-boilers probably result from domestic activity at that time.

Description of selected flint artefacts (Fig.40)
1. **Scraper**; Grave *29*; S.F.29.
2. **Projectile point or knife**; point missing; Grave *39*; S.F.13.
3. **Scraper**; Grave *52*; S.F.12.
4. **Barbed-and-tanged arrowhead**; Grave *75*; S.F.100.
5. **Retouched** flake; Grave *75*; S.F.131.
6. Flake; Grave *92*; S.F.132.
7. Flake; Grave *92*; S.F.133.
8. Flake; Grave *92*; S.F.134.
9. **Borer** with serrated edges; uppermost fill of outer ditch (*25*); S.F.18.
10. **Borer** with lateral projection; uppermost fill of outer ditch (*71*); S.F.32.
11. **Borer** with lateral projection; uppermost fill of outer ditch (*71*); S.F.54.
12. **Borer** with lateral projection; secondary fill of outer ditch (*73*); S.F.70
13. **Heavy scraper**; secondary fill of outer ditch (*73*); S.F.72.

Pottery

(Figs.41-44)

Pre-barrow Activity
Feature 4 (Fig.41)
At least nine Beakers were represented in the sherds from this small feature, though none is complete. The feature was excavated in quadrants, but sherds from individual Beakers were not found in separate quadrants except in one instance (No.2 below found in the south-east quadrant *4C*). In a second example (No.8), all but one sherd were found in the south-west quadrant (*4D*). Many of the sherds were collected during the initial cleaning of the feature (*4*) before the quadrants were defined and hence were not precisely located.

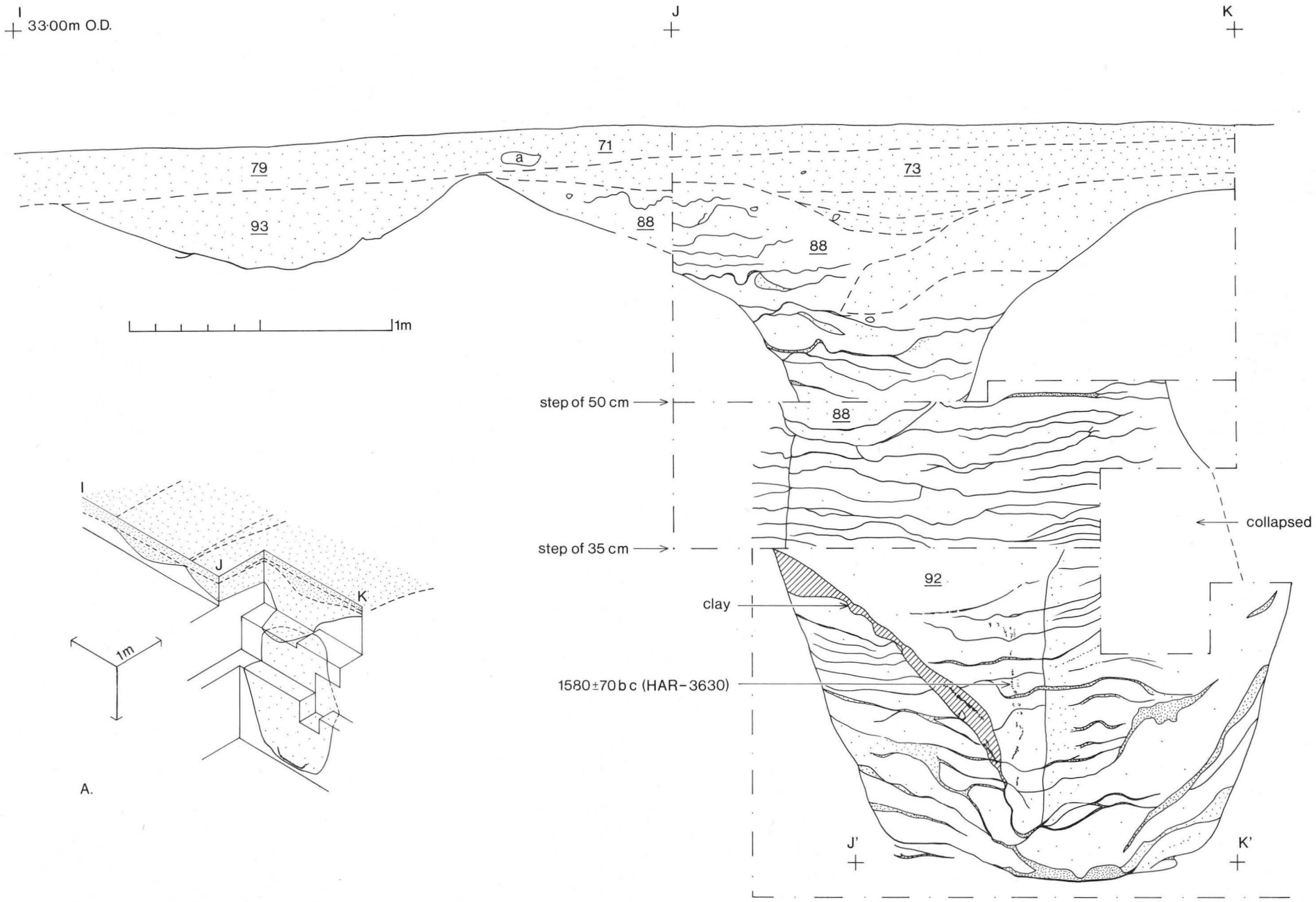


Figure 34 Stepped section of grave *92* lying beneath outer ditch (*71, 73, 88*) and adjacent to the tangential ditch (*93*). Scale 1:20
A: Isometric diagram showing the relationship of the vertical sections. Scale 1:100

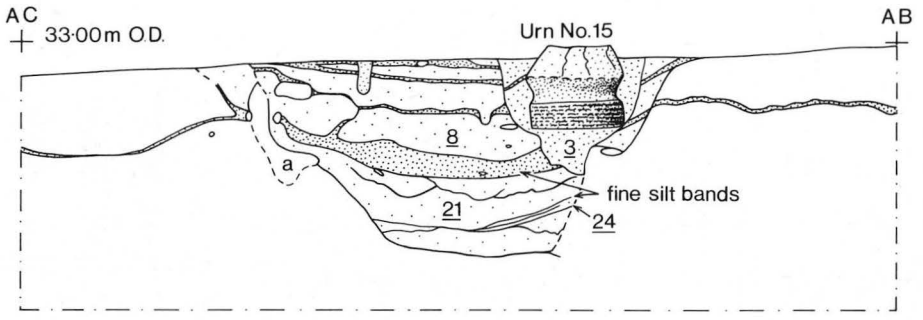


Figure 35 Inverted Collared Urn set in a pit (*3*) cutting inner ditch (*8*). Scale 1:20

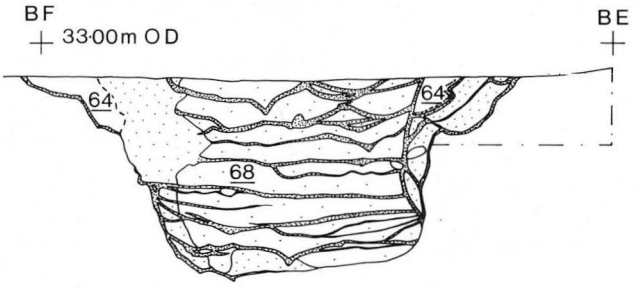


Figure 36 Section of pit *68*. Scale 1:20

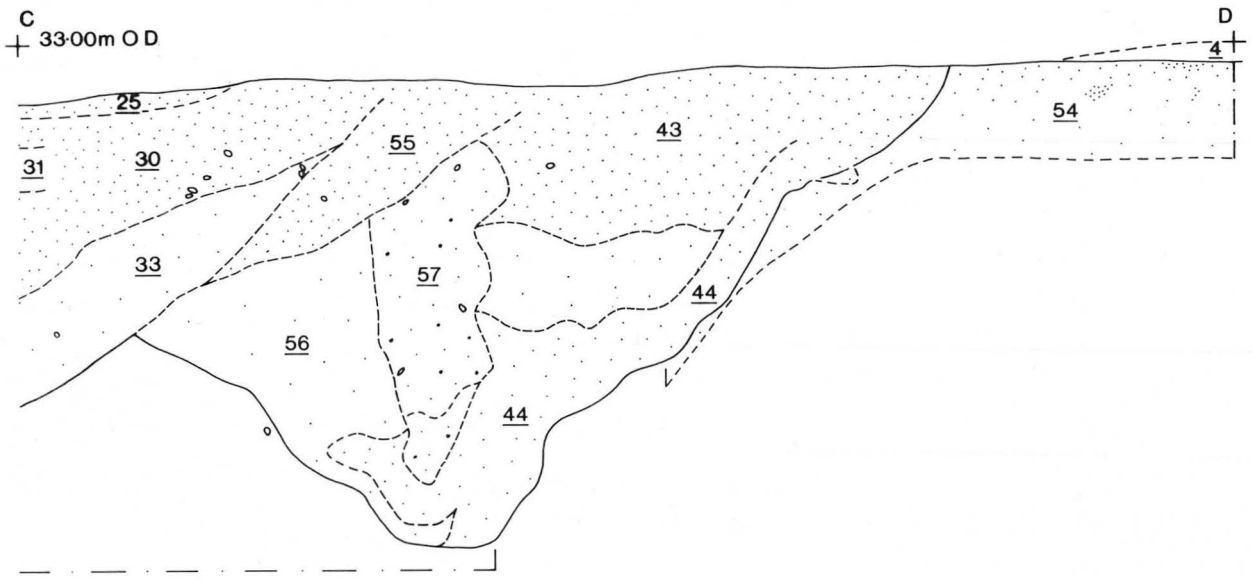


Figure 37 Section of pit *42* cut by outer ditch (*25, 30, 31, 33, 55*)

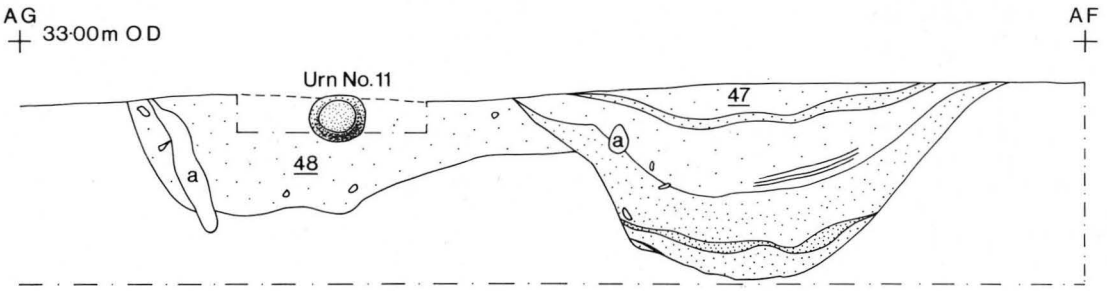


Figure 38 Section of pit *48* cut by inner ditch (*47*). Scale 1:20

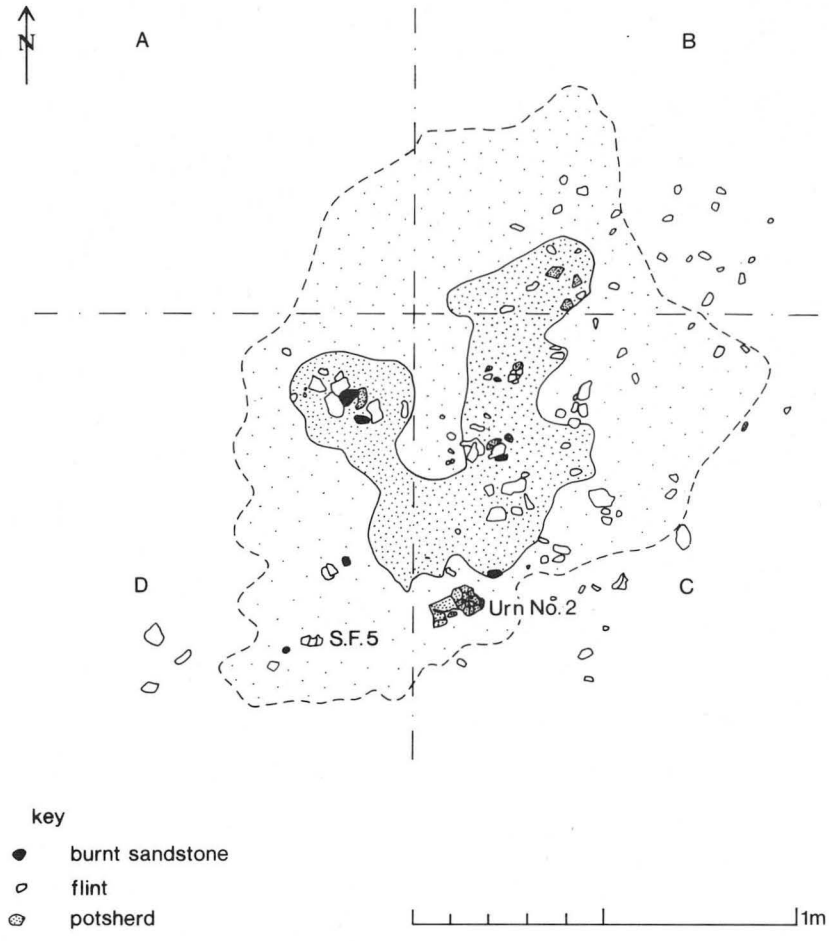


Figure 39 Plan of feature *4*. Scale 1:20

1. **Beaker**; globular body with short, lightly flaring neck. Neck decorated with three horizontal ridges with alternating rows of oblique finger-nail impressions above each. Junction of neck and body marked by four horizontal grooves formed by impressed ?string with oblique impressions beneath. Reserved band with mirror of the above on upper body. Rim internally decorated with chevron of finger-nail (or ?whipped-cord) impressions. Pale brown exterior; light greyish brown interior. Medium hard fabric with fine grog and sparse flint filler. Principally *4B* and *4C*.

   Seven sherds in a similar fabric bear a decoration of discontinuous horizontal rows of impressions with occasional evidence of oblique impressions and a reserved band. These may belong to a lower part of No.1 or may be the sole representatives of another vessel.
2. **Beaker**; barrel-shaped with everted mouth and simple rounded rim. Upper body and neck decorated with zones of four horizontal lines of comb impressions separated by zones of short vertical, or slightly oblique, comb impressions. Orange/buff exterior; buff interior. Medium hard to soft fabric with sparse fine sand and flint filler. Surfaces weather. S.F.4; *4C*.
3. **Beaker**; barrel-shaped body, slightly carinated at the belly, with simple everted rim. Decorated all over with horizontal lines of comb impressions. Pale orangey brown exterior; buff interior; grey core. Hard, gritty texture; fine fabric with sparse fine sand or, less commonly, flint filler.
4. **Beaker**; represented only by body sherds. Form unknown. Decoration with vertical finger-nail impressions set roughly in horizontal lines. Orange buff-cream (?reheated) surfaces; grey core. Medium hard to soft; fine sand filler. One sherd with a simple flattened rim may belong.
5. **Beaker**; large barrel-shaped body with simple rounded rim at everted mouth. Body decorated with random non-plastic finger-pinched rustication. Pale reddish brown/pale brown exterior; dark grey-brown interior. Hard, but very crumbly, fabric with abundant crushed flint filler.
6. **Beaker**; barrel-shaped body, everted neck, simple rim at places expanded externally. Flat base. Neck and body decorated with close-set horizontal lines of comb impressions. Buff surfaces; grey core. Medium hard to soft fabric. Fine grog, sand and very sparse flint filler.
7. **Beaker**; similar to No.6, but decorated with widely spaced and interrupted horizontal lines, comb impressed.
8. **Beaker**; represented by a few sherds only. Decorated, in part, with a horizontal row of short vertical impressions set above or below two horizontal lines of string impressions. Cream coloured; grey core. Soft fabric, fine grog and sand filler. Principally *4*.
9. **Beaker** sherd; well executed decoration with paired comb-stamped horizontal lines separating alternately oblique impressions. Pale orange-buff exterior; buff interior. Medium hard fabric with fine grog and flint filler. Does not apparently match Nos.1 to 8. Quadrant *4D*.
10. Body sherd; decorated with parallel lines of string impressions. Buff-pale orange. Medium hard fabric with grog and sand filler. Although the context of this sherd is unrecorded, its condition is so similar to those in *4* that it almost certainly belongs here.

Pit 48 (Fig.42)

Two complete Collared Urns were retrieved from this feature.

11. **Collared Urn**; undecorated; greatly deformed. Tripartite body with short concave neck above body with carinated shoulder. Simple rounded rim. Reddish buff exterior; buff interior; black core. Soft, crumbly, grogged fabric. S.F.1.
12. **Collared Urn**; small; slightly oval, with short collar above concave neck and carinated shoulder. Flat base. Collar decorated with herring-bone design of short whipped-cord impressions. Neck decorated with chevron of similar impressions. Shoulder bears a single horizontal row of small rounded impressions. Buff exterior; darker interior; black core. Soft, heavily grogged fabric. S.F.10.

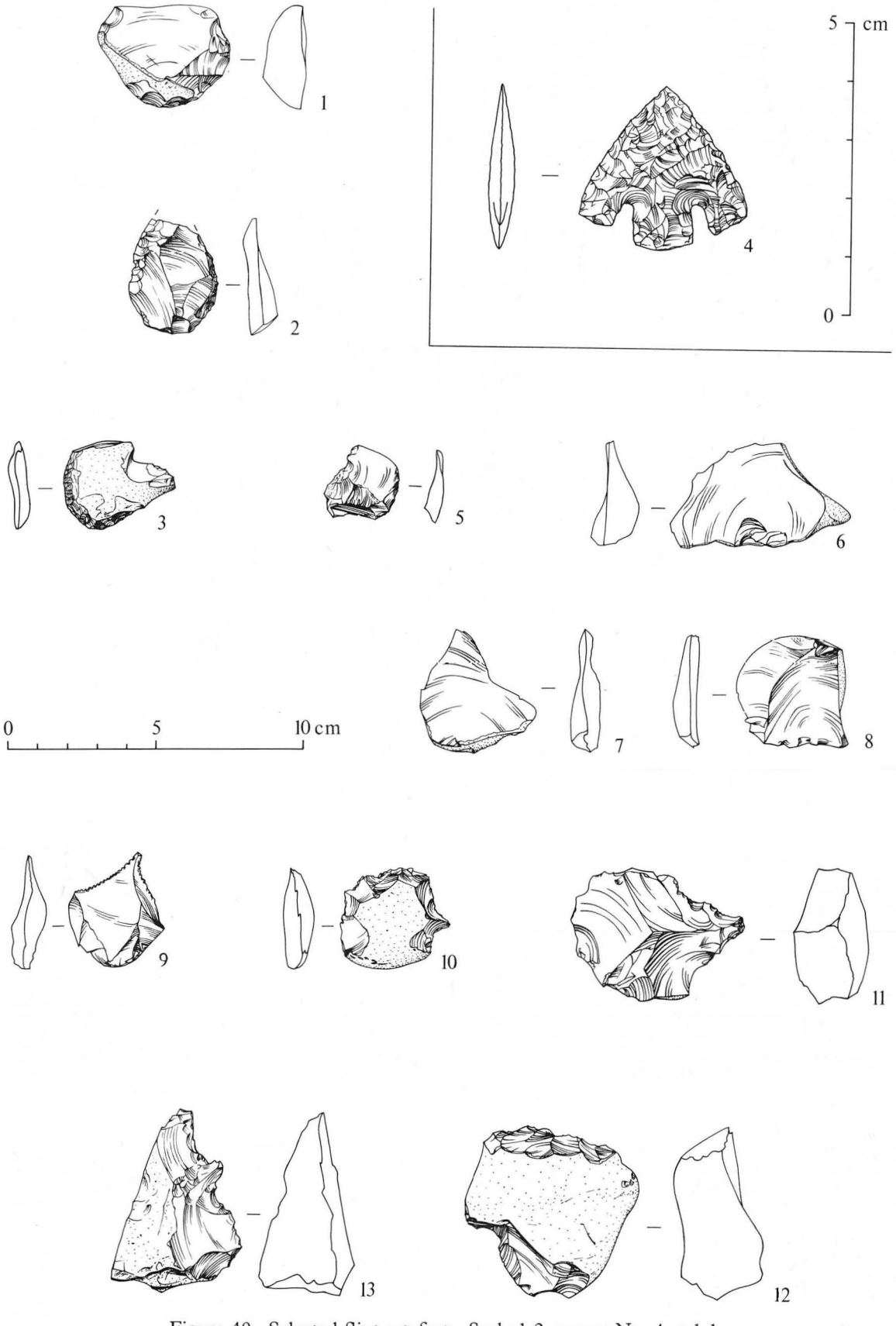


Figure 40 Selected flint artefacts. Scale 1:2, except No. 4 at 1:1

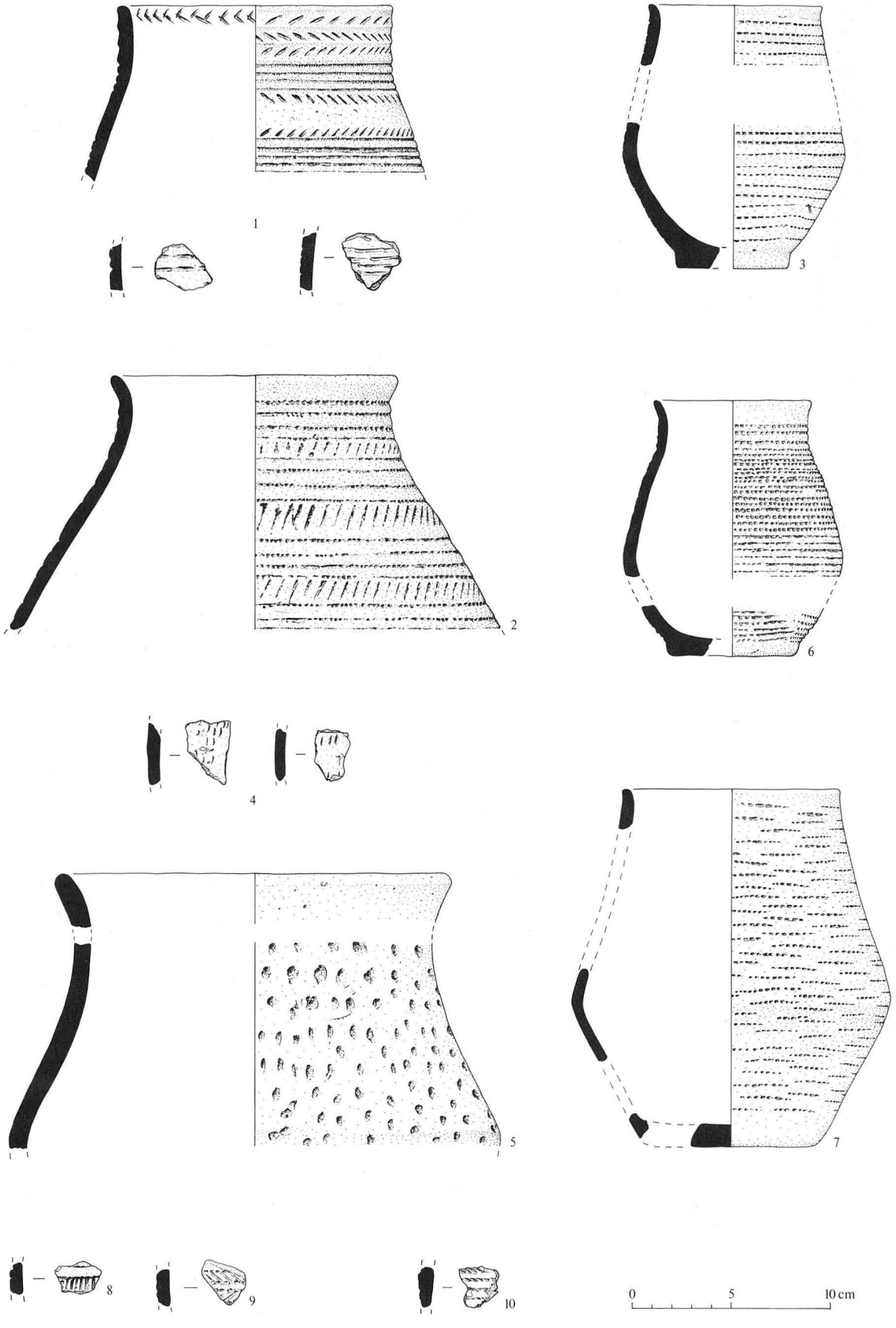


Figure 41 Beaker pottery from feature *4*. Scale 1:3

Figure 42 Beaker and Early Bronze Age pottery from pit *48* (Nos. 11 and 12), grave *52* (No. 13), grave *92* (No. 14) and cremation *3* (No. 15). Scale 1:3

Burials (Fig.42)

Grave 28

(not illustrated) 2 small, undecorated Beaker sherds; S.F.6 at a depth of 34cm; S.F.11 on the undercut edge at a depth of 35cm.

Grave 52

13. **Small, tub-shaped vessel;** undecorated, with thick flat base. Irregular, simple rim. Beige surfaces with some black encrustation. Soft fabric. Found on its side at the (supposed) foot of the grave. S.F.16. The surface of the grave also contained one decorated Beaker body sherd (S.F.7; not illustrated but compares with urn No.6).

Grave 92

14. **Beaker**; incomplete; thin-walled, globular body with short convex funnel-shaped neck. Neck and body decorated with comb-stamped impressions in zones of triangles, infilled with short horizontal lines, above and below horizontal border lines. The triangle-filled zones invert either side of three reserved zones. The upper-most decorative zone is fringed above by a narrow zone of small obliquely set, elongated impressions forming a disjointed chevron. This zone is confined by single horizontal lines. Reddish-brown exterior; brown interior; medium hard grogged fabric. S.F.135.

Cremation 3 (Fig.42)[7]

15. **Collared Urn**; tripartite form with vertical collar above angular, carinated body. Flat base. Bevelled rim. Collar decorated with ten horizontal lines of a chevron design achieved by paired strings with opposite twists. The shoulder bears a row of rounded horizontal indentations. Exterior red-brown; interior dull brown; core black. Heavily grogged, crumbly fabric. S.F.2.

Inner Ditch

The following very small undecorated Beaker sherds were found within the fill:

	Context	S.F.No.	Depth
1 sherd	*26*	—	—
1 rim	*41*	15	24 cm
2 sherds	*53*	17	70 cm

Outer Ditch (Figs.43, 44)

Small undecorated sherds were collected from the surface and upper fill of the ditch. These can broadly be divided into three wares:

Type 1; Buff to orange/brown surfaces; black core. Soft or friable fabric with fine flint or sand filler. Probably Beaker.

Type 2; Orange/brown to brown; grey core. Medium hard fabric with flint filler. Probably of Early Bronze Age date.

Type 3; Reddish brown to black exterior; black interior. Thin-walled, hard fabric with fine flint filler. Probably of Iron Age date.

The provenances of these sherds are shown in Table 9 (microfiche). The majority of the sherds are featureless body sherds. Only two bases and a rim warrant illustration (Fig.43; Nos.18-20).

In addition, one Romano-British grey coarse ware sherd (*71*; S.F.56; Fig.44, No.24), one Early Medieval sherd (*71*; S.F.31) and three post-medieval earthenware sherds (*6*, 2 sherds; *73*, 1 sherd) were found.

Other contexts (Figs.43,44)

Sherds from the accumulated soil in the south-west (*79, 81*), the surface of the natural in the north (*89*) and hollows in the north (*90, 91*) can be divided similarly to those from the outer ditch. Their provenances are also shown in Table 9 (microfiche). One rim sherd (S.F.124) from the surface of the natural (*89*) was decorated on its outer lip with a cabled design (Fig.43, No.16). Three Romano-British grey coarse ware sherds (*79*; S.F.28, 30, Fig.44, Nos.25 and 21 respectively; *89*; S.F.114, Fig.44, No.23), two small Early Medieval sherds (*79*; S.F.76) and one post-medieval earthenware sherd (*91*; S.F.130) also came from these contexts.

Discussion of the Pottery

Beakers: The characteristics of these vessels, according to the definitions proposed by Clarke (1979), are shown in Table 10.

In Feature *4*, at least nine Beakers were represented. Where the forms can be reconstructed they are principally ovoid, with a short slightly flaring (No.1) or everted rim (Shape III). Decoration is by comb stamping, string impression, finger-nail impression or non-plastic rustication. The majority of the vessels are decorated overall (Style C) with horizontal lines which may be continuous (*e.g.*No.3) or discontinuous (*e.g.*No.7). All these features, including the variety of decorative techniques, are characteristic of the East Anglian (EA) tradition. The most unusual vessel is No.1: the ridged neck bears herringbone decoration, while the inside of the rim is decorated with a chevron. Internal decoration is not common in Beakers and is confined to AOC, European (E) and Northern traditions (Clarke 1970, 435). The internal decoration and the use of a Group 2 motif, suggests that this vessel was decorated in the Northern tradition. It is difficult to ascribe the scant remains of No. 9 to a particular tradition. However, the well executed comb-stamped decoration would not look out of place in an early assemblage.

The general impression from this assemblage is that it belongs to an early phase of the East Anglian tradition with some influence from the Northern tradition. In the scheme proposed by Lanting and van der Waals (1972), these vessels belong to Step 3 in the East Anglian-Kentish focal area, with a possible date of *c.*1900-1800 bc. It is unlikely that this assemblage is from a funerary context and the large Beakers (Nos.2 and 5) are best considered in a domestic situation. The use of rustication is common in such contexts, both finger-nail (*e.g.*No.4) and non-plastic rustication (No.5) being used at a relatively early date (Bamford 1970, 123).

The unstratified sherd (No.10) may well have been removed from Feature *4*, as this was the only spread of Beaker material found on the site. As with No.9, the vessel is too incomplete for accurate dating. The well-executed string-impressed decoration is not found on any other Beaker from the site, but would also best be thought of as from an early context and possibly on an AOC vessel.

Beaker No.15 from grave *92*, has completely different characteristics from those in Feature *4*. In Clarke's (1970) classification, the combination of his Style b, Shape IV and decorative Motif Group 4 indicate a Primary Southern (S_1) attribution, in which the continued use of a Group 1 motif is an archaic survival (Clarke 1970,20). An alternative proposal (Lanting and van der Waals 1972) gives a context in Step 4 of the East Anglian-Kentish focal area. Although in this proposal a date of *c.*1850-1750 bc has been suggested for Step 4, caution has been expressed over the proposed limited duration of Beaker groups (Longworth 1979, 90), and in this respect it is worth noting that the Step 3/4 Wessex/Middle Rhine (W/MR) Beaker from the primary grave (*28*) at Barnack, Cambridgeshire was dated by an associated radiocarbon determination of 1620 ± 80 bc (HAR-1645) (Donaldson 1977, 228). Both the Bowthorpe and Barnack dates are from charcoal and were analysed at the same laboratory. The radiocarbon date from grave *92* of 1580 ± 70 bc (HAR-3630), hence, need not seem alarming. Factors such as the age at burial of the assay sample, or of the Beaker (which was incomplete at burial) must be borne in mind as they may already have been old when deposited.

The small sherds from graves *28* and *52*, the inner ditch fill (*26, 41, 52*) and the outer ditch fill (*6, 25, 73*) are probably residual. The sherd from grave *52* (S.F.7) is compared with Beaker No.6. Assuming that before the

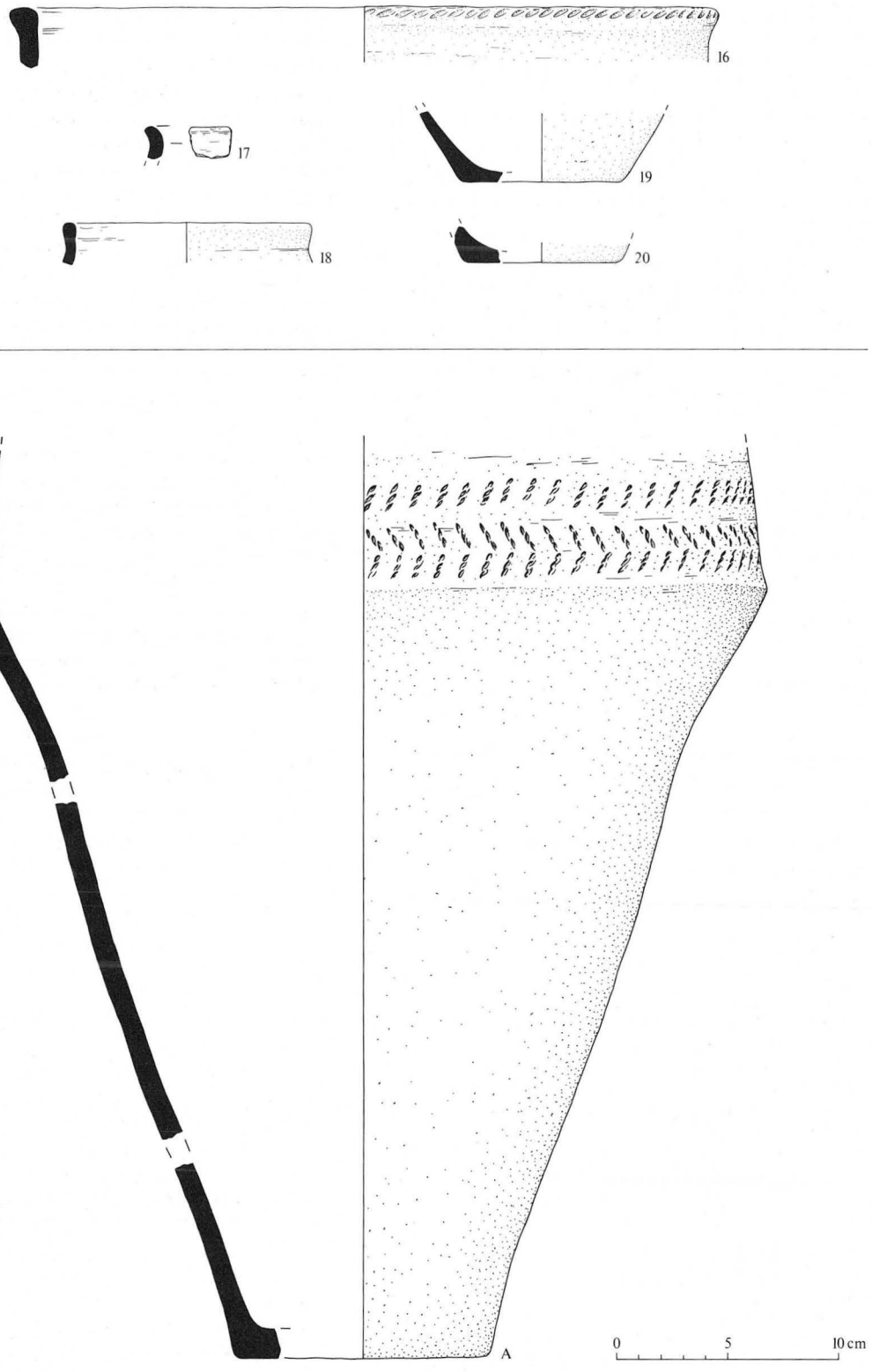


Figure 43 Iron Age pottery (of Fabric Type 3) from natural hollows (No. 16, *89*; No. 17, *90*) and the surface of outer ditch (No. 18, *6*; No. 19, *73* and No. 20, *71*). Scale 1:3. A: Incomplete Collared Urn from Site 13978. Scale 1:3.5

erosion of the site (exacerbated by ploughing), Feature *4* was more extensive, the occurrence of a sherd, similar to those in *4*, in a nearby grave occasions little surprise.

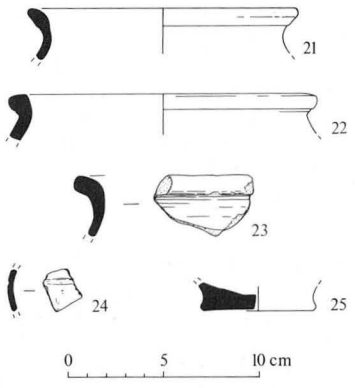


Figure 44 Romano-British pottery from the surface of outer ditch (No. 24, *71*) and beyond the outer ditch (Nos. 21 and 25, *72*; No. 22, *81*; Nos. 23, *89*). Scale 1:4

In Norfolk, EA, S_1, and Northern tradition Beakers are well represented (Clarke 1970, 487-90). In the Norwich area, the barrows excavated at Eaton (Site 9549 C3-4) and Trowse with Newton (Site 9592) have yielded Beakers while sherds have been found on the surfaces of a barrow at Ringland (Site 7803) and a ring-ditch at Taverham (Site 7830). At Eaton (Site 9549/C4) the finds include a Barbed Wire (BW) Beaker which has the same globular form as many EA Beakers (Healy; this volume). In their review of British Beakers, Lanting and van der Waals (1972, 33), suggest that BW beakers are an example of the unorthodoxy shown in the decoration of early EA Beakers and should not necessarily be viewed as an independent tradition. An EA Beaker was also found within a shaft on Eaton Heath (Site 9544; Wainwright 1973, fig.14, P2). Consequently, the finds from Bowthorpe add to the general pattern of distribution of Beakers within the county (Healy 1984a, fig.5.11) and increase our knowledge of their use in the Norwich area, but are not exceptional except in their number and possible domestic context.

No.	*Context*	*Style*	*Shape*	*Motif Group*	*No.*	*Decorative technique*	*Tradition*
1	*4*	b	III	1	1	?string impress.	EA/N_{1-2}
				2	12	?finger-nail	
2	*4*	o	III	1	1	comb impress.	EA
				1	2		
3	*4*	o	III	1	1	comb impress.	EA
4	*4*	?o	?			finger-nail	?EA/FN
5	*4*	o	III			rustication	EA
6	*4*	o	III	1	1	comb impress.	EA
7	*4*	o	III	1	1	comb impress.	EA
8	*4*	?	?	1	5	finger-nail + ?string	?
9	*4*	?	?	1	2	comb impress.	?E
10	*1(?4)*	?o	?	1	1	string impress.	?AOC
14	*92*	b	LV	1	8	comb impress.	S
				4	29		
—	*52*	?	?	1	1	comb impress.	EA

Other sherds from *6, 25, 26, 28, 41, 53, 73, 90,* are undiagnostic.

Table 10 Beaker characteristics (according to Clarke 1970)

Collared Urns: The principal date range for this ceramic tradition is *c.*1700 bc to 1250 bc, although earlier dates have been obtained in East Anglia. The earlier part of this tradition is contemporary with late Beaker (Lanting and van der Waals 1972, Steps 5-7) and Food Vessel developments. Although a series of Primary Collared Urns was defined by Longworth (1961), a review of the criteria on which this classification was based has shown that many of the 'primary' traits also occur on later vessels making typological dating more complex than originally thought. None of the Bowthorpe urns would be placed in the Primary Series; however, an alternative scheme based on radiocarbon dates and associations has been presented (Burgess and Varndell 1978). Urn No.12 from pit *48* compares best with those of an 'Early' group dated between 1700 and 1600 bc. The lack of decoration on the associated urn, No.11, makes it difficult to date, but this urn would not be out of place in the seventeenth century bc. The inverted urn (No.15) cut into the inner ditch is best compared to the 'Late' group by virtue of its crisp angular outline and would thus be dated to *c.*1450-1250 bc.

The occurrence of Collared Urns in East Anglian barrows is not uncommon (Lawson, Martin and Priddy 1981): thirteen other barrows in Norfolk have yielded examples, two with radiocarbon dates (Harpley Site 1005,1770 bc ± 90 (HAR-486); Weasenham All Saints Site 3659, 1389 bc ± 56 (BM-877).

Accessory Vessel: The use of miniature vessels as grave-goods is characteristic of Wessex-style barrow burials, although the tradition continues, small vessels occasionally accompanying the cremations of the 'Deverel-Rimbury Tradition'. Frequently, accessory vessels are highly decorated, although plain examples also occur (Annable and Simpson 1964, 114-115; Burgess 1980,97-8). A precise date cannot be suggested for this example. In Norfolk, four other barrows have produced accessory vessels, though none is as plain as Bowthorpe No.13 (but see Sweet Briar Rd, Norwich; this volume).

V. Human Skeletal Remains

A single large sample of cremated bone from Cremation *3* was available for examination. The inverted urn (No.15) was lifted with its contents and subsequently excavated in five arbitrary layers[7]. Virtually all of the cremated bone lay in the lowest 10cm of the deposit, while the rest of the urn was filled with soil. The upper part of the deposit contained the crushed base of the urn. The cremated bone was examined by Miss Janet D.Henderson (Appendix I: microfiche). No animal bone was present and all the fragments had been burnt. Elements of skull, teeth, vertebrae, hands, ribs and long bones could be identified. Unfortunately, the proportion of identifiable bone was small owing to the size and condition of the fragments.

A single adult individual was represented, although it was not possible to be more specific about the age at death, sex, stature, or pathological abnormality, due to the fragmentary state of the bone. From this state it is concluded that the process of cremation had been fairly complete and the bone had subsequently been crushed to facilitate its inclusion in the urn.

VI. Botanical Evidence

by Peter Murphy

The 'coffin stains'

Samples of stains, apparently representing the remains of coffins, were examined from six graves (Table 11: microfiche). They fall into two groups:

a) The samples from graves *14, 16, 17, 75* and *92* consist of a brown sand matrix, containing humic residues produced by wood decay, with discontinuous black streaks and flecks. Some of these are charcoal flecks, too small for identification, and are probably incidental inclusions unrelated to the structure since similar flecks of charcoal occur in all samples examined from the site. Others consist of black metal oxide concretions with some replaced wood fragments up to about 4mm. These typically show areas of replaced fibre, vessel and ray tissue merging into areas of structureless amorphous metal oxide. It appears that 'coffin' wood in these graves formed a substrate for re-precipitation of translocated metal ions. In addition to black replaced wood, graves *16* and *75* produced some small pale orange-brown replaced wood fragments resembling wood preserved by metal corrosion products (Keepax 1975). This wood has split into laminar fragments along its rays and is distorted, but samples from grave *16* are tentatively identified as oak (*Quercus* sp.). Keepax (1977) has reported apparently comparable metal oxide replacement of wood in iron-panned deposits at a site in North Wales.

b) The stain in grave *66* consisted largely of an area of charcoal about 1cm thick and concave in form, representing one continuous oak timber (*Quercus* sp.). There were small, rounded projections on its surface, representing the remains of knots or side branches. The surrounding natural sand showed no sign of burning, and charring, therefore, did not take place in the grave.

The two forms of stain appear to represent different construction methods. In graves *16* and *92* the 'coffin' seems to have consisted of boards, in *16* at least, probably of oak. Boards of this type could have been produced with quite simple equipment by splitting large timbers. The stain in grave *66* differs in including a continuous thick layer of charcoal. It seems reasonable to suggest that this has resulted from the use of fire in shaping the 'coffin'; possibly hollowing out an oak trunk by charring. Graves *14, 17* and *75* also contained stains with a concave section and, hence, may also be regarded as hollowed trunks, although not charred.

Opal phytoliths

The rectangular area of staining beneath the remains of the skull in grave *16* appeared, in the field, to represent a wooden, box-like structure perhaps enclosing some form of padding, provisionally termed a 'pillow-stain'. The outer part of this stain included small (< 3mm) fragments of replaced wood (species indeterminate). Samples of inner portion were compared with samples of the grave fill and surrounding natural sand to see whether any residues of plant or animal origin had survived. The stain sample was found to contain a concentration of phytoliths.

Permanent mounts of this 'pillow-stain' sample were prepared for phytolith counting using a slight modification of the method devised by Dr R.MacPhail (pers.comm.):

1. Samples gently dried in oven.
2. Samples sieved through 1mm mesh.
3. 1g of fine fraction boiled gently with 2N HCl
4. Suspension centrifuged with distilled water, 2 min
5. Liquid decanted, distilled water added, re-centrifuged
6. Liquid decanted, 97% alcohol added, re-centrifuged 2min 30sec.
7. Liquid decanted, sample collected in small crucible, adding alcohol. Alcohol burned off.
8. Slides prepared using 'static electricity'. The slide was rubbed with a handkerchief and held over the sample, thus collecting fine particles. An alternative method (giving a denser mount) is to place a little of the sample on the slide and sharply invert. Fine material adheres to the slide, coarse sand particles fall off.
9. Medium added (Canada Balsam) and cover-slip put in place.

Scanning electron micrographs of a selection of phytoliths were also made (Pl.XV).

Interpretation of archaeological phytolith samples is possible at present only by comparison with modern soil phytolith assemblages from known habitats or with other samples of known origin (Nisbet 1980). For this reason preparations were also made from samples from three other sites: two from modern soils in the Norwich area and one archaeological sample of cereal ash. Details of these are as follows:

(i) Somerton, Suffolk: Cereal ash from a Roman deposit *(10)*;

The sample from this site consisted of charcoal dust and silica ash produced from the combustion of cereals. Other parts of the deposit contained charred cereals, including caryopses, glumes, rachis internodes, and awn fragments. The principle species was *Triticum spelta*, together with some *Triticum compactum* and a very few florets of *Avena fatua.*

(ii) Mousehold Heath, Norwich;

The collecting site is on one of the higher parts of the heath, at an elevation of about 37.5m OD. In this area a sandy podzol has developed on coarse flint gravel, part of a glacial outwash plain (Funnell 1976, 251). In the twelfth century this land was part of Thorpe Wood, but by 1500 clearance and grazing had produced open heath. More recently, following myxomatosis, the cessation of grazing and the reduction in frequency of heath fires, secondary woodland has developed in some areas (Rackham 1976, 136-8). The vegetation of the collecting site includes *Calluna vulgaris, Festuca ovina Agrostis canina* and *Rumex acetosella*, with some *Erica cinerea.* Mosses and lichens are abundant. In the surrounding area there are stands of *Pteridium, Ulex* and *Rubus fruticosus* with some young *Quercus* and *Betula.*

(iii) Earlham Park, Norwich;

This site is on the slope between Earlham Hall and the River Yare. The soil is developed on sandy gravel, perhaps of soliflucted origin. The park was arable land at least until the mid-nineteenth century (A.Carter, pers.comm.) but nowadays is largely open grassland with isolated old oaks. The vegetation of the collecting-site includes: *Lolium perenne, Phleum bertolonii, Dactylis glomerata, Holcus lanatus, Agrostis tenuis, Agrostis stolonifera, Poa trivialis, Alopecurus pratensis,* with herbs; *Ranunculus acris, Plantago lanceolata, Trifolium repens, Trifolium pratense, Medicago, Convolvulus arvensis, Bellis perennis, Achillea millefolium* and *Leontodon taraxacoides.*

Counts were made of phytolith-types present in these three comparative samples and in the Bowthorpe 'pillow stain' sample (Table 12). The classification of Twiss Suess and Smith (1969) has been used as a basis for the description of phytolith-types, and this has been supplemented with terms used by Parry and Smithson (1964, 1966) and Armitage (1975). Illustrations of all types counted are also given (Fig.45) in an attempt to avoid ambiguity. Almost all these forms are grass phytoliths, although the Mousehold Heath sample produced some non-grass opals described here as '*Calluna*-type'. These forms may well not be specific to *Calluna*; however, they closely resemble phytoliths seen in dry-ashed preparations of young *Calluna* shoots and *Calluna* was the dominant dicotyledonous species at the collecting site. The Somerton cereal ash sample included large quantities of fragmentary silica films bearing impressions of elongate and round cells, which have not been counted. Fragmentary and damaged phytoliths were common in all samples. Elongate phytoliths appear to be particularly prone to fragmentation, and many of these fragments have pitted and etched surfaces, from which surface sculpturing may have been lost. Such phytoliths are listed as 'Elongate, fragments or etched/pitted' in Table 12. The remaining unassigned fragments and phytoliths seen at oblique angles could probably be placed with a greater or lesser degree of certainty in particular categories, but it was thought better to err on the side of caution. A few diatom frustules were present in the Bowthorpe and Earlham Park samples.

Conclusions

The Somerton cereal ash sample clearly contained a quite different range of phytolith types from the three remaining samples. In particular it has a much higher proportion of elongate spiny, often dendriform, phytoliths (Fig.45 W; Table 12): over 40% of phytoliths from this sample were of this form, as against 1-3% in the three remaining samples. From this it can safely be concluded that the Bowthorpe 'pillow-stain' is not a decay residue of cereal straw.

The modern soil samples gave fairly similar phytolith counts, the commonest single identified form being the wavy-edged costal rod. The Mousehold Heath sample has a slightly higher proportion of 'dumb-bell' phytoliths (0.9% as against 0.25% for Earlham Park). The Bowthorpe sample has a lower wavy-edged rod content (17.2%) and markedly more dumb-bells (9.6%). MacPhail (1981, 324) has

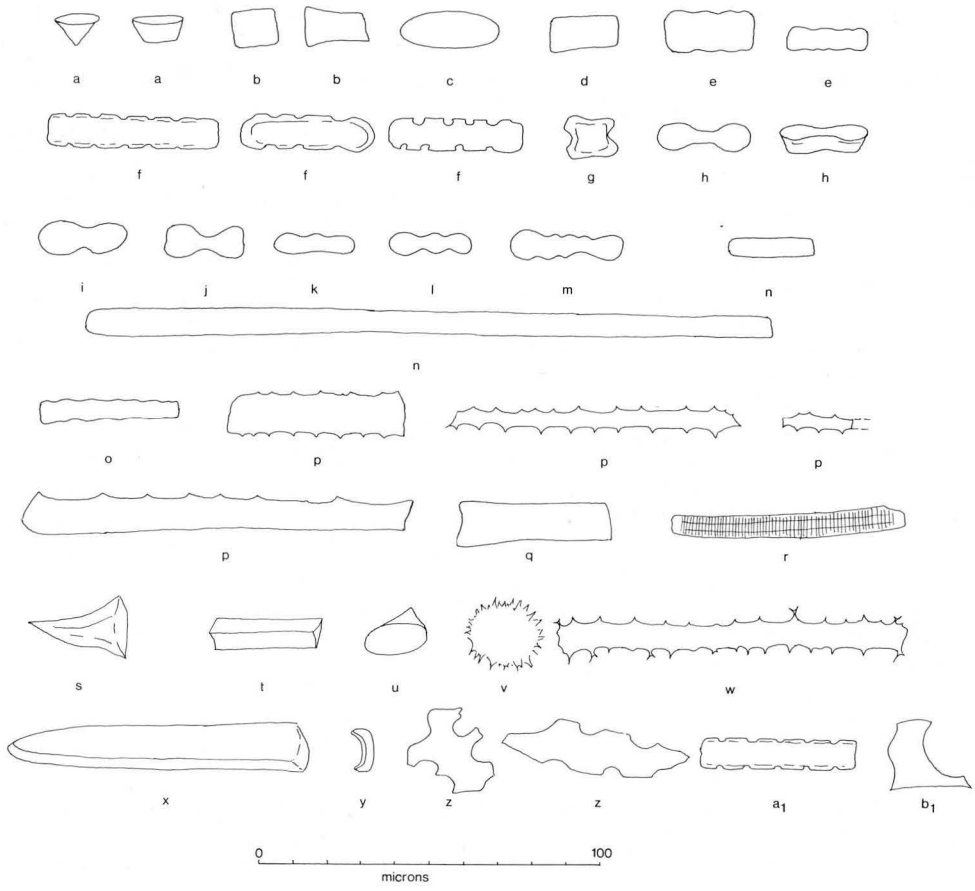


Figure 45 Scale drawings of phytolith types observed. Scale *c.*4500:1

Bowthorpe 'pillow stain':

a. 'Hats' (conical/circular);
b. Rectangular/trapezoidal;
c. Elliptical;
d. Oblong;
e. Oblong, sinuous;
f. Wavy-edged costal rods;
g. Cross;
h. Dumb-bell, long shank (with lateral view);
i. Dumb-bell, short shank;
j. Dumb-bell, concave ends;
k. Dumb-bell, nodular shank;
l. Regular, complex dumb-bell;
m. Irregular, complex dumb-bell;
n. Elongate, smooth;
o. Elongate, sinuous;
p. Elongate, spiny;
q. Elongate, concave end;
r. Elongate, ornamented;
s. 'Hair';
t. Intercellular silica prism

Somerton:

u. Scutiform phytolith;
v. Rounded, spiny;
w. Elongate, spiny (dendriform);
x. Elongate, rounded end;
y. Silicified cork cell

Mousehold Heath:

z. 'Calluna-type' phytoliths;
a_1. Wavy-edged costal rods

Earlham Park:

b_1. 'Spur'

interpreted high dumb-bell counts from a sample from York as indicating the importation to the site of the Panicoid grasses *Molinia* or *Sieglingia. Molinia caerulea* is typically found in wet heaths or bog, whilst *Sieglingia decumbens* extends from wet heaths onto sandy heaths (Hubbard 1954, 350-3; Petch and Swann 1968, 259). There is no evidence for the former presence of a wet-heath environment in the Bowthorpe area: valley-floor Flandrian deposits exposed in the nearby Bawburgh gravel pits consist of calcareous fen and brushwood peats. Nevertheless, it is possible that, before modern drainage, acidic ground water from the sands and gravels emerged at the surface on the valley slopes, supporting a zone of wet heath above the level from which ground water draining from calcareous strata emerged. This situation exists today at Buxton Heath, north of Norwich (Hornby 1976). However, whatever the exact source of these dumb-bell phytoliths, they do suggest that the grasses in the 'pillow' were harvested in an area of heathland or acidic grassland.

Charred plant remains

Charred plant material was extracted from large bulk samples of features *4* and *13* by water flotation, collecting the flot in a 250 micron mesh sieve. Large charcoal fragments were collected by hand during excavation. Plant remains identified are listed in Table 13. The charcoal is mainly of oak (*Quercus* sp.) with some hazel (*Corylus* sp.) and hawthorn-type (*Crataegus* group), and single fragments of elm (*Ulmus* sp.) and ?maple (cf. *Acer* sp.). Charred hazel nutshell fragments and a possible acorn cotyledon were also present. Samples from *4* and *13* produced a few very fragmentary unidentifiable cereal caryopses.

Pollen analysis

Samples from the ring-ditch fills were examined by Dr R.Scaife, but with negative results.

General discussion

Preservation conditions for biological remains are very poor at sites on sandy and stony soils formed on glacial sands and gravels over large areas of Norfolk. In general only biologically inert materials (charcoal, replaced wood, phytoliths) survive, and all calcareous macrofossils, even most animal bone, have been destroyed by soil acidity. A compensating factor at this

site was the lack of earthworm activity at depth: concentrations of surviving plant residues have, therefore, not been dispersed as they would in soils of higher biological activity. Nevertheless, the plant material surviving is very meagre. Interpretation is further complicated by uncertainties about the origin of the plant remains: the pillow, for example, was potentially a portable item. However, assuming that the plant remains are not derived from remote localities, some tentative reconstruction of local habitats is possible.

Local woodland evidently included oak trees of sufficient size for coffin construction. The charcoal from the site suggests an emphasis on the use of oak for fuel, but hazel and hawthorn-type charcoal may also indicate the presence of scrub. Other tree charcoals from the site include elm and possibly maple. Contexts *4* and *13* produced charred cereals indicating some arable farming. In *4*, cereals were associated with hazel nutshells, presumably reflecting some harvesting of wild nut crops. The grasses contributing phytoliths to the 'pillow stain' were apparently gathered in an area of acid grassland including Panicoid species.

Since the barrow mound had been destroyed no buried soil survived and there is, therefore, no direct evidence for the date at which soil degradation, producing the present profile with its prominent iron pans, began. Indirect evidence is provided by coffin wood preservation. Clearly the cell structure of this wood had not been totally disrupted by microbial activity before metal oxide replacement began. This implies metal ion translocation in the soil relatively soon after burial, before the wood had completely decayed. Moreover, as noted above, the survival of biological residues as stains must indicate little earthworm activity since burial. This evidence suggests that soil degradation began at the site soon after the graves were dug, if not before. Obviously, however, this suggestion is tentative and needs testing at sites on similar sandy parent materials where buried soil profiles survive. Little information is currently available about prehistoric soils on such deposits, although at Broome Heath, Ditchingham a sandy soil buried beneath a Neolithic bank was of brown-earth type, whereas the present - day soil of the site is a podzol (Dimbleby and Evans 1972). Without further information on former soil types, reconstruction of prehistoric land-use potential on these soils will remain speculative.

VII. Interpretation

The site contained the remnants of a round barrow. However, a number of features indicate activity on the site prior to the construction of the monument. It is suggested that the spread of material (*4*) which included Beaker sherds pre-dated the barrow, despite the lack of stratigraphic confirmation. The forms represented in the assemblage belong to an early phase of the East Anglian tradition and a date in the nineteenth century bc is proposed. It is doubtful that the assemblage resulted from a funerary context as flint artefacts (though no elaborate tools), animal bone and charred cereals were present: the pottery also had a 'domestic' character. It is probable that domestic activity is represented although the evidence is insufficient to provide a more accurate interpretation. Situated next to Feature *4* was a large pit (*42*) which may have held a substantial timber. However, the virtually sterile fill of the pit may indicate that this was a natural hollow similar to others investigated to the north of the monument (*90, 91* etc.). It is suggested that pit *48* also pre-dated the construction of the barrow. The pit contained two Collared Urns for which a date in the seventeenth century bc is proposed. It is probable that the subsequent barrow sealed a more extensive spread of material, but that this had only been preserved beneath the highest surviving point. Much of the artefactual material within the ditch and grave fills of the barrow derived from this early activity.

As no mound material survived it is impossible to reconstruct completely the form of the monument and its modifications. It is assumed that the central grave (*14*) was primary, although traces of earlier central graves may have been obliterated (compared with Barnack, Cambridgeshire; Donaldson 1977). The central grave contained a wooden structure, the shape of which compares well with the Early Bronze Age 'canoes' found in Loose Howe, north-east Yorkshire (Fig.46; below).

Comment on the Form of the Central Grave Coffin
By Veryan Heal

Prehistoric log coffins from north-west Europe with surviving wood show manufacture by wedge-splitting of the trunk and hollowing by axe, adze and charring (Glob 1970). The identification of radially-split planks at Bowthorpe is a valuable addition to the range of evidence for prehistoric wood-use (Heal 1982). In some European examples, bark and sapwood were partially removed, in others these outer layers were retained. The plans of these coffins may have straight, oblique or pointed, external and internal ends and a similar variety of end profiles. The original appearance of these coffins clearly varied considerably; from more roughly-hewn logs with bark still in place and minimal trimming of felling and working traces, to those where all bark and sapwood had been removed, additional features worked in and the cavity carefully shaped. In conditions of more complete preservation, linings, and coverings for the body, of skin or fur, and a variety of grave-goods have been found (Glob 1970).

The residual dark brown stain of the Bowthorpe central coffin (Figs.15 and 16; Pls.VIII and X) is comparable with the residues of other Bronze Age coffins and compatible with surviving coffins (Ashbee 1960; Glob 1970). Here a longitudinally split tree trunk was hollowed to take the body and possibly furnished with a pillow. Though the overall shaped of the coffin is indicated, any details of worked features or retained bark and sapwood are not preserved.

The similarities of form and manufacture between log coffins and log boats cannot be overlooked, and evidence for the association of boats with burial comes from a wide chronological and geographical range; from third-millennium BC. Egypt (Jenkins 1980) to ninth-century Viking Europe (Brøgger and Shetelig 1971). It is not surprising, therefore, that log coffins with apparently boat-like features are sometimes interpreted as log boats (for example Elgee and Elgee 1949). The Bowthorpe traces show a hollowed log of potentially boat-like form with one end square

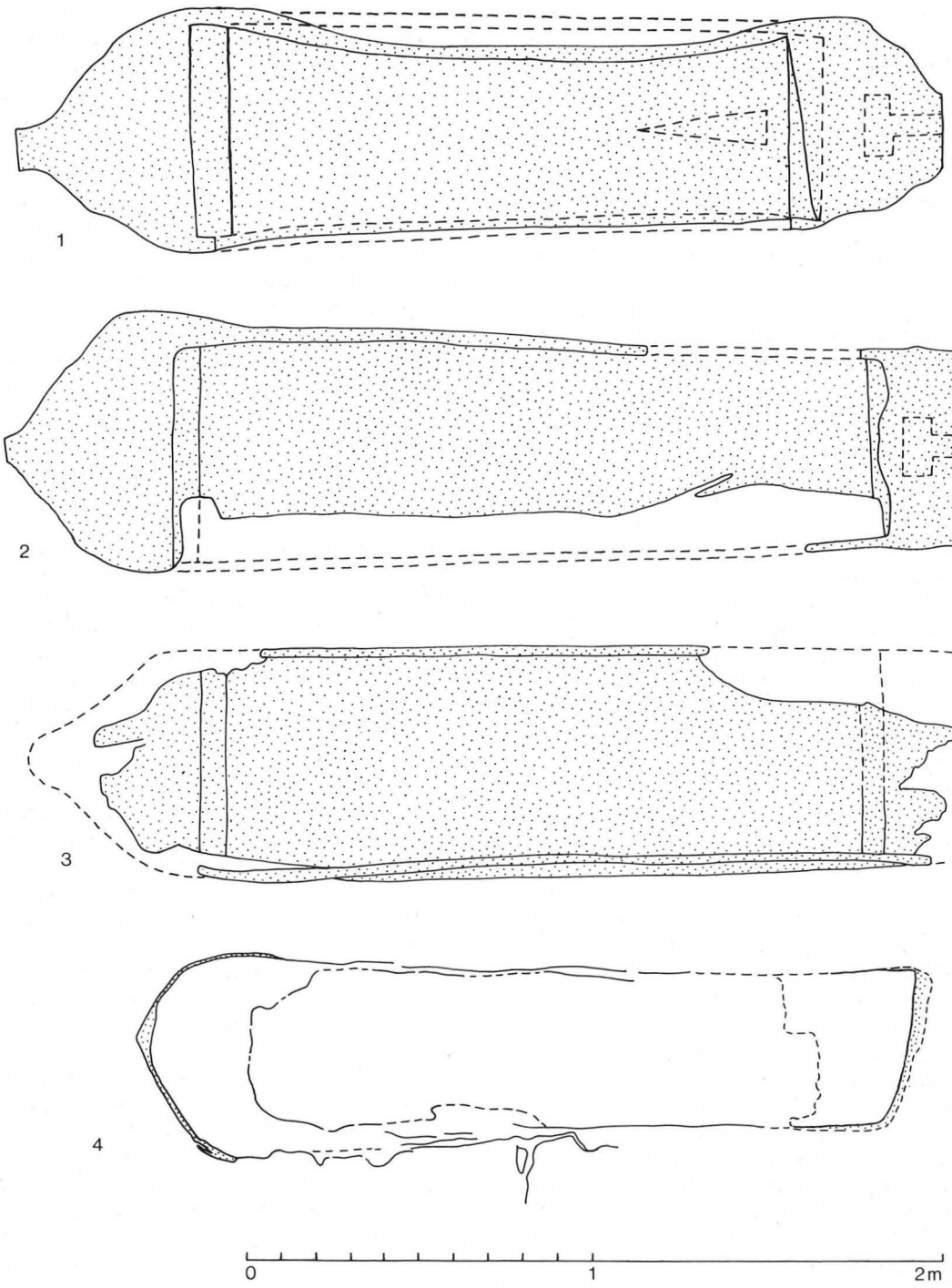


Figure 46 Comparison between (1-3) the wooden 'Canoes' from Loose Howe, Yorkshire (after Elgee and Elgee 1949) and (4) the Bowthorpe central grave (*14*) coffin stain. Scale 1:40

and one pointed. On the more complete Loose Howe (Yorkshire) coffins, however, more details of form were preserved with a 'keeled' profile and various slots and projections at the squarer ends (Fig.46); in addition, bark and sapwood were retained. These coffins were interpreted as 'canoes' by their excavators and it was suggested that the retained bark would have increased buoyancy and waterproofing.

On practical grounds, this interpretation does not seem convincing. Neither records of log boat manufacture in more recent years, nor dated archaeological evidence supports the ideas that retained bark and sapwood have any serviceable advantages (Paret 1930; McGrail 1978). Indeed, bark would soon detach in use, and sapwood is particularly prone to decay and this would be further encouraged by the alternate wetting and drying. Although the Loose Howe coffins may not have actually been boats they may have been constructed to represent log boats. The recorded instances of boat burials suggest that water-craft have had a significance for past communities for several millennia. Whether this reflects social or economic importance or some intangible symbolic role cannot be established, but where the society had clear association with, and dependence upon, rivers and seas, as did the Nile Kingdoms and the Vikings, the

practical significance is clear. Archaeological evidence suggests that log boats were widely used from at least the Mesolithic period, if not before (Muckelroy 1978, 128; McGrail 1978, 109), and the ability to exploit the water-ways would have rendered water transport similarly important to the prehistoric community in north-west Europe.

It is by no means unlikely that the fundamentally 'boat-shaped' Bowthorpe coffin was originally a coffin designed to represent a log boat but to interpret it as a serviceable boat would be to exaggerate the evidence. Better preserved parallels do not present a strong case for the use of actual log boats as coffins.

During the early life of the barrow, satellite or secondary burials (*17* and *49*) were made. In grave *17* at least (and possible *49*), the rite was inhumation, the contracted body being placed on the left side with the head to the south-east in a similar manner to the central grave. As no ditch which may have indicated the extent of the primary mound was identified with this early phase, it is not known if the burials were cut through, or were peripheral to, the primary mound.

The monument was then modified by the cutting of a ditch (the inner ditch, *8*). The circuit of this ditch crossed the earlier satellite graves and, in the north-east, may have deviated to respect grave *28*, if not also grave *39* which cut grave *28*. This insubstantial ditch would have provided little material to enlarge the mound and would have refilled rapidly due to the loose nature of the parent sand. The refilled ditch was cut by three graves (*16, 75, 77*). Grave *75* was subsequently cut by another grave or pit (*74*), the date of which (1660 ± 80 bc; HAR-3611) offers a *Terminus ante quem* for the digging of the ditch and the initial burials.

Two further graves were discovered close to the inner ditch. Grave *66* lay just outside the circuit and is hence stratigraphically unrelated to the sequence impinging on the inner ditch. However, the radiocarbon determination of 1420 ± 80 bc (HAR-3687) from the charred log coffin is the latest from the site and it is tempting to see this grave, set in a peripheral position, as one of the latest dug. The position of the grave indicates that no external bank surrounded the inner ditch at this time. Grave *52* lay within the inner ditch and is also stratigraphically unrelated. The contracted inhumation burial placed in a coffin is similar to others in this burial zone, but in this case was accompanied by a small accessory vessel which cannot be accurately dated typologically.

The inner ditch was further cut by a pit (*68*) of unknown function and second pit (3) containing a cremation within an inverted Collared Urn. Two other pits of similar size (*18, 63*) were also located. It is suggested from the roughly similar spacing these four pits that they may have been placed contemporaneously around the perimeter of the weathered barrow. Despite a careful search, no similar pits were located in the south-east half of the barrow. If the contemporaneity of these pits is accepted, then grave *52* is later than the episode as it lies directly above pit *63*. The grave must then post-date the cremation urn which may be dated between the mid-fifteenth and mid-thirteenth centuries bc. Hence, both graves *52* and *66* post-dated the pits.

Only one grave (*92*) was located outside the zone of burials close to the inner ditch. This lay 7m outside the inner ditch, due west of the central burial and was obscured by the later outer ditch. However, as only a very limited length of the outer ditch was excavated, the possibility remains that other burials remain undetected beneath it. Grave *92* contained a Beaker which had been placed within a coffin which probably surrounded a contracted inhumation. Soil changes in the fill of the grave suggest that there had been a wooden structure above the burial. This may have been a substantial grave marker or, more probably, shoring which would have been essential in digging the grave to a depth of more than 3m in loose sand. (During the 1979 investigation of the site, it was impossible to dig deeper than 1.5m without the exposed section collapsing). A radiocarbon determination of 1580 ± 70 bc (HAR-3630) was obtained from the wooden structure. Although a date of approximately 1800 bc for the grave can be suggested from the typology of the Beaker, the dilapidated state of the vessel indicates that it was already old when buried. Although grave *92* was probably broadly contemporary with the other burials, its isolation is unexplained.

Where evidence is available, the graves all share the rite of contracted or flexed inhumation (Table 14). The majority were placed in coffins of either hollowed or plank-built construction, while burial in a boat-shaped coffin is suggested for the central grave (*14*). Samples of the purplish-brown deposit that surrounded the head in grave *16* contained large numbers of grass phytoliths, suggesting that a pillow had been placed beneath the head of the deceased. Similar deposits were noticed surrounding the bodies in graves *14* and *77*. Although these latter deposits were not analysed, it is possible that the bodies in these graves had also been placed on grass or hay. It has been suggested from a small group of burials in Suffolk and Cambridgeshire, that males were commonly buried on their left sides with their heads to the north-west, while females lay on their right sides with their heads to the south (Lawson, Martin and Priddy 1981, 71). On this analogy only the burial in grave *77* at Bowthorpe may be female, as the other burials do not have the attitudes of these studied in the neighbouring counties. At Barnack, Cambridgeshire, it was impossible to relate the attitude of the skeletons to the sex of the interred (Donaldson 1977, 206-7) and, hence, it does not seem possible to suggest the sexes of the individuals buried at Bowthorpe. It is worth pointing out, however, that grave *28* contained the only burial with its head to the west. Because of the poor state of preservation of the burials it would be unwise to discuss at length the

GRAVE No.	*Side on which burial lies*	*Direction of head*	*Type of coffin*
14	left	SE	boat
16	left	SE	plank
17	left	SE	trunk
28	right	NW	—
39	left	E	—
49	??left	S	—
52	??left	E	?plank
66	?	?	trunk
74	?	?	?
75	left	NE	trunk
77	right	S	—
92	?	S	plank

Table 14 Characteristics of grave burials

physical characteristics of those buried in the mound. However, measurement of the stain in grave *16* suggests that the buried individual was unusually tall (*c.*1.9m).

A final refurbishment of the mound is indicated by the construction of the outer ditch which doubled the diameter of the monument. It is difficult to assess which of the burials prompted this action. It is possible that the refurbishment followed burials in the top of the existing mound; but, unfortunately, all evidence of any such activity was destroyed before the excavation in 1979.

The primary fill of the outer ditch was so similar to the surrounding natural that rapid initial backfilling must have taken place. The absence of finds from the ditch fill indicates that there was little activity at the barrow until the ditch was almost full. Flint artefacts and pottery bear witness to activity during the Iron Age although no substantial features were detected.

On the west, the upper dark brown fill (*71*) of the ditch was similar to that which filled the small linear tangential ditch (*93*). Because of this it is suggested that the linear ditch was cut after the barrow ditch, but while the latter was still visible. The proximity of these two ditches argues against the presence of an outer earthwork to the barrow.

The development of the thick soil (*79, 81*) on the west was later than the deposition of Romano-British sherds, which were also recovered north of the barrow. The accumulation must have resulted in part from the erosion of the barrow mound exacerbated by ploughing which may well have commenced during the Roman era, and which completely obliterated the mound before the 1979 excavation.

Wide variations in the mode of burial and in the constructional sequence of barrows are known in East Anglia (Lawson, Martin and Priddy 1981, 22-25). A true assessment of these is generally marred by a lack of careful excavation and detailed publication. However, the general similarity between the Bowthorpe barrow and that excavated in a model fashion at Barnack, Cambridgeshire (Donaldson 1977) is marked. The latter has a longer sequence of radiocarbon dates (this volume, Fig. 1) associated with a greater number of burials and a third ditch circuit, but is broadly contemporary. Comparison should be made on the facts that: the burials were principally contracted inhumations with few grave-goods; at least two were buried in coffins; at least six were peripheral to the central area; all but one of the contracted inhumations were orientated to the eastern quadrants; and a series of pits were found in the northern halves of the secondary (if not later) monuments (others in the southern halves may have been destroyed by ploughing). Unfortunately, disturbance of the subsoil by burrowing animals made the detection of stake-holes impossible at Bowthorpe.

The setting of the barrow

Norwich is situated at the confluence of the major river systems that drain central Norfolk and flow to the east coast. It is, hence, located at a natural focal point. Archaeological finds and the results of aerial photography attest widespread prehistoric activity in this area and the presence of settlement and ritual sites (for example Eaton Heath Site 9544) and Arminghall Henge (Site 6100) suggest the importance of the area by the late third millennium bc. Although the majority of known archaeological sites in the area lie to the south of the city, finds and records suggest that other sites were situated on the interfluves prior to their destruction by post-medieval development. A few barrows, such as the Eaton group (Site 9549; this volume p.50) survive. The Bowthorpe ring-ditch appears to have been an isolated monument. However, in February 1978 a Collared Urn (Fig.43A) containing a cremation was found during the laying of gas pipes 120m to the south[8]. The site (13978: NGR TG 1725 0975) is situated at 110ft (34m) OD on the summit of the spur which overlooks the River Yare (Fig.12) and is characteristic of some barrow situations. The construction of a gas decompression station and the installation of both gas and water main junctions on the site prevented subsequent archaeological investigation in this area. Although some of this work was watched, no evidence of a barrow was detected. However, had the fills of ditches and graves been similar to those on the ring-ditch site, only the most careful of site cleaning would have detected them.

The gas main that cut the eastern part of the excavated ring-ditch was installed in March 1978. Although this operation was observed by archaeologists the ditch was not located at the time, demonstrating further the difficulty of identifying archaeological features in the sandy subsoil.

Although barrows and ring-ditches, presumably dating to the Early Bronze Age, are numerous in the Norwich area, no contemporary settlement has been investigated. As a result, no environmental evidence is available to chart the vegetational history of the area. At Bowthorpe, charred cereals were present in the pre-barrow material implying cultivation in the area, while the presence of Hawthorn charcoal (*Cragaegus*) in some of the grave fills may indicate scrub in the vicinity. Larger trees apparently also grew close by. The slender evidence from the site suggests that soil degradation began at the site soon after, if not before, the construction of the monument. But acid heathland must have existed somewhere in the region for grass from such a habitat was gathered and placed beneath the head of at least one of the individuals buried in the monument. This assumes that a pillow was not transported to the site from a great distance.

In the absence of other data, the results from the 1979 excavations at Bowthorpe make a major contribution to the understanding of former activity in the Norwich area. They indicate that a barrow wich may have been in use from about 1700 bc to 1300 bc was placed in an area which had already witnessed human activity and which was again frequented in the Iron Age and later periods.

Endnotes

1. For the convenience of the County Sites and Monuments Record Bowthorpe is referred to as Costessey (CST), which lies to the north.
2. The context numbers used in the different features of this site are given in Appendix II (microfiche). All quoted depths are from the base of the ploughsoil unless otherwise stated.
3. During the excavation a number of photographic techniques were employed in an attempt to retrieve greater information from the organic stains and to enhance the appearance of the evidence. Apart from normal colour and pan-chromatic films, sensitive to the visible spectrum, infra-red sensitive emulsions were used with the recommended filters. Although this technique produced greater contrast in the final photographic image, no additional detail was revealed. Long exposures were also tried in total darkness while the stains were subjected to ultra-violet radiation. Although two different light sources were used (an Allen A405P lamp of 3650 Å and a Hanovia Chromatolite of 2537 Å), no florescence was achieved, confirming the unsuitability of this technique on poorly preserved bone as experienced by other workers (Ritchie and Pugh 1963) in a similar situation.
4. 'Grave' *74* might be alternatively interpreted as a feature of this supposed pattern of pits.
5. The feature was excavated in quadrants (in contexts *4A-4D*).
6. The finds are deposited with the Norfolk Museums Service, Acc.No.L. 1983.12.
   The following finds have not been included in the text:
   Glass: small fragments, presumed to have been intrusive, were found in the following contexts; grave *29* (S.F.14), cremation *3* (S.F.2), inner ditch fill *47* (S.F.8).
   Iron: An iron nail was found in the accumulated soil beyond the outer ditch (*79*; S.F.75) and another on the surface of the natural (*89*; S.F.125).
   Random collection during the stripping of the topsoil (*2*) produced the following:
   8 Bronze Age sherds, 3 Iron Age sherds, 2 Early Med. sherds, 10 clay pipe frags, 8 glass frags, 7 stoneware sherds, 36 porcelain sherds, 3 red glazed earthenware sherds, 20 oxidised earthenware sherds, 3 iron nails, 2 oyster shells, 1 bovine molar, 1 bottle stopper, 1 metal plate.
7. The excavation of Urn No.15 and conservation of the Bowthorpe pottery was conducted by Miss Karen Wardley, Norwich Castle Museum.
8. **Description of Collared Urn illustrated in Fig. 43A:** Neck and body of tripartite Collared Urn; exterior orange to buff; interior buff to black; core black. Smoothed surfaces; grog and flint filler. Neck with herringbone decoration of short impressed lengths of string. NCM 421.978.

4. The Excavation of Two Early Bronze Age Round Barrows on Eaton Heath, Norwich, 1969—1970

by Frances Healy

I. Summary

The two excavated barrows formed part of a small linear group (Site 9549). The first (Site 9549/c3) seems to have had two concentric ditches; its much-reduced mound overlay a possible coffin stain and some sherds. The second (Site 9549/c4) seems to have had three concentric ditches; surviving evidence indicated at least two constructional phases, the first of which consisted of a small mound covering a burial accompanied by a Beaker with barbed-wire decoration. This barrow also overlay features analogous to shafts later excavated nearby (Site 9544; Wainwright 1973).

II. Introduction

Two ploughed-down round barrows were excavated by John Tidder for the Norfolk Research Committee in advance of levelling and grading during the construction of a school playground. Site 9549/c3, at TG 2117 0603, was partly excavated in the spring and summer of 1969. Site 9549/c4, at TG 2109 0602, was more fully excavated in August and September 1970, with the help of a grant from the then Ministry of Public Buildings and Works. The finds and records have been deposited in Norwich Castle Museum (Acc. No. NCM 305. 979 (1,2)).

III. Location

The excavated barrows formed part of a row of four running from south-west to north-east in a locally elevated situation on the highest part of a promontory formed by a bend in the river Yare. The other two barrows in the group, Sites 9549/c1 and 9549/c2 (A.M.Scheduled Monument No. 34), are still to be seen on Eaton Golf Course. The area of Eaton Heath excavated by Dr G.J. Wainwright in 1971 (Site 9544) occupies the same promontory, some 80m to the west of the barrow group (Fig.47; Wainwright 1973, figs. 1 and 2). The natural subsoil consists of the variegated gravels, sands, and occasional clays of the Norwich Crag already described by Wainwright (1973,3). The area now forms part of the south-west suburbs of Norwich, but at the time of excavation the barrows stood in a field which had long been out of cultivation and was heavily overgrown. Sites 9544 and 9549 form part of a larger concentration of Neolithic and Bronze Age sites and finds on the Yare and Tas gravels to the south of Norwich which includes the Arminghall henge (Clark, J.G.D. 1936) and numerous round barrows and ring-ditches (Lawson, Martin, and Priddy 1981, fig. 18; Healy 1982, fig. 2).

IV. Previous Investigations

An account of all four barrows is supplied by the Norwich antiquary Samuel Woodward (1827). The present writer's comments are bracketed:

Wednesday Nov 14th Mr Ewing & myself commenced opening these Barrows—they are four in number and are arranged nearly in a straight line from SoWest to No. East—the southernmost two (Sites 9549/c4 and /c3) are ploughed over but the others (Sites 9549/c1 and /c2) having been planted with Scotch Firs, are a pretty object from the London Road at Hartford Bridge and Hill. The first to the south (Site 9549/c4) is nearly leveled with the field—between this and the second (Site 9549/c3) I counted 60 paces this has an elevation of about four feet—to the third (Site 9549/c2) I counted 110 paces this is the largest barrow in the line its hight is 12 feet and the line of the base 33 paces, I paced it round and found it 126 paces in circumference. There remains a slight appearance of a ditch around it, the top is flat being 14 paces across—the fourth barrow (Site 9549/c1) is distant 150 paces it has a regular bowl shape—8 feet in height the line of its base is 23 paces and it is 78 paces in circumference—this has also the appearance of a ditch at its base—

Mr Ewing provided two labourers who commenced at 8 o'clock I went with him at nine & found they had opened a space on the summit of the second barrow (Site 9549/c3) about 10 feet by 5-in a direction East and West—by 10 o'clock we came to the natural soil without and indication of an internment except for a few black spots in the soil and my conjectures that it had been before explored have been since confirmed by a Gentleman to whom I mentioned the subject that some years ago—some persons from London came down & opened two of them by stealth in the night & took off what they found early the next morning—We then directed our attention to the fourth barrow (Site 9549/c1) & marked out a space 12 feet by 6—in the centre, the greatest length being East and West—At 3 o'clock we got to the depth of 7 feet when we came to the black ashes or mould, we now proceeded cautiously & in a short time a patch of the Green Oxyde of Copper was uncovered about 12 inches in diameter under this was a small quantity of thin leather, probably the lining of the shield, which I consider the oxyde of copper to have been originally, & under this a fragment of wood, 6 inches square on the surface & two inches thick—with a thin coating of the green copper oxyde adhereing to it—these formed all that was found as we examined the black earth carefully, no vestige of bone or pottery was seen—the section had a singular appearance being from the low part towards the top comprised of brown patches with a light edging round, resembling courses of bricks and nearly as regular, that we consider it must have been formed with sods of turf—

One of the water-colour illustrations accompanying Woodward's account (Lawson, Martin, Priddy 1981, pl.X) includes a section through Site 9549/c1, showing a central black deposit, conical in profile and perhaps rather over a metre in diameter, lying on the natural surface and covered by stacked turves which grade upwards into an undifferentiated deposit in turn overlain by topsoil and turf. The rest of the water-colour consists of a plan of all four barrows which shows Sites 9549/c3 and /c4, already much ploughed-down, on arable land, separated from the heath occupied by Sites 9549/c1 and /c2 by a hedge running along the present line of Norton Drive (Fig. 47).

W.G. Clarke (1913a), in a manuscript addendum to his published article on Norfolk barrows (1913), states 'Eaton large barrow (Site 9549/c2)supposed to have been opened about 1855 when two urns were said to have been found', but names no source.

All four barrows are recorded in a set of four aerial photographs taken in 1959 by Dr J.K.S. St. Joseph for the Cambridge University Committee for Aerial Photography (nos. ZP85—88), one of which has already been published (Wainwright 1973, pl.I). On these Sites 9549/c3 and /c4 both appear as double ring-ditches. Derek Edwards has calculated their approximate diameters as follows:

9549/c3	outer ditch 30m	inner ditch 15m
9549/c4	outer ditch 35m	inner ditch 19m

V. The 1969 and 1970 Excavations

The account which follows is based on finds, records, and further information suppled by John Tidder, supplemented where necessary by his published summary report of the excavations (Department of the Environment 1971, 10).

Site 9549/c3

The excavation of this barrow was incomplete and piecemeal, being conducted mainly at weekends. No records survive. According to the summary report a single ditch, approximately 3.7m wide and from 1.2m to 1.5m deep, was located. It surrounded a mound approximately 27.5m in diameter. On the buried soil beneath the mound was a shallow coffin of organic material with curved corners and base, oriented roughly from east to west, and measuring approximately 1.68m long by 0.76m wide by 0.15m deep. Near it, also on the buried soil surface, were a few sherds, now no longer to be found, which the excavator states were of similar fabric to P1 from Site 9549/c4. Surviving finds consist of post-medieval material from superficial contexts.

Site 9549/c4

More resources were available for the excavation of this barrow. A JCB 2B excavator was first used to remove scrub from an area 30m in diameter and then, once quadrants had been laid out, to scrape topsoil from the surface of all but the four cardinal baulks and the central area. Excavation then proceeded manually, attention being concentrated on the central area once the outer of the two ditches shown on Figs. 48 and 49 had been located and sectioned. The barrow was not fully excavated for want of time and resources. Conjectural limits of excavation are shown in Fig.48. A single section was drawn, from north to south (Fig.49). Prevailing dry conditions made deposits difficult to distinguish, a problem alleviated by periodic hosing of the site. Most finds were three-dimensionally recorded; some were ascribed to particular contexts in the field; others have been only retrospectively ascribed to particular contexts, or to the mound as a whole, on the evidence of their measurements. Finds are summarised by context in Table 16.

Between the topsoil and the top of the outer ditch fill was an orange-brown sandy loam of variable consistency (layer *2*) which contained some chalk, perhaps introduced by marling, and a quantity of post-medieval material. This was interpreted as ploughed-off barrow material.

The ditch fills were excavated as a single deposit of dark brown loam (layer *3*) within which little or no stratigraphy could be observed, except for a concentration of large flints at the base.

The mound was so truncated that all its component deposits were exposed once the topsoil was removed (Fig. 49). The outermost and originally uppermost of these was of buff, sandy material (layer *4*). This was underlain by a dark loam (layer *5*) in which were three possible stake-holes (Fig.48), although the excavator thinks that they could also have been animal- or root-holes, a possibility reinforced by the presence in the layer of instrusive material in the form of a substantial post-medieval sherd and a piece of coal. Beneath layer *5* a very compact

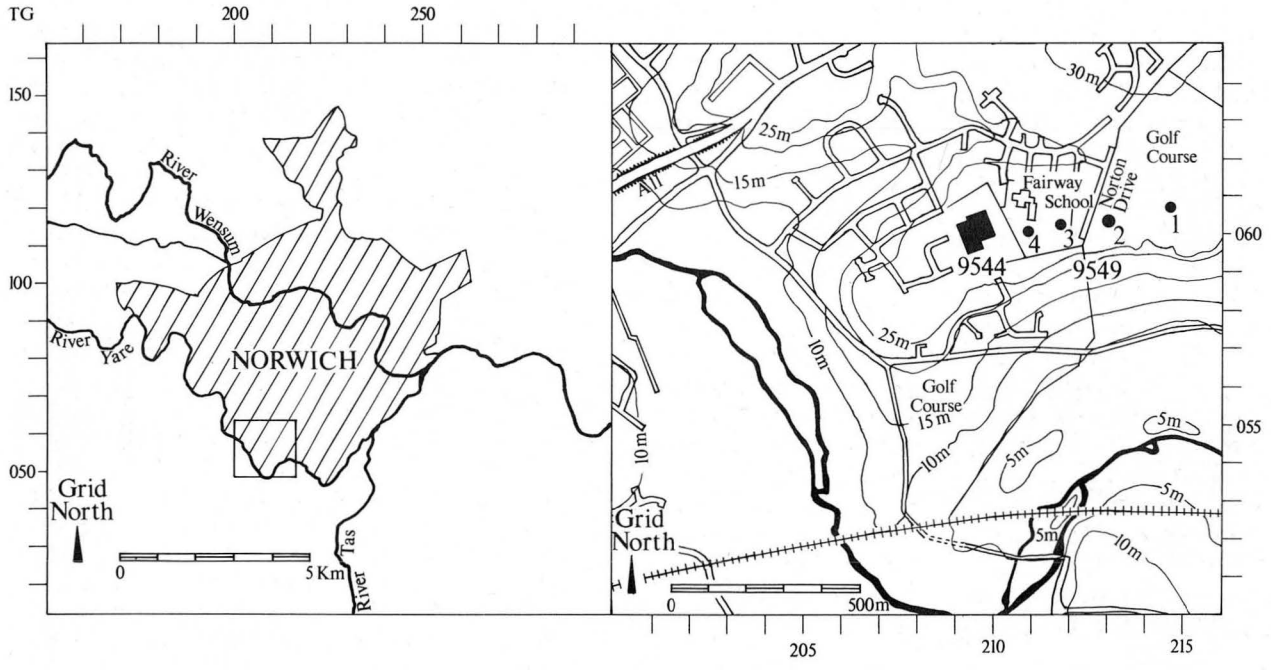


Figure 47 Location maps showing the Eaton barrows (Site 9549) in relation to the city of Norwich and to the area excavated by Dr G.J. Wainwright in 1971 (Site 9544). Scales 1:200,000; 1:20,000

gravelly sand (layer *6*) partly filled a slight inner ditch and overlay what was recorded as a thin, discontinuous spread of charcoal. A sample from this spread has been identified by Peter Murphy as iron or manganese pan, and may well be representative of the whole. The sample included four rusticated Beaker sherds (Fig. 51:P4, P5, P6) which were cemented together by it. This deposit had formed over the surface of a small mound of light brown sandy material (layer *7*) built over a slight hollow in the natural surface and apparently spread into the inner ditch to the south. In the hollow beneath layer *7* was a complete but crushed Beaker with barbed-wire decoration (Fig. 51:P1) which had apparently accompanied a vanished inhumation.

In the natural sands and gravels of the Crag beneath layer *7* were three vertical-sided features (pits C, D, and E). only pit E was planned (Fig. 48), but pit C is recorded to have been in the north-east quadrant, and pit D in the north-west. All three were difficult to define and excavate. The excavator states that none was bottomed, though, if this was the case, the labelling of finds from 'base of pit D' and 'near bottom' of pit E would have to be construed as referring to the lowest points reached. An incomplete section of pit C (Fig. 50) shows it to have been 80cm wide and at least 80cm deep; pit E measured approximately 1.50m by 1.10m at the top and was excavated to a depth of approximately 2.00m. Finds from them consisted only of small charcoal fragments from all three and chalk fragments and a cinder or clinker fragment from pit E. In addition, two samples of iron or manganese pan were retained from pit Dr John Tidder thinks that they were almost certainly not graves and were probably shafts like those which he saw excavated on Site 9544 in 1971 (Wainwright 1973, 12—25). Had others been present under the rest of the mound, they could easily have gone unnoticed because of the restricted area excavated (Fig. 48).

Extent of disturbance

Both mound and ditch fill were very loose and unstable when excavated and were much disturbed by animal- and root-holes. The larger of the two animal burrows shown on Fig. 49 extended to the natural surface below the barrow. Recent, apparently intrusive material was, not surprisingly, recovered from most prehistoric contexts (Table 16) at depths of up to 70cm below the surface in the mound and of up to 1.30m below the surface in the outer ditch. As well as the objects from layer *5* mentioned above, there is a piece of iron slag (identified by Dr Paul Craddock of the British Museum Research Laboratory) from layer

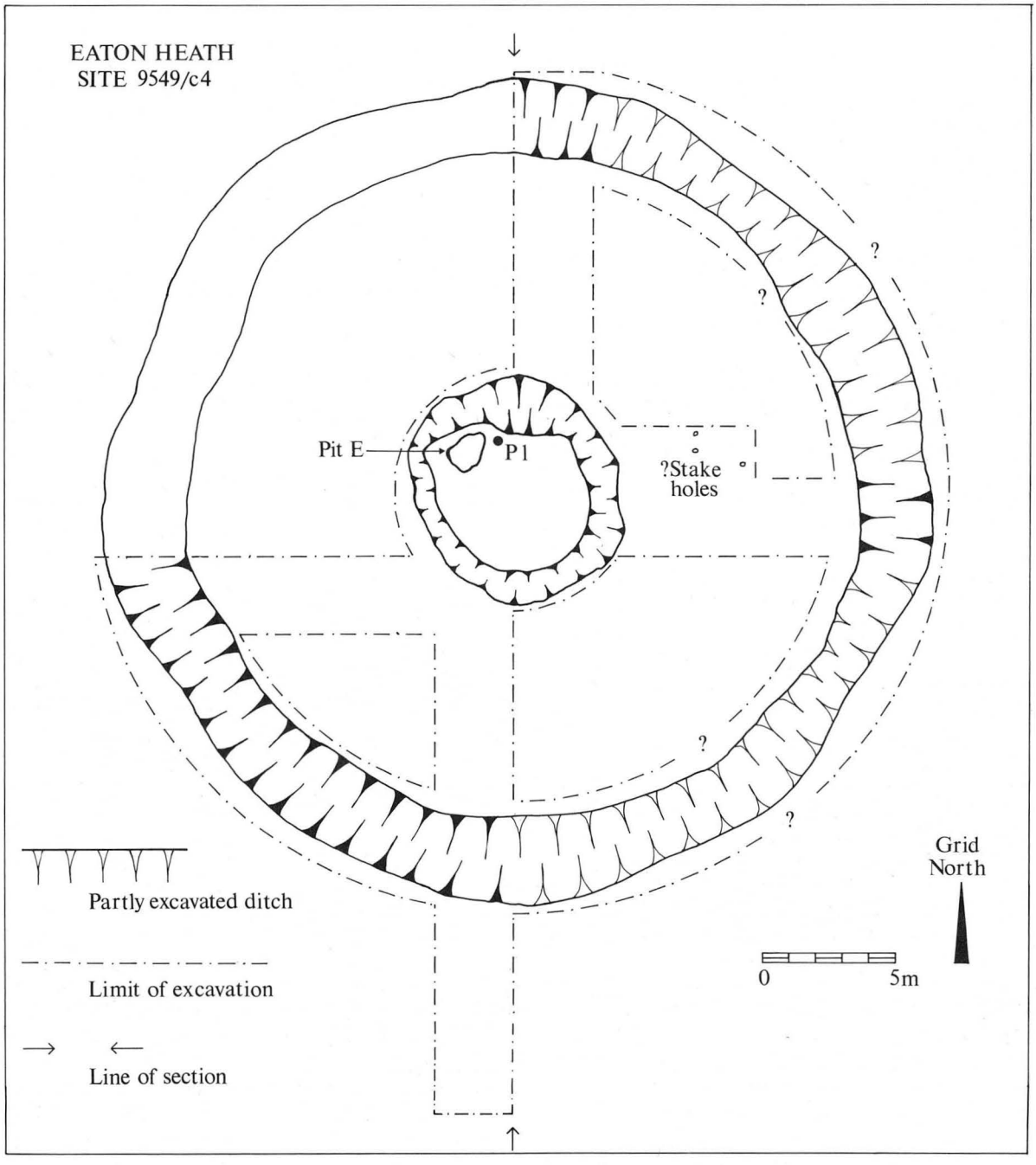


Figure 48 Plan of Site 9549/c4. Scale 1:250

	Context	Flint flake	Whole Beaker	Decorated Beaker sherd	Other Later Neo. or E.B.A. sherd	Late Bronze/Early Iron Age or Iron Age sherd	Indet. prehistoric sherd	Romano-British sherd	Middle Saxon sherd	Medieval sherd	Post-medieval sherd	Other post-medieval material	Small chalk fragments	Iron slag fragment	Cinder or clinker	Coal fragment	Rabbit phalange	Small charcoal fragments	Drawings
	? layer 1											X							
	layer 2					3	5		1	4	7	X						X	
2nd ditch	layer 3	11			4	24	4	2				X			1	1		X	P14, P15
mound	layer 4																1		
	? layer 4				1														P11
	layer 5			3	1						1					1		X	P7, P8
	layer 5 or O.L.S. beneath it			1	2														P10
	layer 6													1					
	Charcoal or pan between layers 6 & 7			4	1														P3-P6
	layer 7			5	2														P2,4
	mound, layer uncertain			3												3		X	P9, P12, P13
beneath mound	O.L.S. under layer 7		1																P1
	Pit C																	X	
	Pit D																	X	
	Pit E												X		1			X	
	Totals	11	1	16	11	27	9	2	1	4	8	X	X	1	2	5	1	X	

Table 16 Composition and incidence of finds from Site 9549/c4 (summary).
A more detailed list of finds has been deposited in the Norfolk Sites and Monuments Record. X = present

6 and four further pieces of coal, three from the mound and one from the outer ditch. Some sherds from the mound, including P2 and P6, have been perforated by roots.

VI. The Artefacts from Site 9549/c4

Struck flint

Eleven struck flakes were recovered from the outer ditch fill in the south-east part of the north-east quadrant. None is of blade-like proportions and all are in fairly fresh condition without any macroscopic trace of retouch or wear. Only two are broken. They occurred in the same restricted area as the Later Bronze/Early Iron Age sherds described below.

Prehistoric pottery

(Fig. 51)

The fabrics of the pot and sherds illustrated in Fig. 51 are shown in Table 17 (microfiche).

The complete Beaker (Fig. 51,P1) found in the shallow depression under layer *7* has been restored from numerous small sherds and is of irregular shape. Its three zones of decoration are made up of continuous rows of horizontal 'barbed-wire' impressions which are generally blurred but occasionally sharp. At least two stamps have been used: a shorter one approximately 4cm long on the lower part of the pot, and another of greater but indeterminate length on the upper.

Later Neolithic and Early Bronze Age pottery from the barrow otherwise consists of twenty-seven predominantly sand- and grog-tempered sherds (including P2 to P13), most of them from the mound (Table 16). They comprise one sherd of comb-impressed Beaker (P9), fifteen of rusticated Beaker (including P4 to P8, P10, P12, and P13), one with incised decoration (P3), and ten plain sherds (including P2 and P11).

P4 stands out from the other rusticated pottery by its particularly hard fabric and its highly plastic decoration, including pinched-up cordons. Other rusticated sherds, with the possible exception of P6 which is much abraded and P7 which is extremely small, are decorated with non-plastic finger-nail impressions, often paired in a 'crows-foot' motif (*e.g.* P5, P8, P12, P13).

P3 retains half of a perforation made before firing and is decorated with a lattice pattern incised with a sharp, narrow implement. Its orange surface colour and hard fabric are most easily paralleled among fine Beaker wares.

The fabrics of five of the ten plain sherds, including P2, fall within the range of the Beaker pottery from the site. The remaining five, comprising P11, a base fragment probably from layer *4*, and four body sherds from approximately 70cm deep in the ditch fill in the south-west quadrant, are of soft, coarse, grogged fabrics compatible both with the coarser elements of Beaker assemblages and with other contemporary pottery traditions such as Food Vessel or Collared Urn.

Twenty-three sherds of hand-made pottery in a dark, hard, flint- or flint- and sand-gritted fabric were found in the ditch fill. Twenty of them were concentrated in the south-east part of the north-east quadrant where they occurred between 1.16m and 1.30m below the surface, occupying an area approximately 2m by 1.30m and 0.14m deep, with a single outlying sherd 1m to the north. No rims or bases are present. Morphological features consist of one hollow neck; four carinations, two of them with finger-tipping, including P15; and one other instance of finger-tipping (P14). These and the fabric are

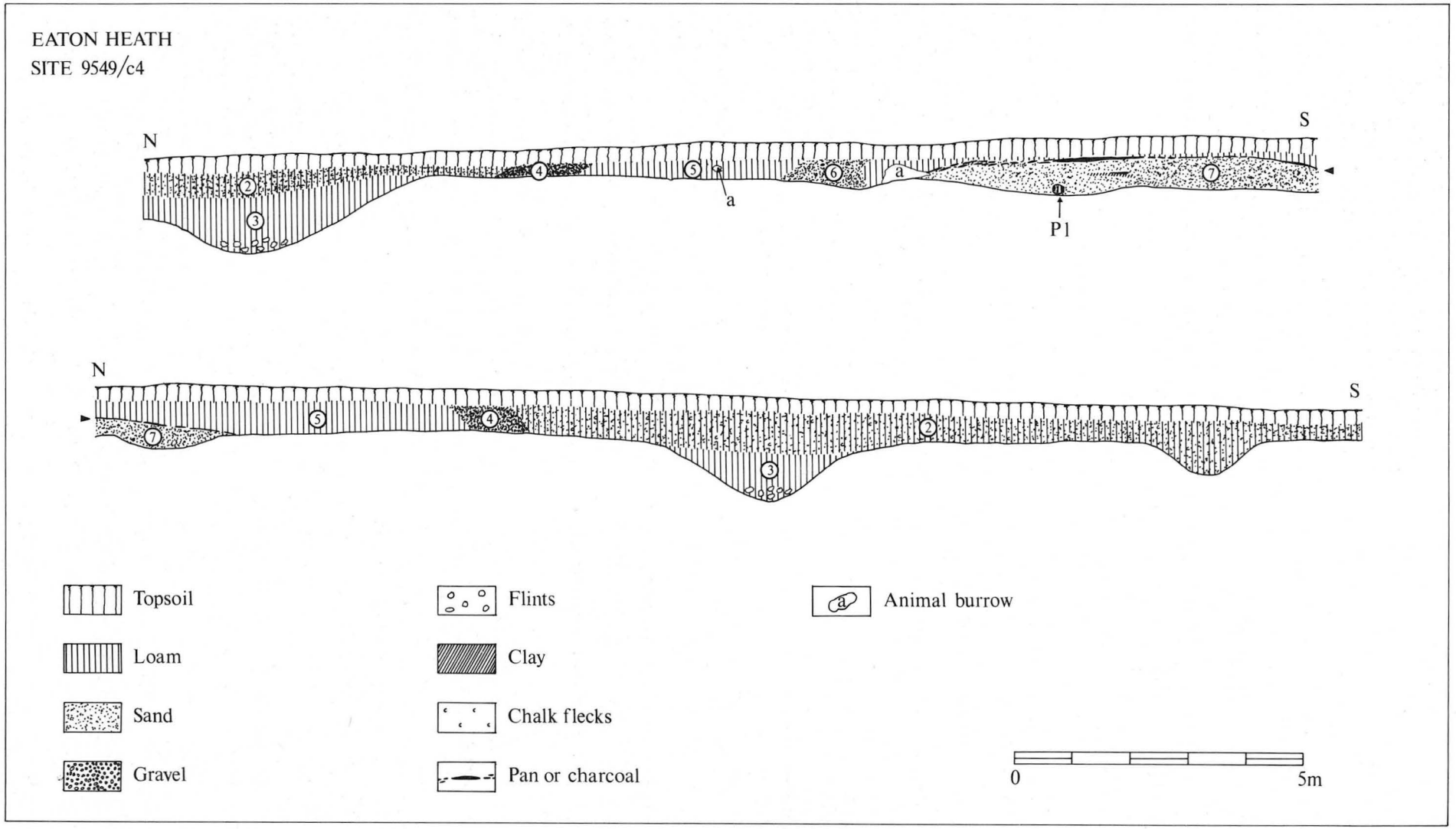


Figure 49 Section through Site 9549/c4. Scale 1:100

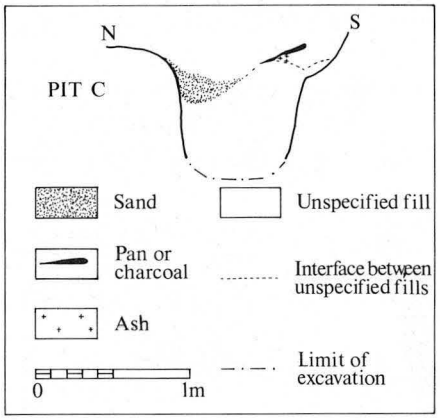


Figure 50 Section through pit C, Site 9549/c4. Scale 1:50

compatible with the Late Bronze/Early Iron Age pottery tradition exemplified at Micklemoor Hill, West Harling (Site 6019; Clark and Fell 1953, 14-32). No comparable material was found in the ditch in the south-east quadrant; and only three featureless body sherds of similar fabric were found in the south-west quadrant, together with a body sherd of hard, dark, predominantly sand-gritted fabric, which may also be of Iron Age date and is matched by three further sherds from layer *2* in the same quadrant, as well as by a minority of the Iron Age sherds from Site 9544.

VII. Discussion

The Iron Age and Romano-British periods

The concentration of West Harling-like sherds in the eastern part of the ditch of Site 9549/c4 must reflect local first millennium BC activity. The concentration of relatively fresh flint flakes in the same part of the ditch seems most likely to be coeval, like the much larger quantity of struck flint from West Harling itself (Clark and Fell 1953, 34—5), especially given the complete absence of struck flint from earlier contexts in and under the mound. West Harling elements are absent from the pottery found in the first-century BC to first-century AD ditched field system excavated on Site 9544 (Wainwright 1973, 25, 34-7), and almost certainly predate it. The only material from Site 9459/c4 which might relate to the field system consists of the three sand-gritted, probably Iron Age sherds mentioned above and of two small, abraded body sherds of Romano-British grey ware found in the outer ditch. This paucity of even possibly contemporary finds suggest that the field system may not have extended so far east, or that it was laid out around rather than over the then still upstanding barrows.

Site 9549/c3

The first problem is to reconcile the single-ditched barrow excavated in 1969 with the double ring-ditch photographed from the air in 1959. Dimensions indicate that the partly excavated ditch, surrounding a barrow 27.5m in diameter, is to be equated with the outer of the two ditches photographed, which was approximately 30m in diameter (p.51). If excavation was concentrated on the perimeter and the central area, as it was on Site 9549/c4 (Fig. 48), then the 15m diameter inner ditch could well have gone unlocated. Alternatively, in dry conditions, it could well have gone unnoticed even if exposed.

The occurrence of pan on Site 9549/c4 (p.52) raises the possibility that the sub-rectangular east-to-west coffin stain observed in 1969 may have consisted of pan formed around the edges and base of a grave or of the east-to-west trench cut for Woodward and Ewing in 1827 (p.50). The latter possibility is perhaps the less likely, since the trench is recorded as measuring 3.50m × 1.75m (p.50) and the coffin stain 1.68 × 0.76m (p.51). If the coffin stain was indeed such, its rounded corners and base suggest that the original coffin was monoxylous rather than plank-built. The burial is undated except by its proximity to some missing sherds which may have been of Beaker (p.51).

Site 9549/c4

Here, too, there is a discrepancy between air photographs and excavation: the photographs show two concentric ditches approximately 35m and 19m in diameter; the excavation revealed two concentric ditches approximately 23m and 7.50m in diameter (Fig. 48). The outer of the two excavated ditches seems likely to equate to the inner of the two ditches visible on the photographs. The 30m diameter area cleared at the beginning of the excavations (p.51) would not have been large enough to include all of the 35m diameter outermost ditch visible on the photographs. However, since the centre of the area cleared proved to be south of the centre of the barrow (Fig. 48), a depression shown in the surface of the natural sand and gravel some four metres south of the outer excavated ditch (Fig. 49) may perhaps represent the outermost ditch. The inner of the two excavated ditches would not have been visible on the air photographs because of its slight maximum depth of 20cm (Fig. 49) and because its compact gravelly fill would not been sufficiently humic to promote differential vegetation growth.

The structural history of the barrow may be tentatively outlined as follows: an inhumation burial was placed in a slight depression in the natural surface, accompanied by P1, and was covered, together with pits C, D, and E, by a small mound of material dug from a surrounding ditch. After some of the mound material had silted into the southern part of this ditch, and after the mound had become sufficiently compacted to promote the later formation of pan over it, a second, larger ditch was dug and material from it used to enlarge the original mound. Any burials inserted in this enlarged mound were either outside the limits of excavation or at a higher level that that to which the barrow survived in 1970. A two metre wide berm between the enlarged mound and the second ditch is evidenced by layer *2*, a deposit apparently of displaced barrow material containing mainly post-medieval material and overlying both the ditch silts and the ground surface between the edge of the mound and the inner edge of the second ditch (Fig. 49). The presence of layer *2* suggests that the unexcavated outermost ditch was not associated with a further enlargement of the mound. Material excavated from it may have formed a bank.

An approximate date for the beginning of this sequence is provided by P1, whose deposition was primary to the construction of the first mound. Its decoration, its globular form, and its stand-ring base place it in D.L.Clarke's Barbed-Wire group (1970, 130-2) and in Lanting's and van der Waals' step 3 (1972, fig. 2). As such it would be dated by Clarke to

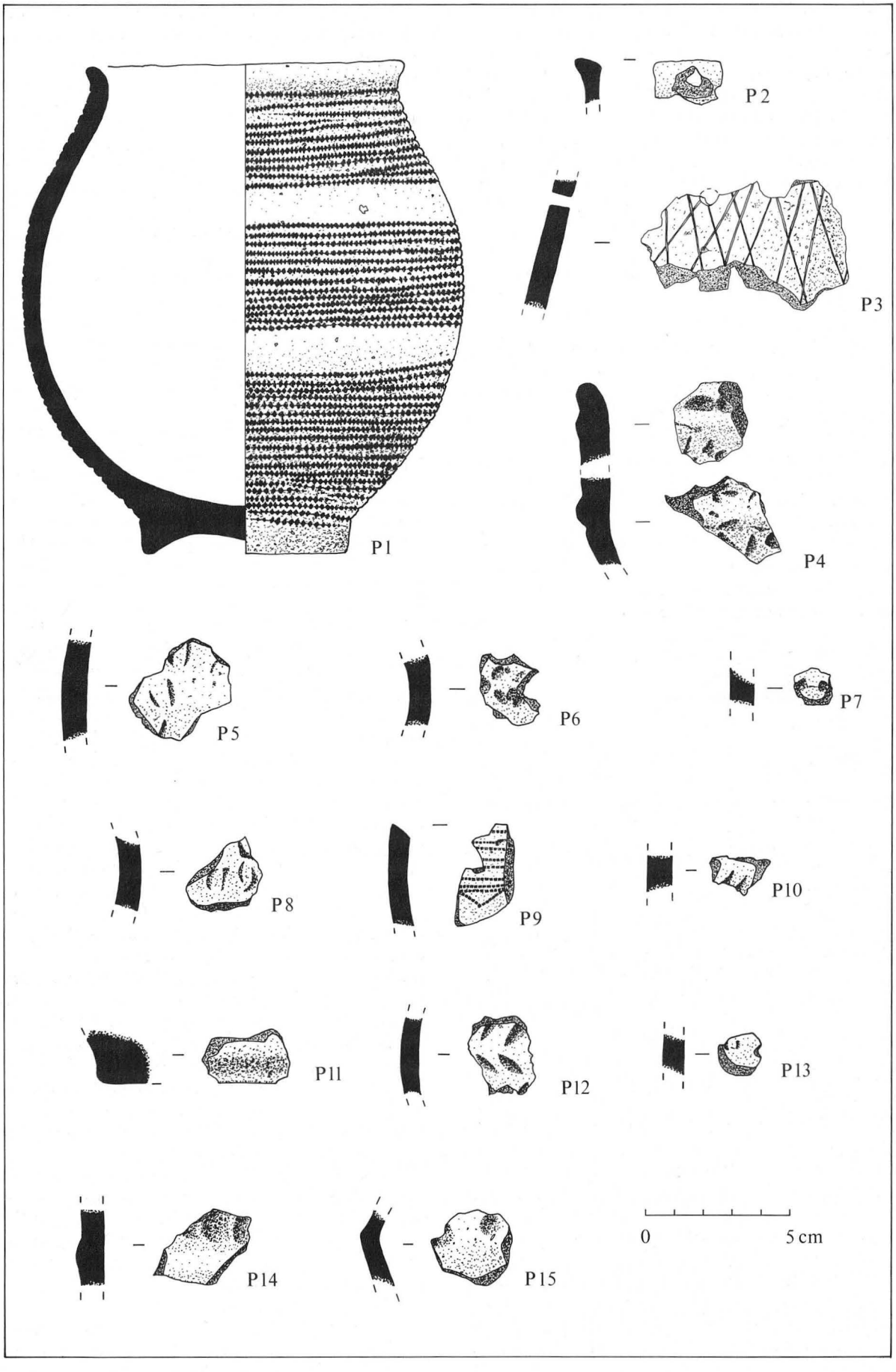


Figure 51 Prehistoric pottery from Site 9549/c4. Contexts recorded in Table 16, descriptions in Table 17 (microfiche). Scale 1:2

approximately 1700-1500 bc (1970, 144) and by Lanting and van der Waals to approximately 1900-1800 bc (1972, 44). Relevant radiocarbon dates are rare, but tend to support the earlier dating. Charcoal from an occupation deposit including sherds of Barbed-Wire and East Anglian Beaker at Lion Point, Essex, for instance, has been dated to 3750 ± 150 bp (BM-172;1800 ± 150 bc).

Sherds, predominately of rusticated Beaker, found in both phases of the barrow mound and in the pan between them are most economically interpreted as settlement material accidentally incorporated into the barrow. It is, however, surprising that no struck flint was found with them, especially as flakes were found with Iron Age pottery in the ditch silts.

The barrow group as a whole

While the earliest burials under the mounds of Sites 9549/c4 and, more tentatively, Site 9549/c3 can be dated to the early second millennium bc, the date of the enlargement of Site 9549/c4 is unknown and there is at least a suggestion of later burials in Sites 9549/c2 and /c2. W.G.Clarke's reference to the removal of 'urns' from Site 9549/c2 (p.51) indicates that pots of Bronze Age or later date may have been present, although their position in the barrow is unknown. Woodward's description and section of Site 9549/cl (p.51) record that a black deposit lying on the buried surface under the centre of the barrow contained an object of sheet bronze. Sheet bronze was rarely used in Britain before the early first millenium bc Penard phase (Burgess 1974, 205-7), and even then was not usually placed in burials. If the object's deposition was indeed primary to the construction of the mound, the barrow may have been of much later, perhaps Early Saxon, date.

Relationships of the barrow group to Site 9544

The 1971 excavation of Site 9544 (Wainwright 1973) revealed traces of Neolithic and Early Bronze Age occupation over an area of more than 6500 square metres. A span of more than a millennium for this occupation is given by a late fourth millennium bc radiocarbon date for a pit cluster containing plain and Mildenhall style Neolithic bowl pottery; by third millennium bc dates for a shaft fill containing sherds of plain Neolithic bowl; and by the presence in other shaft fills of ceramics datable to the late third or early second millennium bc, in the form of Peterborough Ware, Beaker, and Food Vessel. No rusticated Beaker was found, but the presence of fine Beaker and other contemporary styles would make its occurrence on an unexcavated part of the occupied area and its incorporation in the mound of Site 9549/c4 no surprise.

A tenuous link may be suggested between the occupation of the area and the construction of the barrow group. P1, the Barbed-Wire Beaker from under the first mound of Site 9549/c4 (Fig. 51), and the East Anglian Beaker from shaft 5 on Site 9544 (Wainwright 1973, fig. 14:P2) are similar in form, colour, and fabric, differing mainly in their technique of decoration. They mirror the frequent affinity of Barbed-Wire and East Anglian Beakers, demonstrated, with different emphases, by both Clarke (1970, 135, 146, 148-52) and Lanting and van der Waals (1972, 33,38). Pots ascribable to both groups tend, especially in East Anglia and Kent, to have the same globular form and to occur together on domestic sites where there is every reason to think that they were made and used by the same groups of people. The deposition of an East Anglian Beaker in shaft 5 on Site 9544 and the deposition of a Barbed-Wire Beaker under the mound of Site 9549/c4 some 150m away may thus have been the work of the same community.

Pits C,D, and E

If the features found under the mound of Site 9549/c4 were indeed shafts like those excavated to the west, as John Tidder thought them to be, the construction over them of the barrow might strengthen the case for the barrow's having been built on a part of the occupied area. The shafts themselves, however, pose problems. Any interpretation of them must take account of their number and extent. Twenty-one were excavated, and the excavator's conclusion that they must extend beyond the limits of the 1971 excavation (Wainwright 1973,12) is confirmed by the possible occurrence of others under Site 9549/c4 and perhaps by a nineteenth-century observation of traces of pits on Eaton Heath similar to others at Grime's Graves (Site 5640) and elsewhere (Harrod 1852,238). The excavated shafts were roughly circular in plan and generally about one metre in diameter; while their clay-lined vertical sides reached down to as much as eight metres. They were tentatively interpreted either as forerunners of Iron Age ritual shafts or as wells or water storage units (Wainwright 1973, 12-25).

Both interpretations are problematical. Most of the possibly ritual shafts cited as parallels are undated or substantially later. The broadly contemporary ones are of dubious status or are not closely comparable. Two shafts containing Beaker pottery at Wattisfield, Suffolk (Wacher 1958, 2; Smedley and Jarvis 1957,117) are now thought to be natural (Bamford 1982,39). The excavation of tapering shafts in solid chalk in the late third or early second millennium bc at Maumbury Rings, Dorset (Bradley 1975,8-12, 33-8, fig.4, pls.III, IV), calls for the same skills as the excavation of flint mines and does not demonstrate a contemporary capacity to excavate narrower, vertical-sides shafts in unstable sand and gravel. The widely varying depths of the Eaton shafts (from two to eight metres) count against their use as wells; and the uniform absence of clay linings from their porous bottoms (Wainwright 1973, figs. 8-12) argues against their construction as water containers.

It is difficult to envisage their original excavation. An individual would have had considerable difficulty in moving and digging in a vertical-sided shaft one metre wide and eight metres deep, like shaft 5 (Wainwright 1973, fig. 8); while the Crag itself is highly unstable, at least when dry, as the difficulty, danger, and sometimes impracticability of the shafts' re-excavation demonstrated (Wainwright 1973, 3, 5, pls. II, III).

The problems inherent in an anthropogenic origin for the shafts prompt the review of an alternative, natural origin. The Crag at Eaton is underlain by chalk, and hence capable of containing solution pipes, like those described in a vivid account of observations made at Whitlingham to the south-east of Norwich and quoted by Horace Woodward (1881, 139-40):

> The farm at Whitlingham, upon which the sewage of Norwich is pumped, has for subsoil the sands forming the strata known as the Norwich Crag, which lies immediately upon the Chalk, having a depth, I think, of 30 feet or 40 feet. When the sewage

was first allowed to flow over the land, we were astonished day by day to find the fields to be soon covered with circular holes, usually about 3 feet, 4 feet, or 5 feet in diameter and of various depths, the side always being vertical; on one occasion the ground suddenly subsided for a space of 21 feet in diameter and to a depth of 12 feet. The sections of the Chalk in pits in the neighbourhood show that the surface has numerous holes, which are known as 'sand galls' or 'sand pipes', and it appeared probable that the subsidence had taken place in these holes on account of the large quantity of water flowing over and working into the land so far in excess of any rainfall the soil had previously been exposed to.

Woodward also mentions clay-lined pipes at Eaton, but in the chalk rather than in the Crag (1881, 140).

Not only do the size and shape of the Whitlingham pipes match well with those of the Eaton shafts, but a recent incident at Eaton recalls the larger subsidence described by Woodward. Late in 1977 the north-east corner of Fairway School (Site 9537/c1) to the north of the barrows (Fig. 47) collapsed. Investigation by May Gurney (Technical Services) revealed a roughly circular feature 5m in diameter. A bore hole sunk into its fill showed loose, light brown, sandy clay with some gravel and carbonaceous material to extend, broken only by a 1m thick band of sand and gravel at 11.50m, to a total depth of 17.50m. At this point it gave way to more compact sand and gravel which in turn overlay the chalk at 23.00m. Bore holes sunk into the surrounding sand and gravel showed them to be five times as compacted as the fill. This seems to have been a solution feature. Despite its size, it was in many ways similar to the much smaller excavated shafts, especially the nature of its fill, including its instability and the presence in it of 'carbonaceous material'. Both seem likely to belong to the same general class of natural feature. The clay lining of the shafts, interpreted as a means of retaining their walls (Wainwright 1973, 12), is also a feature of some solution pipes, since clay present in surface water may be deposited on the walls of the pipes as the water percolates through them. This suggestion of a natural origin for the shafts would exclude shafts 1 and 29, which were uncharacteristically irregular and lacked clay linings (Wainwright 1973, 19, figs. 8, 9).

The strongest argument against such a suggestion is the presence in the shafts of sherds and struck flint to depths of up to five metres and of charcoal fragments at depths of up to eight metres (Wainwright 1973, 15, 21, fig. 10). Both might be due to the periodic slumping characteristic of solution pipes (West and Dumbleton 1972,172), given that occupation material was already present on the surface. This rather random mode of infilling would accord with the inverted sequence of radiocarbon dates from shaft 97A, where a determination made on charcoal from near the top of the shaft was substantially earlier than a determination made on charcoal from the base (Wainwright 1973, 12). On the other hand, the East Anglian Beaker found at a depth of 3.47m in shaft 5 (Wainwright 1973, 15, 27, fig. 14:P2) would seem, by its very completeness, to have been deliberately deposited, perhaps following a slumping of the fill. Broadly contemporary interest in solution pipes may be evidenced on Overa Heath, Quidenham (Sites 6004-6005), where some solution pipes appeared to have been dug out, the spoil being thrown up in roughly circular banks around them on which were pot-boilers and struck flint. One of two pot-boiler concentrations in the immediate area contained sherds of East Anglian, Barbed-Wire, and rusticated Beaker, as well as a barbed-and-tanged arrowhead and other struck flint (Apling 1931, 367-9; Clarke, D.L., 1970, corpus nos. 573-6). Dr Wainwright states in correspondence, however, that there was no sign in shaft 5 of any slumping or any subsequent digging-out of the fill.

It is certainly possible for artefacts to become incorporated in the fills of solution features, as on a site near Wallington, Hampshire, where predominantly Mesolithic material was recovered from depths of up to six metres in the fills of clay-lined pipes formed in a raised beach and the underlying chalk (Hughes and ApSimon 1978, 23-7). The same may have occurred on many other sites. These include not only Eaton, but three shafts excavated on Cannon Hill, Maidenhead, Berkshire, which contained mixed Mesolithic and Neolithic material (Bradley *et al.* 1976); the two Wattisfield shafts mentioned above (p.57); clay-lined shafts containing Romano-British material at Ipswich, Suffolk (Moir 1935); and shafts at Brampton, Norfolk (Sites 1006/c20, 7594, 16143/c5, c9; Healy 1983).

An indirect anthropogenic element is reintroduced by Hughes' and ApSimon's suggestion that Neolithic forest clearance and cultivation may have led to increased percolation and possibly to greater acidity of percolating water, thus triggering pipe formation (1978, 33).

5. The Excavation of a Ring-Ditch on Sweet Briar Road, Norwich, 1982

by Jayne E.Bown

I. Summary

A ring-ditch (Site 366) was excavated at Sweet Briar Road, Norwich in summer 1982. Two closely concentric, overlapping ditches were uncovered. Remnants of cremations were scattered across the centre of the site. Deposits of Iron Age pottery in the tops of the ditches indicated use of the site in this period. A linear ditch forming a possible Romano-British field boundary bisected the ring-ditch.

II. Introduction and Location

The ring-ditch was discovered and recorded on aerial photographs in June 1980 by Derek Edwards of the Norfolk Archaeological Unit. It was situated at TG 2069 1030 on the 50ft (15.24m) contour inside a bend of the River Wensum. The ground here rises from below 25ft (7.62m) to 127ft (38.71m), the underlying deposits changing as it does so from valley gravels through chalk to sands and gravels (Fig. 53).

The ploughed field just east of Sweet Briar Road, in which the ring-ditch was sited, was to be developed by Norwich City Council into an industrial estate and consequently a rescue excavation was undertaken.

A contour survey of the site prior to excavation showed that no mound remained, but that the site was situated on the slope of a gentle spur. A metal detector survey of the site conducted by Derek Woolestone prior to excavation did not reveal any material of an early date that may have been associated with a round barrow.

III. The Excavation

Method

The topsoil (*1*) was removed over an area of 30m × 30m and to a depth of 30cm using a mechanical excavator. The soil thus exposed was a disturbed yellowish-brown loamy sand (*2*). It contained very few sherds of pottery, but these ranged in date from Bronze Age to post-medieval, emphasising the disturbed nature of the layer; brick and coal fragments, numerous flint flakes and a first-century AD iron brooch were also present.

No evidence for the presence of the ring-ditch was apparent at this stage, although an amorphous spread of dark soil (*11*) was visible in the vicinity of the ditches; layer *2* was then removed over a trial area 2m wide, east to west across the site. This revealed two concentric, overlapping ditches and the natural subsoil of loamy sand and patches of flint gravel (layer *3*) which was paler and stonier than layer *2*.

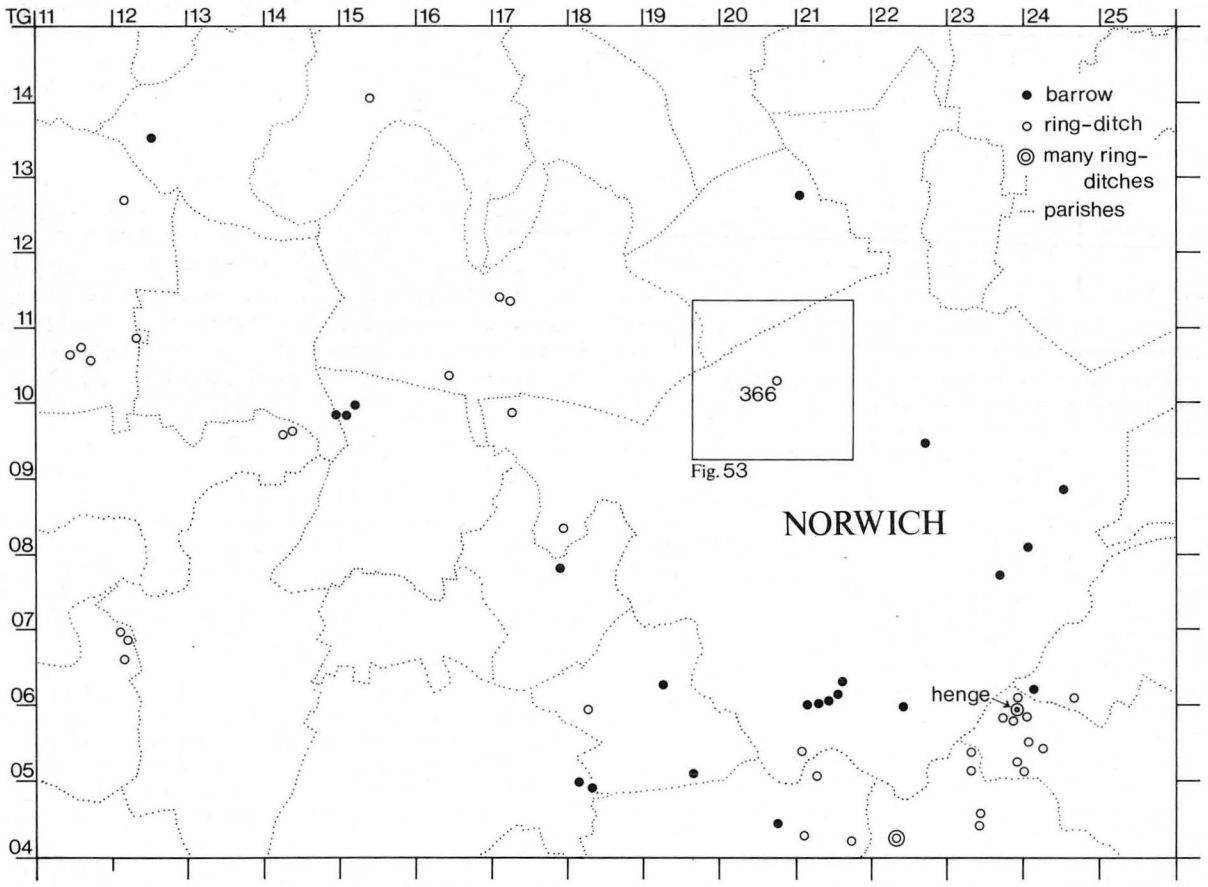


Figure 52 Ring-ditches and barrows in and around Norwich. Scale 1:100,000

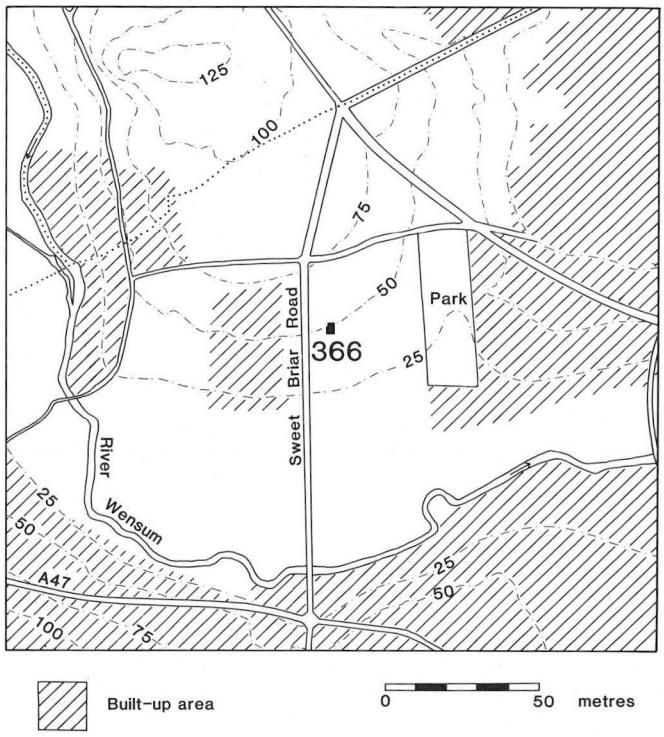


Figure 53 Location of Site 366. Scale 1:2500

Layer *2* was 40cm thick north of the ring-ditch and gradually became thinner down hill to the south and east until it was non-existent in the south-east area of the ditches. In the south-west it was only 10cm deep and it continued to diminish in a southerly direction. The position of the ring-ditch having been established, the inner area was quadranted and layer *2* removed.

The ditches were excavated in segments, and three-quarters of the total circumference was examined (Fig. 54).

The Inner ditch

The inner ditch (*4*), with internal diameter of 13m, was approximately 1.7m wide at the top and generally 65cm to 75cm deep with a V-shaped profile, flattened slightly in the west and north-west. In the east the ditch was narrower and shallower with a very flat base while in the west it was narrower (Fig. 55, i and ii).

The primary fill consisted of a yellowish-brown, slightly gritty, loamy sand (*6*) with 20% flint-gravel inclusions weathered from the former barrow mound. Natural gravel and sand gave way to compacted sand on the east side of the ring-ditch, hence the primary fill was relatively stone-free here and impossible to distinguish from the secondary fill (Fig. 55, i).

Further evidence of mound erosion could be seen in the gravitationally sorted large flint cobbles in layer *6* (Fig. 55, ii). Once the mound had temporarily stabilised, the ditch apparently silted up with a homogeneous mid-brown loamy sand (*5*) with sparse flint inclusions. The fill contained two sherds and a few fragments of Iron Age date as well as prehistoric pottery of indeterminate date. Subsequently, further erosion of the mound took place—this was evident from flint cobbles in the midst of the ditch and was best demonstrated in the north and north-west sections of the excavated ditches (Fig. 55, ii). This northern area of the ring-ditch had a gravel lens on the inside edge of the inner ditch probably representing a slump of mound material.

The outer ditch

The relationship between the inner ditch (*4*) and the outer ditch (*7*) was visible in section (Fig. 55, i), which showed that the outer lip of the inner ditch was cut by the outer ditch; this latter feature had an internal diameter of 15.75m and gently sloping sides and a rounded bottom in the north, south and east and a flatter base elsewhere. The width at the top of the ditch ranged from 1.3m to 1.8m and the depth varied between 40cm and 60cm, being widest in the east and deepest to the north (Fig. 55, i and ii).

The primary fill (*9*), a yellowish-brown gritty loamy sand) was very similar in make-up and colour to the fill of the inner ditch (*6*). Likewise, the upper fill (*8*) very closely resembled the secondary fill (5) of the inner ditch. Five sherds of Bronze Age, two of Iron Age and four of indeterminate prehistoric date were retrieved from context *8*. No eroded material was present in either fills of the outer ditch.

After the ditches had mostly silted up, a dark brown loamy sand with abundant charcoal flecks (*11*) accumulated in the resultant depression. This layer contained predominantly Bronze Age pottery, but there was also a scatter of Iron Age and a few Romano-British sherds, as well as the majority of the worked flint.

The central area

The inner area was excavated in quadrants and layer *2* was removed by hand. A small amount of cremated bone was found scattered over an area 2.0m by 2.5m in the middle of the central area, with a single tiny deposit 3m to the east of centre. The bone fragments appear to be the remnants of at least two different cremations (Glenys Putnam, pers. comm.) Part of this area above the bone scatter was stained purple-brown and contained charcoal flecks. One sherd, possibly from a Collared Urn was found with four small fragments of cremated bone concreted to it (Fig. 55, No. 3).

Only twelve sherds in all were recovered from the central area, ranging in date from Early Bronze Age to post-medieval, again reflecting the disturbance and destruction of the site.

Four other features (*17, 21, 27, 32*) were identified below layer *2* and cut by the inner ditch (feature *27* only probably so). Features *17, 21* and *32* were shallow sub-circular scoops in the natural gravel. These depressions were filled with clean loamy sand and they produced no finds and were probably formed naturally. Feature *27* was at least 1m wide and 42cm deep and was probably cut by the inner ditch. Modern plough marks criss-crossed the surface of the natural subsoil.

No fossil soil survived beneath the former mound.

The outer area

An oval-shaped feature (*10*), cut by the outer ditch (*7*) was situated south-west of the barrow (Fig. 54). The depth of the feature was not determined because the southernmost area of the excavation was inadvertently machined to a lower depth than the rest of the site. However, the original depth of feature *10* would probably have been at least 40cm. No finds were recovered and it was probably also a natural feature.

A straight-sided sub-circular pit (*30*) was excavated just north of the ring-ditch. This was apparently natural. Similarly, on the east side of the ring-ditch a small pit (*34*), 45cm deep, was excavated; there were no artefacts and no evidence to suggest the original use of this pit.

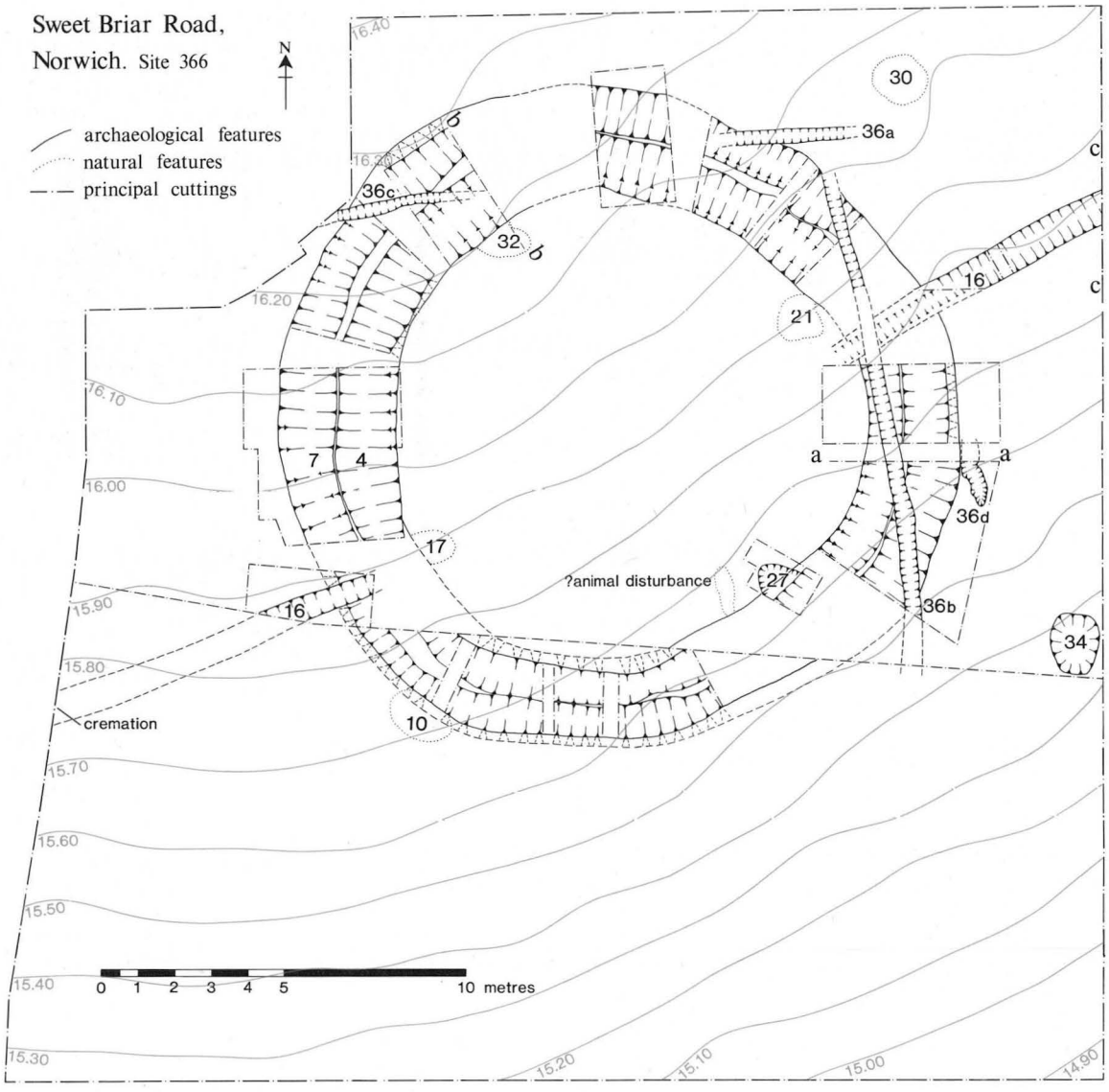


Figure 54 Excavation plan and contour survey. Scale 1:200

Other features

A ditch with bank (*16*) aligned south-west to north-east bisected the ring-ditch (Fig. 54). The ditch was 90cm wide and 35cm deep with a fill of dark brown sandy loam with 5% flint (Fig. 55, iii). It cut through both circular ditches (*4* and *7*) before petering out in the central area. The mound was probably still extant when the ditch was dug.

On the western edge of the excavation a heap of cremated bone (S.F.66) was exposed within the ditch. This appears to be a complete adult cremation, possibly male and not very well broken up after burning (Glenys Putnam, pers. comm.). The cremated bone was very compact, as if it had been placed in the ditch in a bag or other receptacle, although no evidence for this could be seen in the section. The ditch had silted up around the cremation.

From the north-eastern end of the ditch came the top of a first-century AD iron brooch (S.F.55).

Cutting through the tops of ditches *4* and *7*, but sealed by *11*, were three narrow gulleys, two of which (*36a* and *36c*) were aligned east to west and the other (*36b*) north to south. They had V-shaped profiles and were generally 15cm deep and 30cm wide. Gullies *36a* and *36b* were filled with a dark brown loamy sand with sparse flint pebbles, whereas 36c contained a mid-brown loamy sand (Figs. 54 and 55, i).

An irregularly-shaped small pit *36d* (22cm deep) was discovered immediately east of the ring-ditch. There was slight burning within the pit and a number of burnt flints and pot-boilers were found in the fill.

IV. The Artefacts[1]

Introduction

Damage to the site had been so extensive that only a few sherds of pottery and a scatter of cremated bone were left to testify to the original existence of cremations within the central area. Struck flints were scattered all over the site, but there was some concentration near the ditches, where also the bulk of the pottery was found.

Objects of iron

The Romano-British iron brooch (Fig. 56)
by Donald Mackreth

Made of iron, the brooch belongs to the *Colchester* type and is *c.*7.5cm long. The spring seems to have had eight coils. The corrosion hides any trace of decoration on the wings or bow. Likewise, the section of the bow is unclear, but it may have been faceted. The catch-plate has two piercings divided by what looks like a corroded bar forged into a dog-leg.

There are no particular traits which place this brooch in one part rather than another in the general *floruit* of the type save that the style

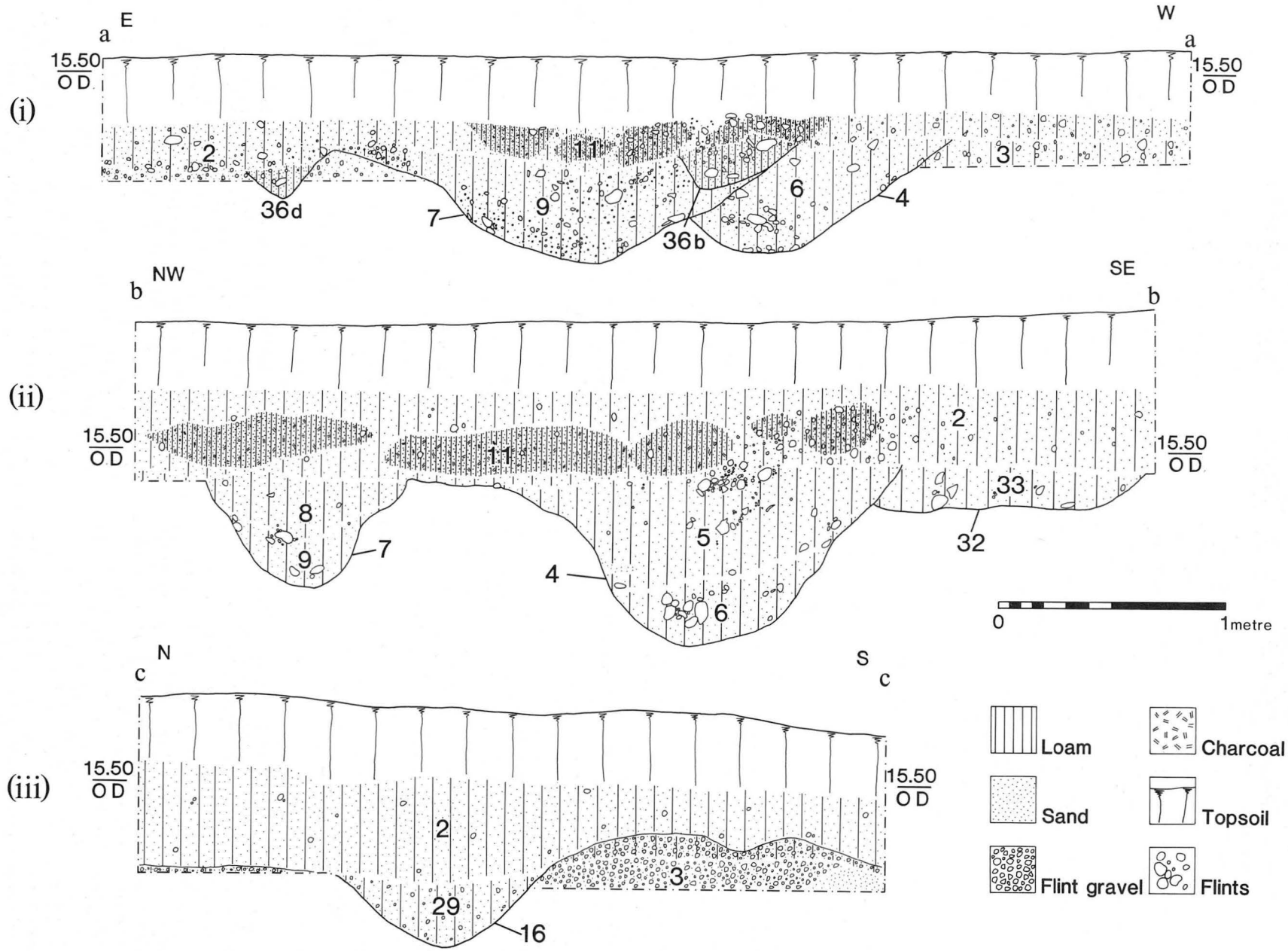


Figure 55 Sections: (i) ditches and features *36, 36* and layer *11*; (ii) ditches and layer *11*; (iii) ditch *16*. Scale 1:25

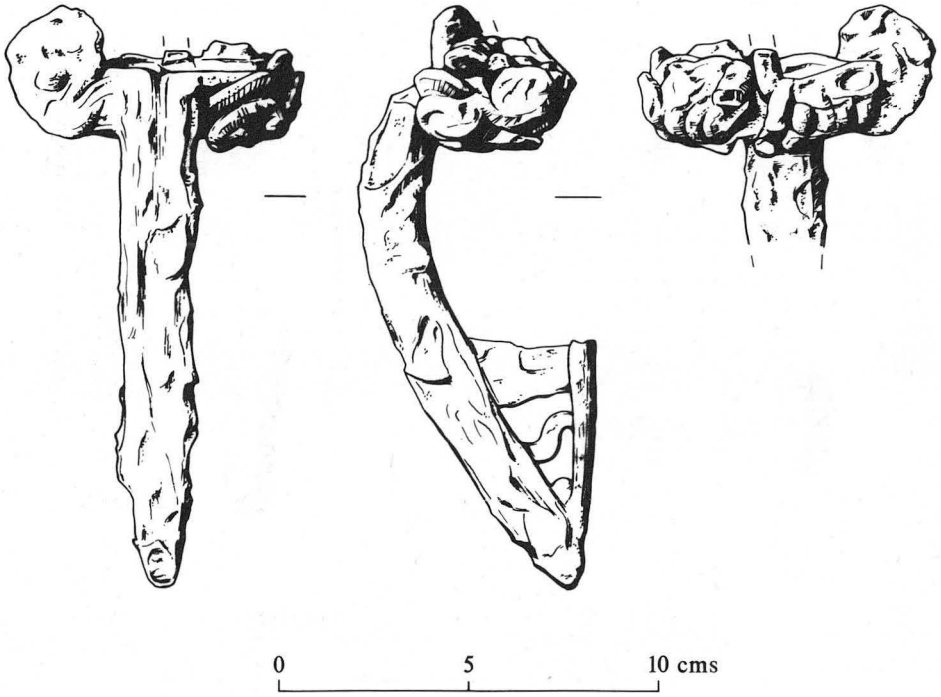


Figure 56 Iron brooch. Scale 1:1

of the catch-plate piercings is not late. As the *Colchester* type belongs essentially to pre-Roman times, its dating is not well-secured. An iron example from Skeleton Green, Puckeridge, Hertfordshire, came from a context dated to *c.* 15-25 AD (Partridge 1981, 142, fig. 67,8) and this is about as early as any *Colchester* is dated. None has so far been dated to the first century BC and the best indications of the type's development will come from the cemetery at King Harry Lane, St. Alban's, Hertfordshire. (Stead forthcoming[2]). The terminal date for the type is, similarly, not well fixed, but the principal functional variations which develop from the *Colchester* are present so soon after the Conquest that it is inconceivable that one or more had not evolved before and there are now identifiable groups of *Colchesters* which display some of the decorative tricks to be found on the type's progeny. The trend in the developing study of the *Colchester* is towards the conclusion that the standard specimen had ceased to be made by *c.* 40 AD and the latest versions may not have been manufactured after *c.* 45 AD. As far as the present specimen is concerned, not only is the catch-plate design not to be expected on late *Colchesters,* but the use of iron itself is more characteristic of pre-Conquest times than later. The date-range is from somewhere very near the beginning of the first century AD to *c.* 35/40. S.F.2.

The top of another iron brooch (S.F.55: not illustrated) similar in style to that in Fig. 56 was found in the fill of ditch *16*.

Flint

(Fig. 57)

The site produced a uniform collection of flints, generally of poor quality and struck from locally-gathered small flint cobbles. They were mostly grey-black in colour often with the cortex still attached. Due to the inferior nature of the raw material, some flakes had fractured along natural faults. A numbers of frost-factured flakes had been re-used. The flints were of a typically Late Bronze Age-Early Iron Age type, being fairly crude, short and squat flakes that had been struck with a hard blow. They were still in a fresh and sharp condition.

The most prolific and interesting flints from this generally poor collection come from layer *11*, which also provided most of the Bronze Age and Iron Age pottery from the site (Table 18). One of the two flints found associated with a small Bronze Age Food Vessel (Fig. 57, No. 4) is atypical of the rest of the flint from the site, being a scraper of fine workmanship and better quality flint (Fig. 57, No. 1).

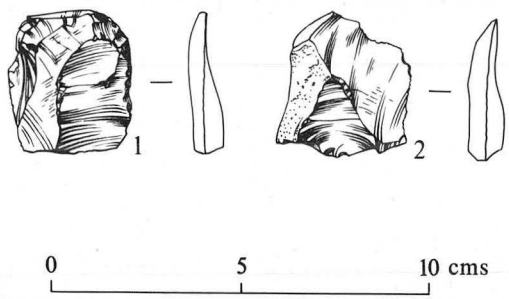


Figure 57 Flint artefacts. Scale 1:2

Pottery

(Fig. 58)

As the sherds are small and very well scattered over the site, the pottery is grouped here by fabric type alone.

Pottery types

1. **Type I: Early Bronze Age.** Part of a **Collared Urn;** fairly hard, well-fired, grogged fabric with buff-grey interior, grey-brown exterior and dark grey core. The sherds have whipped-cord decoration possibly in zones.

2, 3. **Type 2: Early Bronze Age.** Probably from a **Collared Urn;** No. 2 part of base; No. 3 ?shoulder, carinated; friable, heavily grogged sherds with buff-orange exterior, buff interior and red-buff core.

(*Not illustrated*).

Type 3: Bronze Age; soft, often grogged, fabric. External colouration varies from red-brown to buff; internal, grey to black with black core. Sherds are occassionally sooted.

4. **Type 4: Bronze Age.** Small **Food Vessel;** fairly hard fabric with common flint filler; external surface black, internal surface grey; core grey. A vessel of similar form was recovered from the Bowthorpe excavation (Fig. 32, No. 13).

(*Not illustrated*).

Type 5: Iron Age. Hard fabric with fine flint and sand filler. Generally has grey-brown exterior, black interior and black-grey core. Sherds are occasionally burnished.

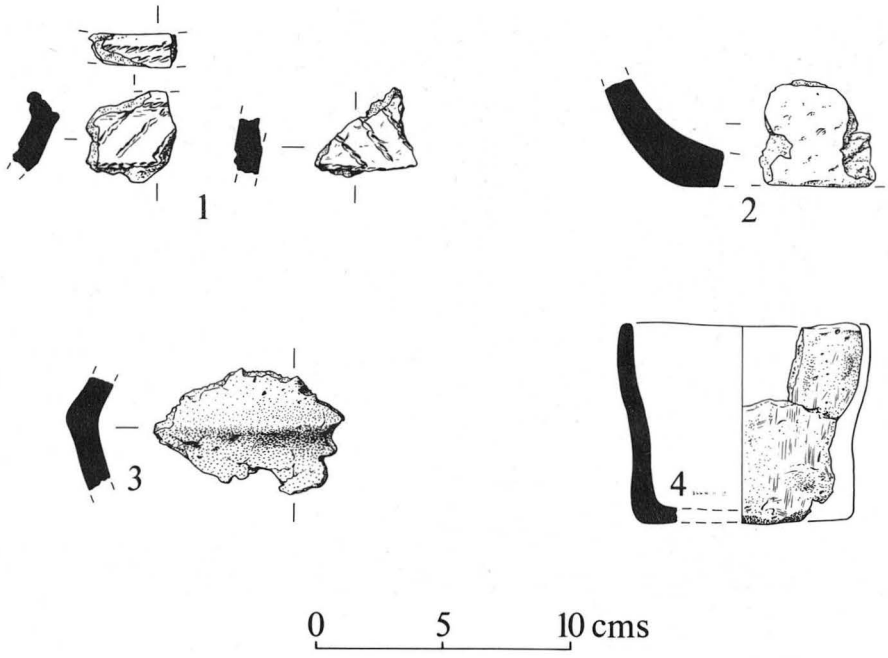


Figure 58 Pottery. Scale 1:3

(*Not illustrated*).

Type 6: Romano-British. Grey coarseware; samian; mortaria. (*Not illustrated*).

Type 7: medieval and post-medieval.

V. Conclusions

The disturbance of the site caused by ploughing, combined with the acidic nature of the subsoil, resulted in the poor preservation of features, artefacts and organic matter. No evidence was found for the presence of either graves or inhumations, although it is assumed that the site represented the remnants of a Bronze Age round barrow. Cremations had been buried within the mound at some stage, but it is impossible to say how many or how they related to the original mound, except that they were not deeply buried in the underyling subsoil. No original ground surface remained and the only surviving mound material was that which had slumped into the ditches.

It is likely that a mound was constructed with a single ditch during the Early Bronze Age; soon afterwards a second circular ditch was dug, slightly enlarging the barrow. This also quickly silted up and Bronze Age, Iron Age and most of the pre-Roman material collected within the resultant depression. This suggests domestic activity around the site over a long period. Iron Age material in similar contexts at the tops of the ditches has been recognised from other excavated ring-ditches in the county (this volume).

The cremation in ditch *16* outside the ring-ditch is perhaps further evidence for the prolonged use of the site for funerary purposes.

The mound appears to have been used as a boundary marker in a Romano-British field system and at sometime subsequent to this it was detroyed. Almost all the Romano-British pottery came from the north-east corner of the excavation, north of ditch *16*.

It is interesting to note that only two sherds of medieval pottery were found on the whole site compared with an abundance of post-medieval material.

Endnotes

1. The finds have been placed on loan by Norwich City Council with the Norfolk Museums Service (Acc.No. L 1983.13).
2. Donald Mackreth is grateful to Dr Ian Stead and Miss V.Rigby for information in advance of their own publication.

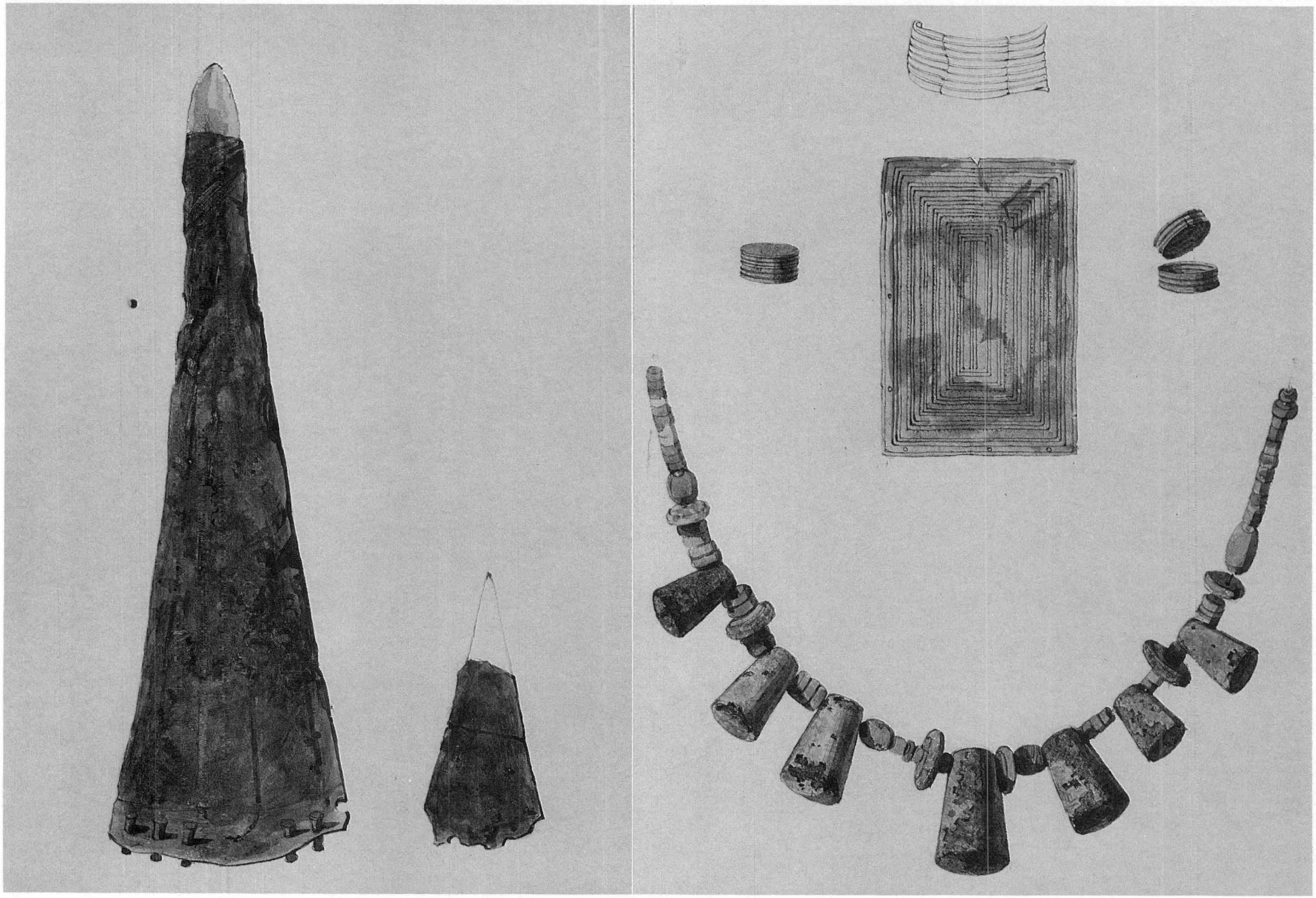


Plate I Watercolour studies by Frederick Sandys of the grave-group from Little Cressingham (Site 5051) found in 1849

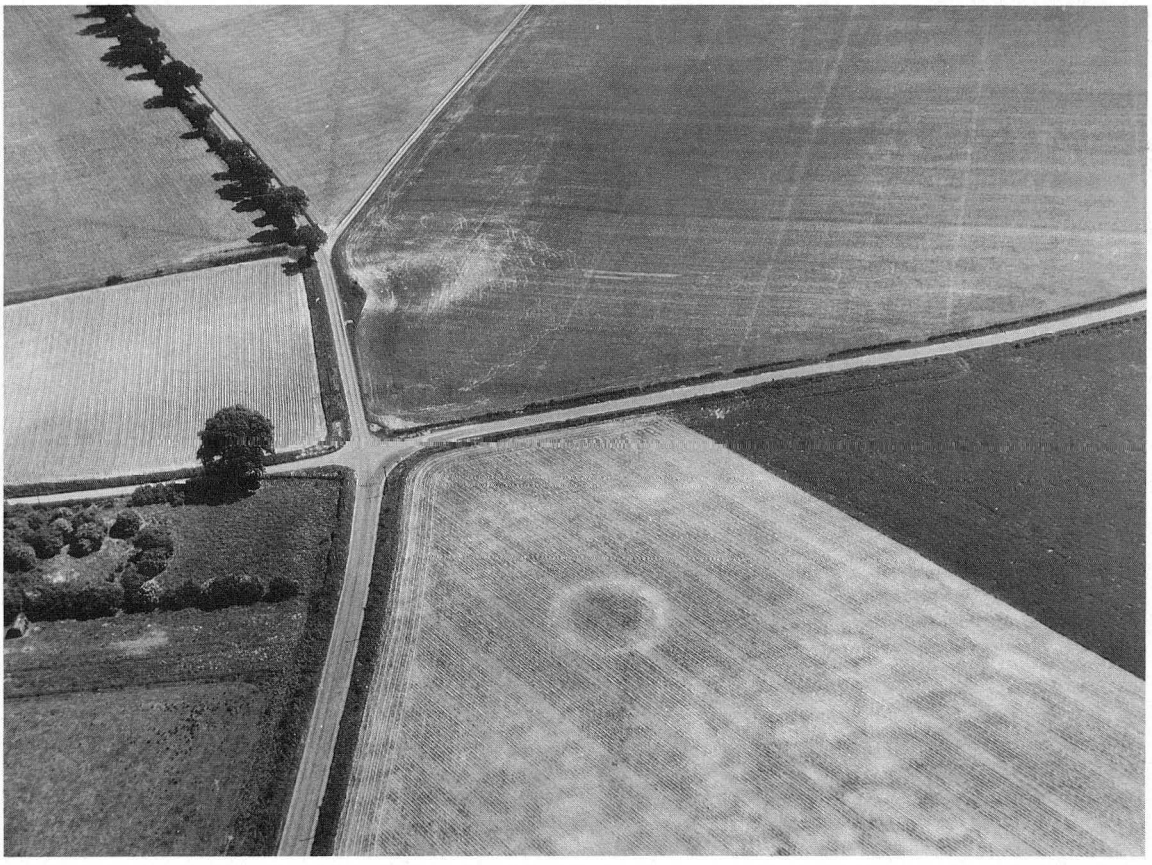


Plate II Aerial photograph of two ring-ditches at Little Cressingham (left Site 5051; right Site 5052); looking south-east; 15 June 1951

Plate III Aerial photograph of barrow (Site 5053) at Little Cressingham with ring-ditch (Site 5052) in the background; looking east; 15 June 1951

Plate IV Little Cressingham: general view of the excavation from the south-east

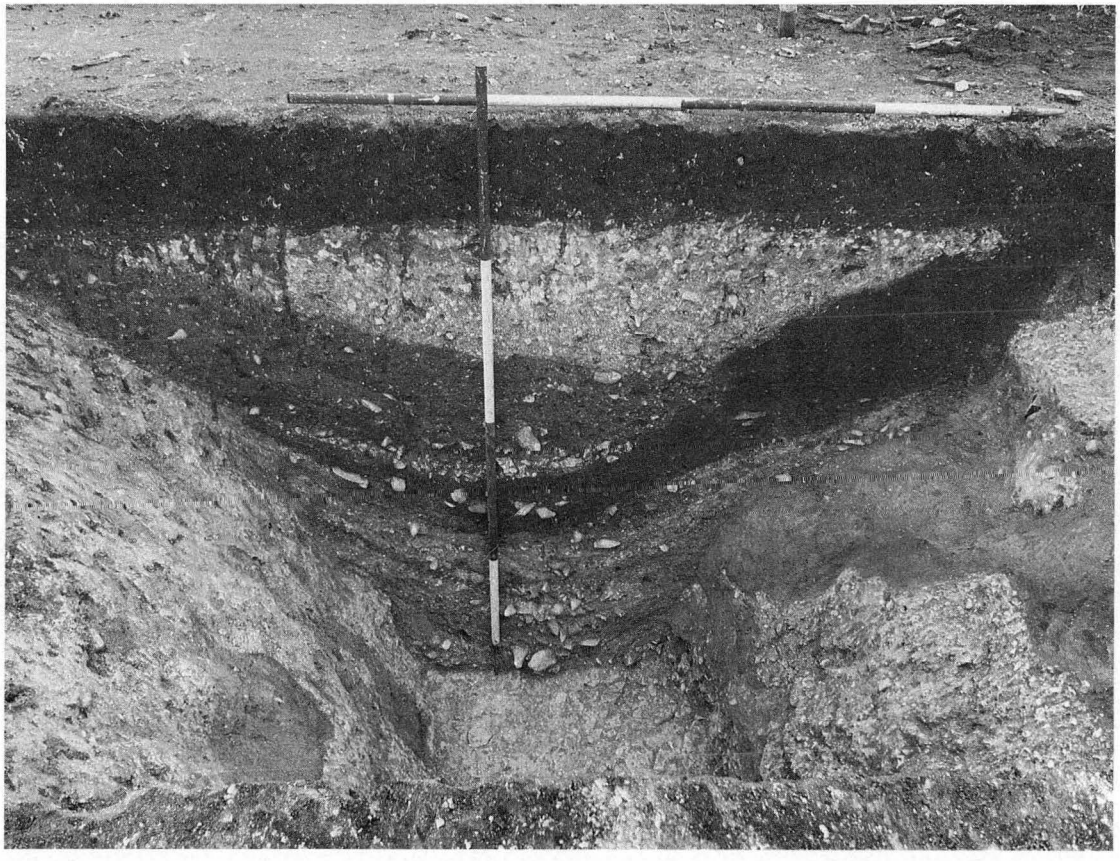


Plate V Little Cressingham: west section of inner ditch on the south side

Plate VI Little Cressingham: south-west of outer ditch on south-east side

Plate VII Ring-ditch at Bowthorpe; looking south-east; 29 June 1976

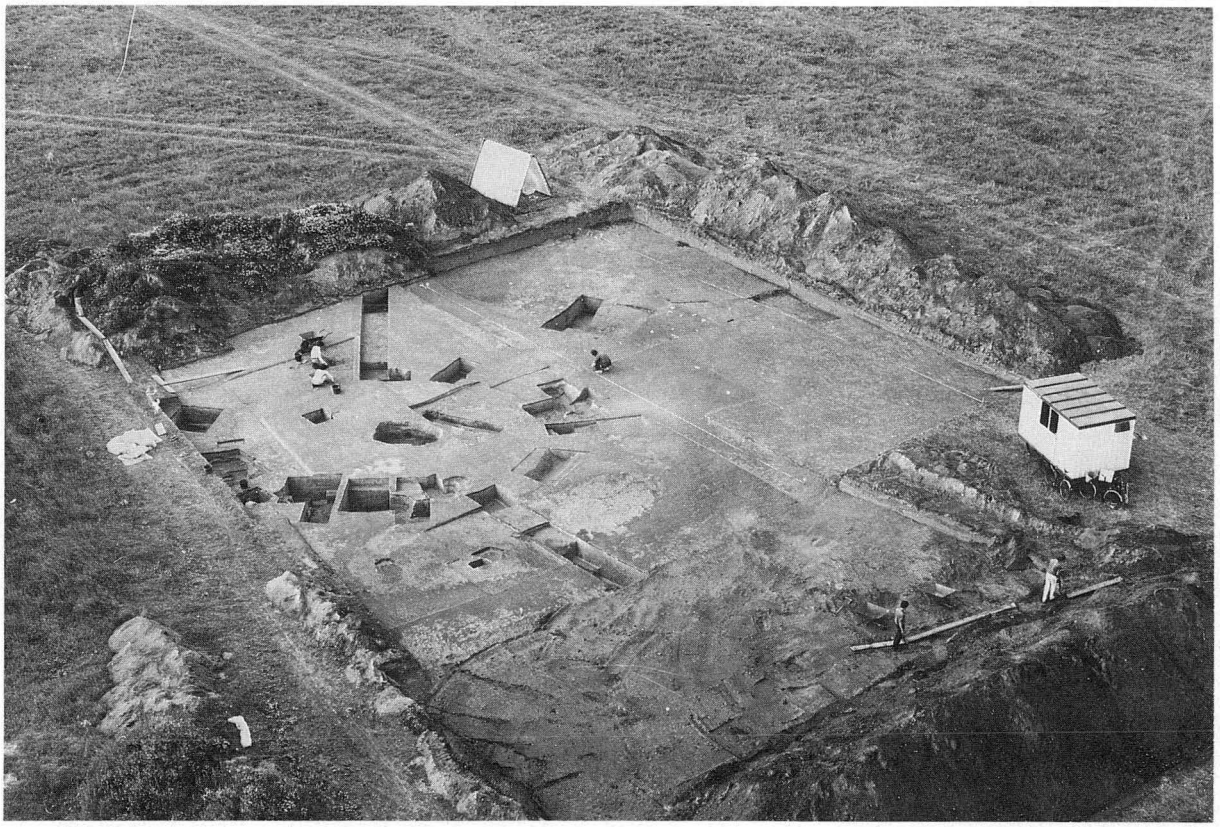


Plate VIII Bowthorpe: general view of the excavation; looking south-west

Plate IX Bowthorpe: the central grave (*14*), showing the south-east end of the coffin

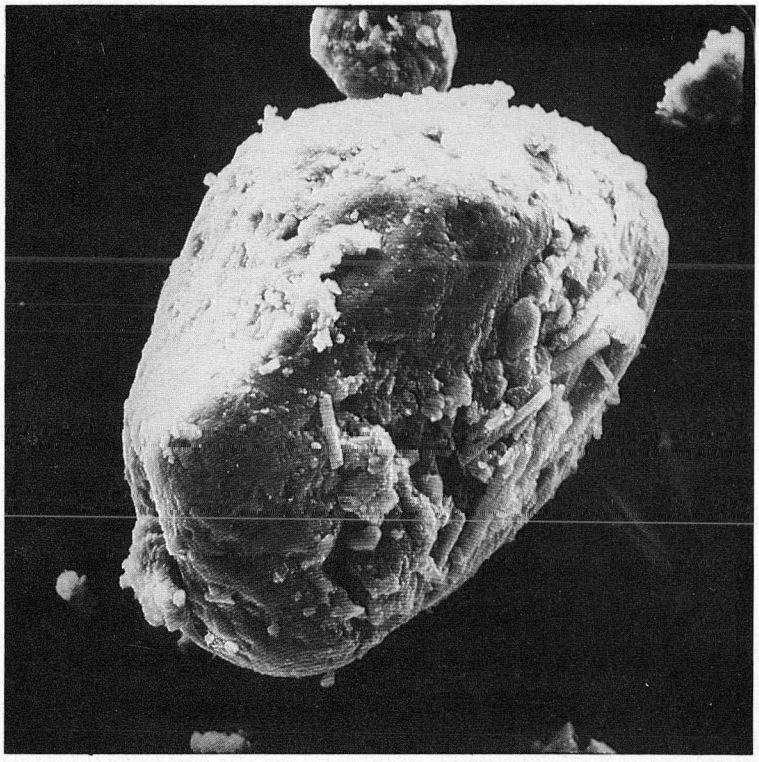
Plate X Bowthorpe: the central grave (*14*), showing the lower part of the coffin with traces of the crouched inhumation; looking north-west

Plate XI Bowthorpe: grave *16* during excavation showing the coffin stain; looking north-west

Plate XII Bowthorpe: grave *16*, showing the crouched inhumation; looking south-east

Plate XIII Bowthorpe: grave *56*, showing the charred oak trunk coffin; looking south-west

Plate XIV Bowthorpe: grave *92*, showing coffin stain; looking north



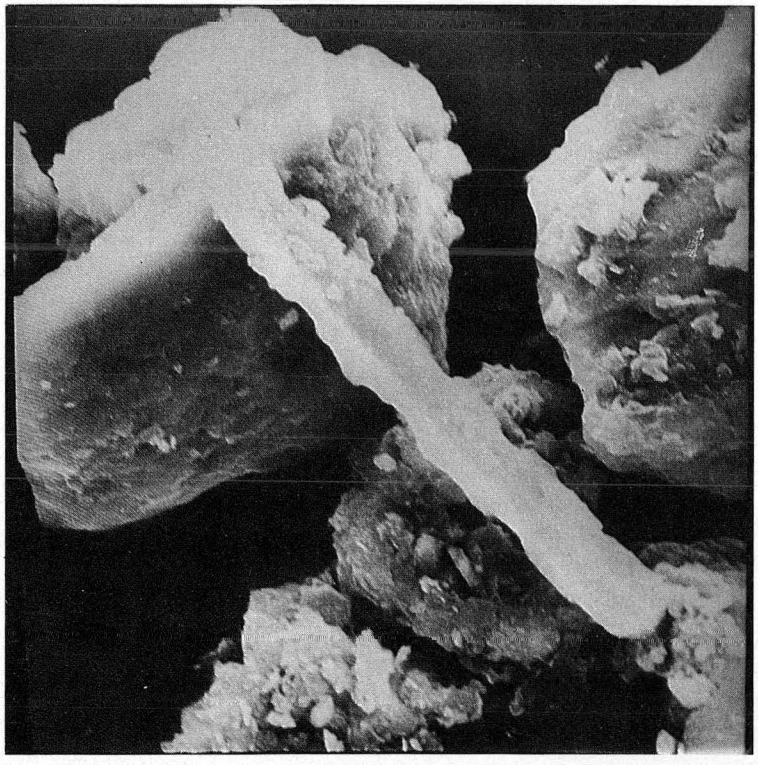


Plate XV Bowthorpe: opal phytoliths from the 'pillow-stain' from grave *16* (scanning electron micrographs). *a.* Cluster of elongate smooth phytoliths adhering to sand grain, ×440. *b.* Wavy-edged rod phytolith, ×1550

Plate XVI 'Remains of tumulus, Gallows Hill, Mundford Road, Thetford St. Peter'; looking north-east; 2 November 1909

Plate XVII Aerial photograph of Weasenham Sites 3658 (the bell barrow) and 3661 (the oval enclosure) from the north-east. Site 3658 is cut by the left-hand edge of the photograph, and Site 3661 is in the upper left-hand corner; 4 July 1959

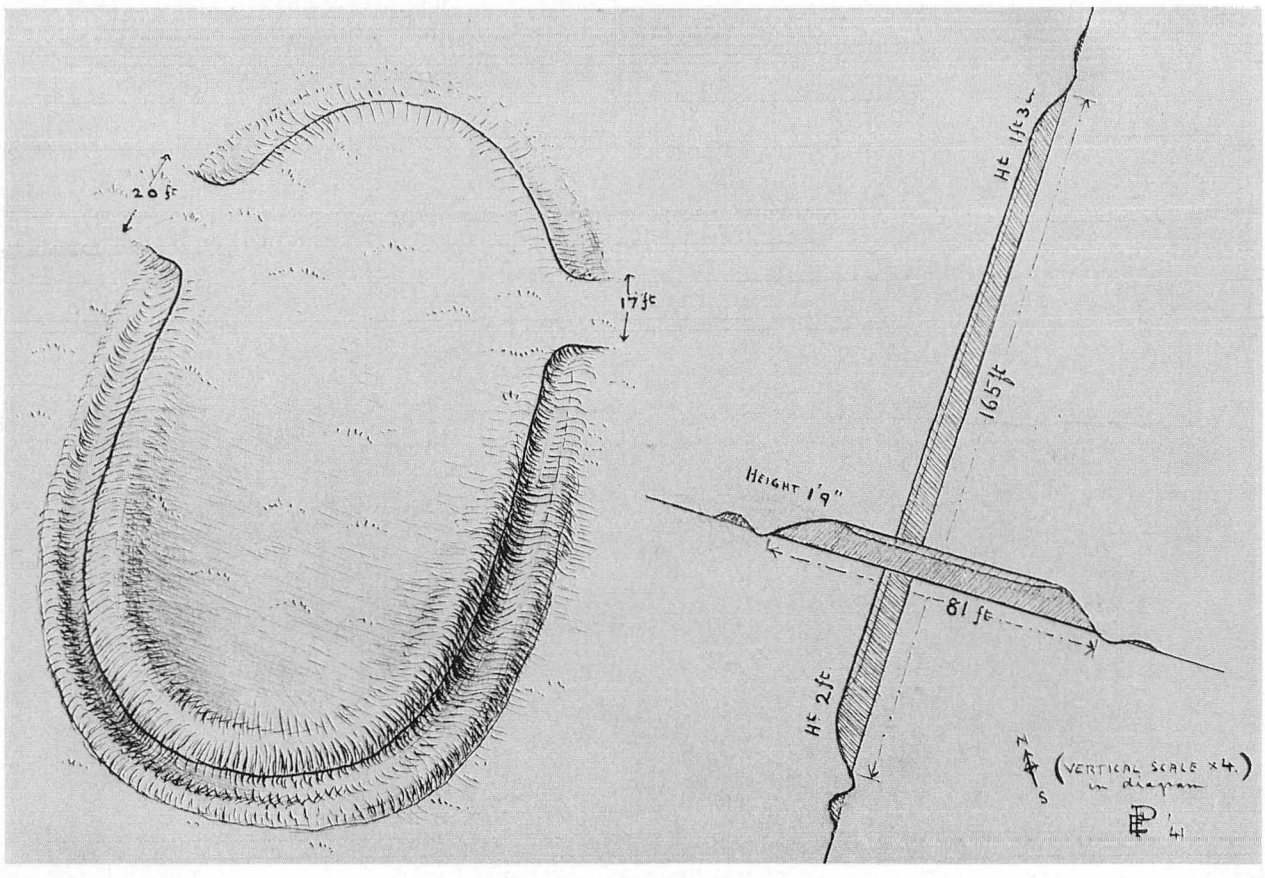


Plate XVIII Weasenham Lyngs: Site 3661 sketched by Dr E. Puddy in 1941

Plate XIX Skeleton discovered during the excavations at Cockley Cley (Site 2688), 18 June 1973

Plate XX Old Hunstanton: aerial photograph showing the excavated barrow (Site 1263) in the distance with the 1977 excavations on Redgate Hill (Site 1396) in the foreground, 22 May 1977

6. The Excavation of a Mound on Gallows Hill, Thetford, 1978-9

by Andrew J.Lawson and Roy Le Hegarat

I. Summary

In 1978 and 1979 a restricted area of a mound, Site 5744 previously reported as a barrow, was investigated following the discovery of skeletons during earthmoving prior to the construction of a factory. Finds from the sealed old ground surface and a single radiocarbon determination suggest that the mound was constructed in the early first millennium ad. The original purpose of the mound is uncertain, but its later, post-medieval use as a stance for a gallows is proven by documentary evidence and the finding of skeletons peripheral to the mound. Two hoards of late Roman coins have been found in the immediate vicinity.

II. Introduction

Gallows Hill is situated above the 100ft (31m) contour on a chalk ridge capped with glacial sand to the north-west of Thetford (Fig. 59).

The sites of two mounds (Sites 5744 and 5745) on Gallows Hill were first reported in September 1903 by H. Dixon Hewitt. At the time of the report the larger of the two mounds (Site 5744; plotted at TL 8643 8464) had a diameter of 25 paces and a height of 2ft (60cm). The smaller mound (Site 5745), lying 60m to the north of the larger, measured 14 paces in diameter and 6in (15cm) in height. On the site of the smaller mound Hewitt had found a leaf-shaped arrowhead in October 1902[2], while the larger mound was recorded by photography in 1909 (Pl.XVI). Further finds reputed to be from the mound (large bones and spindle-whorls) are referred to by W.G.Clarke (1913, 422). These finds, which were said to be in the Castle Museum, Norwich, are now lost. In the same article he described the site as containing the 'scant remains of two barrows'. In the early 1950's the remains of only one barrow (Site 5744) were visible. In 1976, when the site was visited as part of a survey of all barrows in the county (Lawson, Martin and Priddy 1981), the remains of both barrows had been obliterated.

Notice of an application for development of the area was received by the Norfolk Archaeological Unit in March 1978. As the precise site of the barrows was not known and no sign of them remained above ground, it was not considered necessary to excavate the site before development started. However, when development of the site did begin a watching brief was maintained by the Unit. In August 1978 two skeletons were uncovered during the construction work. A brief investigation was conducted following this discovery and a more extensive excavation took place at the beginning of 1979.

III. The Excavation

On 9 August 1978 during the construction of an earth mound, two skeletons (SF 1 and 2) were uncovered (at TL 8643 8463). Subsequent investigation during the following two days before the site was buried beneath the mound revealed that the two skeletons (Fig. 63: microfiche) lay in a shallow grave (*2*), cut into a uniform brown matrix (*3*), which at the time was interpreted as the upper silting of a ditch. The jaw of skeleton 1 contained a fragment of clay pipe stem.

In the south of the exposed area (Fig. 60) lay a widespread sandy deposit (*4*). This deposit was much disturbed by roots and subsequent intrusions (*5* and *9*). An investigatory trench, 11m by 1m, revealed that beneath the sand (*4*), and occasionally intermixed with it, lay an homogeneous purplish-brown stone-free sand up to 12cm thick (*16*) with an undulating surface. This was interpreted as a turf stack. It had been built on an ancient soil profile of similar material (*7*) and it was, therefore, difficult to distinguish between the two. However, where the ancient soil surface could be detected, it appeared relatively flat in comparison with the turf stack (Fig. 61). Stratified beneath the sand and on the eastern side of the turf stack was an area of charred remains (*8*; below). Two sherds of prehistoric pottery (S.F.Nos.3 and 4), probably of Early Bronze Age date, were found within the turf stack. Consequently these deposits were taken to be the remains of barrow 5744.

A second excavation began on 22 January 1979 prior to the construction of a fence to mark the southern perimeter of the development. A trench, 21m long, was opened immediately south of the earth mound which had buried the first trench the previous August. The excavation was severly protracted by inclement weather with intermittent flooding and freezing.

As in the first trench the mound was identified as a spread of yellow sand (*10*), in places mixed with a darker brown soil (*11*). At either end of the trench was a stony homogeneous brown silt (*12*). The mound material of turves (*13*) and sand (*10*) was not uniform over the old ground surface (*14*) and this occasionally protruded through. The underlying fossil soil (*15*) was identified as an immature ranker soil formed in brown sand, the AL(g) horizon seldom more than 10cm thick (Fig. 61).

Finds of flint flakes and sherds were sparse in the mound material but more plentiful in the fossil soil (Fig. 62: microfiche).

Beyond the northern limits of the sand (*4*) in the earlier trench, the old ground surface protruded, and where it was unprotected by the overlying sand had been truncated, presumably by erosion. For a distance of *c.*3m this truncated profile was covered with a layer of yellow and brown sand which presumably had eroded from the former mound. Beyond the limit of this deposit, subsoil was exposed. At the north end of the trench the subsoil dipped away to a maximum depth of 50cm. The resultant hollow was filled with a grey-brown sand which, at a depth of 40cm, took on a gleyed appearance with rusty mottles.

Investigation of the stony brown silt (*12*) at the eastern end of the second trench revealed six randomly orientated skeletons, of which two (S.F. 10 and 11) lay above the other four (12, 13, 76, and 98: Fig.64: microfiche). The bone was in very poor condition. No grave limits were defined, the uppermost skeleton lying immediately beneath the thin topsoil. Little soil (*16; c.*10cm thick) was found beneath the skeletons and above the natural mottled yellow sand. The fossil soil (*15*) was truncated at the edge of the mound, but this probably resulted from erosion prior to the deposition of the skeletons rather than the cutting of a ditch. No trace of a ditch was found at the western end of the trench.

In order to define the southern limits of the mound a further trench 7m long was cut at right angles to the second. At the southern edge of the mound, less than 1m from the northern end of the trench, a deposit of sandy silt (*12*) was encountered. This had been disturbed and compacted in places by the contractors' machinery. 5m to the south an apparently undisturbed clay layer with chalk inclusions underlay the topsoil. A test pit, some distance further south, dug to a considerable depth, showed that the clay was a continuous deposit, possibly a deep marled ploughsoil. Although Dr Richard Macphail's pH determinations (Table 23: microfiche) for the buried soil beneath the mound are only slightly acid, it is probable that soil condition was more acid before relatively recent marling.

On the edge of the mound, a small pit (*18*), 26cm in diameter and 8cm deep, cutting the fossil soil and sealed by mound material, was discovered. It contained no finds. Beyond the limit of the mound in this

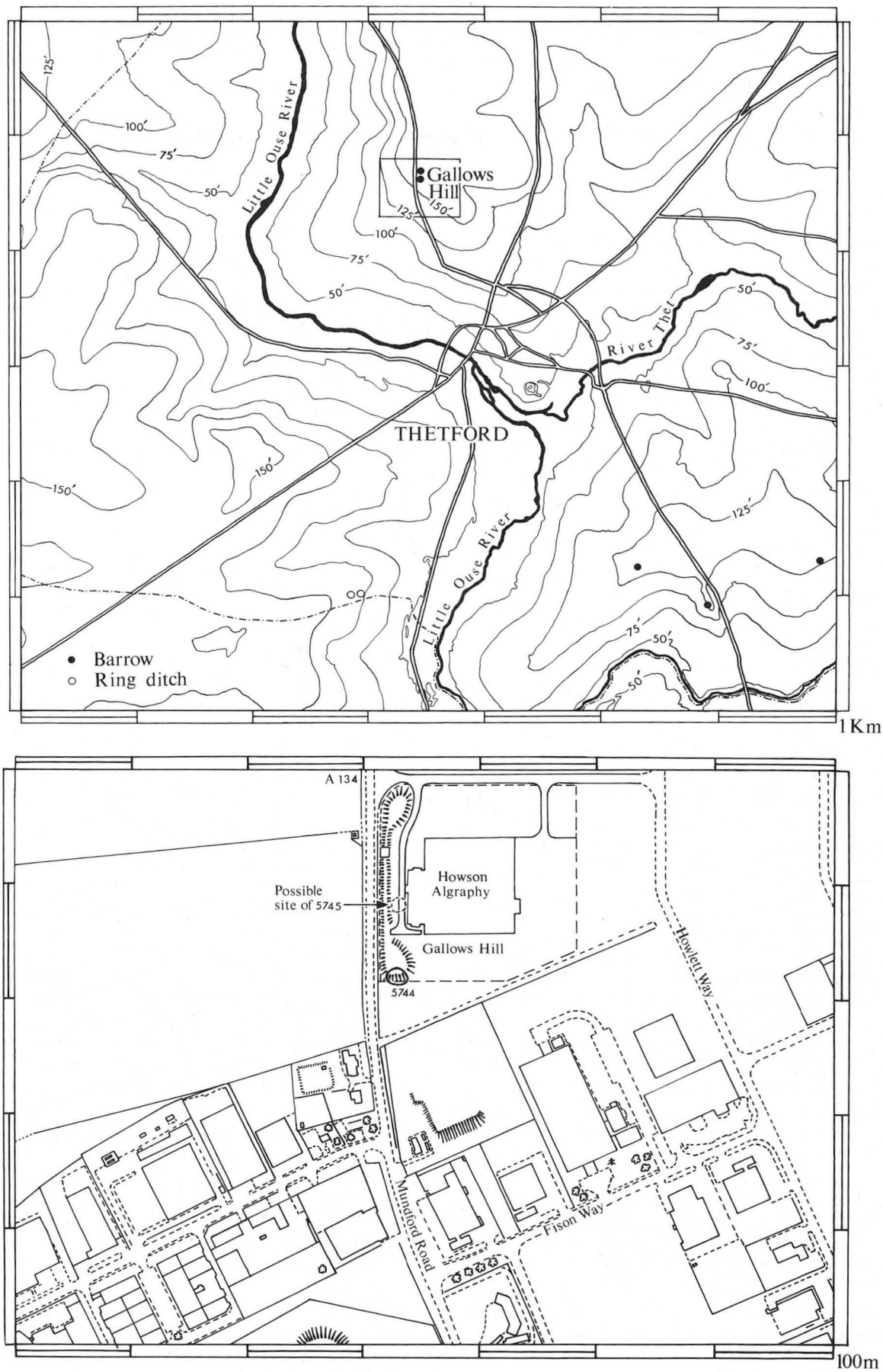


Figure 59 Upper: Location of Gallows Hill, Thetford. Scale 1:500,000. Lower: Location of excavated mound (Site 5744). Scale 1:5,000

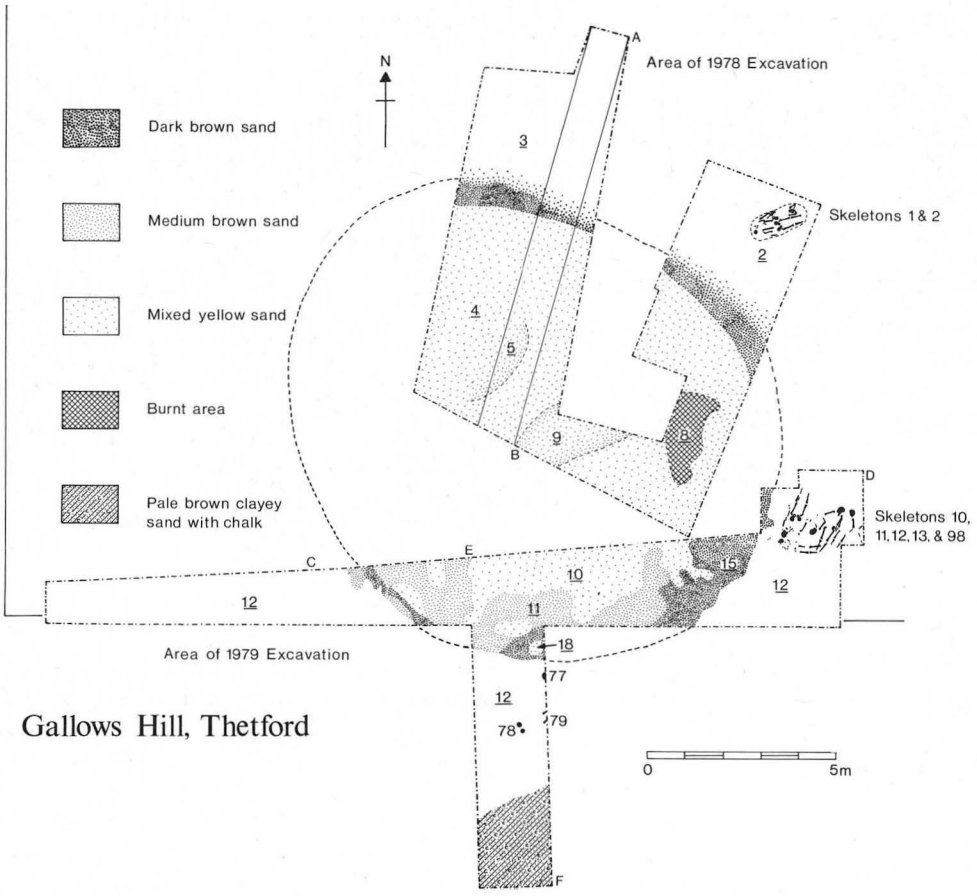


Figure 60 General plan of excavated mound. Scale 1:200

trench, however, two or possibly three more skeletons (S.F.77-79) were discovered. Due to the very poor condition of the bone it was not possible to be certain of the numbers of individuals represented. These remains were left *in situ* except for the cranial fragments of S.F.78. In both trenches the skeletons were either deliberately covered in a very perfunctory manner or became covered by material eroding from the mound. No grave outlines could be defined. The skeletons from the 1978 excavation had been placed in a grave-pit outlined by a stain, but although similar stains were observable on the inner edges of the skeletons in both the later trenches, it is more likely that these stains indicate leached salts from the bodies rather than the edges of graves.

IV. The Artefacts

(microfiche;1:D.1-2)

V. Human Bones

by Ann Stirland
(microfiche,1:D.7-10)

VI. Botanical Evidence

by Peter Murphy
(microfiche,1:D.13-E.3)

VII. Soil Report on the Turf Stack and Buried Soil

by Richard Macphail
(microfiche,1:E.5-6)

VIII. Conclusions

The excavations revealed a mound approximately 12m in diameter constructed of turves with a covering of sand which had been built on a sandy heath with a predominantly heather vegetation. This mound is assumed to be Site 5744 from its position, although the dimensions are similar to those originally reported for Site 5745. During the watching brief no evidence of a second mound was uncovered. There was little evidence for a ditch surrounding the excavated mound. Instead, it is suggested that the mound was built on a small hummock, the sides of which naturally eroded truncating the fossil soil preserved beneath the mound before soil, in part derived from the mound itself, accumulated around the mound as it became levelled. This process would have been accelerated by the ploughing of modern times. No evidence for primary burial was encountered in the area excavated.

Features *2* and *9* cut the mound and, hence, were secondary intrusions, but due to the shortage of available time in the 1978 season the centre of the mound and the instrusions were not fully explored. Indeed, at the time, it was thought that the centre of the mound lay further to the south and had not yet been uncovered. The 1979 excavation revealed that the mound was smaller than at first thought and that its centre was by then sealed under the earth mound.

Although the fossil soil beneath the mound contained Beaker and possibly Early Bronze Age sherds, the probably Iron Age sherds in this context provide the *terminus post quem* for the construction of the mound. The charred material (*8*) from the eastern side of the turf stack is evidence of a fire, burning both local and imported fuels. The remains of the fire were stratified beneath the sand capping of the mound. A single radiocarbon determination of 1600 ± 70 bp (HAR-2905; ad350) was obtained from these charred remains,

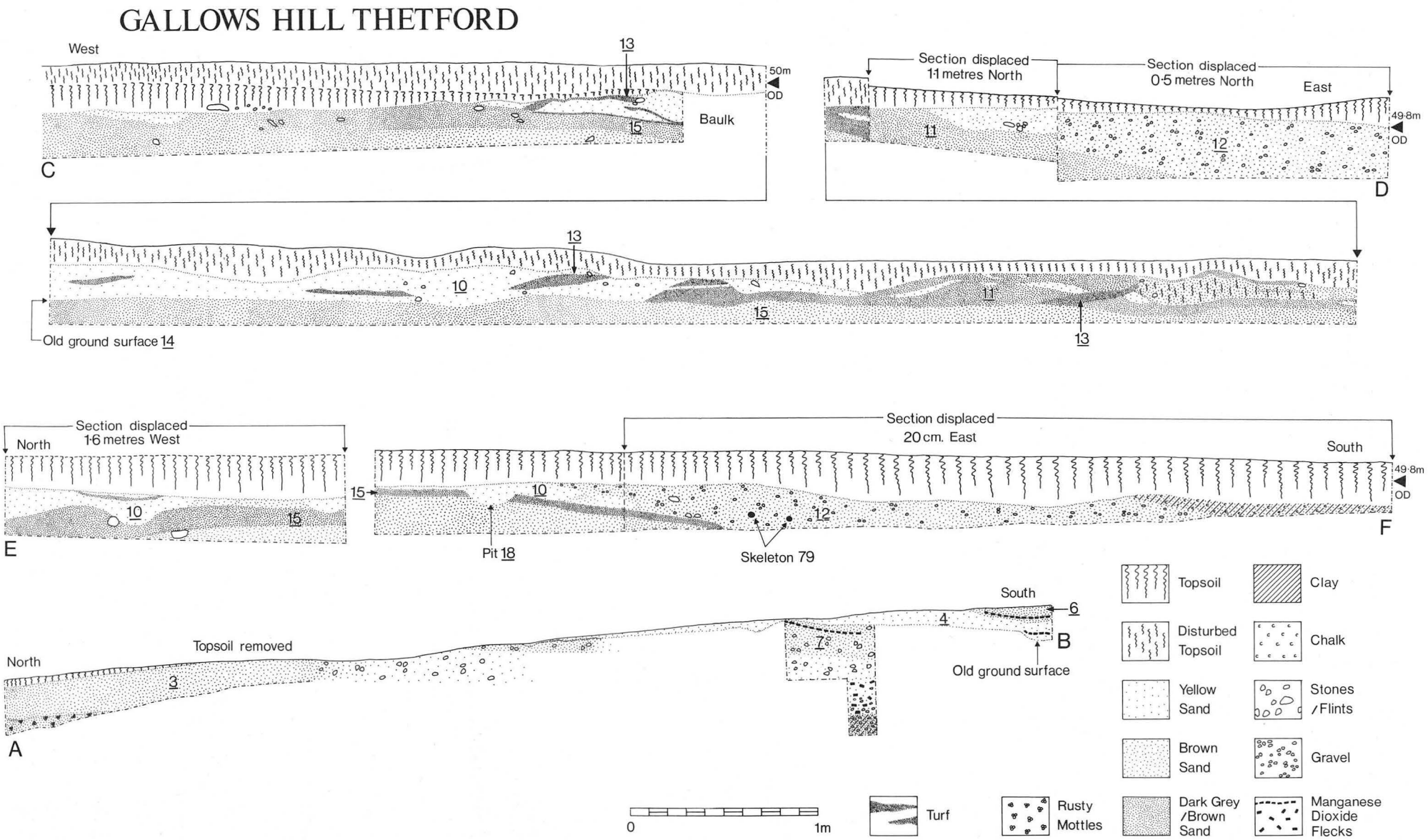


Figure 61 Principal sections of excavated mound. Scale 1:33

suggesting, therefore, that the turf stack was constructed in the late first millennium BC or early first millennium AD. Such a date would be expected from the cereals (*spelt*) contained in the charred deposit (Table 22; microfiche). However, despite the radiocarbon date and the evidence for Roman activity in the vicinity, no finds attributable to the Roman period were made.

The reason for the construction of the mound is unresolved. Barrow burial is not the usual mode of burial in the Iron Age, and Roman barrows are usually very large. However, a few mound in Norfolk have been claimed as Iron Age barrows. The mounds at Warborough Hill (Site 1863), Stiffkey and Weeting-with-Broomhill (Site 5649) were both found to contain sherds, but no burials were located (Clarke 1939).

Evidence for Iron Age occupation of the Thetford area is strong. Excavations at Thetford Castle (Site 5747) in September 1962 by Rainbird Clarke revealed the presence of an Iron Age fortification, remodelled towards the end of the Iron Age, which was later incorporated into the defences of the Norman motte-and-bailey castle. Another settlement (Site 5955) has been located on the banks of the Little Ouse 3.5km south-east of Thetford. But most important is the recent discovery and excavation of the large multivallate rectangular mid-first-century AD enclosure (Site 5853) only 300m north-east of the excavated mound (Gregory 1983,16). This enclosure and underlying settlement are evidence for large-scale occupation of the immediate area.

In addition to the Iron Age finds from the Thetford area, there are a number of rich Roman finds though little evidence for settlement (except at Brettenham (Site 5653) 7km to the east). Although three kilns were found at Three Mile Bottom (Site 5738) 3km to the north-west, there is no evidence for extensive Roman settlement beneath the Saxon and medieval town of Thetford. The Icknield Way (Site 1398) enters the county (at TL 8465 9087) in Thetford parish and runs northwards through Croxton Park passing adjacent to Gallows Hill (Clarke 1918, 544-6). Recently three Roman hoards have been found on Gallows Hill. One hoard, found in 1979, is by now famous and contained items of gold jewellery inlaid with precious stones, and votive spoons (Johns and Potter 1983). The second hoard containing forty-seven silver *siliquae* was found in December 1978 close to the excavated mound, the earliest coins dating between AD 355 and AD 361, and the latest between AD 383 and AD 388 (Green 1979). The south trench of the 1979 excavation approximately reached the find spot of this hoard, although it was not precisely located. The trench could not be extended further at the time of excavation due to standing water. Further coins, including a possible third hoard, have been found in the vicinity of the mound. Many dispersed coins were found with metal detectors between 1979 and 1981, but no complete assessment by archaeologists has been possible (Gregory 1983, 18-19).[4]

Whatever the original purpose of the mound, during the post-medieval period it was used as the site of a gallows, as the name of the site and Faden's (1797) map of Norfolk testify. This map shows a gallows on the site of Gallows Hill. W.G.Clarke in *'Some Old Time Norfolk Assizes'* (1904; NRO MS 125) records that in 1574, 'this locality was described as Gallows Heath.' The skeletons discovered around the mound are almost certainly those of bodies hanged on the gallows between the sixteenth and the eighteenth centuries, if not later. The acidity of the soil makes it almost certain that the skeletons, in order to have survived at all, must be of a very much later date than the pre-Roman finds from the excavated area. Fragments of clay pipe, one within the jaw of a skeleton, confirm this.

The individuals uncovered on the periphery of the mound and presumably once hanged on the gallows include a twelve-years-old youth and young woman. None appears from dental wear to have been older than thirty years.

Endnotes

1. A detailed description of the topography and soils of the general area is given in Corbett 1973.
2. Norwich Castle Museum Acc. No. 39.22.
3. All finds from the 1978 and 1979 excavations are housed at Norwich Castle Museum, Acc. No. 401.983.
4. The search for these coins lead to the cutting through of the earth mound, which had buried the excavated mound in August 1978, with the subsequent possible disturbance of the site (*Sunday Times Magazine* 28 August 1983).

7. The Excavation of Two Round Barrows and a Ditched Enclosure on Weasenham Lyngs, 1972

by Fredric F.Petersen and Frances Healy

I. Summary

Two ploughed-down round barrows in the Weasenham linear cemetery were completely excavated and an adjoining oval enclosure sectioned in 1972. One barrow was unditched and covered a grave containing a multiple cremation deposit accompanied by charred textile fragments and sherds of a Collared Urn. The other was surrounded by a shallow ditch and contained at least two unaccompanied cremation deposits, one of them probably multiple. Evidence of pre-funerary activity, in the form of deposits of fired clay, burnt flint, charcoal, Beaker pottery and struck flint, underlay the barrow. The enclosure remains undated, although the few finds from it suggest that it may have been contemporary with or earlier than the barrows.

II. Introduction

Two round barrows (Site 3659, NGR TF 8539 1966, and Site 3660, NGR TF 8541 1970; both Ancient Monument no. 164) and an oval enclosure (Site 3661, NGR TF 8548 1969) were excavated in August and September 1972 by Fredric Petersen for the Department of the Environment in anticipation of further damage to them by deep ploughing.

The excavated monuments lay in a large arable field the subsoil of which consists of well-drained sand and gravel Drift which overlies chalk rock at an unknown depth. In 1972 the highest point in the subsequently excavated area (the top of Site 3660) stood at 66.59m OD. The area lies on the mid-Anglia watershed, occupying part of the interfluve between the eastward-flowing river Wensum and the westward-flowing river Nar, the second of which is 2.7km to the south. The three sites were part of a large linear cemetery of up to eighteen barrows which extends through the parishes of Weasenham All Saints, Wellingham, and Litcham (Fig. 67) and includes bell, disc, and pond barrows, all of which are rare in East Anglia (Grinsell 1953, 201-3; Lawson, Martin and Priddy 1981, 22-3).

The finds have been deposited in King's Lynn Museum (Acc. Nos. K.L.M. 189. 978, 108. 984).

III. Previous Fieldwork and Agricultural History

Parish maps of 1777 and 1799 and the enclosure award map of 1809, all held at Holkham Hall, show Sites 3654, 3655, 3657 and 3658 as clumps of trees standing on

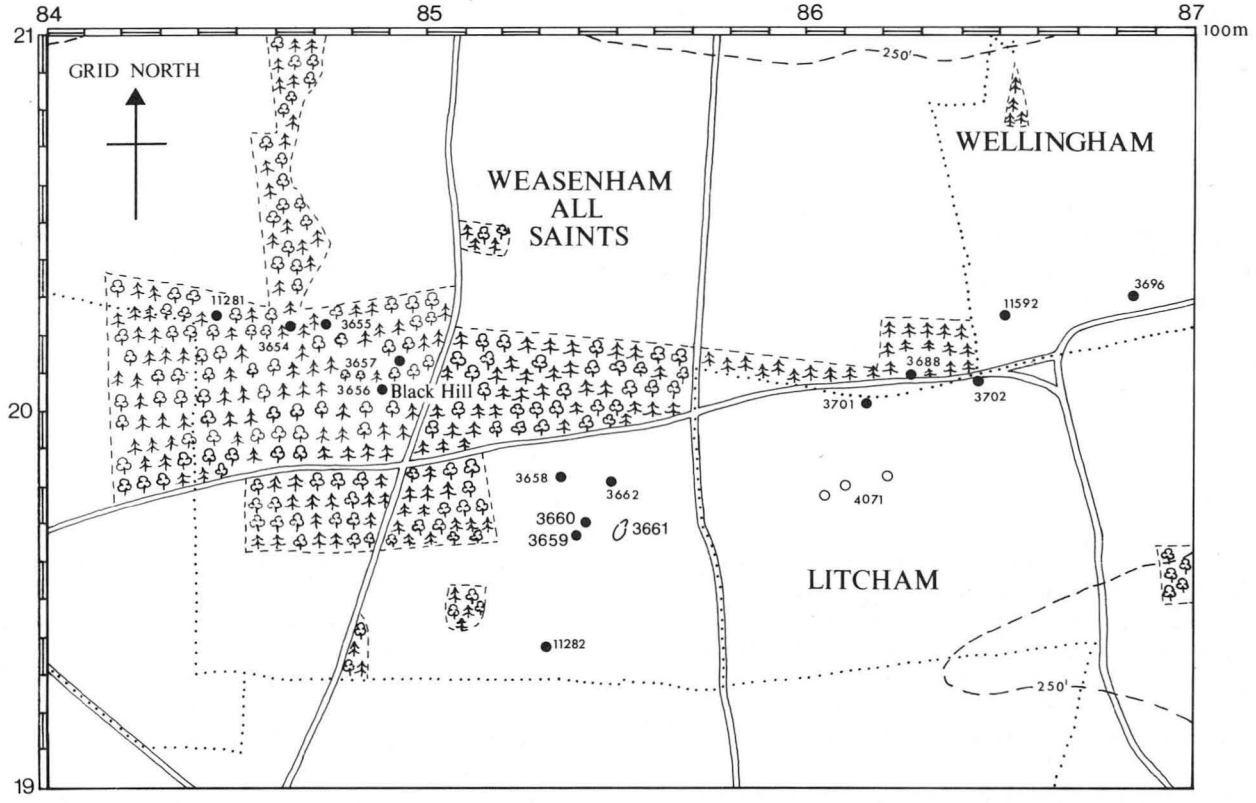


Figure 67 The Weasenham-Wellingham-Litcham barrow cemetery, showing Sites 3659, 3660 and 3661, which were excavated in 1972. The position of Site 11282 has been corrected from that already published (Lawson, Martin and Priddy 1981, fig. 16). Scale 1:20,000

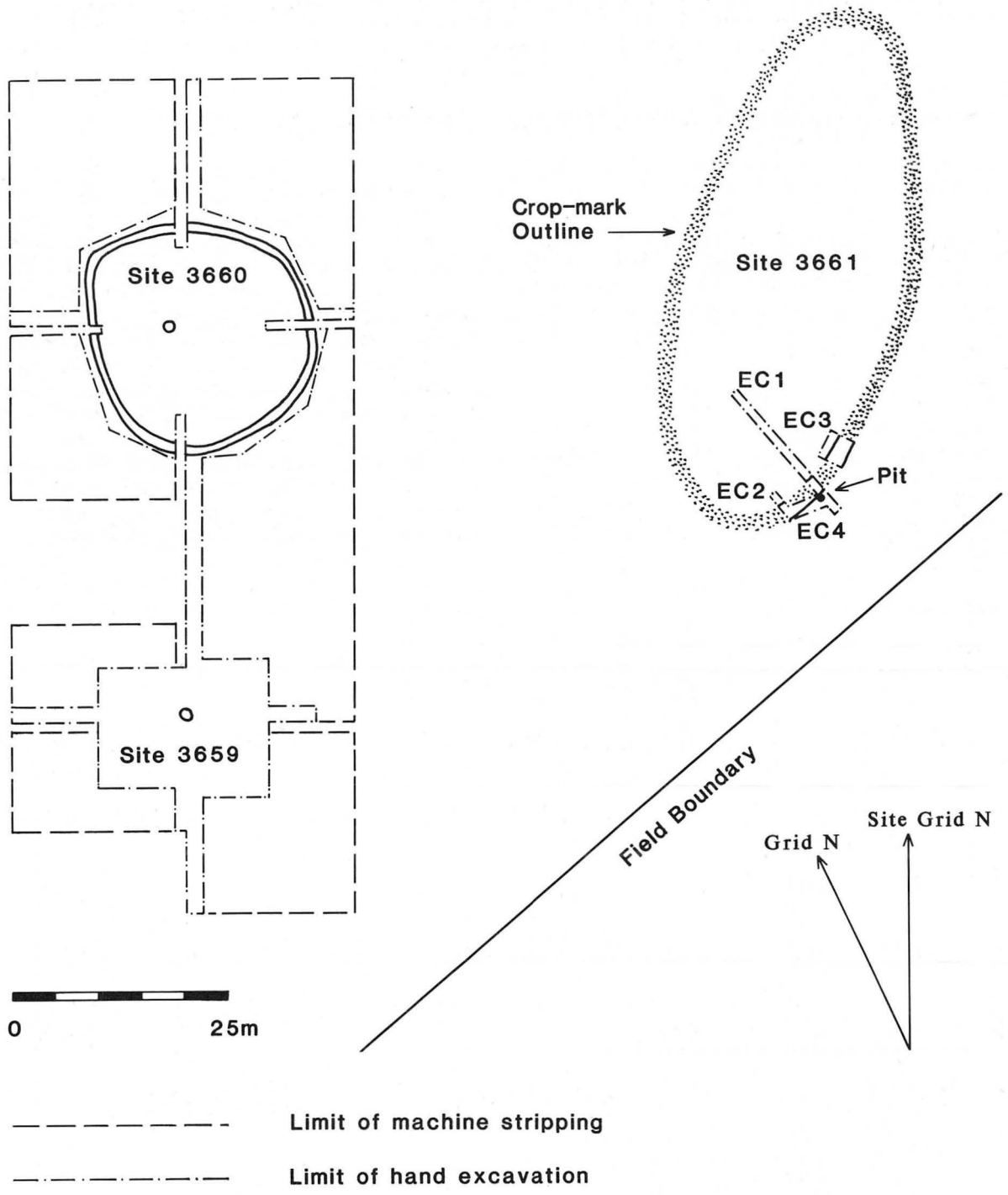


Figure 68 General plan of Sites 3659, 3660 and 3661 showing limits of excavation and major archaeological features. Scale 1:750

heathland. Further monuments in the group, including Sites 3659 and 3660, but not Site 3661, are shown on early Ordnance Survey maps (e.g. 1:2500 County Series, Norfolk, sheet XXXV.16, second edition, 1905). By this time, the more northerly barrows stood in the plantation shown on Figure 67, while the more southerly ones, including the excavated monuments, stood on a reduced strip of heathland.

The group received most attention in the 1930s and 1940s, during which time it was visited by L.V. Grinsell in 1935, R.R. Clarke in 1936, A.Q. Watson in 1936 and 1937, J.E. Sainty in 1936 and 1941, and Dr E.I. Puddy in 1941 and 1947. Grinsell published a summary of his observations and a plan of most of the barrows (1953, 201-3, fig. 12); his manuscript notes and those of the other fieldworkers are held in the Archaeology Department of Norwich Castle Museum. Grinsell, Clarke, Watson, and Puddy all state that Sites 3659 (Grinsell's barrow 7) and 3660 (Grinsell's barrow 6) were without ditch or bank. Watson adds that they were undug. There is less agreement on their size. Clarke and Watson both describe Site 3659 as 60ft in diameter and 4 to 5ft high and Site 3660 as 96ft in diameter and 5ft (in Watson's notebook 5 to 6ft) high. Puddy, however,

describes both barrows as 92ft in diameter and 4ft 9in high. Site 3660 is shown as a smooth mound in the foreground of a 1941 sketch by Puddy (Lawson, Martin, and Priddy 1981, pl.XIIb: no. 7).

Site 3661, the oval enclosure (Pl.XVIII), was described by Watson and by Sainty in 1936 and by Puddy in 1941, all of whom recorded two opposed causeways at its north-east end. Sainty and Watson agree that its approximate internal measurements were 171ft by 66ft and its ditch 3½ft deep from the top of the bank. Puddy records a similar internal length of 165ft, but combines it with a maximum width of 81ft (Pl.XVIII). In 1937 Watson measured the monument from ditch bottom to ditch bottom, recording overall dimensions of 206ft by 94ft. Clarke quotes Watson's measurements, naming him as source, and adds that the ditch was 14ft wide. This figure is not, however, in Watson's notebook. It may be a mis-reading of the figure '4ft', which is recorded as the maximum depth of the ditch, especially as the ditch in the sections excavated in 1972 was only approximately 2.5m (8ft) wide (Fig. 77). Puddy's description of the enclosed area as a 'saucer-like plateau only 2 feet high, with a slight rim' matches well with his sketch (Pl.XVIII), and makes it clear that, while the central area was raised and embanked, it was not covered by a mound.

The state of the monuments deteriorated during World War II. The field was ploughed in 1940 and, while the size of the bell barrow (Site 3658), which is still over 2m high, rendered it uncultivable, the lower mounds and Site 3661 began to be levelled. Puddy's 1941 account of his visit to the group, made 'a year after the first ploughing by gyrotiller' describes Sites 3659, 3660 and 3661 as 'ploughed over', and Sainty records that Weasenham Lyngs were being steam-ploughed in March 1941. In 1947 Puddy noted that, after eight consecutive years of ploughing, the barrows were 'unrecognisable unless one is aware of their exact site' and made no mention of Site 3661 which was by then presumably invisible. An air photograph taken in 1959 (Pl. XVII), shows no trace of Site 3659 or 3660, although Sites 3661 and 3658 are clearly visible. Sites 3658 and 3661 are also recorded in three vertical air photographs taken by the R.A.F. in 1946. Even the clearest of these (ref. 5138 3G TUD 100 Part II) fails, like Plate XVII, to show the two causeways recorded by Watson, Sainty and Puddy at the north-east end of Site 3661. The monument is invisible or indistinct on further air photographs taken by the Norfolk Archaeological Unit in the 1970s.

Both barrows were still detectable on the ground in 1972, although Site 3661 was not. Before excavation Site 3659 appeared, though misshapen and badly spread, to measure about 25m (80ft) across and to retain a central height of about 1m (3ft). Site 3660 seemed less affected by ploughing and had a much more definite outline, measuring approximately 30m (98ft) across and 1.25m (4ft) high. In the event, the picture obtained before excavation of the shape and size of both barrows proved misleading, largely because the naturally undulating and uneven surface of the field distorted their outlines and increased their apparent heights.

IV. The Excavation

by Fredric Petersen

The excavation, directed by the writer, took place between 15 August and 22 September 1972. Following the preparation of a contour plan, the ploughsoil was machine-stripped from the surface of the barrows and adjacent ground over an area totalling about 3500m^2 (Fig. 68). The stripped area was then excavated by hand within the limits indicated on the plans. Additional excavations (*c.*40m^2) were undertaken in the ground south-east of the barrows in an attempt to locate the ditch of Site 3661. As a result of this work, a short length of the enclosure's south-west end was defined on plan and three sections were dug through the ditch. Site grid north, in terms of which the excavation is described, lay 25° east of grid north (Fig. 68).

Both barrows had been the site of rabbit warrens and all surviving archaeological features had been disturbed to a greater or lesser extent by the burrows of these animals and by human digging for rabbits. A wire rabbit snare was still *in situ* in the flat ground between the barrows (Fig. 70). Isolated bones were recovered from disturbed contexts—ploughsoil and burrows—in various places within the excavated area, mostly in or near Site 3660.

The only two non-rabbit animal bones recovered were possibly, or probably, post-Bronze Age in date (Section VII: microfiche). The pH of two samples from the topsoil surface of the nearby bell barrow (Site 3658) was 4.16 and 4.82 respectively (Section IX microfiche) and it is doubtful if unburnt ancient bone would have survived the acid soil conditions of the former heathland.

Site 3659

A narrow trench, 100m long and 1.5m wide, was driven through the centres of the two barrows starting at a point 23m south-west of the centre of Site 3659 and running north-east through the centre of Site 3660 (Fig. 68). A second trench, 36m by 1.5m, was dug through the centre of Site 3659 at right-angles to the first to give the cross-section, and all four quadrants were excavated down into the undisturbed natural within the limits of a 19m by 16m central cutting.

The barrow itself proved to have been entirely ploughed out and the modern ploughsoil rested directly on the underlying drift. The latter took two forms: a relatively clean, undisturbed, loose sandy, heavy flint gravel in the north-west half of the site and a soft yellow sand riddled with rabbit burrows in the south-east.

Around the peripheries of the barrow, the Drift surface was heavily impregnated with colloidal humus and iron representing the Bh-horizon of the pre-World War II soil profile; in places, particularly on the north-west, traces of the overlying Ea-horizon also survived (Fig. 70; Section IX: microfiche), having evidently been partly protected from plough damage by material shoved down from the higher parts of the barrow during the World War II heath clearance. There was no ditch and the barrow must have been built entirely of cut turf and/or surface scrapings.

Apart from the contents of the grave described below, there were no finds from this barrow except twenty-two pieces of struck flint, including F2 and F3 (Table 24); two sherds of plain, coarse flint- and sand-tempered pottery; and a small lump of fired clay. All these items were recovered from the east half of the barrow, mostly in areas of rabbit disturbance; the exception was the clay lump which was found near the barrow's west edge. Both the sherds and the clay lump are identical in character to material from the Beaker occupation scatters associated with Site 3660 and described below.

The Grave

The grave was situated slightly north-west of the central point of the barrow as defined by the modern contours (Fig. 69). The exact relationship of this point to the centre of the barrow in its pre-clearance form is problematical, but the divergence, if any, need not have been large and there is no reason to suppose that the grave was not also at or near the original centre. It had been dug into the gravelly subsoil just north of the latter's boundary with the sandy subsoil.

The grave's maximum surviving depth below the base of the ploughsoil was 34cm. The fill (dirty yellow-grey sand with patches of gravel) had been badly disturbed by rabbits and rabbit-digging which had also damaged the grave sides, particularly on the north and north-east. The original outline (probably circular or slightly oval) and surface dimensions (*c.*1.5 by 1.6m) are thus partly conjectural, as indicated by

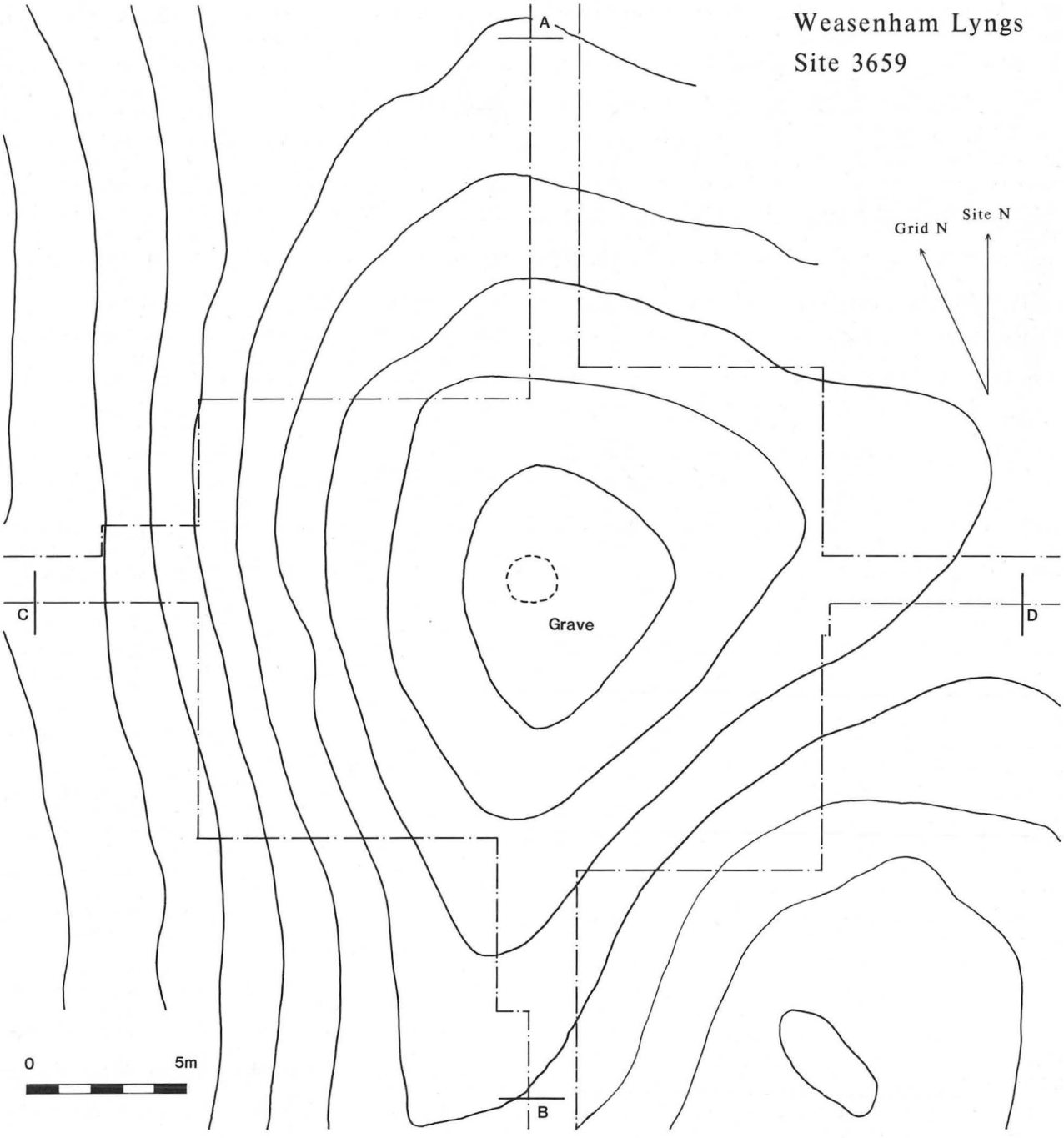


Figure 69 Plan of Site 3659 showing limits of hand-excavation, contours and central grave (outline uncertain). Contours are at *c.* 15cm (6in) intervals (highest contour, surrounding the central grave, is at 66.14m (217ft) OD). Scale 1:200

the broken lines on Figure 69.

Resting on the floor and sides of the grave were four concentrations of Collared Urn sherds, all evidently from the same pot (Pl) and, on the floor near the centre, a heap of burnt human bones mixed with oak charcoal. The cremation deposit was roughly oval in outline, measuring *c.*85cm north-east to south-west by *c.*40cm and up to *c.*8cm high. It was sealed by a thick layer of pan, the Bh horizon, undoubtedly secondary and deposited by the podsolization of the modern soil profile. It appeared undisturbed. The charcoal mixed with the bones was therefore deemed suitable for radiocarbon analysis and a date of 3339 ± 56 bp (1389 ± 56 bc; BM-877) was subsequently obtained for it. Flecks and a few small patches of charcoal also occurred here and there elsewhere in the grave, on the floor and in the fill: all identifiable pieces were oak (Section VIII:microfiche). This charcoal was collected separately and was not included in the radiocarbon sample.

C.B.Denston's analysis of the bones (Cremation 3/4, p.99) revealed revealed that three to four people were represented, three adult males and a possible female. Charred fragments of fine cloth (tabby weave) were recovered from the charcoal of the radiocarbon sample during its examination in the Ancient Monuments Laboratory prior to submission for dating (p.99).

Site 3660

The 100m trench described in connection with Site 3659 extended north-east through and beyond the centre of Site 3660 for a distance of 30m (Fig. 68). The cross-section was obtained by means of a second trench, 40m long and 1.0 to 1.5m wide, aligned at right angles to the first. Later, the entire barrow was taken down by quadrants into the natural sandy drift, the area thus examined measuring approximately 30m by 30m (Fig. 71).

The subsoil under the barrow consisted of spreads of light brown-grey-yellow sand and brown-orange sand with small flint gravel. It was marked peripherally by varying degrees of iron panning, as in the case of Site 3659. Possible remains of an Ea horizon, comparable to the more substantial traces at Site 3659, survived on the east, just outside the ditch. The barrow itself, though surviving to an apparent central height of over 1m, had been churned up by rabbits into a structureless mass of collapsed burrow fill. The irregular base of this mass normally lay well

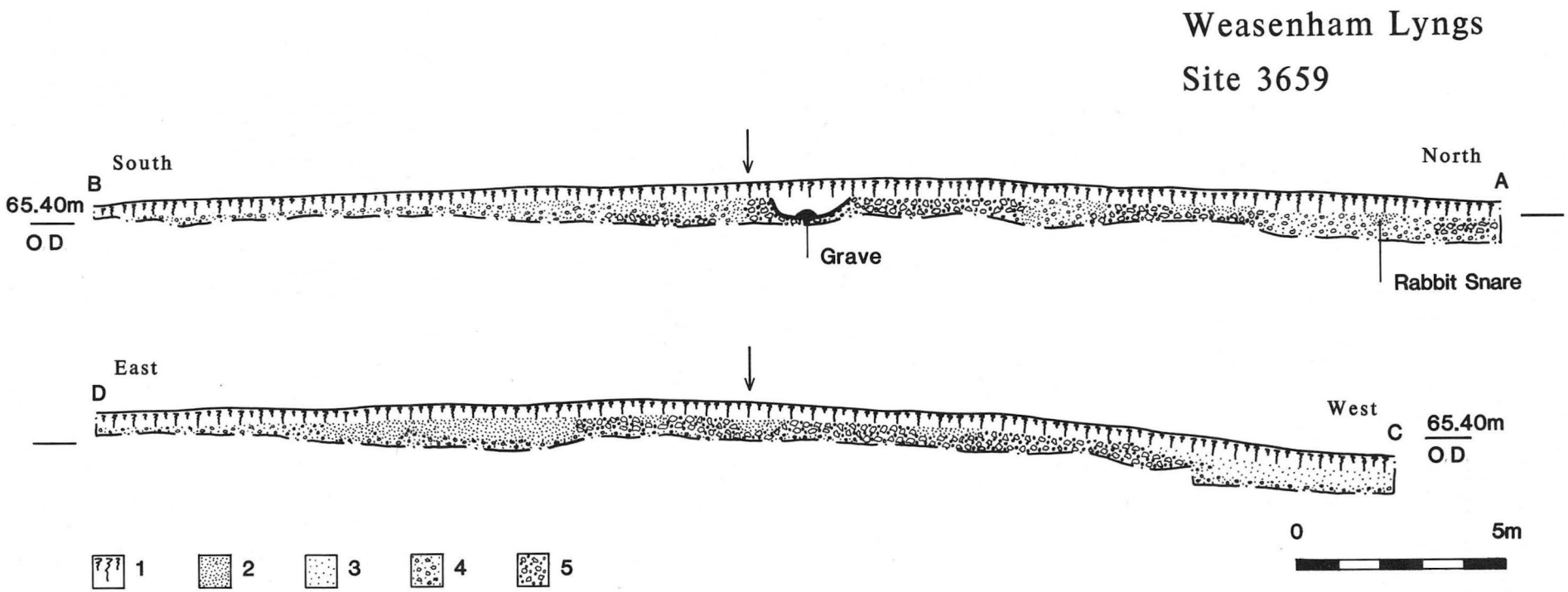


Figure 70 Site 3659. Main sections. Scale 1:150

Key: 1. Ploughsoil; 2. Collapsed rabbit burrows (grey-brown sand with scattered stones); 3. Presumed Ea horizon (clean pale grey stone-free sand); 4. Natural sand/light flint gravel (colour variable); 5. Natural heavy flint gravel. The arrows mark the intersection of the section lines

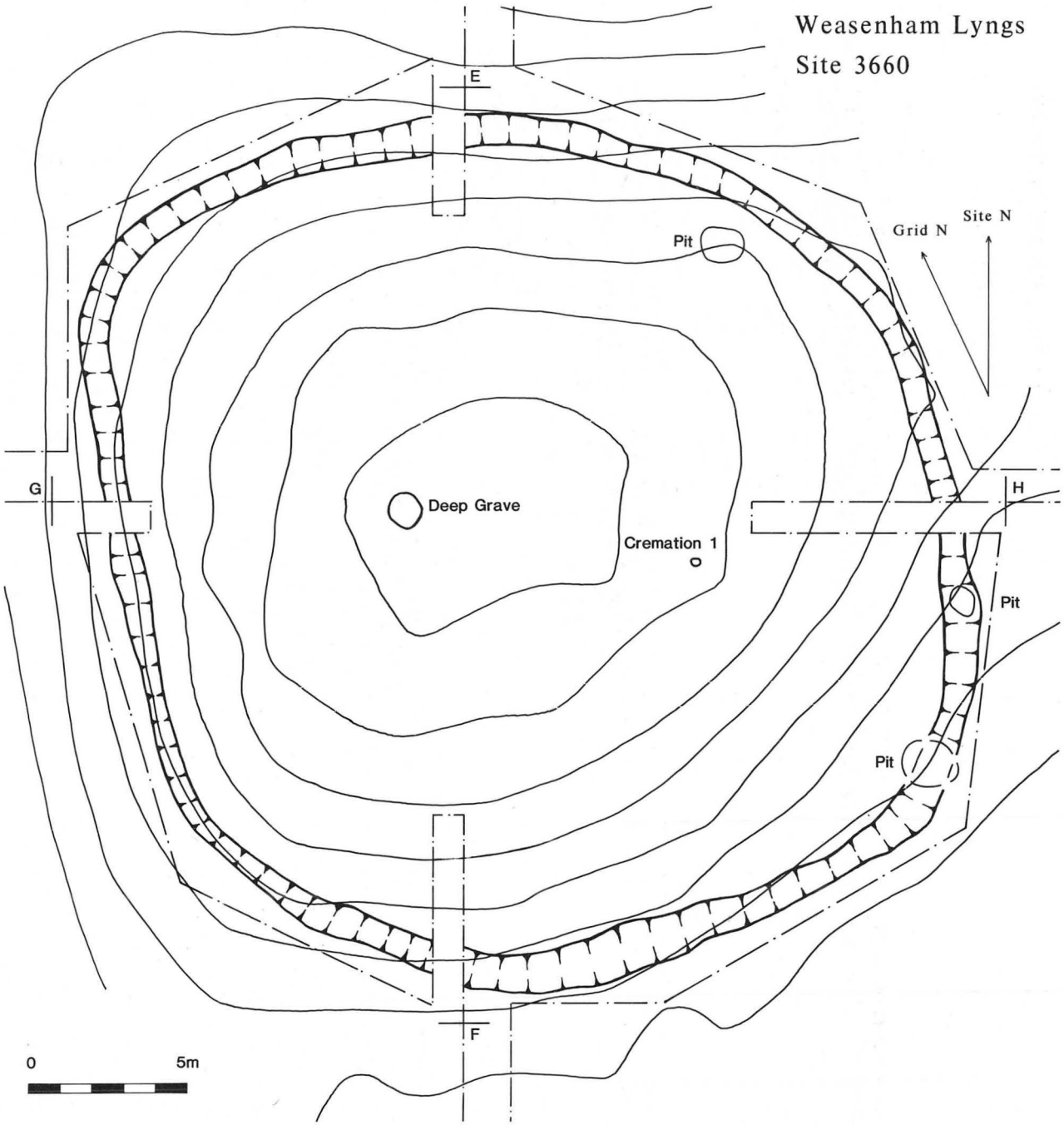


Figure 71 Plan of Site 3660 showing limits of hand-excavation, contours, ditch, burials and pits. Contours are at 15.24cm (6in) intervals (highest contour, surrounding the centre of the barrow, is at 66.59m (218.5ft) OD). Scale 1:200

below the presumed level of the ancient surface so that no trace of a recognizable old turf line or other indication of the pre-barrow surface survived (Section IX: microfiche, Site 3660, 1). Below the mass, a network of individual rabbit tunnels penetrated the subsoil to a considerable depth.

The barrow was surrounded by a shallow ditch, varying irregularly in width from 60cm to 1.6m and in depth from 10cm to 32cm. It was sub-circular in plan, the diameter of the area enclosed by it ranging from 29.4 to 25.5m, and was only very roughly concentric with the barrow mound in the mutilated and misshapen form the latter had been left after the clearance and ploughing of the heath (Fig. 71). The upper sides (and, in places, the lower sides and floor) were lined with blackish hardpan which welled up on either side to form a narrow band (maximum width 15cm) flanking the inner and outer lips. The fill was grey or grey-brown in colour (presumably as a result of secondary leaching) and varied somewhat in gravel content (from slight to non-existent) along its length, but was otherwise homogeneous. In the deeper portions, the lower fill was usually slightly panned and was darker in colour than the upper, presumably as the result of secondary deposition. Otherwise, however, there was no stratification, the fill being undifferentiated from top to bottom. The entire circuit of the ditch was excavated, but there were no finds apart from twenty-nine pieces of struck flint, including F18 (Table 24); five Beaker sherds, including P3 (Table 35); and a few lumps of fired clay (Fig. 76).

It is possible that the ditch had originally been deeper along some or all of its length and that the upper parts had been destroyed by rabbits or ploughing. The fill may or may not have silted-in naturally; if it had, the absence of stratification implies rapid deposition, probably from the flanks of the barrow which would have extended right up to the inner lip.

Burials

Two cremation deposits and an isolated piece of burnt bone were found, none of which was central either to the area enclosed by the ditch, or to the barrow mound as defined by the modern contours.

Cremation 1

This was at a depth of 20cm below the base of the ploughsoil, some 7m south-east of the barrow centre. The bones formed a small deposit, 13cm in diameter and 2-3cm thick, resting on clean sand apparently unaffected by the rabbit disturbance all around it. There was no sign of

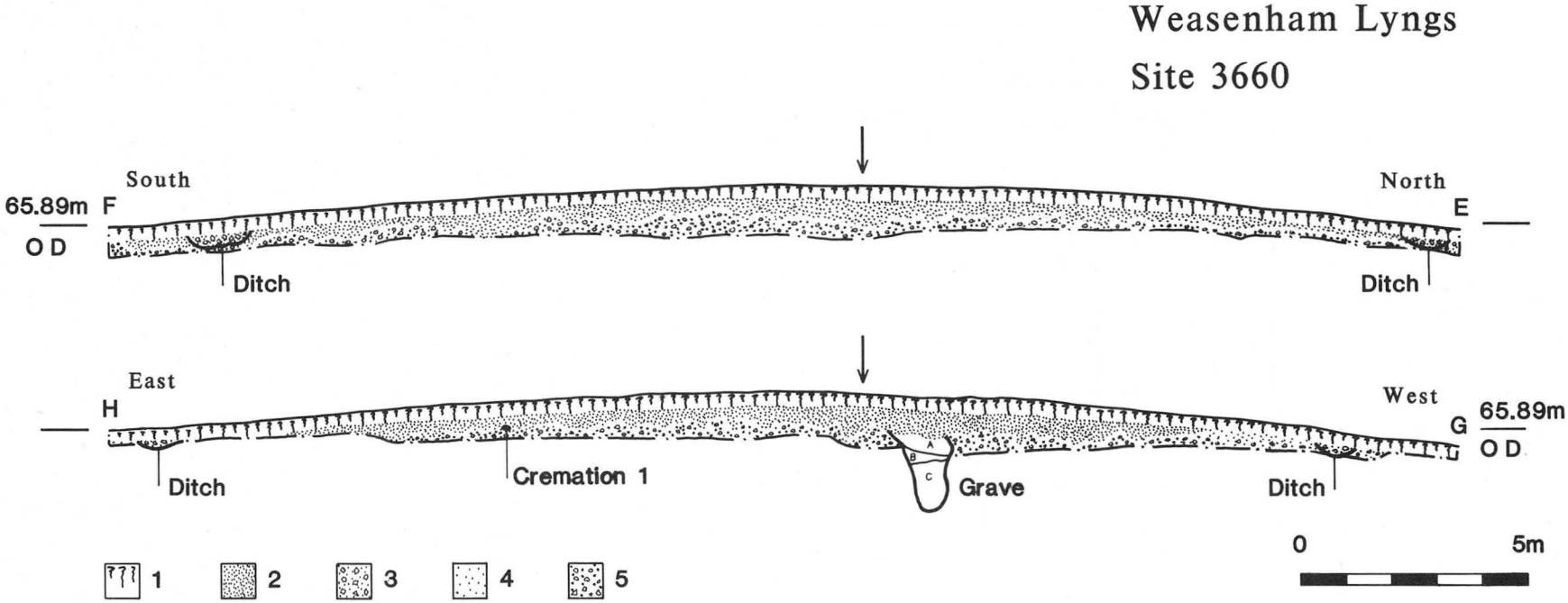


Figure 72 Site 3660. Main sections. Scale 1:150

Key:

1. Ploughsoil
2. Collapsed rabbit burrows (grey-brown sand with scattered stones)
3. Ditch fill (pale grey sand with flints)
4. Presumed Ea horizon (clean pale grey stone-free sand)
5. Natural sand/light flint gravel (colour variable)

The deep grave is projected onto the section. Deposits within it are:

A. Disturbed deposits (see text)
B. Upper fill (see text)
C. Lower fill (see text)

The arrows mark the intersection of the section lines

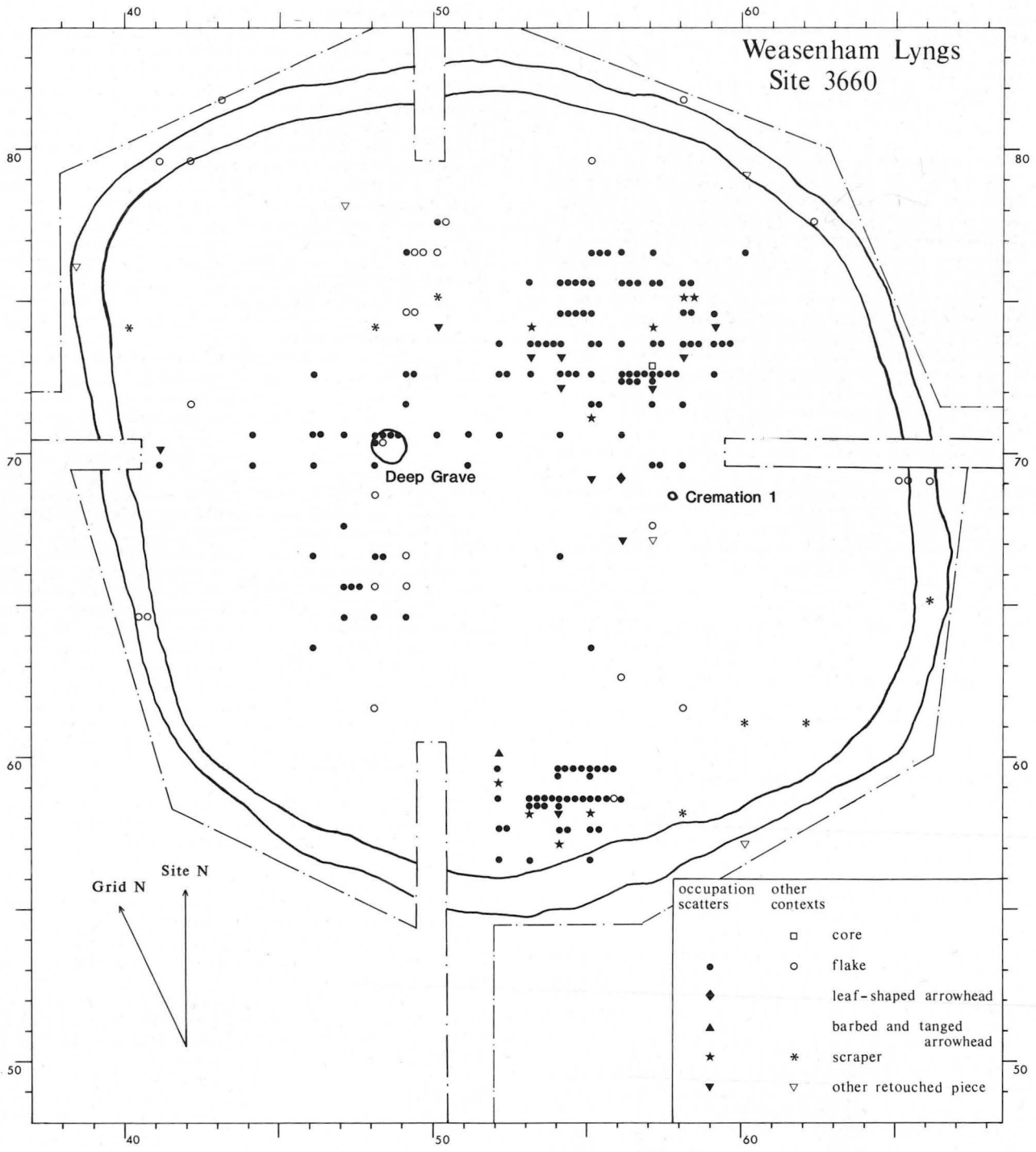


Figure 74 Site 3660. Distribution of struck flint by one-metre squares. Scale 1:200

a pit and the bones were free of charcoal or dark earth. Owing to uncertainty as to the likely position of the pre-barrow surface level this far out from the centre and to the disturbed character of the ground generally, stratigraphic relationships were impossible to determine and the bones could have been either primary or secondary to the barrow. In either event, the deposit is likely to have been truncated by rabbits and ploughing. The total quantity of bones was small (about 60cc) and, in C.B.Denston's opinion, the deposit probably constituted the remains of a single adult (Cremation 1, p.99).

Cremation 2

This consisted of an isolated piece of long-bone shaft (Cremation 2, p.99) in the fill of a rabbit burrow, some 2m south-west of Cremation 1 and at a similar depth. The fragment need not be human, but, if it is, is perhaps more likely to be a detached piece of Cremation 1, moved by rabbits or ploughing, than the remains of a separate burial.

Cremation 5

This occupied the fill of a deep circular pit with its centre some 2.25m north-west of the barrow centre. The outline of the pit first appeared clearly in plan at a depth of 1.12m from the modern surface; at this level the pit measured 1.10m in diameter and 1.40m deep, with its sides irregularly contracting to a basal diameter of about 50cm. The lower 1.10m of the fill consisted of clean, very light grey, almost stone-free, clayey sand, irregularly banded with thick, hard brown pan infiltration lines; the upper fill consisted of dark grey sand (also with thick infiltration lines) containing charcoal and a few large flints. The presence of pan lines in the upper and lower fill is indicative of heavy secondary leaching after infilling. The surface of the upper fill merged with dirty grey-brown sand strongly mottled with patches of brown and orange-brown sand filling a roughly circular depression leading downwards into the pit from the area of heavy rabbit disturbance immediately above it (Section IX: microfiche, Site 3660, 2).

A large number of finds were in the upper fill of the pit and, less profusely, scattered in the disturbed deposits above the level where its outline first appeared on plan (at 1.12m below the ploughsoil). These comprised the following: five flint flakes; twenty-four pot sherds, including P21, P25-P30, P52, P60 and P62; sixty-three lumps of fired clay; numerous pieces and flecks of oak charcoal and a small acorn fragment (Section VIII: microfiche), and 195 single pieces and concentrations of cremated human bone. Finds in each of these categories occurred scattered throughout the upper pit fill to a depth of 1.79m below the modern surface though, except for the pot sherds which were equally common lower down, they were most heavily represented in the dark grey sand layer forming the fill between 1.09m and 1.41m. Below 1.79m, the remaining 70cm of the fill was clean and archaeologically sterile. Two-thirds or more of the bone fragments occurred in a limited area near the south quarter of the pit, clustering around several particularly heavy concentrations near its south edge; the remaining pieces were scattered randomly throughout the fill to the depth indicated (Fig. 73:microfiche).

On the assumption that the pit was a dug grave, the differences in distribution outlined above suggest that the bones and other material were deposited under different circumstances. The pottery and clay lumps are identical in character to the material from the Beaker scatters described below, and would have found their way into the pit accidentally when it was filled in after having been dug through a pre-existing occupation surface. The disturbed state of the upper fill would have resulted from modern intrusion into the upper part of the pit, possibly by rabbits and rabbit diggers, accounting both for the scattered condition of the bones and their greater density near the south edge where the burial would have been originally sited. The five or six bone fragments scattered in the fill below the disturbed zone cannot, of course, be explained in this way, while the complete absence of bones from the sterile lower half of the fill implies a rather unconventional burial procedure wherein a deep pit was dug and partly refilled before any cremated bone was placed in it.

Alternatively, given that the Drift is underlain by chalk (p.70), the pit may have been a natural solution pipe, following an interpretation suggested for shafts on Eaton Heath, Norwich (Site 9544; Healy this volume p.57). Features compatible with this include its shaft-like profile, the unusual sterility of its lower fill, the disturbance of its upper fill and of the mound above it, and the scattering of some of the cremated bone within it. The possibility is supported by the presence within the area of the barrow of three, possibly natural, deep, pit-like features with sterile, sandy fills. In this case, Cremation 5 may have been deposited on the pre-barrow surface, or in a small pit dug into it, later to collapse, along with occupation debris, into the top of the pipe after the fill of the latter had slumped, some fragments becoming separated from the main cremation deposit in the process.

The bones appear to belong to two separate individuals, an adult female and a child. As far as could be determined from rather scanty evidence, fragments of bone assignable to each of these individuals were randomly distributed within the grave, suggesting that the two burials may have originally been associated together in a multiple cremation deposit similar to that from Site 3659 (Fig. 73: microfiche; Cremation 5, p.100).

Beaker Occupation Scatters (Figs. 74, 75 and 76).

Site 3660 produced a large amount of Beaker occupation debris mostly concentrated in two well-defined areas in the north-east quadrant and central region and the south-east quadrant respectively, though also occurring thinly scattered elsewhere over the area enclosed by the ditch.

1. North-east scatter

The largest volume of finds was in an irregular area with maximum dimensions of 9m by 12m with its focus just north-east of centre. The density of finds within this area varied considerably, there being two main concentrations, one located more or less centrally to the spread as a whole, the other, smaller than the first, focused on Cremation 5. There was no stratification, the majority of finds lying in the basal 9-25cm of the churned-up mass of collapsed rabbit burrow, which here totally replaced the substance of the mound and whatever had originally existed in the way of an old land surface, and in the fills of individual rabbit burrows penetrating the subsoil below the mass. The small concentration was excavated in connection with Cremation 5 and the overlying deposits and the removal of the balks; the larger in seven arbitrary spits (involving a total thickness of deposit varying between 15 and 25cm) with an eighth and final group of finds coming from the fills of the individual burrows in the subsoil. The absence of stratification within this deposit is illustrated by the presence of sherds of P32 in spits 2, 3, 4, 6, and 7.

2. South-east scatter

The occupation scatter in the south-east quadrant was concentrated in a compact area, 3m by 5m, yielding a high density of finds and located well to the south of the barrow centre with its south edge about 1m north of the inner lip of the ditch. All the finds lay on or in hard, brown, iron-and-humus-enriched sand at a depth of 50cm or more below the surface of the modern ploughsoil; the sand at this level was networked with rabbit tunnels but, for the most part, lay some centimetres below the mass of collapsed burrows directly underlying the ploughsoil. Because of limitations of time and money, it was impossible to excavate this area completely, and work on it stopped after the removal of three arbitrary layers involving a total thickness of deposit of about 10cm. An exception was a 1m square near the centre of the area which was taken down another 18cm with no significant decrease in the density or character of the finds manifesting itself until a depth of 10cm was reached where they abruptly gave out.

3. Composition of scatters

In addition to 196 pieces of struck flint, amoung them F19-F33 (p.79, Figs. 80-1), the occupation scatters produced between 440 and 450 burnt flint lumps. These were much more numerous (by about thirty times) in the south-east scatter (where they constituted the largest single category of find) than in the north-east. They ranged in maximum size from 1cm to 6cm (average 3.5cm); all were badly split and fissured and had obviously been subjected to prolonged heating. The 356 sherds, among them P4-P74 (Figs. 84-6), consisted almost entirely of fine and rusticated Beaker attributable to Steps 2-3 in the scheme of Lanting and van der Waals (1972). Pottery was, however, outnumbered by almost 700 pieces of fired clay or 'brick', among them B1-B4 (Fig. 88). The only animal bone found was a badly decayed, probably bovine, molar from the north-east scatter (Section VII: microfiche). Conditions of preservation for unburnt bone in the acid soils of the former heathland, however, were probably poor. Concentrations of charcoal (flecks and small lumps under 1cm in maximum size) occurred in two places in the north-east scatter: in and around the pit containing Cremation 5 and, more densely, in a localized area north-east of it. Apart from a few carbonized acorn shells and one piece of a rosaceous species, all identified pieces were of oak wood (Section VIII: microfiche). There were sporadic occurrences outside the two main concentrations but, except for a single, unidentified, tiny lump, there was no charcoal in the south-east scatter of occupation debris. The total quantity of charcoal was small (probably under a litre) and there was no evidence for burning *in situ*, though small hearths, had they once existed, would have probably been broken up and scattered by rabbits.

Miscellaneous features and finds

Two deep pit-like features, with clean sterile sandy fills, were crossed by the barrow ditch in the south-east quadrant, while a similar pit was situated just inside the ditch in the north-east quadrant. The status of these features is obscure; they may have been solution pipes or other natural formations.

Sherds representing about one-third of a Romano-British jar of third-century date (P76, Fig. 87) were collected from the ploughsoil in the central area of the barrow, two sherds having penetrated into the underlying occupation scatter.

Site 3661

The 1972 excavations were limited to four narrow cuttings which between them opened up less than 40m^2 of the total area for examination. The rough position of the south-west end of the enclosure was identified on the ground using as guides the modern field boundaries and other extant mapped features showing on the air photograph (Pl.XVII). An initial cutting (EC1), 19m long and 1m wide, was then laid out to locate the exact position. This it did, the ditch crossing the cutting *c.*3m north of its south-west end, some 75m east of the barrows. Two shorter cuttings (EC2 and EC3) were then made on the line of the ditch, one on each side of EC1, and a fourth cutting (EC4) along the ditch's south-east lip between EC1 and EC2. The overall length of the stretch of ditch partially defined on plan by the four cuttings was 10.9m (Fig. 68).

The size of the enclosure as mapped in Fig. 68 is based on Puddy's dimensions (Pl.XVIII), and the orientation and shape on the field notes summarized in Section III and the air photograph (Pl.XVII). The oblique angle of the latter, however, renders shape and size difficult to judge, making for some guesswork in the mapping, and, even allowing for distortion caused by the angle, the crop-mark seems longer relative to its width than Puddy's dimensions would lead one to expect. The two wide 'entrances' recorded by Sainty, Watson and Puddy do not show on air photographs suggesting, perhaps, that the ditch and banks were originally unbroken at these points and that the gaps resulted from

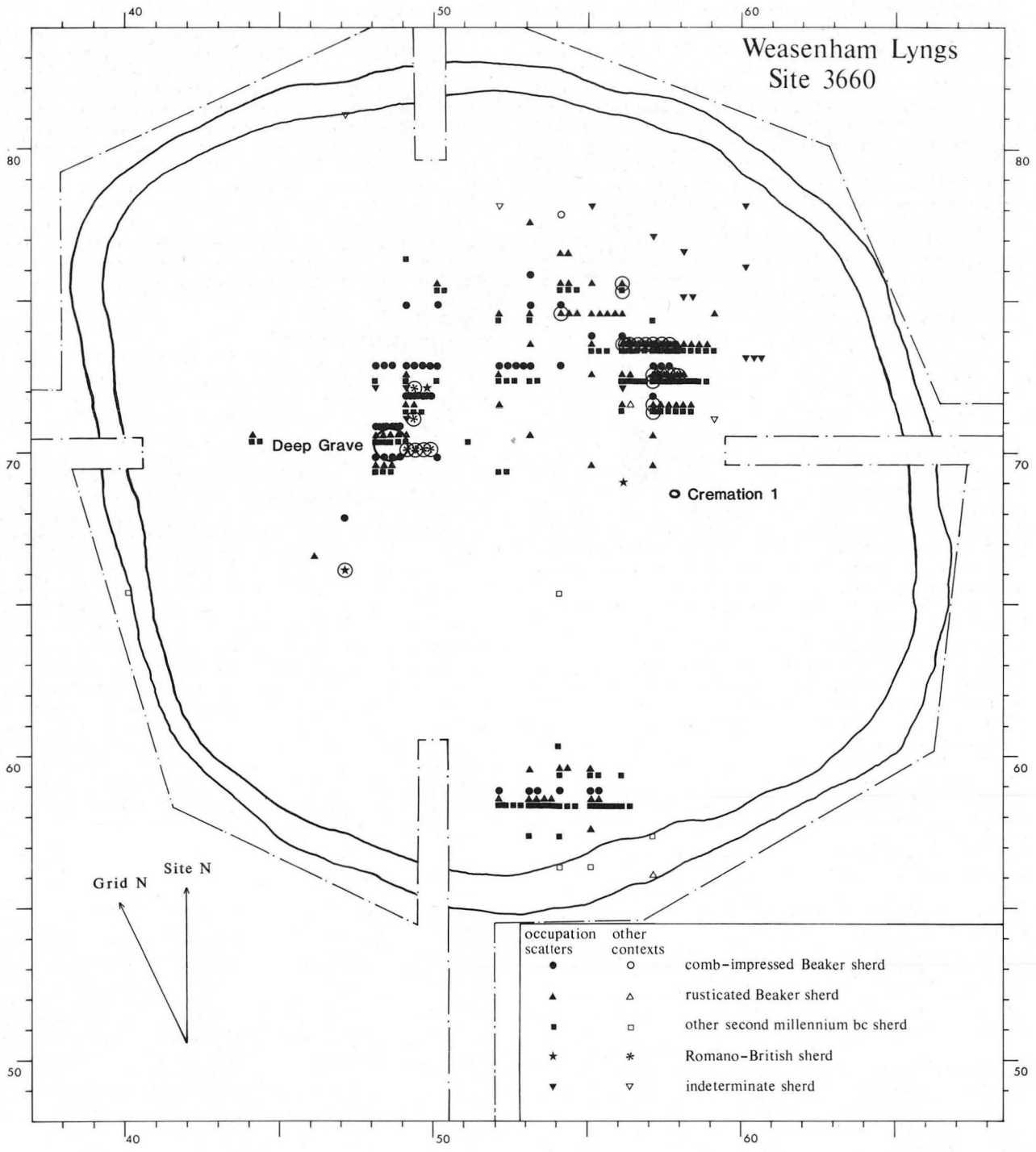


Figure 75 Site 3660. Distribution of sherds by one-metre squares. Sherds of P32 (large rusticated Beaker), P61 (? urn), and P76 (Romano-British jar) circled. 'Other second millennium BC sherds' include plain Beaker, plain body sherds in Beaker fabrics, and other later Neolithic or Early Bronze Age sherds as listed in Table 35. Scale 1:200

secondary levelling and filling, possibly in post-Bronze Age times. The crop-mark, however, is not as clear as it might be, and further excavation around the enclosure's perimeter would be necessary to resolve these uncertainties: unfortunately time and money were not available in 1972 to do this.

The stretch of ditch exposed by the cuttings was sectioned in three places (EC1, EC2 and EC3), the total length thus cleared of fill being 5m. The EC2 section was taken down below the ditch floor into the underlying natural; the other sections were not (Fig. 77). The size, fill and shape of the ditch proved similar in all three sections with the width varying between 2.2 and 2.4m, the maximum depth below the base of the ploughsoil between 30 and 50cm, and the profile approximating to a shallow bowl shape. The fill consisted of a thick deposit of gravelly primary silting, occupying the lower half or two-thirds of the profile, covered by a thin stratum of lighter material. The slight asymmetry observed in the silting of EC2 and EC3 (but not EC1) may reflect the former existence of the inner bank and raised internal area recorded by Puddy. Much of the upper silting must have been pushed into the ditch when the monument was levelled during the modern heath clearance; the primary silting, on the contrary, would have accumulated in prehistory and its asymmetry in EC2 and EC3 suggests that the tail of the inner bank probably stood within a foot or two of the ditch lip.

There were no detectable traces of the outer bank in the ditch silting, probably either because it had been set some way back from the original edge or because of its insubstantial bulk compared to the inner (Pl.XVIII).

A small irregular pit, 74cm in diameter and 48cm deep, with a mottled grey-brown fill, had been dug along the outer lip of the ditch in Cutting EC1 and is shown in section on Figure 77 (see Fig. 69 for its position on plan). It could not be determined whether the digging of the

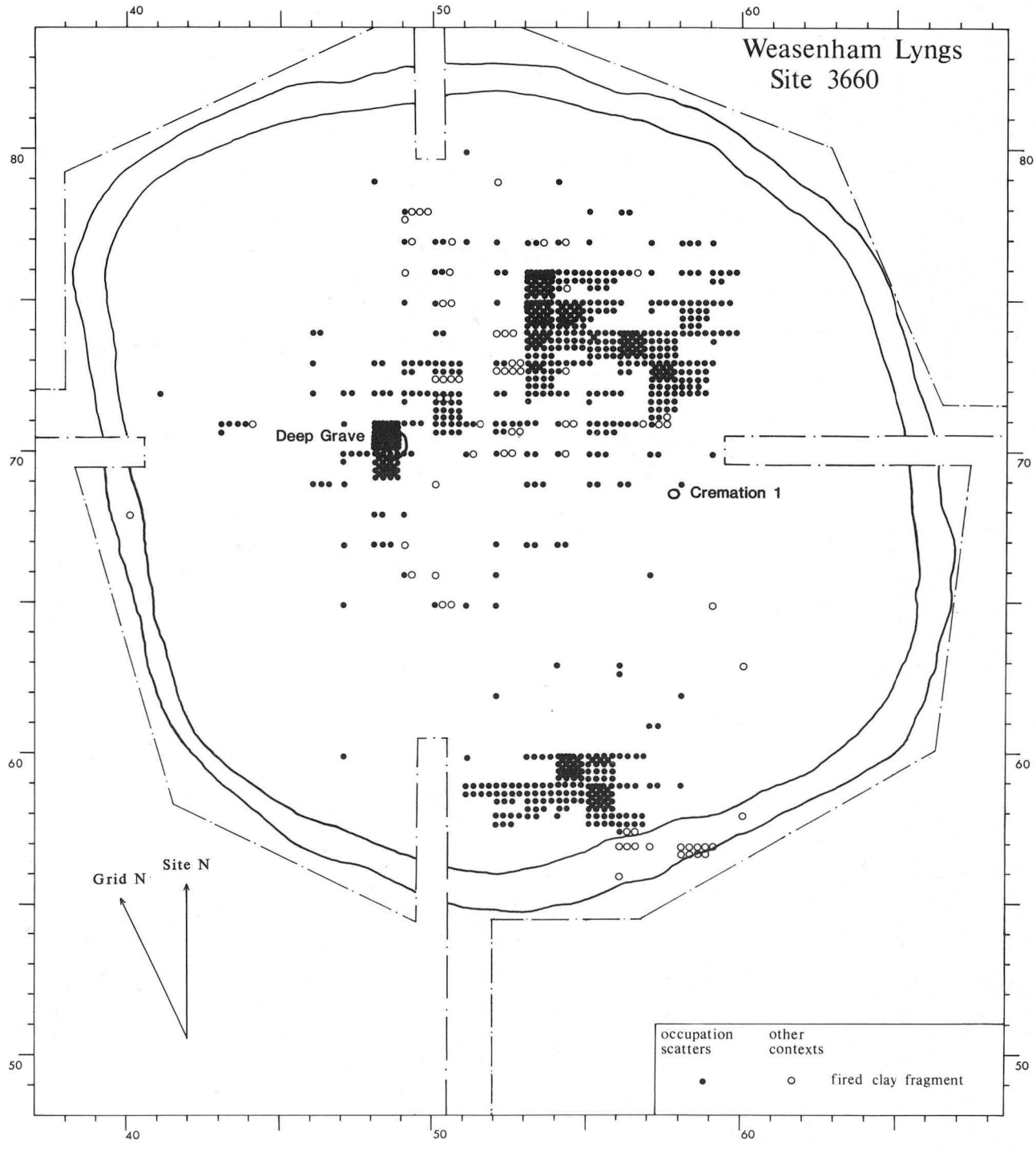


Figure 76 Site 3660. Distribution of fire clay fragments by one-metre squares. Scale 1:200

pit occurred before or after the digging of the ditch. No other features were found within the excavated area.

Apart from the struck flint and burnt flint lumps, finds were sparse. A single lump of fired clay was found at the base of the ploughsoil some 75cm beyond the inner lip of the ditch, while a few crumbs of coarse flint-gritted pottery occurred deep in the fill of the small pit in EC1. The pottery is undecorated but identical in fabric to the domestic Beaker ware from Site 3660; the clay lump is likewise identical to the 'brick' fragments from the same context. Two sherds from the surface of the ditch in EC2, however, seem to have come from a Mildenhall style Neolithic bowl (P75, Fig. 86). The total of sixty-seven pieces of struck flint, among them F38 and F39 (Fig. 81), includes one flake from the EC1 pit and twenty-one pieces from all levels in the ditch, the remainder coming from the ploughsoil (Table 24). The primary and secondary ditch fill also produced thirty fire-cracked flint lumps similar to those from Site 3660.

V. The Artefacts

Struck flint

(Figs. 80-1)
by Frances Healy
Introduction

The composition and incidence of the struck flint from the excavation are set out in Table 24. Selected pieces are illustrated in Figure 80 and 81 and described in Table 34 (microfiche). Retouched forms are classified according to the categories defined in Table 33 (microfiche). Only 36.6% of the struck flint recovered (247 pieces out of 675) can be described as stratified. The bulk of the

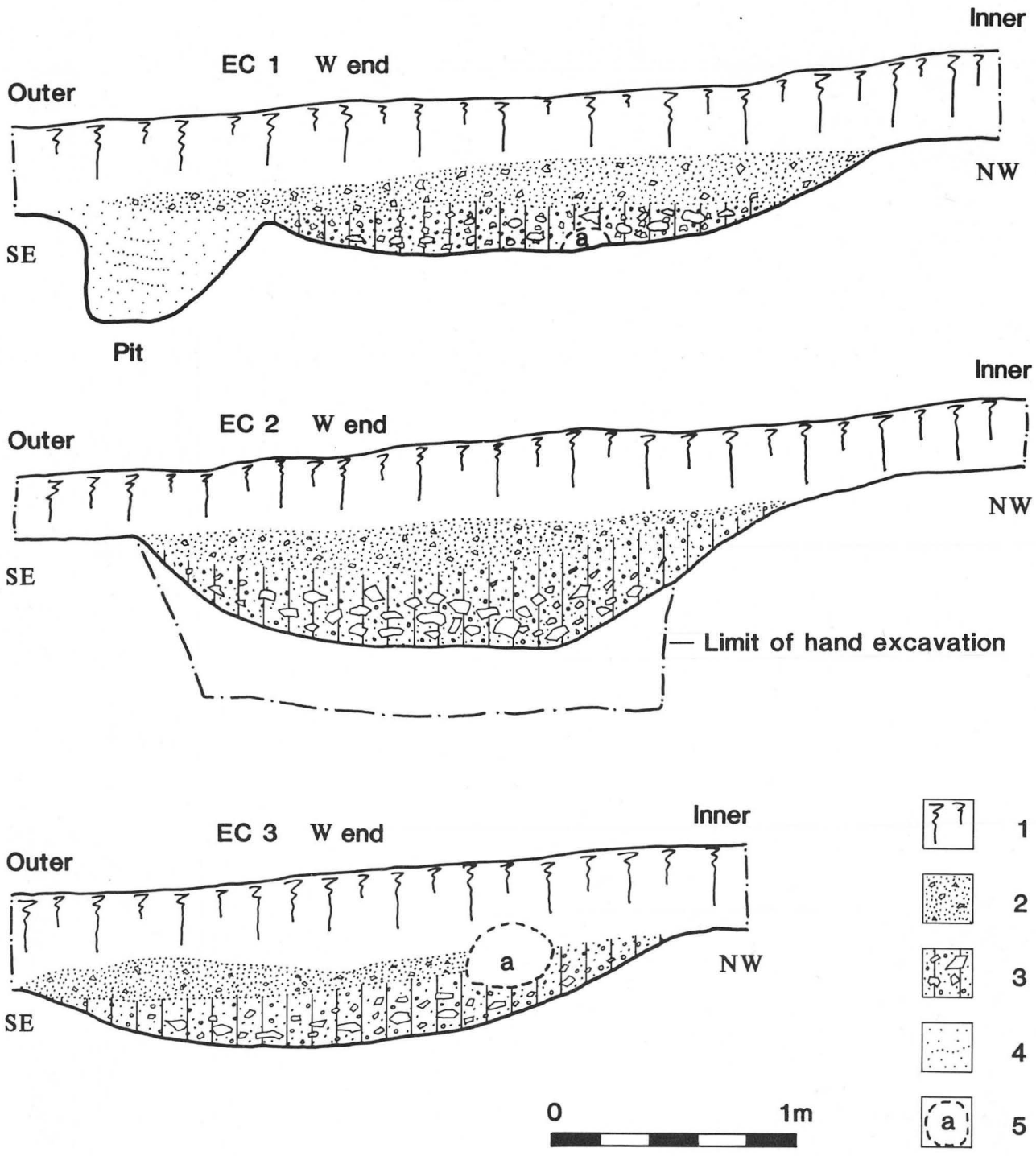


Figure 77 Site 3661. Sections through the ditch. Scale 1:25

Key:

1. Ploughsoil
2. Secondary silt. Dark grey sand with the occasional small flint (heavily rooted in EC2, but not in EC1 and EC3)
3. Primary silt. Grey-brown earthy sand with much mixed flint gravel up to 4-5cm diameter (heavier elements concentrated in central area at EC2 and towards inner lip at EC1). The base of this layer (ditch floor) was marked by panning at EC3 and EC1 (but not at EC2)
4. Pit fill. Mixture of red-brown and slight softer light grey sand indistinctly stratified in central area as indicated
5. Animal burrow

	Cores	Irregular Waste	Flakes	Leaf-Shaped Arrowhead	Barbed-&-Tanged Arrowhead	End Scrapers	Side-End Scrapers	Horseshoe Scrapers	Side Scrapers	Hollow Scrapers	Nosed Scrapers	Scraper Broken Flakes	Scraper on Thermal Flake	Piercer	Spurred Piece	Straight-Edged Flake Knife	Backed Pieces	Notches	Denticulates	Saws	Serrated Pieces	Burin	Pieces with Abrupt Retouch	Flake from Polished Flint Implement	Axe or Adze	Miscellaneous Retouched Pieces	Totals	Drawings
Site 3659																												
Ploughsoil			11					1																			12	F1
Subsoil			17																						1	18		
Unstratified			2			1																			1	4	F2-3	
Totals			30			1		1																	2	34		
Site 3660																												
Ploughsoil			130			2	6					3	1		2	1	1	1			2	1		10	161			F4-17
Upper ditch fill			4																				1			1	6	F18
Ditch fill			23																								23	
Occupation scatter—general		3	23								1												1				28	F19
—N.E.	1		107	1		1	2					3		1				1	1		1		1			5	125	F20-30
—S.E.			39		1		1			1		1															43	F31-33
Subsoil			10																								10	
Unstratified	1		55			1	2																				59	F34-37
Totals	2	3	391	1	1	4	11			1	1	7	1	1	1		2	2	2	1	1		5	1		16	455	
Site 3661																												
Cutting 2—Surface of ditch	1		4																	1							6	F38
—Ditch fill at 60cm			8																		1						9	
Cutting 3—Ploughsoil			10																							1	11	
—Upper ditch fill	2		4																								6	F39
—Pit 24 49			1																								1	
Cutting 4—Ploughsoil			5																	1							6	
—Subsoil			5																								3	
—Unstratified			2																								2	
Unstratified			22																							1	23	
Totals	3		59																	2	1					2	67	
Excavated area																												
Ploughsoil		1	36			4			1		1	1											2		1	2	49	F40-44
Unstratified	1	1	57			2	1	1	1													?1	1			4	70	F45-46
Totals	1	2	93			6	1	1	2		1	1										?1	3		1	6	119	
Totals from excavation	5	5	573	1	1	11	12	2	2	1	2	8	1	1	1		2	2	2	3	2	?1	8	1	1	26	675	
Surface[1]																												
Site 13210 (Between sites 3658 & 3660	1					3	3	1				1															8	
Site 15721 (Whole barrow field)	2		1			3	4		1							1										1	13	F47
'Adjoining field'												1															1	
Site 17057 (Field to south)			3			1		1	1									1								1	8	
Totals	3		4			7	6	2	2			2				1		1								2	30	

1. This comprises (a) material collected during the 1972 excavation (b) material collected by Mr. A. Hooks, then of Rougham, in or before 1972 and given to the excavators, and (c) material collected by Mr. D.G. Woollestone of Hethersett in 1978. (a) and (b) are recorded and stored with the excavated materials, (c) retained by the finder. In addition, a leaf-shaped arrowhead (co.no. 11451) was found by Mr. Hooks in the Barrow Field in 1975 and his catalogue records a further 103 pieces of struck flint found in the field (Site 15721) between 1973 and 1975, including 2 arrowheads, 68 scrapers and 4 axes. The catalogue also records a total of 119 pieces of struck flint, which may include those listed above under site 17057, found on the field to the south between 1971 and 1974, including 65 scrapers and 5 'broken axes'.

Table 24 Composition and incidence of struck flint

stratified material (196 pieces) came from the occupation scatters of Site 3660, although the presence of Romano-British and possibly later sherds in these deposits (Table 35, Fig. 75) shows that even they were not totally undisturbed. They may also include residual material. It seems reasonable to assume, however, that most of the struck flint from the scatters is contemporary with the Step 2-3 Beaker pottery, fired clay, and burnt flint with which it was deposited.

Description

1. Raw Material

Most of the flint used consists of pebbles and nodules of gravel flint of generally small size. Surviving cortex tends to be weathered and thermal fractures are frequent, both on old, weathered surfaces (e.g. F8, F44) and occasionally on the ventral faces of struck flakes where these have run out through latent fractures. Varying shades of mottled grey predominate. The material almost certainly came from local surface deposits. There is limited evidence for the re-working of older artefacts in the form of two flakes possibly from the same polished implement (F17, F47) and of two flakes struck from already patinated cores, one of them (F33) worked into a scraper, the other found unstratified on Site 3659.

2. Condition

Because of extensive damage to, and disturbance of, the sites before excavation, most of the struck flint is dulled, apparently by sand abrasion, and much is edge-damaged, presumably as the result of ploughing, digging and burrowing. 18.5% of pieces are fragmentary. Signs of burning are, however, rare, as is patination (Table 25: microfiche).

3. Composition

Table 24 may be summarized as follows:

	Cores	*Irregular waste*	*Flakes*	*Retouched pieces*	*Totals*
Site 3659 all contexts	—	—	30 (88.2%)	4 (11.8%)	34
Site 3660 occupation scatters	1 (0.5%)	3 (1.5%)	169 (86.2%)	23 (11.7%)	196
Site 3660 other contexts	1 (0.4%)	—	222 (85.7%)	36 (13.9%)	259
Site 3661 all contexts	3 (4.5%)	—	59 (88.1%)	5 (7.5%)	67
excavated area	1 (0.8%)	2 (1.7%)	93 (78.2%)	23 (19.3%)	119
	6 (0.9%)	5 (0.7%)	573 (84.9%)	91 (13.5%)	675

Table 26. Overall composition of struck flint

4. Cores

The six excavated cores are all small, with a mean weight of 48.3g, and seem, apart from F10 (the original form of which cannot be determined) to have been small pebbles producing relatively few flakes. They are classified in Table 27 (microfiche).

5. Flakes

The dimensions and proportions of the intact unretouched flakes from the occupation scatters of Site 3660 are shown in Figure 78, length being taken as the maximum dimension along the bulbar axis at right-angles to the striking platform and breadth as the maximum distance between any two points on opposite lateral edges taken at right-angles to the length measurements (Saville 1981a, 146). Flakes from other contexts, mainly the ploughsoil, on the same site tend to be larger and proportionately narrower (Fig. 78). Most flake butts are plain, only 11.6% (16) of the butts of intact unretouched flakes from the occupation scatters being faceted in the broad sense (Saville 1981, 6) of having more than one negative flake scar on the striking platform (e.g.F18).

6. Retouched pieces

(i) Blanks

The overwhelming majority of retouched pieces from the excavation are made on flakes. Exceptions are five pieces, including F12, F16 and F44, made on thermal flakes or thermally-fractured fragments and one (F15) made on a fragment of irregular waste. Table 28 (microfiche) compares the original attributes (where these can be determined) of retouched flakes from the occupation scatters with those of intact unretouched flakes from the same context in terms of whether they are primary (cortical) secondary (partly cortical) or tertiary (non-cortical) and in terms of the knapping-based flake classification proposed by Gingell and Harding (1981, 76).

The main differences between the retouched and unretouched flakes lie in higher percentages of secondary flakes, class Ib flakes (single-crested flakes with the point of percussion to one side of the main crest or between the main crest and a negative flake facet, generally longer than they are broad, e.g. the blank of F23), and miscellaneous flakes (in this case mainly relatively broad flakes from multi-platform cores, struck from a different platform to previous removals, e.g. the blank of F29) among the retouched than among the unretouched flakes.

(ii) Typology

The composition of the retouched pieces from all contexts is set out in Table 24 according to the categories defined in Table 33 (microfiche). Particular forms are dealt with below.

Arrowheads In addition to the two finished arrowheads (F21, F31), two flakes with flat, bifacial retouch (F3, F30) may perhaps be unfinished examples.

Scrapers These are the most numerous single class of retouched piece. The dimensions of the intact examples are set out in Table 29 (microfiche).

7. Flint-working

No complete hammerstones were recovered, although a flake found in the ploughsoil of the south-east quadrant of Site 3660 is struck from a flint pebble apparently used as one. Most flaking seems to have been done with hard hammers, although soft-hammer or pressure-flaking techniques would almost certainly have been used for the final stages in the production of F21 or for the scale-flaking (secondary working by the removal or relatively long, parallel-sides flakes) of pieces such as F24, F31, and F32 from the occupation scatters, or F6, F10, F36, F40, F43, and F47 from other contexts and the surface.

8. Utilization

The material is in unsuitable condition for microwear analysis or for identification of most macroscopic wear traces. There are, however, a few instances of apparent use-wear, including slight polish on the dorsal ridges of F18 and of an unretouched flake from the ploughsoil between Sites 3659 and 3660. Edges blunted by small, regular, steep-angled removals, as in Smith's class A utilization (1965, 92) occur on F29, on a flake from the north-east occupation scatter, and on five flakes from various locations in the ploughsoil.

Discussion

1. On-site activity

Whether the occupation scatters of Site 3660 consist of *in situ* or of dumped material, the very low incidence of burning among the struck flint from them (Table 25: microfiche) indicates that it was not subjected to the same process or processes as the burnt flint deposited with it. Neither does it seem to consist of primary knapping debris, since it includes very low percentages of cores and irregular waste, the former being more frequent among the much smaller quantity of struck flint from Site 3661 (Table 26). Differences between the characteristics of retouched and unretouched flakes from

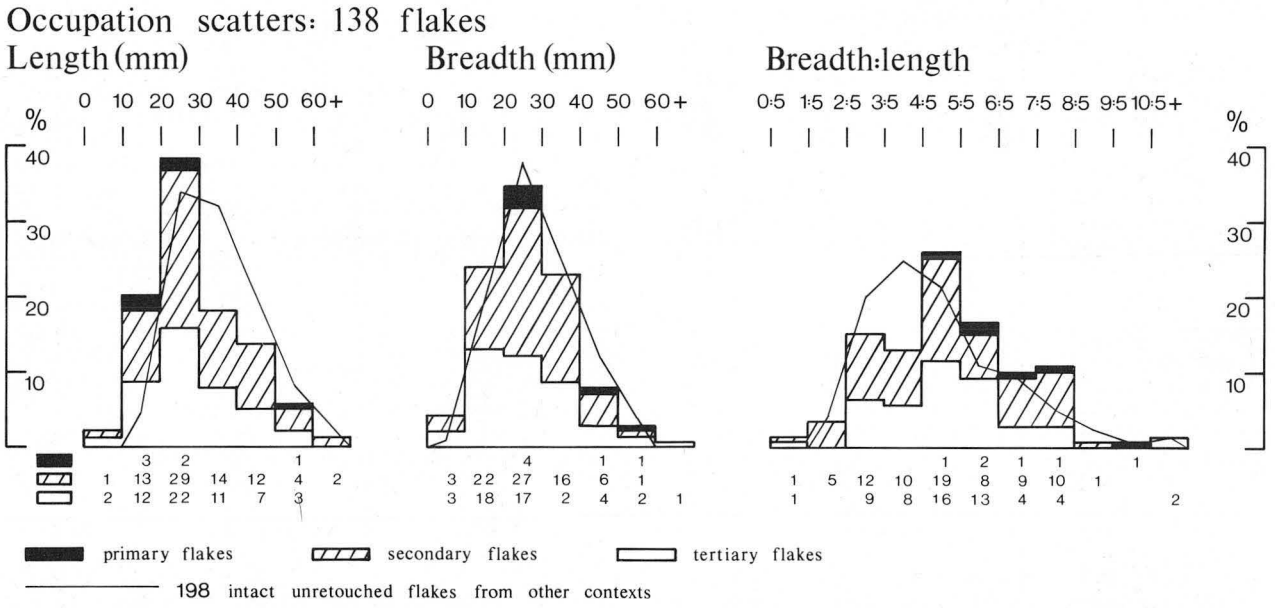


Figure 78 Site 3660. Dimensions and proportions of intact unretouched flakes from occupation scatters

the occupation scatters (Table 28: microfiche) suggest that flakes with particular attributes were selected for retouch, or perhaps that the origin of the struck flint in the deposit was heterogenous, with some retouched pieces being brought from elsewhere.

The much larger quantity of struck flint recovered from Site 3660 than from Site 3659, despite the complete excavation of both barrows (Table 26), suggests at first sight that the ploughsoil and unstratified material from Site 3660 was ploughed, dug, or burrowed from the scatters, or that both were derived from a common source. The more blade-like proportions of the flakes among the ploughsoil and unstratified material, however, indicate that it may include an earlier component, given an overall trend towards the production of broader flakes from the later Neolithic onwards (Pitts 1978). Earlier material may have been present in the immediate area and concentrated in the barrow during its construction. Surface collections from the field in which the barrows lie are biased towards cores and retouched pieces (Table 24, final section and footnotes), but the recorded total of over 100 pieces is enough to suggest that numerous flakes remain there and would probably have been present when the barrow was built. Sherds of a Neolithic bowl from Site 3661 (P75, Fig. 86) indicate an extended, if not continuous, period of activity in the area prior to the construction of the barrows.

Some pieces among the ploughsoil, unstratified and surface material are, however, almost certainly of similar date to the occupation scatters. They include scale-flaked scrapers like F2, F5, F6, F37, and F40, as well as F47, a pointed, scale-flaked knife of a form found elsewhere in second-millennium bc contexts, both domestic, as at Hockwold-cum-Wilton, Norfolk (Site 5308/c4; Bamford 1982, Fig. 33: r,s), and funerary, as at Sutton, Suffolk (Smedley and Owles 1964, Fig. 26) or Pilsgate, Cambridgeshire (Pryor 1974, Fig. 3:1). A Later Neolithic or Early Bronze Age date seems likely for F44, which, although made on a thermally-fractured fragment, is of the same form as axes made on large struck flakes in the late third and early second millennia bc at Grime's Graves (Site 5640; Richardson 1920, figs. 57-58; Saville 1981, 52-54, figs. 44, 45), and at other possibly contemporary industrial sites in Norfolk (Healy 1984a, 107, fig. 5.8).

2. Inter-site comparisons

In this section the struck flint from the occupation scatters of Site 3660 is compared with industries from three other East Anglian occupation sites with Beaker pottery, in terms of core typology (Table 30); flake proportions (Table 31); scraper dimensions (Table 32); and typology and composition of retouched pieces (Fig. 79). All four industries are also compared with Grooved Ware-associated industries from six other sites in the region which are discussed at greater length elsewhere (Healy 1984c and forthcoming). The Beaker-associated industries compared here are from the following sites:

(i) Site 93, Hockwold-cum-Wilton, Norfolk (Site 5324): a roughly circular area of domestic debris including three possible hearths, overlying a gully and partly surrounded by stake-holes; Late to Final Southern (Step 6-7) Beaker pottery (Bamford 1982, 9-12, 21-22, 26). Norwich Castle Museum. 189 pieces.

(ii) Hearths III-VI and VIII, barrow V, Chippenham, Cambridgeshire: features below a barrow; Developed Southern (Step 5-7) Beaker pottery; radiocarbon date of 1850 ± 150 bc (BM-152) for hearth VIII (Leaf 1940, 37, 53-60, 62-67). Cambridge University Museum of Archaeology and Ethnology. 183 pieces; collection incomplete, lacking, for

Site	*Core Types*								*Totals*
	A1	A2	B1	B2	B3	C	D	E	Uncl./frag.	
Weasenham occupation scatters		1								1
Hockwold site 93							2	1	1	4
Chippenham V Hearths		1		1		6	3	1	1	13
Reffley Wood	2	3	2		2		1		2	12

Table 30 Cores from Weasenham occupation scatters, Hockwold site 93, Chippenham V hearths, and Reffley Wood.

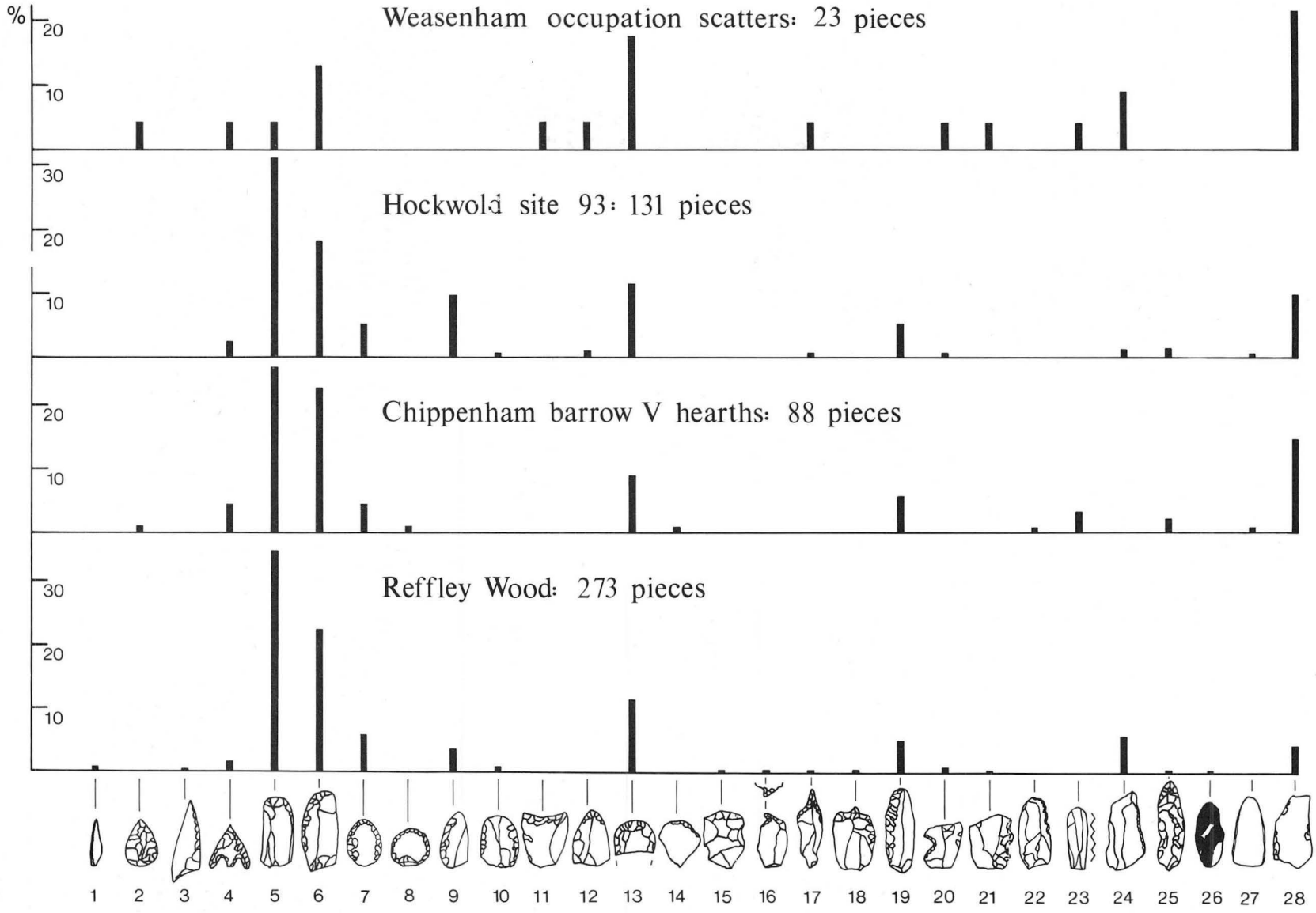


Figure 79 The retouched components of the industries from the Weasenham occupation scatters; Hockwold cum Wilton 'site 93'; Hearths III-VI and VIII, barrow V, Chippenham; and Reffley Wood. Outlines not to scale. Types listed in Table 33 (microfiche)

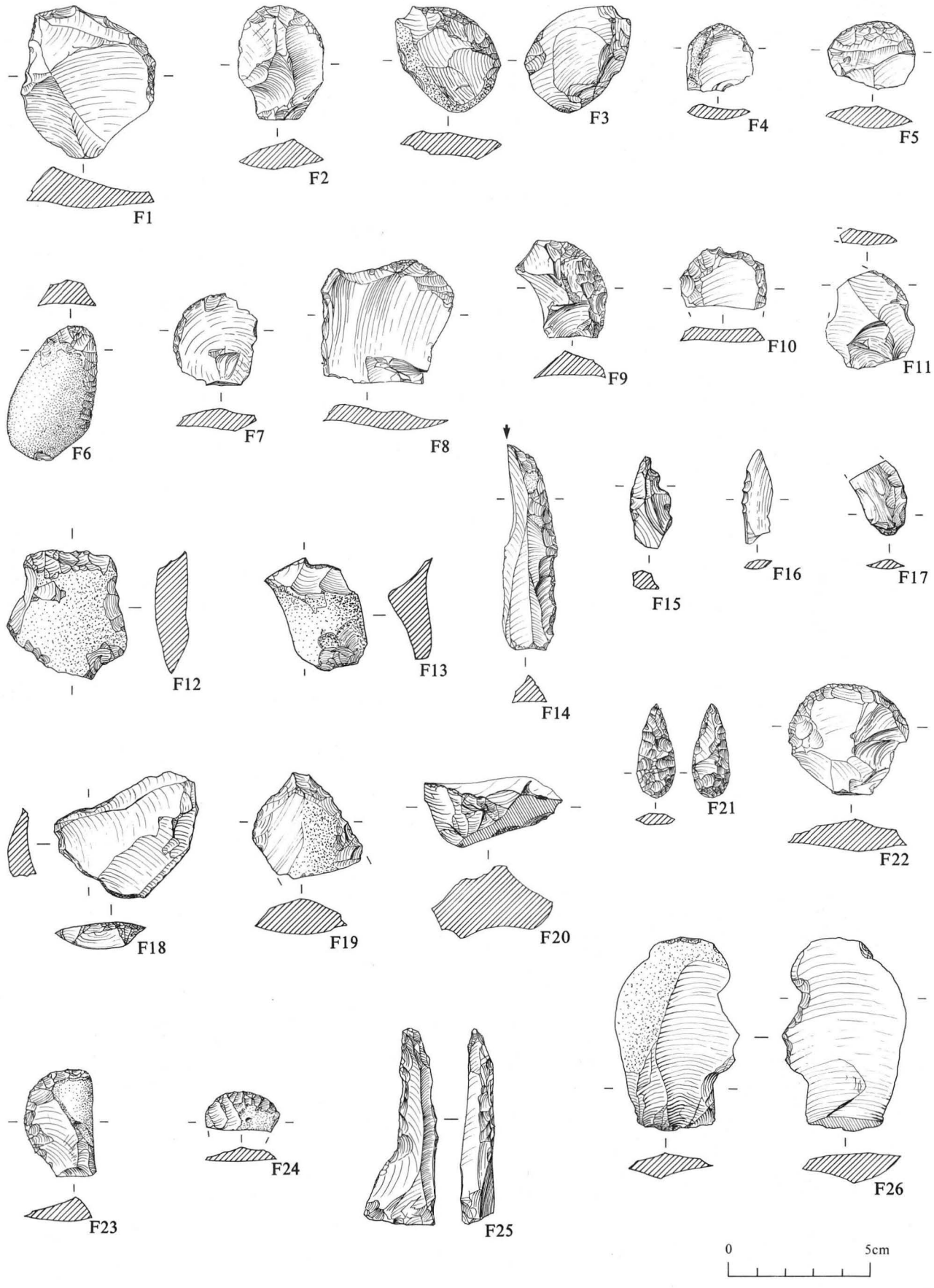


Figure 80 Struck flint. Site 3659: F1 from ploughsoil, F2 and F3 unstratified. Site 3660: F4-F17 from ploughsoil, F18 from ditch fill, F19-F26 from north-east occupation scatter. Scale 1:2. Particulars in Table 34 (microfiche)

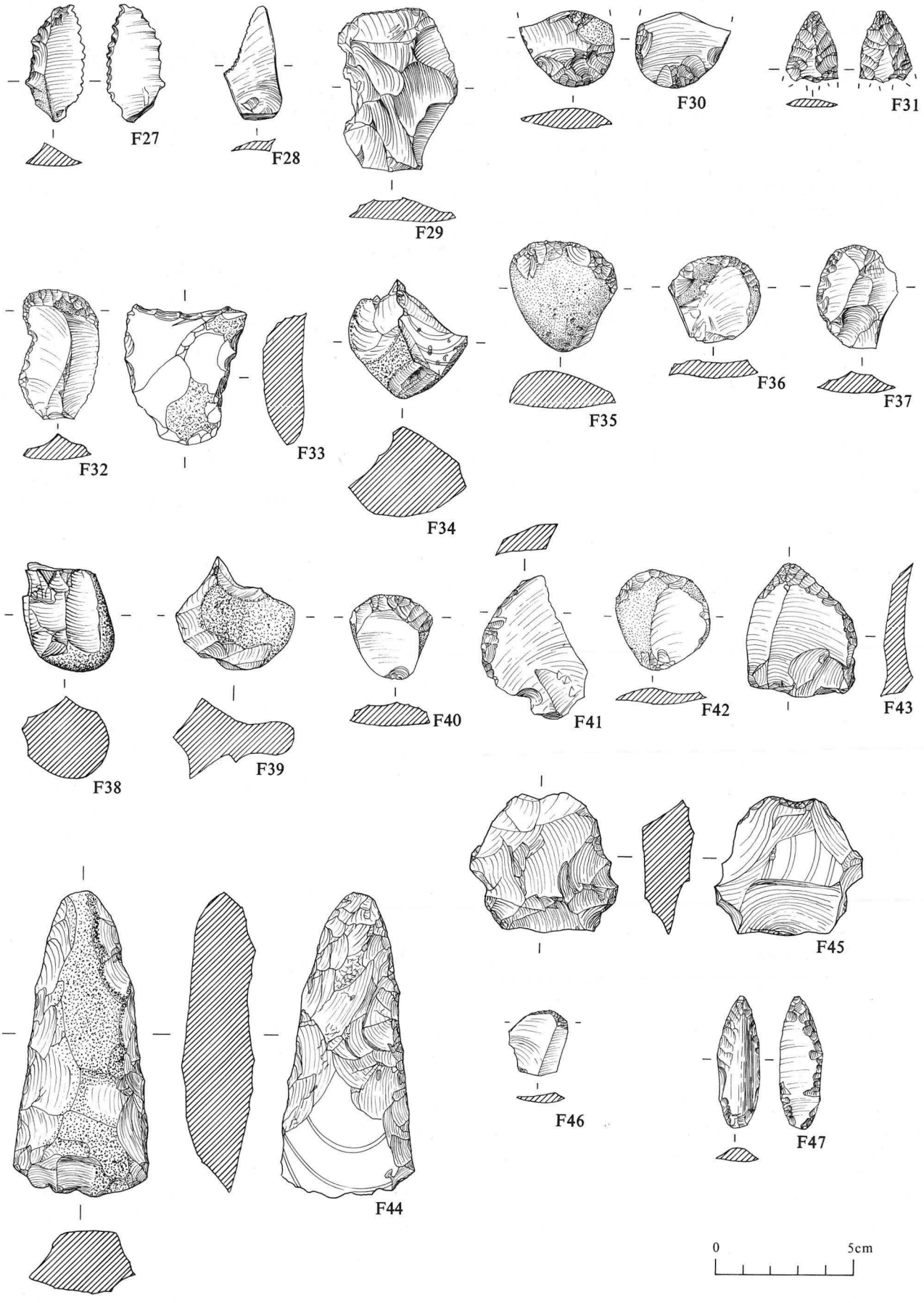


Figure 81 Struck flint. Site 3660: F27-F30 from north-east occupation scatter, F31-F33 from south-east occupation scatter, F34-F37 unstratified. Site 3661: F38 from surface of ditch in EC2, F39 from upper ditch fill in EC3. Excavated area: F40-F44 from ploughsoil, F45 and F46 unstratified. Surface beyond excavated area: F47. Scale 1:2. Particulars in Table 34 (microfiche)

example, struck flint from hearths II and IX, although this is reported by Leaf (1940, 62-66).

(iii) Reffley Wood, King's Lynn, Norfolk (Site 5489): a deposit of apparently domestic debris partly sealed by a barrow and including hearths and a pit; Final Southern (Step 6-7) Beaker pottery (Robertson-Mackay 1961, 99-100; Bamford 1982, 136). British Museum. 943 pieces.

The total for site 93, Hockwold-cum-Wilton includes three barbed-and-tanged arrowheads, as listed by Bamford (1982, 26), although only one (Bamford 1982, Fig. 31:j) is now in the collection; the total for Chippenham barrow V hearths includes one leaf-shaped and four barbed-and-tanged arrowheads, as published by Leaf (1940, 63, 65, Fig. 12:31-33, 35-36). although only one (Leaf 1940, fig. 12:35) is now in the collection; and the total for Reffley Wood includes five barbed-and-tanged arrowheads, as recorded in Schwabé's manuscript report, although only two are now in the collection. These discrepancies may be due to the retention of arrowheads as souvenirs.

and Plantation Farms, Cambridgeshire (Clark, Higgs and Longworth. 1960, 219), Area A, Broome Heath, Norfolk (Site 10602; Wainwright 1972, 53), Fifty Farm and Woolverstone Park, both in Suffolk (information from Rosamund Cleal), and the upper levels of Outer Ditch II, Windmill Hill, Wiltshire (Smith 1965, 96).

Qualitatively, the retouched pieces of all four Beaker-associated industries are composed of a similar range of forms (Fig. 79), which differ from those of the Grooved Ware-associated industries mainly in the prevalence of different types of missile head. The occurrence of leaf-shaped and oblique as well as barbed-and-tanged arrowheads in Beaker-associated industries elsewhere is documented by Green (1980, 120, 243). A further feature shared by all four Beaker-associated industries and by others elsewhere, although rare in Grooved Ware-associated ones, is the regular practice of scale-flaking.

Quantitatively, the Beaker-associated industries are distinguished from the Grooved Ware-associated ones by

Site	*most frequent breadth: length range*	*% flakes with breadth: length ratio of 2:5 or less*	*%flakes with breadth: length ratio greater than 5:5*	*total measured flakes*
Weasenham occupation scatters	4:5—5:5	5.1%	40.6%	138
Hockwold site 93	4:5—5:5	2.5%	25.0%	40
Chippenham V Hearths	1:5—2:5	26.9%	15.4%	52
Reffley Wood	2:5—3:5	12.7%	29.3%	283 (sample only of 330 intact unretouched flakes

Table 31 Flake proportions for Weasenham occupation scatters, Hockwold site 93, Chippenham V hearths, and Reffley Wood

There is considerable similarity between the four Beaker-associated industries. Cores are few and of heterogenous composition (Table 30), in constrast to those of the Grooved Ware-associated industries among which keeled (D and E) cores are almost always the most frequent. Flake proportions for the Weasenham occupation scatters and Hockwold site 93 are compatible with each other (Table 31), with those of the Grooved Ware-associated industries, and with the general prevalence of relatively broad flakes in later Neolithic and subsequent industries (Pitts 1978). High percentages of blades from Chippenham V and Reffley Wood almost certainly result from the presence of residual material, contrary to an opinion previously expressed by the writer (Chowne and Healy 1983, 43). Leaf reports Mesolithic and Earlier Neolithic material from Chippenham (1940, 37, 46), and the microliths shown in Figure 79 attest Mesolithic activity at Reffley Wood. The bulk of the retouched pieces in both industries appears, however, to be of second-millennium bc date.

The scrapers of all four Beaker-associated industries (Table 32) tend to be smaller than those of the Grooved Ware-associated industries and of other earlier and later industries within the region. They conform, in other words, to the pattern of the scrapers in most Beaker-associated industries, including those from Peacock's

an increased frequency of straight-edged flake knives, a decreased frequency of serrated pieces, and, most of all, an increased frequency of scrapers, which form a mean of 74% of the retouched pieces from Hockwold, Chippenham, and Reffley Wood in contrast to a mean of 51.25% of the retouched pieces from the Grooved Ware-associated industries.

The Weasenham industry falls between the two groups in that it includes only a relativey low proportion of scrapers (43.5%), which, few as they are, are rather larger than those of the other Beaker-associated industries (Tables 29 (microfiche) and 32). 'Thumb-nail' scrapers may be represented in the occupation scatters by F24 and another, unillustrated fragment, and they are certainly present among less well-stratified material (e.g. F4, F5, F46), but they do not seem to have been as common as in the other three industries, in which small scraper size seems linked to high scraper frequency. Small scraper size is unlikely to be simply a reflection of raw material availability. Most frequent unretouched flake length, insofar as it is an index of the latter, is 20-30mm for each of the Weasenham, Hockwold and Reffley Wood industries, although most frequent scraper dimensions vary between them, and is the same for the Grooved Ware-associated industry from Lawford, Essex, the scrapers of which are much larger (Healy

Site	*most frequent scraper length range*	*most frequent scraper breadth range*	*total measured scrapers*
Weasenham occupation scatters	30—50 mm	20—50 mm	6
Hockwold site 93	30—40 mm	20—30 mm	78
Chippenham V Hearths	20—30 mm	20—30 mm	48
Reffley Wood	20—30 mm	20—30 mm	177

Table 32. Most frequent scrapers dimensions for Weasenham occupation scatters, Hockwold site 93, Chippenham V hearths, and Reffley Wood

forthcoming). Also, in several instances where numerous small scrapers are reported in Beaker-associated industries, including those cited above, the scrapers of earlier industries from the same or adjacent sites have been larger (Smith 1965, 96; Clark, Higgs and Longworth 1960, 219; Wainwright 1972, 53).

The difference between Weasenham and the other Beaker-associated industries may be partly developmental, in that the Beaker pottery from Hockwold, Chippenham, and Reffley Wood is typologically, and perhaps chronologically, later than the Weasenham material (p.84), as is the pottery from Plantation Farm, Fifty Farm, Woolverstone Park, and the upper levels at Windmill Hill. High frequencies of small scrapers do, however, occur with pottery more likely to be contemporary with the Weasenham material, as with Step 3 Beaker at Martlesham Heath, Suffolk (Martin 1976, 19-38) and site 101, Dovercourt, Essex (information from Rosamund Cleal).

Functional factors may be significant here. The extent of craft, as opposed to domestic, activity inferred for Weasenham is exceptional (p.77). Its location is also distinctive: Weasenham lies on the well-drained upland of West Norfolk, while Hockwold, Chippenham, and Reffley Wood lie on, or close to, the fen margin and Martlesham Heath on the coastal Suffolk Sandlings (Bamford 1982, text fig. 8: sites 4, 33, 35, 44, 62). In different ways, they approximate to Bradley's class of sites in marginal areas with high-scraper industries representing their use for seasonal pasture with associated activities such as butchery, skin and boneworking (Holden and Bradley 1975, 101-3; Bradley 1978, 56-60). Correspondingly, the only one of the Grooved Ware-associated industries with a comparably high percentage of scrapers (76.2%) is from feature divisions 1-9, area I, Storey's Bar Road, Fengate, a site interpreted in terms of the exploitation of the lush summer pasture of the adjacent fen (Pryor 1978, 161-163).

Pottery

(Figs. 83-7)

by Frances Healy

The composition and incidence of the pottery from the excavation are set out in Table 35. Almost all the prehistoric pottery was recovered from stratified contexts, mainly the grave of Site 3659 and the occupation scatters of Site 3660. This contrasts with the incidence of struck flint, nearly two-thirds of which was unstratified (Table 24), and presumably results from the poor survival of sherds in the ploughsoil. Selected pieces are illustrated in Figs. 83 to 87 and described in the accompanying catalogue. More detailed information including the precise provenances of individual sherds, is to be found in Table 40 (microfiche). The assemblage from the occupation scatters of Site 3660 is described below, and the pottery from all contexts is subsequently discussed.

Pottery from the occupation scatters

The three Romano-British sherds recorded in Table 35 are excluded from the following description.

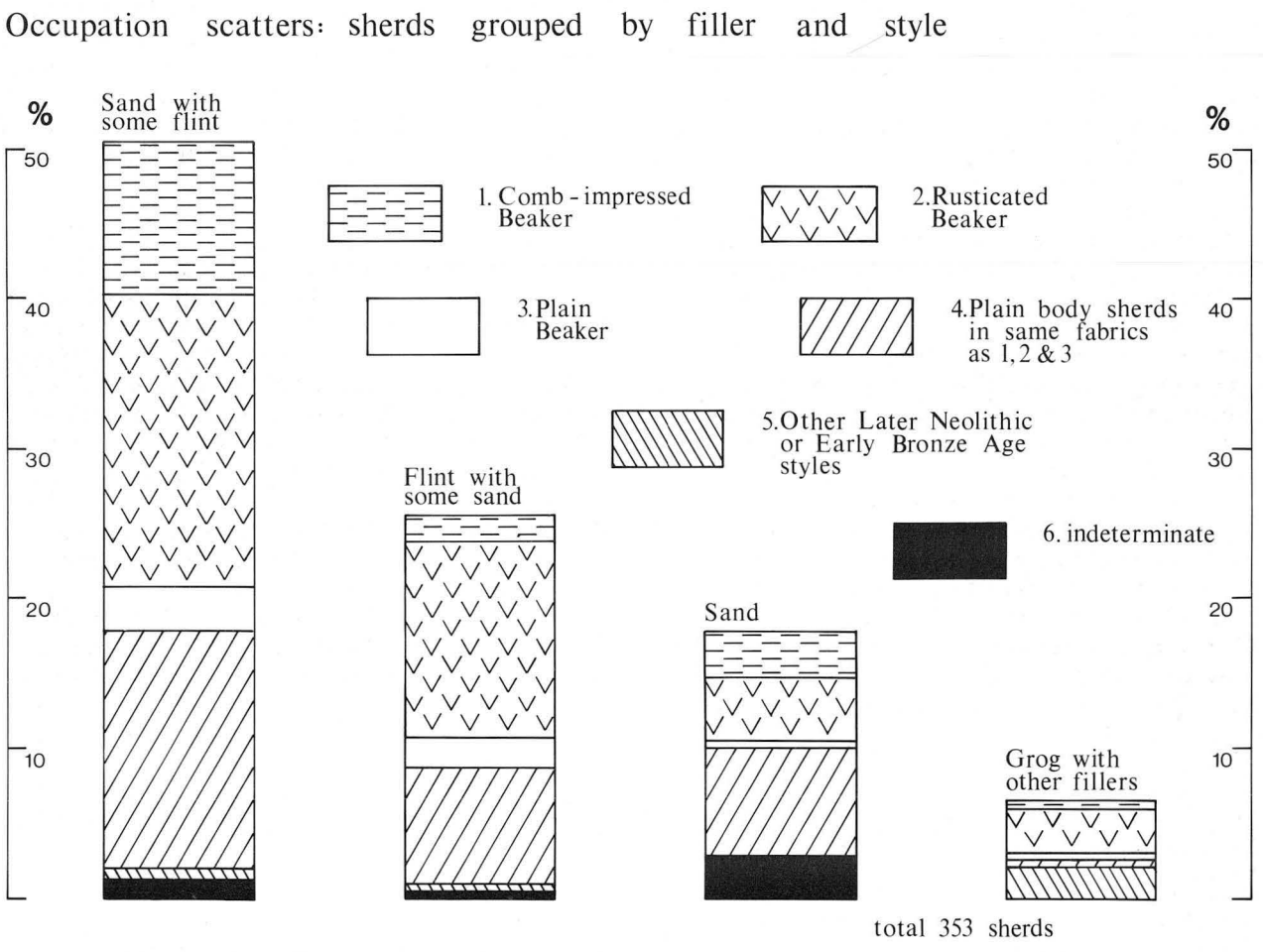


Fig. 82 Site 3660. Fabrics of pottery from occupation scatters, excluding four Romano-British sherds

	Neolithic bowl	Comb-impressed or other non-rusticated decorated Beaker	Rusticated Beaker	Plain Beaker	Plain body sherds in Beaker fabric	Other Later Neolithic or Early Bonze Age wares	Romano-British	Indeterminate	Totals	Drawings
Site 3659										
Ploughsoil					1				1	
Grave						150+			150+	P1
Subsoil					2				2	
Totals					3	150+			153+	
Site 3660										
Ploughsoil			1	1		1	12	2	17	P2, P76
Ditch fill		2	1		2				5	P3
Occupation scatter general		1	1		1				3	
—NE		50	127	13	80	10	3	16	229	P4-P63, P76
—SE		6	12	5	30	1			54	P64-P74
Unstratified		1			1				2	
Totals		60	142	19	114	12	15	19	381	
Site 3661										
Cutting 1, edge of feature 2495 4900					1				1	
Cutting 2, surface of ditch	2								2	P75
Totals	2				1				3	
Totals from excavation	2	60	142	19	118	162+	15	19	537+	
Surface										
Site 13209 (SW corner of barrow field at TF/8525 1970)					1[1]				1[1]	
Site 15721 (whole barrow field)							1		1	
Totals					1		1		2	

1. Found by and in the possession of Mr. D. G. Woollestone of Hethersett.

Table 35 Composition and incidence of pottery (recorded by number of sherds)

1. Condition

The sherds are generally small and abraded so that reconstruction, even partial, is seldom possible. In the rare cases where more than one sherd could be attributed to the same pot, these invariably came from a single concentration of material: identified sherds of P32 were all found close together in the eastern part of the north-east scatter (Fig. 75), which also included the two joining sherds of P56 and the three sherds of P36; while the two joining sherds of P21 came from the western part of the same scatter.

2. Fabric

All sherds were examined at ×30 magnification through a binocular microscope and, with a few exceptions, proved to include varying combinations of sand and flint. Grog was found in twenty-two sherds, generally in combination with flint or sand or both. Grog and smashed, calcined flint must have been deliberate inclusions, but, in what is traditionally known as the 'Good Sand' region of Norfolk (Young 1804), sand may well have been already present in the clays used. A natural or accidental origin seems likely for occasional flecks of chalk (in fifteen sherds) and of what appears to be haematite (in three sherds). Sand and chalk were both present in a clay sample collected from the field to the south of the barrows, and sand was present in another sample collected some 1.30km to the north (p.98).

Flint- and sand- tempered fabrics form a continuum rather than a series of discrete groups: coarser, thicker sherds tend to contain higher proportions of flint; finer, thinner ones higher proportions of sand, sometimes with no flint at all. In stylistic terms, rusticated and plain Beaker sherds contain flint more often than comb-impressed Beaker ones (Fig. 82) because they fall at the coarser end of the spectrum. In the middle range, however, the fabrics of many comb-impressed, rusticated and plain Beaker sherds are indistinguishable. Plain body sherds in the same fabrics as comb-impressed and rusticated ones form a higher

	Comb-impressed Beaker	*Rusticated Beaker*	*Plain Beaker*	*Other Later Neo./E.B.A.*	*Indet.*	*e.g.*
Simple rounded rim	1	2	3			P36,P42,P53
Simple rounded rim + cordon		1	1			P45,P60
Externally bevelled rim				1		P62
Out-turned or beaded rim	?1		1			P14,P59
Externally enlarged rim			2			P56,P57
Indeterminate or fragmentary rim		1	2			
Concave neck		2	1		1	P32,P34,P57,P63
Convergent neck	1					P14
Smooth shoulder		2				P32,P36
Angular shoulder				1	1	P61,P63
Flaring wall	1	1				P24,P32
Cordon (location uncertain)			3			P54,P55,P58
Vertical convexity	1					P25,P28,P39,P52
Simple base angle	1	2	2	1		P26,P32
Concave base angle	1					P21
Protruding base angle			1			P74
Simple flat base	2	1	1			P21,P26,P32

Table 36 Occupation scatters: morphological features of sherds

proportion of medium- and coarse-textured sherds than they do of fine ones. Grog is the most frequent inclusion in non-Beaker later Neolithic or Early Bronze Age sherds and sand the most frequent inclusion in indeterminate ones. There is no stylistic distinction between the small number of grogged Beaker sherds (e.g. P44) and the sand- and flint-tempered ones. The fabrics of Beaker sherds from other contexts fall within the range of those from the occupation scatters.

Despite their weathered condition, most sherds are hard and sound. Almost all have oxidised outer surfaces, dark cores and oxidised or reduced inner surfaces, the most notable exception being the sixteen indeterminate sherds all of which have reduced surfaces.

3. Manufacture

P24 and P28 have split along imperfect joins between coils. The remainder of the pottery may perhaps have been more successfully coil-built. Cordons, like those on P45, P54, P55, and P58, seem to have been pinched-up rather than applied.

4. Form

Surviving morphological features are summarized in Table 36. Futher indications of form occur on four sherds probably derived from the occupation scatters: a plain Beaker sherd with a beaded rim (P2) from the base of the ploughsoil in the area of the north-east scatter, a vertically convex rusticated Beaker sherd (P3) from the ditch fill adjacent to the south-east scatter, and two small, abraded sherds with out-turned rim and convex neck (not illustrated, excavation no.208) from the same context.

P14 must almost certainly come from a globular, barrel-shaped pot of Clarke's shape III (1970, 423). At least twenty-one sherds from the north-east scatter belong to a large rusticated Beaker (P32), the form of which can be only tentatively determined. Throughout the assemblage, the scarcity of convex body sherds like P25 or P39 (Table 36) suggests that globular forms like that of P14 were rare, while the relatively straight profiles of the few larger body sherds, like P5, P16, P19, P24, and P51, suggest that flaring forms were also present, although generally small sherd size makes these conclusions very tentative. The absence of abrupt junctions between neck and body and of angular shoulders suggests that profiles were smooth and sinuous.

5. Decoration

(i) Techniques

Small sherd size makes stamp length difficult to determine on comb-impressed sherds, although overlaps between impressions are often visible, as on P5, P16, and P28. A particularly fine stamp was used on P24. In addition to comb-impression, P6 carries a lightly channelled line. The sherds of P36 exhibit such an abrupt change from a lustrous dark orange surface to a light buff sub-surface as to suggest that their exteriors are coated with a ferruginous slip. Rustication is predominantly non-plastic. Finger-nail impression is by far the commonest method (Table 37: microfiche) and, even where finger-pinching is employed, the result is relatively smooth and flat, except in the case of P33. Finger-tip impression is confined to the sherds of P32 and to the shoulder of P61, a non-Beaker Bronze Age sherd. An indeterminate sherd from the north-east scatter carries two faintly channelled oblique lines (not illustrated; excavation no. 14).

(ii) Motifs.

Most comb-impressed Beaker sherds are so small that no more than horizontal rows of impressions are distinguishable on them (e.g.P5 to P13). Motifs defined by Clarke (1970, 424-428) can be identified on only eight sherds (Table 38: microfiche). Most fall within his Basic European group 1 (e.g. P4, P14, P15, P18, P22); the remaining two are examples of motif 11 from his Primary North British/Dutch group 2 (e.g.P6).

The commonest motif among the rusticated sherds is the 'crow's-foot' impression of paired, opposed finger-nails (e.g. P39, P40, P41,

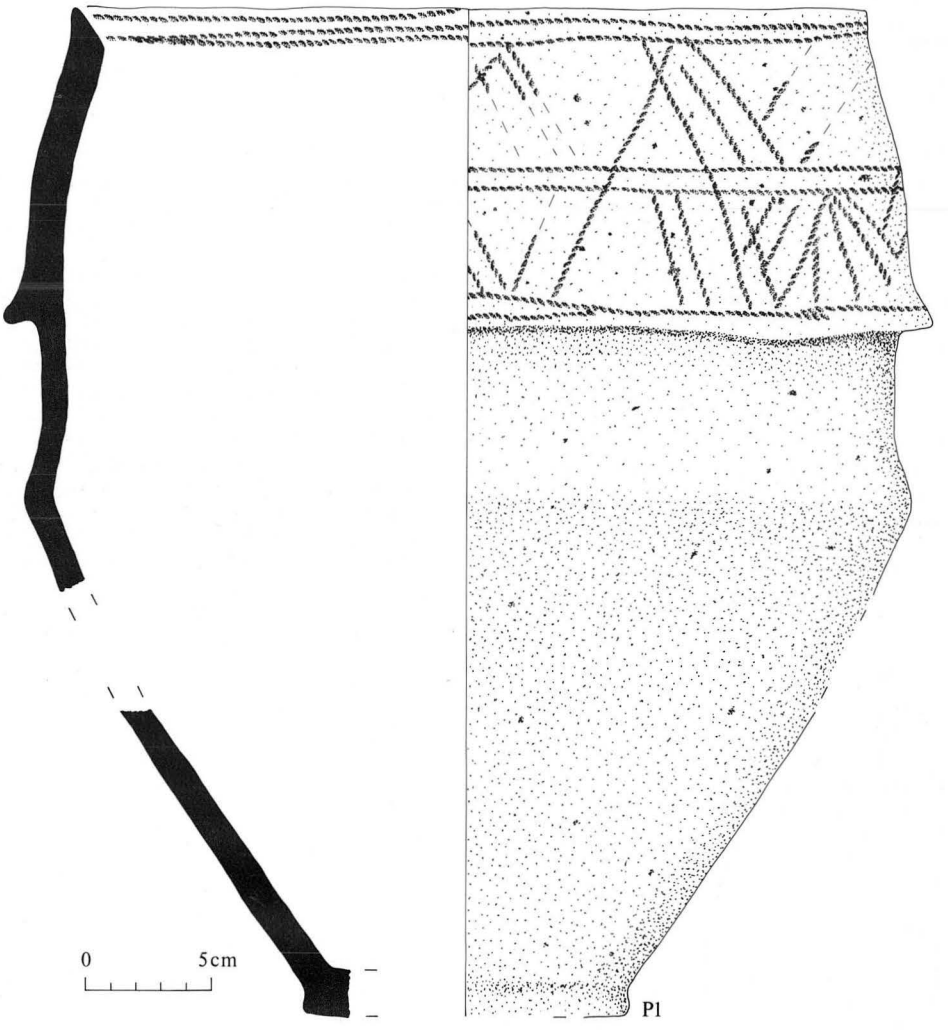


Figure 83 Reconstruction of Collared Urn from grave of Site 3659. Broken lines indicate where decoration of collar is obscured by iron pan. Scale 1:3

P45, P50, P73, P165, P216); there are also four rather widely spaced examples of 'false cord' rows of horizontal or oblique finger-nail impressions (P30, P34, P52, P72), and one fragmentary pinched-up ridge (p33).

(iii) Overall arrangement.
P32 seems to have been covered with alternating filled and reserved zones. Among the rest of the assemblage, juxtapositions of filled and reserved areas survive on ten comb-impressed sherds (e.g. P15, P22, P64) and seven rusticated sherds in addition to those of P32 (e.g. P36, P39, P48, P73). In most cases, these must represent zonation, but on a few rusticated sherds like P36 or P39 the junctions of larger decorated and reserved areas may be represented. Other sherds, both comb-impressed and rusticated, are sufficiently large to suggest unzoned decoration of entire pots or of substantial parts of them (e.g. P5, P16, P19, P24, P41, P46, P51, P67). The arrangement of rusticated decoration in horizontal rows, which occurs on seventeen sherds excluding those of P32 (e.g. P34, P43, P52, P73) matches the horizontal arrangement of all-over comb decoration.

Catalogue of Illustrated Pottery (Figs.83-87)

Colours are recorded in the sequence exterior/core/interior. Further particulars, including precise provenances and Munsell notations, are to be found in Table 40 (microfiche).

P1. **Collared Urn.** Orange-buff/brown/brown-grey. Grog-tempered with some flint, sand and vacuoles. Coarse, soft, highly friable texture. Twisted cord-impressed decoration. Reconstructed from 150+ sherds, height uncertain. Longworth corpus no.973.

P2. **Plain Beaker.** Brown-orange/grey-brown/grey. Sand-tempered with some flint. Fine, hard texture.

P3. **Rusticated Beaker.** Orange-brown throughout. Sand-tempered with some flint. Medium, hard texture. Finger-nail-impressed decoration.

P4. **Comb-impressed Beaker.** Buff-orange/grey/buff. Flint-tempered with some sand. Medium, hard texture. Comb-impressed decoration.

P5. **Comb-impressed Beaker.** Orange-brown/grey/buff-grey. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration.

P6. **Comb-impressed Beaker.** Brown-buff/grey/brown-buff. Flint-tempered with some sand. Fine, hard texture. Comb-impressed and chanelled decoration.

P7. **Comb-impressed Beaker.** Orange/grey/-. Sand-tempered with some flint. Fine, hard texture. Comb-impressed decoration.

P8. **Comb-impressed Beaker.** Buff-orange/grey/brown-grey. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration.

P9. **Comb-impressed Beaker.** Buff-brown/grey-brown/grey-brown. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration.

P10. **Comb-impressed Beaker.** Orange/grey/buff. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration.

P11. **Comb-impressed Beaker.** Buff-orange/brown-grey/brown. Flint-tempered with some sand and chalk. Medium, hard texture. Comb-impressed decoration.

P12. **Comb-impressed Beaker.** Orange-buff/grey brown/orange-brown. Flint-gritted with some sand and some chalk. Medium, hard texture. Comb-impressed decoration.

P13. **Comb-impressed Beaker.** Orange/orange-brown/orange. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration.

P14. **Comb-impressed Beaker.** Buff-orange/grey/buff-orange. Sand-tempered with some flint. Fine, hard texture. Comb-impressed decoration.

P15. **Comb-impressed Beaker.** Brown/brown/brown-grey. Sand-tempered. Fine, hard texture. Comb-impressed decoration.

P16. **Comb-impressed Beaker.** Orange/grey/buff-grey. Sand-tempered with some flint. Fine, hard texture. Comb-impressed decoration.

P17. **Comb-impressed Beaker.** Orange/orange-brown/orange. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration.

P18. **Comb-impressed Beaker.** Orange/orange/buff-brown. Sand-tempered. Medium, hard texture. Comb-impressed decoration.

P19. **Comb-impressed Beaker.** Orange/grey/grey. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration. Very abraded.

P20. **Comb-impressed Beaker.** Orange/grey/grey-brown. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration.

P21. **Comb-impressed Beaker.** Orange/buff-grey/grey-buff. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration. Very abraded.

P22. **Comb-impressed Beaker.** Orange-brown/grey-brown/brown-orange. Sand-tempered. Fine, hard texture. Comb-impressed decoration.

P23. **Comb-impressed Beaker.** Buff-brown/buff-grey/buff-grey. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration.

P24. **Comb-impressed Beaker.** Brown-buff/grey/grey-buff. Sand-tempered with some flint. Fine, hard texture. Comb-impressed decoration.

P25. **Comb-impressed Beaker.** Buff-orange/grey/buff-orange. Sand-tempered with some flint and some chalk. Medium, hard texture. Comb-impressed decoration.

P26. **Comb-impressed Beaker.** Yellow-buff/grey/buff. Flint-tempered with some sand. Medium, hard texture. Comb-impressed decoration.

P27. **Comb-impressed Beaker.** Orange/grey/orange. Sand-tempered with some flint. Fine, hard texture. Comb-impressed decoration.

P28. **Comb-impressed Beaker.** Orange/grey/buff. Sand-tempered with some flint. Mediu, hard texture. Comb-impressed decoration.

P29. **Comb-impressed Beaker.** Orange-buff/grey/orange. Sand with some flint. Fine, hard texture. Comb-impressed decoration.

P30. **Rusticated Beaker.** Orange/grey/orange-grey. Sand-tempered. Mediu, hard texture. Finger-nail-impressed decoration.

P31. **Rusticated Beaker.** Orange/grey/grey. Sand-tempered with some flint. Finger-nail-impressed decoration.

P32. **Rusticated Beaker.** Orange-buff/grey/grey-brown. Flint-tempered with some sand. Coarse, hard texture. Finger-nail- and finger-tip-impressed decoration. Reconstruction tentative. Internal sooting on many sherds.

P33. **Rusticated Beaker.** Buff-orange/grey/buff. Sand-tempered with some flint. Medium, hard texture. Finger-nail-impressed decoration.

P34. **Rusticated Beaker.** Buff-orange/grey/buff. Sand-tempered with some flint. Medium, hard texture. Finger-nail-impressed decoration.

P35. **Rusticated Beaker.** Brown/orange-brown/brown. Flint-tempered with some sand. Coarse, hard texture. Finger-pinched decoration.

P36. **Rusticated Beaker.** Dark orange/grey/grey-buff, with buff colour immediately below external surface. Sand-tempered with some flint. Fine, hard texture. Finger-pinched decoration, ?burnished or slipped surface.

P37. **Rusticated Beaker.** Orange-brown/grey/brown. Flint-tempered with some sand. Coarse, hard texture. Finger-pinched decoration.

P38. **Rusticated Beaker.** Orange-buff/orange-pink/grey. Sand-tempered, with some flint and grog. Coarse, hard texture. Finger-pinched decoration.

P39. **Rusticated Beaker.** Orange/grey/buff. Sand-tempered with some flint. Medium, hard texture. Finger-pinched decoration.

P40. **Rusticated Beaker.** Brown/grey/brown. Sand-tempered with some flint. Coarse, hard texture. Finger-pinched decoration.

P41. **Rusticated Beaker.** Brown/brown/-. Sand-tempered with some flint and grog. Coarse, soft texture. Finger-nail-impressed decoration.

P42. **Rusticated Beaker.** Brown/brown-grey/brown-orange. Sand-tempered with some flint. Medium, hard texture. Finger-nail-impressed decoration.

P43. **Rusticated Beaker.** Brown/orange-brown/orange-grey. Sand-tempered with some flint. Coarse, hard texture. Finger-pinched decoration.

P44. **Rusticated Beaker.** Brown/brown-orange/grey-brown. Sand-tempered with some flint and grog. Coarse texture. Finger-nail-impressed decoration.

P45. **Rusticated Beaker.** Brown/brown-red/brown. Sand-tempered with some flint. Coarse, hard texture. Finger-nail-impressed decoration.

P46. **Rusticated Beaker.** Brown/brown-orange/brown. Sand-tempered with some flint. Coarse, hard texture. Finger-pinched decoration.

P47. **Rusticated Beaker.** Buff-orange/grey/grey-orange. Sand-tempered, with some flint and grog. Medium texture. Finger-pinched decoration.

P48. **Rusticated Beaker.** Brown-buff/brown/brown-grey. Sand-tempered with some flint. Coarse, hard texture. Finger-pinched decoration.

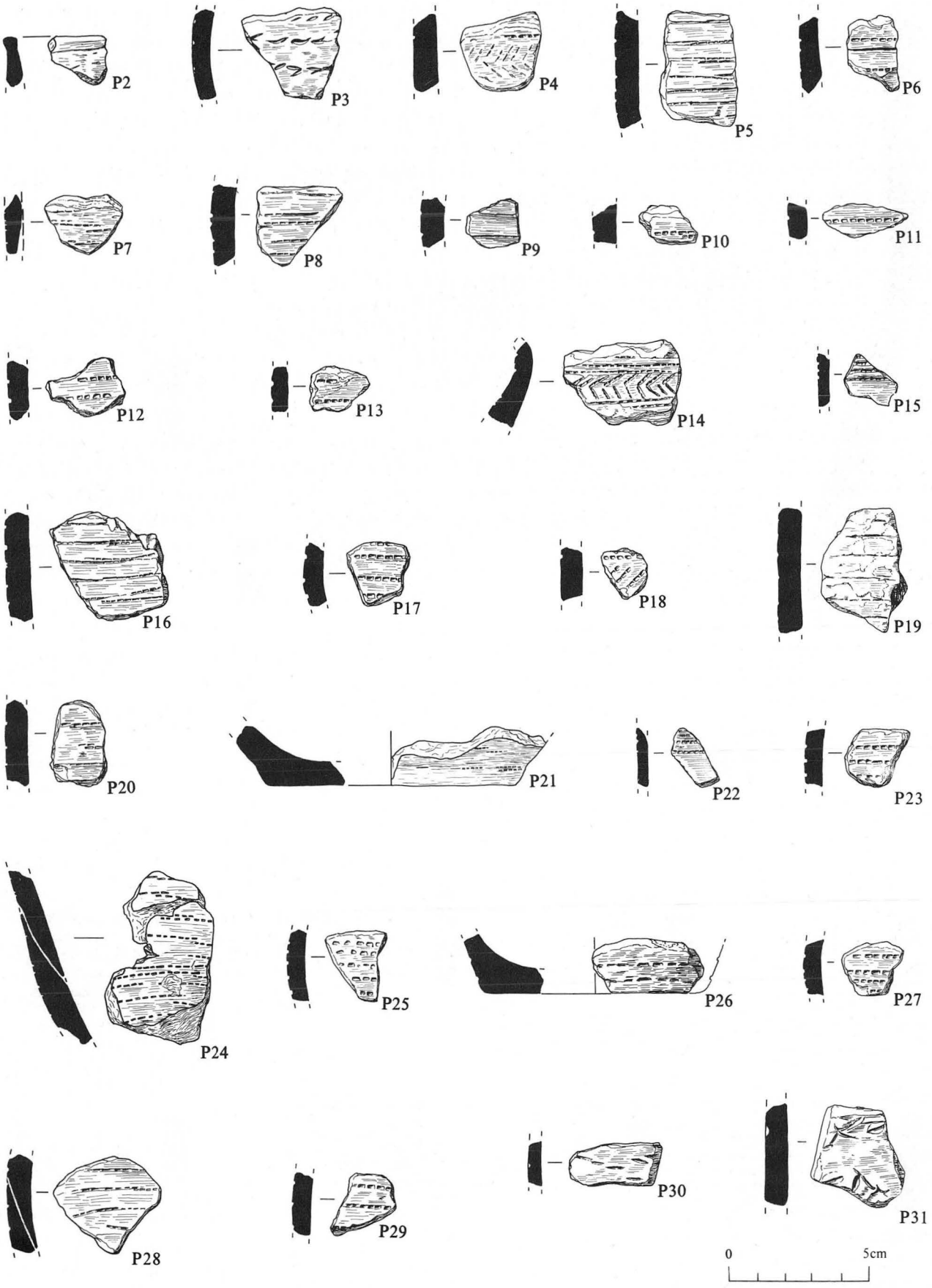


Figure 84 Pottery from Site 3660: P2 from ploughsoil, P3 from ditch fill, P4-P31 from north-east occupation scatter. Scale 1:2. Particulars in catalogue and in Table 40 (microfiche)

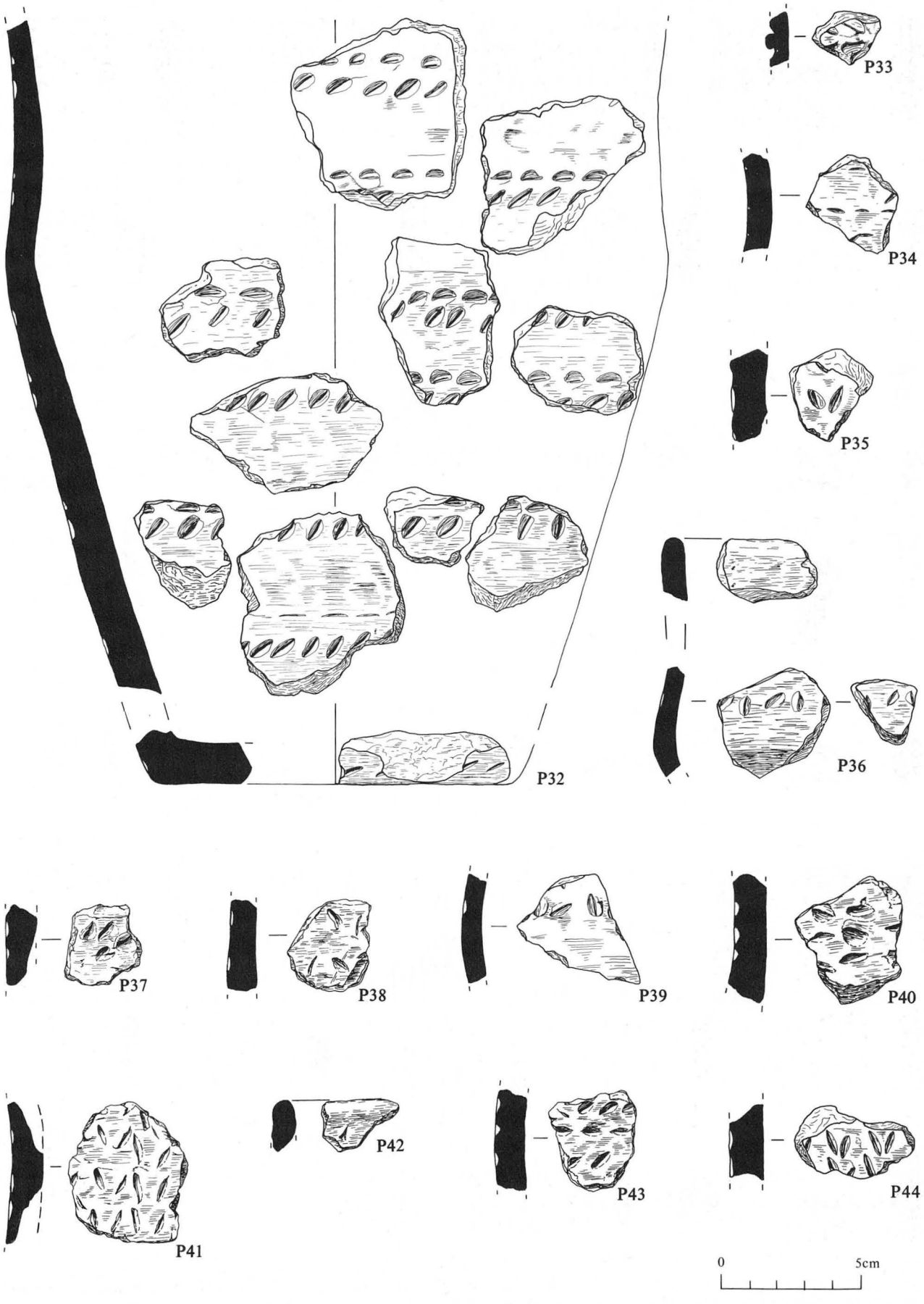


Figure 85 Pottery from north-east occupation scatter of Site 3660. Scale 1:2. Particulars in catalogue and in Table 40 (microfiche)

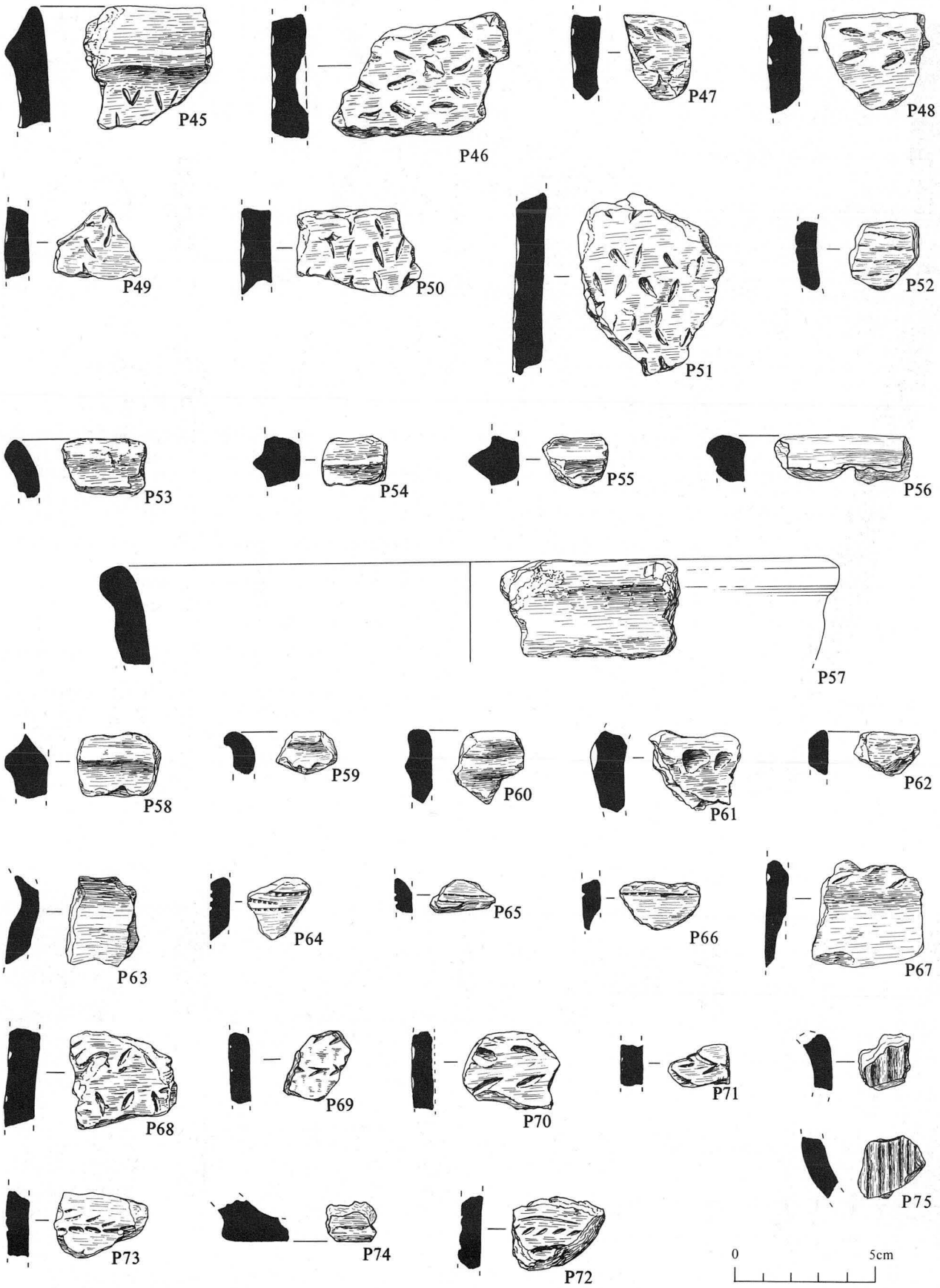


Figure 86 Pottery. Site 3660: P45-P63 from north-east occupation scatter, P64-74 from south-east occupation scatter. Site 3661: P75 from surface of ditch in enclosure cutting 2. Scale 1:2. Particulars in catalogue and in Table 40 (microfiche)

P49. **Rusticated Beaker.** Orange/grey/grey. Sand-tempered with some flint. Medium, hard texture. Finger-nail-impressed decoration.
P50. **Rusticated Beaker.** Brown/brown-orange/grey. Sand-tempered with some flint. Coarse, hard texture. Finger-nail-impressed decoration.
P51. **Rusticated Beaker.** Orange-brown/orange/grey-brown. Sand-tempered, with some flint, chalk, grog and haematite. Coarse texture. Finger-nail-impressed decoration.
P52. **Rusticated Beaker.** Buff-grey/grey/grey-buff. Sand-tempered with some flint. Fine, hard texture. Finger-nail-impressed decoration.
P53. **Plain Beaker.** Orange-buff/brown/orange-buff. Sand-tempered with some flint. Medium, hard texture.
P54. **Plain Beaker.** Orange-brown/brown/orange-brown. Sand-tempered with some flint. Medium, hard texture.
P55. **Plain Beaker.** Orange-brown/grey/brown. Sand-tempered with some flint. Medium texture.
P56. **Plain Beaker.** Buff/grey/brown. Flint-tempered with some sand. Coarse, hard texture.
P57. **Plain Beaker.** Buff-brown/grey-brown/brown-grey. Flint-tempered with some sand. Coarse, hard texture.
P58. **Plain Beaker.** Orange/orange-brown/orange-brown. Flint-tempered with some grog, sand and chalk. Coarse texture.
P59. **Plain Beaker.** Orange/grey/buff-orange. Sand-tempered with some flint. Medium, hard texture.
P60. **Plain Beaker.** Orange-brown/orange/orange-brown. Sand-tempered with some flint and ?haematite. Medium, hard texture.
P61. **Urn** or **Food Vessel** Grey-buff/grey/grey-buff. Grog-tempered with some sand. Coarse, soft texture. Finger-tip-impressed decoration.
P62. Later Neolithic or Early Bronze Age. Orange/grey/orange. Sand-tempered with some flint. Medium, hard texture.
P63. Indeterminate. Black/brown/black-brown. Sand-tempered. Medium, hard texture.
P64. **Comb-impressed Beaker.** Buff-grey/grey/buff-grey. Sand-tempered. Fine, hard texture. Comb-impressed decoration.
P65. **Comb-impressed Beaker.** Orange-buff/grey/brown. Sand-tempered with some flint. Fine, hard texture. Comb-impressed decoration.
P66. **Comb-impressed Beaker.** Orange/grey-brown/grey-brown. Sand-tempered with some flint. Medium, hard texture. Comb-impressed decoration.
P67. **Rusticated Beaker.** Buff-brown/grey/buff-brown. Sand-tempered. Medium, hard texture. Finger-nail-impressed decoration.
P68. **Rusticated Beaker.** Red-brown/brown/brown. Sand-tempered with some flint. Coarse, hard texture. Finger-nail-impressed decoration.
P69. **Rusticated Beaker.** Buff/grey/grey-buff. Sand-tempered with some flint. Fine, hard texture. Finger-nail-impressed decoration.
P70. **Rusticated Beaker.** Brown/brown-orange/-. Sand-tempered with some flint and chalk. Coarse, hard texture. Finger-pinched decoration.
P71. **Rusticated Beaker.** Buff/grey/grey-buff. Sand-tempered with some flint. Medium, hard texture. Finger-nail-impressed decoration.
P72. **Rusticated Beaker.** Brown-orange/grey/brown. Sand-tempered with some flint. Medium, hard texture. Finger-nail-impressed decoration.
P73. **Rusticated Beaker.** Brown/orange-brown/grey-brown. Sand-tempered with some flint. Medium, hard texture. Finger-nail-impressed decoration.
P74. **Plain Beaker.** Orange-brown/grey/grey-brown. Sand-tempered with some flint. Coarse, hard texture.
P75. **?Mildenhall style Neolithic Bowl.** Black/brown/black. Flint-tempered with some sand. Medium, hard texture. Lightly chanelled decoration.
P76. **Icenian rusticated jar.** Dark grey or red-brown/dark grey/dark grey or red-brown. Tempered with profuse sub-rounded quartz grains. Soft, coarse, slightly friable texture. Rusticated decoration.

Discussion

1. Stylistic affinities and dating

(i) Neolithic Bowl (P75; see also (v) Indeterminate below): The reduced, flint- and sand-tempered fabric and lightly channelled decoration of P75 ally it with the Mildenhall style as defined by Smith (1954, 224-6) and

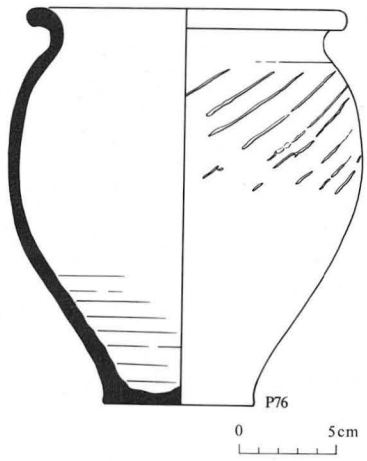


Figure 87 Romano-British jar from central area of Site 3660. Scale 1:4. particulars in catalogue and in Table 40 (microfiche)

Longworth (1960, 238-40). The curvatures of the sherds suggest that vertical channelling occurred on both neck and belly, a scheme which is unusual in the style, but which is parallelled on two of the published bowls from Hurst Fen (Longworth 1960, fig.25:P52, fig.26:P56). The establishment of the style before the end of the fourth millennium bc is indicated by radiocarbon dates like that of 5095 ± 49 bp (3145 ± 49 bc; BM-770) for charcoal from pits containing Mildenhall style and plain bowl pottery on Eaton Heath, Norwich (Site 9544; Wainwright 1973, 9); but its duration is uncertain. Longworth (1960, 239) and Clarke (1970, 266-7) have suggested that the regular zonation of the decoration on a few atypical Mildenhall style bowls reflects that of early Beakers. If this is indeed the case, the style must, on present chronologies, have remained current into the early second millenium bc.

(ii) Beaker and related Wares (P2-P60, P64- P74): Homogeneity of fabric suggests that the bulk of the sherds from the occupation scatters, excluding small numbers of predominantly grogged later Neolithic or Early Bronze Age sherds and of predominantly sand-tempered indeterminate sherds (Fig.82), were made and used together. The fragmentary state of the material hampers stylistic attribution. Among the non-rusticated Beaker sherds, the near-absence of any but comb-impressed decoration, the apparent occurrence of both regular, narrow zonation and all-over decoration, the restricted range of motifs employed, and the lack of evidence for angularity of profile all combine to place the group early in any typological scheme. It would certainly fall into Case's Middle style (1977, 72), and into Steps 2-3 of the scheme proposed by Lanting and van der Waals (1972, 36-8, fig.2). The more finely-divided scheme of Clarke (1970) is less easily applied. Most surviving characteristics of the assemblage would accord with his European Bell Beaker, Wessex/Middle Rhine, Northern/Middle Rhine, or East Anglian groupings. The barrel-shaped form of P14 would fit best with an East Anglian attribution (Clarke 1970, 146), and the dark orange, slip-like finish of P36 with a European Bell Beaker or Wessex/Middle Rhine one, as would the presence of flaring as well as globular forms (Clarke 1970, 70, 84, 86), although flaring lower walls occur on a number of East Anglian Beakers (e.g. Clarke 1970,

figs.393, 412, 415, 422). If any single attribution is made, the East Anglian one seems the most likely, if only because the majority of Middle style Beakers found in the region are of East Anglian type (Clarke 1970, maps 1-5); Bamford 1982, text figs. 8-9). The relatively few Beaker and related sherds from other contexts are comparable with those from the occupation scatters. The sometimes zoned, predominantly non-plastic decoration of the rusticated sherds accords with that of rusticated vessels associated with Middle style comb-impressed Beakers elsewhere (Bamford 1982, 60-64).

Following Burgess' chronology (1980, 68), the group might be expected to date from between *c.*2000 and *c.*1700 bc. Radiocarbon dates indicate that the Middle style Beakers continued to be made and used up to the mid-second millennium bc (Longworth 1979, 90; Gibson 1982, fig.2), but there is so far no evidence for such a long persistence of Middle style domestic assemblages without later components.

(iii) Other Later Neolithic or Early Bronze Age Wares (P1.P61-62): P61 seems likely to have formed part of an Urn or Food Vessel. If so, again following Burgess' chronology (1980, 84-98), it is unlikely to have been made before *c.*1700 bc. The thirteen remaining sherds listed as later Neolithic or Early Bronze Age, including P62, cannot be attributed to any particular style, although a few plain body sherds are of such similar fabric to P61 that they may have come from the same pot.

P1, the Collared Urn from the grave of Site 3659, is dated by a radiocarbon determination of 3339 ± 56 bp (1389 ± 56 bc; BM-877) made on charcoal mixed with the cremated bones deposited with it. This relatively late date is consistent with its angular outline, peaked collar and small base, which are all characteristic of the late (*c.*1450 bc-*c.*1250 bc) phase of the radiocarbon-based Collared Urn classification proposed by Burgess and Varndell (1978).

(iv) Romano-British Pottery (P76): P76, from the central area of Site 3660, is an Icenian rusticated jar of the third century AD, probably made at a local Nar valley kiln, like those at Shouldham or Pentney (Sites 4282, 13400, 15170; information from Tony Gregory).

(v) Indeterminate Sherds (P63): The hard, reduced, predominantly sand-tempered, indeterminate sherds from Site 3660, including P63, are difficult to date. They fall at the hardest, finest extreme of Neolithic bowl fabrics, but most local bowl pottery is, like P75, softer and more friable. They would be out of place in a bowl assemblage and are more likely to be of Iron Age or even medieval date (information from Tony Gregory and Andrew Rogerson).

2. Interpretation

(i) Neolithic Bowl: The dating of the two small sherds of P75 is significant because of their position on the surface of the ditch fill of Site 3661. They may, depending on how they came to be deposited there, indicate a third rather than second millennium bc date for the monument. Adequate dating evidence could only, however, be obtained by further, larger-scale excavation.

(ii Beaker and Related Wares: Homogeneity of fabric and style suggest a single date and source, but there is some suggestion that the three concentrations of material represent three separate dumps, since sherds attributable to a particular pot invariably came from a single concentration of material and since the west part of the north-east scatter contained a higher proportion of comb-impressed sherds than the other two concentrations (Fig.75).

(iii) Other Later Neolithic or Early Bronze Age Wares: P61 seems likely to post-date the Beaker material of the scatters. It may, together with some plain body sherds of comparably coarse grog- and sand-tempered fabric, two of which were found quite close to it (Fig.75), be the remnant of a pot deposited with a burial.

(iv) Romano-British Pottery: The large size and fresh condition of the sherds of P76, together with their proximity to each other (Fig.75), suggest that the pot was deposited intact, only to be broken when the field was ploughed in the 1940s. This, and the location of its sherds close to the centre of the barrow (Fig.75), point to its having accompanied a now-vanished inhumation inserted into the mound during the Romano-British period. The possibility is enhanced by the discovery of Romano-British inhumations inserted into the central mound of the henge monument at Maxey, Cambridgeshire (Pryor 1982, 504; Gurney 1985) and by earlier records of comparable insertions into Bronze Age round barrows in Cambridgeshire and Suffolk (Lawson, Martin and Priddy 1981, 74, 117).

(v) Indeterminate sherds: While the indeterminate sherds from Site 3660 may conceivably represent earlier Neolithic activity, their probable Iron Age or medieval date makes them more likely to reflect later disturbance of the barrow. Their concentration at the outer edge of the north-east quadrant (Fig.75) suggests that this disturbance was localized.

Fired clay

(Fig.88)

Description

by Fredric F.Petersen

Almost 700 pieces of fired clay or 'brick' were found, varying in size from small lumps and crumbs to large chunks up to 8 by 4 by 4cm. Four examples are illustrated in Figure 88 and described in Table 41 (microfiche). Most lumps are some shade of brick or orange-red with a minority of pieces mottled with blue-grey. Hardness varies, but the fabric is normally relatively fine-textured, hard and heavy with a gritty feel very like modern building brick. Tempering consists mainly of sand, with the occasional worn pebble as well as broken flint, the latter sometimes in the form of burnt fragments 5cm or more long. A few small featureless lumps grade into the Beaker coarse ware already described; on the whole, however, the latter is much more profusely gritted than the clay lumps with the grits smaller and more uniform in size. Leo Biek's examination (below) of samples of the clay lumps and pottery indicates that the same local clay deposits may have been used in the manufacture of both classes of artefact.

Most of the clay fragments are mere shapeless lumps or crumbs lacking distinctive features. A little over 200 pieces, however, retain one or more smoothed surfaces slightly convex or flattened in shape, which, on pieces where two or more such surfaces meet, form rounded, right-angled or obtuse corners (*e.g.*B1-B3). These fragments are very suggestive of small crudely-made bricks; six or seven have what appear to be stick or rod impressions on their smooth surfaces, semi-circular or V-sectioned grooves (never more than one per fragment), varying between 3-5mm and 20mm in width and with surviving lengths of up to 40mm (*e.g.*B2, B3, B4).

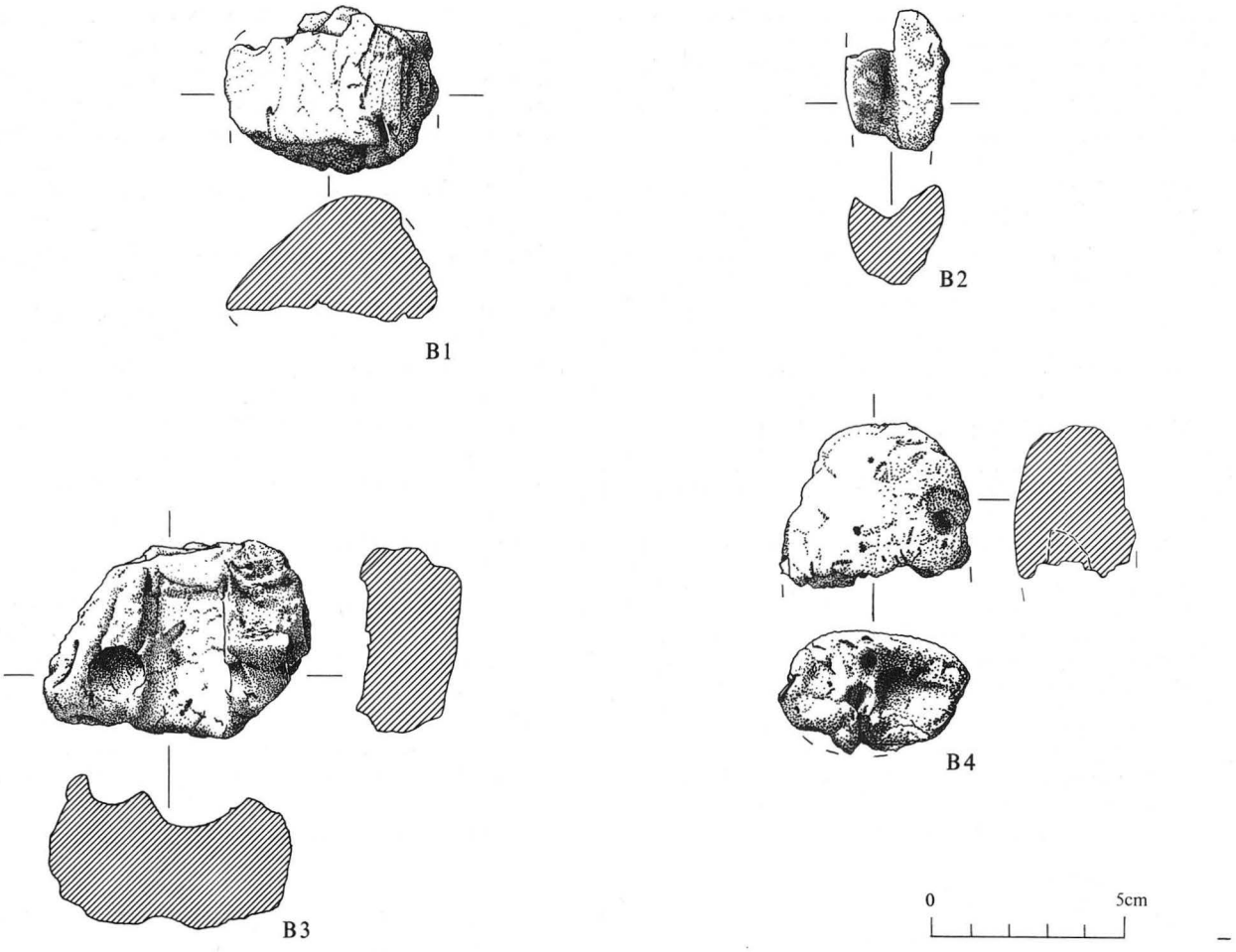


Figure 88 Fire clay fragments from the north-east occupation scatter of Site 3660. Scale 1:2. Particulars in Table 41 (microfiche)

Note on available clay deposits

by Bill Corbett and Richard Seale

The excavated parts of the field are mapped as 'Typical brown sands, on Drift with siliceous stones'. Such deposits are variable in stone content and the gravels encountered during excavation could be part of these.

The excavated area is near the edge of a large stretch of paleo-argillic soils which are characterised by a subsoil layer, up to 2m thick, of reddish brown non-calcareous loam or clay. This lies on, and presumably at least in part is the weathered product of, very calcareous till once called the Marly Drift. These materials certainly occur on the high ground *c.*90m to the south. The boundary between this and the 'brown sand' region, on which the excavated area lies, runs east-to-west across the northern third of the next field to the south.

Technological appraisal of the ceramic material ('brick' and pottery)

by Leo Biek

A sample of clayey material was collected by Frances Healy from the side of an old pit in the field to the south of the excavated area, at TF 8560 1943, 350m south-east of Site 3660. Over 1m of this material was found there under *c.*75cm of sand below the topsoil. This is here mapped as paleo-argillic brownearth, but the material sample did not correspond exactly to the subsoil expected from the map. According to Bill Corbett, it was a sandy clay loam of dark greyish brown colour with a few fragments of chalk. These and the colour indicate some local disturbance, the incorporation of topsoil into loamy till. On undisturbed sites the paleo-argillic horizon is the weathered product of this till.

For comparison, a sample of clay was similarly obtained from the side of another pit, at TF 8570 2093, over 1km north of Site 3660. Here the clay directly underlay the topsoil, mapped as 'Typical stagnogley soils on Chalky Drift'. Again, the clay contained a substantial amount of sand, but this was smaller and the sand was less intensely coloured. The material might be described as a slightly sandy clay.

It is thought that both proximity and technological factors favour the use of the 'non-calcareous clay' (see above) against the Boulder Clay —or indeed the Gault (also chalky) or the Kimmeridge outcrops (with laminations of organic shales) both several kilometres to the west.

All specimens of 'fired clay' recorded as 'brick' were visually inspected (at ×3 magnification) and the pieces showing some definite evidence of shaping (roughly a third) were examined more closely. A random group of some three dozen fragments, and a comparable group of the Beaker pottery, with suitable slabs prepared from the comparative clays were all examined together, under the binocular microscope (up to ×40); X-radiographic cover for these was provided by Justine Bayley and Glynis Edwards of the Ancient Monuments Laboratory.

This examination suggests, in general, that all the excavated material could be closely related. In particular, the whole suite of X-rayed specimens is characterised by the same type and distribution of radiopaque particles, although these occur more sparsely in some of the finer pottery. Indeed, such distinctions between brick and pot as can be made X-radiographically are based more on the former's generally rougher texture and simpler *sweep*, as well as on its frequent and large cracks, rather than on *fabric*. In some of the brick, also, there are some near-pebble sized inclusions, some of them radiopaque (ironstone); and in general the pottery shows evidence of some vegetable tempering, but this is not universally valid.

More refined distinctions are possible between the various different pottery sherds on an X-radiographic basis (Biek and Bayley with Drury 1978) but more specimens than were available would be needed from each kind of pot, to assess variability, before a firm interpretation could be advanced.

It further follows from the above that a very local source for the pottery is quite likely, since it is virtually certain that the clay from which the large amount of brick fragments was derived, presumably as a result of quite a hot fire on or near the spot, would not have been brought from very far.

Previous experience suggests that the temperatures reached would have been within a range to cause any chalk present in the clay to

disintegrate to some extent, especially under the oxidising conditions reflected in most of the specimens. Substantial amounts of chalk would in turn have led to a disruption of the fabric (*lime popping*) on rehydration. Although burial in acid soil could have removed all traces of calcareous inclusions, the effects of any disruption would have been as noticeable now as at the time of manufacture.

No such evidence was seen in the material excavated and it is inferred that an essentially non-calcareous clay was used. X-radiography of the raw clay samples (see above) showed that radiopaque particles similar in type and distribution to those in the brick and pottery were present here also; especially material like that from the field to the south of the sites could have been the source. The underlying very calcareous till would have been far less suitable and that much deeper

An attempt was made to discover a pattern in the distribution of shaped brick fragments but the cumulative dispersal—from Beaker times, through rabbit-ridden phases, to modern ploughing—had evidently been too thorough. During the search it was noticed, however, that similarly and deliberately formed fragments tended to cluster, and also appeared together in different states of firing—sometimes hardly fired, if at all—yet still compact and coherent. This argues for a thorough working-through even of the brick clay, and further underlines the manufactory aspect of the activity.

If now some of the other associated finds are also considered in this context, it can be suggested that not only the more obviously relevant charcoal concentration but also the distribution of the fired flint may be significant. Apart from the gritting, suggested below, flint could have been used actually to build the basic walls of a firing chamber.

In sum, all the evidence assembled so far is consistent with the formal interpretation put forward below involving the scattered fragmentary remains of simply but deliberately shaped, temporary firing chambers for making the kinds of Beaker pottery found associated with them—except that an alternative, 'lipped rim' feature would seem more likely than a 'domed cover' to account for the curved elements, thus suggesting an open clamp rather than a kiln.

Textile remains

by Elisabeth Crowfoot

The following carbonised textile fragments were recovered from among the charcoal which formed part of the cremation deposit found on the floor of the grave of Site 3659:

(a) *c.*1.7×1.0cm, (b) *c.*1.5×0.7cm, (c) *c.*1.3×0.7cm, carbonised textile in at least two layers; where clear this is a coarse tabby (plain) weave, thread S-ply in both systems, the single yarns having practically no sign of spin, counts 10 (5 on 5mm)/8, 9/8 threads per cm.

(d) *c.*0.7×0.8cm, textile clear one side, the other charred and bubbled.

(e) *c.*0.8×0.5cm, charred and bubbled lump.

(f) *c.*1.0×0.7, area not completely carbonised, one side showing threads of similar tabby weave, deteriorated, the other unspun fibrous matter, possibly plant stems.

Textile has been recorded in many Bronze Age cremation burials, though used in different ways—around the cremation inside the urn, as a means of blocking the urn mouth, or as a cloth or possibly a bag to hold the bones where no urn was used. In several cases it was found carbonised, mixed with the cremated bones (Henshall 1950, 132).

The cloth scraps from Weasenham shown the same characteristics as those from a number of other Bronze Age finds. Fragments from Pewit's Farm, Berkshire, and Ogbourn St. Andrew, Durrington, Normanton Bush Barrow (Henshall 1950, 133, 136-7) and Shrewton Barrow (Crowfoot 1984), all Wiltshire, are tabby weaves using plyed thread, the closest parallels being Durrington, count *c.*11-12/8 per cm and Z-ply thread, and Shrewton, counts of 10/10 and 9/9 per cm and S-ply thread with no discernible twist in the single yard. All these are impressions or have fibres replaced by soil or oxides.

The way the thread and weave have retained their shape in spite of carbonisation suggests a vegetable fibre. The bubbled matter on pieces (d) and (e) may indicate that some fabric of wool was also present, since wool often bubbles and loses its shape when burning.

In three other Bronze Age textile fragments, all from the sockets of weapons, the fibre has been identifiable; those from Nydie Mains, Fife (with S-plyed thread in one system) (Hedges 1972), and Somerleyton, Suffolk (both yarns S-ply) are of flax, while that from Pyotdykes, Angus (both yarns S-ply) is of nettle (Coles, Coutts and Ryder. 1964). This additional evidence, and the fact that in two textiles where the fibre was identifiable as wool (Rylston, Yorkshire, and Armoy, Co. Antrim) the yarns are unplyed (Henshall 1950, 133, 135) lends some weight to the suggestion that the plyed threads of these replaced and carbonised textiles were probably of vegetable fibre.

Remains of bags or wrappings of moss or sedge have been recorded from a number of burials, but the possible plant fibres on fragment (f) are too small and confused to say whether this is a probable source for them.

VI. The Cremations

by C.B.Denston

Cremation 1 (Site 3660, in subsoil)

Colour: light brown
Total Weight: 31.5g
Size of fragments: 0-34mm in length

A mixture of cranial and post-cranial fragments, the latter being far greater in number. The fragment with the greatest length was from a long bone, but the largest in overall size was a piece of the cranium, possibly from the frontal bone. The small number and small size of the fragments made assessment of sex and age difficult. The thickness of the larger cranial fragment, however, suggested an adult or adolescent. The size and lack of robustness of a fragment of the left zygomatic process of a frontal bone suggested it was more likely to have belonged to a female cranium than a male.

Cremation 2 (Site 3660, in subsoil)

Colour: light brown with some greyish black on the internal surface.

A single fragment, 37.0mm long by 7.0mm greatest width. Possibly human and from either a femur or tibia.

Cremation 3/4 (Site 3659, in central grave)

Colour: light brown and whitish with mottled grey patches
Total Weight: 1394.5g
Size of Fragments: 0-81mm in length

Deposit consisting of 233g of skull fragments, 380g of long-bone fragments, 48.5g of vertebra, scapula, phalanges and rib fragments and 733g of miscellaneous fragments. Two distinct colours were represented: (1) light brown and (2) whitish with mottled grey patches. The colour difference suggests, without proving, that more than one individual was represented by the bones (Denston 1958), a possibility subsequently confirmed on anatomical grounds. The robustness of the fragments in the two colour groups was the same.

Very few long-bone fragments could be attributed to specific bones; the exceptions were mostly tibia or femur fragments. Two similar tibia fragments (anterior of shaft) were of different colours and could have come from the same or different individuals. They were not very robust, suggesting a female rather than a male.

Specific portions of the skull were identifiable, duplication suggesting the presence of three to four different individuals, although the number of fragments was small for this number of skulls. The cranial vault fragments were rather thin and where eminences and prominent features occurred on these, and other skull fragments, they were not robust.

At least two individuals—a non-adult female and an adult female—appear to be represented by the white/grey bones. Two mastoid processes, but different in size, came from the same side of the cranium, while both fused and unfused sutures were displayed by the cranial fragments (at least three fragments of the sagittal suture). Mandible fragments (third molar area in each case) of right and left halves possibly belonged to the same jaw and had female characteristics. A frontal bone fragment displaying the supra-orbital torus, and superior margin of the left orbit was likewise female in character and its smallness suggested immaturity.

A third individual appears to be represented by the light brown bones as confirmed by a mastoid fragment from the same side and area of the cranium as the two grey/white fragments described above. Both the post-cranial, and cranial fragments of the brown bones were similar to the white/grey; the individual concerned is likely to have been another adult female.

A fourth individual may be represented by a cranial and two post-cranial fragments displaying more robust features than would be expected of female bones. The cranial fragment was part of a maxilla with tooth sockets. The post-cranial remains were part of a left scapula with glenoid fossa, and an ischial tuberosity of an innominate bone. These post-cranial fragments were at least equal in size to the equivalent features of unburnt female bones used for comparison.

General and dental pathology

A fragment of the body of a possible lumbar vertebra displayed osteophytosis. The third molar, from the fragment of the left side of the female mandible, was lost ante-mortem and the death of the individual occurred when the tooth socket was in the process of healing. The sockets holding the second left and second right molars both appear to have been affected by abscesses. The other fragments of mandible displayed round abscess cavities at the apices of root sockets, one in the region of the incisors, the other in the first molar region. A part of the right side of a maxilla, which may have belonged to the male, was also affected by an abscess (first molar).

Cremation 5 (Site 3660, near centre)

(Excavator's note: The bones of Cremation 5 were widely scattered with the majority in two concentrations in the upper pit fill near one edge. Each concentration was collected and stored separately (Nos.193 and 194), as were the individual fragments and small groups found elsewhere in the fill (Nos.1-192, 195), and their vertical and horizontal positions carefully recorded. This procedure was adopted in case the bones should prove to belong to more than one individual, as it was hoped, in this event, that the positional data would be useful in determining whether the different individuals were buried singly or in a multiple cremation deposit. See below and p.78 for the results of this exercise. The positions in the fill of the key bones and groups of bones are shown schematically in Fig.73 (microfiche).

Group 193

Colour: whitish-light brown
Total Weight: 115g
Size of Fragments: 0-74.0mm in length

A mixture of cranial and post-cranial fragments. Those recognised as coming from specific bones were a fragment from the distal third of the shaft of a humerus; part of a lumbar vertebra; part of the inner surface of an occipital bone; part of the petrous portion of a right temporal bone; and part of a frontal bone displaying the zygomatic process and superior margin of the orbit. The frontal bone fragment was possibly duplicated by another fragment, but the evidence for this possibility is inconclusive. There was no positive evidence for sex, but the characteristics of some fragments were more suggestive of a female than of a male.

Group 194

Colour: light brown
Total Weight: 68.7g
Size of Fragments: 0-48mm in length

A mixture of cranial and post-cranial fragments. Two cranial fragments measured respectively 46 by 37mm and 45 by 28mm, one displaying part of a suture, possibly the sagittal. The body of a cervical vertebra, possibly the third, displayed a slight degree of osteophytosis. No sexually diagnostic fragments were present. The remains could have belonged with the No.193 body as the robustness of the two groups was similar. There was no other evidence for this possibility, however.

One fragment from this group proved to join with fragments from elsewhere in the fill (Nos.136 and 96: below). The shape of the combined fragment suggested it came from a left tibia shaft, the nutrient foramen verifying this assumption. The lack of robustness of this fragment suggested an immature female. As the cervical vertebrae referred to in the preceding paragraph displayed evidence of a slight degree of osteo-arthritis, it is very doubtful if it and the tibia fragment were from the same individual.

Nos.1-192 and 195

The small groups and individual fragments were systematically sorted through and compared with the Group 193 and 194 bones. Most pieces were very small and could not be assigned to particular bones. The larger fragments were laid out and an attempt was made to see if any matched. The following results were obtained:

(1) Nos.175 and 189. Joining fragments of an adult humerus, possibly female.
(2) Nos.100 and 161. Joining fragments of an adult long bone shaft (?tibia).
(3) Nos.96 and 136. Possibly immature (see description of Group 194 bones).

Conclusions

Two individuals were probably represented, an adult female and an immature person. Fragments belonging to both individuals were among the Group 194 bones and joining fragments indicated that the immature individual was also represented outside Group 194. There was no evidence for a third individual: none of the fragments had the robustness and other features typically associated with an adult male and all could have belonged to the two individuals identified above.

VII. Animal Bone

by Mary Harman
(Microfiche; 1:F.1)

VIII. Botanical Evidence

Charcoal

by Susan Limbrey
(Microfiche; 1:F.2)

Seed Fragments

by J.R.B.Arthur
(Microfiche; 1:F.3)

IX. Soil Samples

by Helen Keeley
Microfiche; 1:F.4-5)

X. Discussion

Pre-barrow activity

Site 3660

In the scatters below the mound of Site 3660, pottery and struck flint were insignificant in comparison with the quantities of 'brick' and burnt flint found with them, there being 365 sherds to almost 700 'brick' fragments and 196 pieces of struck flint to 440 to 450 pieces of burnt flint.

There were differences between the composition of the north-east and south-east scatters, and perhaps between the east and west parts of the north-east scatter. The small quantity of charcoal present (less than a litre) was almost confined to the north-east scatter, while burnt flint was about thirty times more numerous in the south-east scatter than in the north-east. In the four cases where more than one sherd of a particular pot could be identified, they were confined to either the east or west part of the north-east scatter, while the west part included a higher proportion of comb-impressed sherds

than the other two concentrations (Fig.75). These distinctions seem to have resulted from the deposition of discrete dumps rather than from activity on the spot: there was no evidence for *in situ* burning, and most of the sherds were exceptionally small and abraded, their fragmentary state (Figs.84-6) contrasting, for example, with the semi-complete condition of some of the Beaker pottery found in an apparently domestic pre-barrow context at Bowthorpe, Costessey (Site 11431; Lawson this volume, Fig.41:1-3, 5-7).

The nature of the Weasenham scatters is problematical, however. One possibility is that the burnt clay lumps are fragments of small, crude hand-made bricks. Granting this possibility, the bricks could have been used for any number of purposes, for example in the construction of ovens, perhaps of the kind consisting of a domed superstructure, dismantled or broken up after each firing, and then rebuilt for the next, and a permanent base. The latter would probably have been horseshoe-shaped and the completed oven, once loaded up and bricked over for firing, oval or circular in ground plan. Archaeologically, ovens of this sort would be expected to produce two distinct kinds of debris, comparatively well-fired shaped fragments (representative of the base) and softer, more amorphous pieces (remains of the superstructure), both these categories, of course, being well-represented among the Weasenham material. It is possible that the bricks of the superstructure would have been laid in a soft or leathery state. Their subsequent firing would then have been incidental to that of the oven's contents and some variation in their hardness and other post-firing characteristics would be expected to result. It is uncertain how much, if any, of the considerable variation detectable in the Weasenham material might be attributable to this cause and how much to the effects of differential preservation.

As noted by Leo Biek above (p.98), the fabric of the clay lumps is so similar to that of the Beaker sherds found with them, that the clay used in the manufacture of the two classes of artefact may have been obtained from the same source or sources. Sand and burnt flint temper are other shared characteristics, though, not surprisingly, given the difference in function, the 'brick' is less heavily flint-tempered than the pottery. A plausible inference from these facts, of course, is that the hypothetical ovens were kilns, and that their output was Beaker pottery of the kind represented by the sherds.

A virtue of the kiln theory is that it provides an industrial context for the masses of fire-shattered flint lumps associated with the other material in the scatters. Supplies of such lumps would probably have been kept on hand as the source of temper for the pottery (and, perhaps, also for the 'brick', assuming, that is, that the flint tempering of the latter was deliberate).

A small pottery manufactory of the sort proposed, involving as it would the partial or total demolition of the kiln after each firing, would be prolific of debris which, eventually, as firing succeeded firing, might come to occupy considerable tracts of ground. The rarity of charcoal at Weasenham, the absence there of signs of burning *in situ*, and the distributional evidence cited on p.78, probably imply that the scatters are sweepings or middens associated with kilns formerly located nearby, rather than the kiln sites themselves or the sites where the flint lumps were burnt.

Whatever the original function of the 'brick' fragments, the stick or rod impressions found on some pieces are too rare for much significance to be attributed to them. If the clay fragments are indeed the remains of bricks as suggested, the impressions may have been acquired adventitiously, when, for example, newly-made bricks were stacked to dry. Alternatively, the impressions may have originated in some minor trick of construction, *e.g.* the use of small wooden rods to key in or anchor the superstructure to the base.

The 'brick' from the scatters is exceptional for its bulk, not its presence. Smaller quantities of similar material are regularly found on later Neolithic and Early Bronze Age sites, including parts of a second millennium bc occupation complex in Hockwold-cum-Wilton, on the south-west Norfolk fen-edge, where a connection with potting has also been suggested (Bamford 1982, 28-29). In addition to the parallels cited by Bamford, East Anglian sites producing fired clay fragments include features containing Beaker pottery at Witton in north-east Norfolk (Sites 6938/c9, 12548/c14; Lawson 1983, 18, 112); features forming part of a third and second millennium bc occupation complex at Edingthorpe nearby (Site 6899), where most of the associated pottery is Step 5-7 Beaker; an occupation site with Step 6-7 Beaker partly sealed beneath a barrow at Reffley Wood, King's Lynn (Site 5489); and an occupation site below barrow II, Martlesham Heath, Suffolk, where amorphous lumps of fired clay formed 26% of the classifiable ceramic material, which also included Step 3 Beaker (Martin 1976, 28-30). Association with Beaker pottery is usual but not invariable: fired clay was, for example, found with sherds of Grooved Ware in a pit at Fengate, Cambridgeshire, dated to 3960 ± 70 bp (2010 ± 70 bc; HAR-771; Pryor 1978, 58, 151). Whatever the pottery associations, most occurrences of fired clay seem to be of second rather than third millennium bc date.

Concentrations of burnt flint or 'pot-boilers', like those of the Site 3660 scatters, are even more widespread. Dated examples are rare, but the earliest seem, like occurrences of fired clay, to date from the second millennium bc. Radiocarbon determinations of 3650 ± 100 bp (1700 ± 100 bc; HAR-2690) and 3720 ± 70 bp (1770 ± 70 bc: HAR-1876) have been made on charcoal from two examples in Mildenhall Fen, Suffolk (Murphy 1984a, 25). Two hearths yielding more than 1000 pieces of calcined flint were found with Beaker sherds and struck flint beneath a barrow at West Stow, Suffolk (Edwardson 1961; Clarke 1970, corpus nos.958-9). Sherds of Step 3-4 Beaker were found in a 6in deep layer of 'pot-boilers' on Overa Heath, Quidenham (Sites 6004 —5; Apling 1931, 368; Clarke 1970, corpus nos.573-6).

At Hoe, in mid-Norfolk, another site investigated by Apling, a 6in deep layer of 'pot-boilers', contained not only Step 3-4 Beaker sherds (Clarke 1970, corpus nos.551, 552), but quantities of imaginatively-described fired clay: 'The majority of the pottery fragments, however, consisted of pieces, both large and small, of very coarse ware, originally forming what have variously been termed loom-weights, sheep hobbles or net sinkers' (Site 2786; Apling 1931, 365). A functional link between fired clay and burnt flint is also possible at Methwold, where sherds of Step 1-6 Beaker, fired clay fragments, and struck flint were found close to a large 'pot-boiler' concentration (Site 2523; Bamford 1982, 136). Similar situations obtain at both Witton and Edingthorpe, where

several undated 'pot-boiler' concentrations lie within areas of second millennium bc activity (Lawson 1983, 94; Healy 1980, vol.II, 299).

It is unlikely that all 'pot-boiler' sites, or all lumps of fired clay, served the same function. This particularly applies to the often large masses of crazed flint, which are much too numerous and too often unassociated with other classes of artefact to be uniquely interpretable in terms of pottery manufacture. Nonetheless, the repeated association of 'brick' and burnt flint with Beaker pottery, and sometimes with each other, together with their apparently synchronous appearance in the British archaeological record, suggests a relationship with a contemporary innovation. If the Weasenham material and similar deposits are indeed the debris of pottery manufacture as suggested above, this innovation is likely to relate to the adoption of new firing methods and the introduction of a new and technically superior pottery tradition. A connection with metalworking, also chronologically plausible, is incompatible with the unvitrified state of the surfaces of the 'brick', since vitrification would have occurred if it had formed part of hearths or vessels used in copper or bronze working (information from Justine Bayley).

It is very doubtful if further industrial or occupation debris survives in the ground adjoining Site 3660, assuming that it had once existed there. Except for scattered flints and two 'brick' fragments, no such debris was found in the section trench linking the two barrows or anywhere else in the excavated area, and nothing was found in the course of several visits to the field after it had been cultivated late in 1983. Industrial or occupational traces are conceivably preserved under one or more of the other barrows of the Weasenham group, but the chances are that in the flat ground between the barrows all but the bases of deep pits or post-holes would have disappeared long ago.

Site 3661

The sparse finds from the oval enclosure are insufficient to date it securely. As far as they go, struck and burnt flint from the ditch and less well-stratified contexts, a fired clay fragment from the base of the ploughsoil close to the inner lip of the ditch, and a plain body sherd in Beaker fabric from a pit dug along the outer lip of the ditch, all correspond to the much denser contents of the scatters of Site 3660 and suggest a contemporary or earlier date. Two sherds apparently of Mildenhall Ware (P75) from the surface of the ditch fill would be more compatible with the second possibility. None of the material, however, was in an unequivocal primary context.

Whatever its age, the function of the enclosure remains conjectural. The absence of features in the part of the interior opened up by cutting EC1 is, of course, without meaning, given the vast expanse of unexcavated ground. Pre-World War II descriptions (p.72) and, Dr Puddy's 1941 sketch (Pl.XVIII) shows that it could not have been a long barrow, unless its post-constructional history had been very curious indeed.

Third or early second millenium bc ditched enclosures with similar formal characteristics — elongated oval or rectangular shapes and a rough east-to-west orientation — and of comparable size, have been recorded elsewhere in southern England where, as at Weasenham, they are sometimes found with Bronze Age round barrows of different types. These monuments are the so-called 'long mortuary enclosures', which, as their name implies, are assumed to have had a funerary function, although not all excavated examples have proved to contain burials. Site 3661 is perhaps comparable with the southern enclosure at North Stoke, Oxfordshire, the ditch silts of which were interpreted as reflecting the former presence of a larger internal bank and a smaller external one, and were dated to the third millennium bc by sherds of Neolithic Bowl found on the surface of the early tertiary silting (Case 1982, 66-68). Closer comparison is impossible because all known free-standing long mortuary enclosures, most of them discussed by Case (1982, 68-69), have been ploughed flat and cannot be assumed to have been comparable with other enclosures, themselves of varied form, preserved under long barrows. Pl.XVIII may be a rare, even unique, record of an upstanding long mortuary enclosure; it may equally record a monument of unrelated type and of historical date.

Site 3661 is only one of a number of crop-mark enclosures juxtaposed to East Anglian round barrow or ring-ditch groups. The others, all uninvestigated, include D-shaped and subrectangular as well as ovoid forms (Lawson, Martin and Priddy 1981, 21-3, figs.18, 19, 31, 33). Most ovoid and subrectangular examples fall within the size range of long barrows, and are often interpreted as such. Site 3661 is a reminder that this need not always be the case, either for enclosures apparently forming part of barrow groups or for isolated ovoid crop-marks of similar size, like that at Marlingford, Norfolk (Site 13357; Edwards 1978, pl.XXIV).

The barrows

Site 3659

The radiocarbon date for P1 falls towards the end of the rather widely-spread range of published radiocarbon dates for Collared Urns (Burgess 1974, 225-7). Collared Urns are by far the commonest type of Bronze Age funerary pottery over much of Britain and a comparatively extended period of use for these functionally specialised vessels is not surprising. Collared Urn associations with multiple cremation deposits are very common (Petersen, Shepherd and Tuckwell 1972-4; Petersen 1981).

The reasons for the fragmentary condition of the urn are unclear; there is no reason to suspect that the grave had been dug into by vandals or curio-hunters (though it could have been) and it may be that the urn was originally buried in fragments or that an originally intact, or partly intact, vessel was later crushed and scattered by a combination of rabbit burrowing or human digging for rabbits and earth pressure. The original relationship of the urn to the cremation is also uncertain. The urn could have simply accompanied the bones or, alternatively, it might have been inverted over them. A third possibility, that the urn had stood upright on its base with the bones inside, seems unlikely, since its smashing and scattering would have probably also scattered the contents and, as stated already, the cremation deposit was apparently undisturbed.

Occurrences of cloth fragments or impressions in British Bronze Age contexts are listed by Henshall (1950). The majority of these finds are plain or tabby weaves, as at Weasenham, and, in almost all cases where the material was identified, are wool rather than flax or

other vegetable fibre. It is mainly vegetable fibre, however, which is apparently represented in the Weasenham find, although some wool may also be present (p.99). Henshall (1950, 132) records three instances where cloth fragments accompanying cremations in cinerary urns were charred, like the Weasenham examples, having, perhaps, originated in a shroud or other garment or covering burnt with the corpse on the pyre. Another possible instance of this practice, not on Henshall's list, was at Mynydd Epynt, Powys, where charred fragments of plain-weave cloth (probably wool) were mixed with the bones of a cremation deposit (young person) accompanied by a Pygmy Cup (Dunning 1943, 188).

Site 3660

It is just conceivable that the shallow ditch around the barrow was dug in connection with the Beaker occupation scatters described above rather than with the mound which, like Site 3659, would then have been entirely composed of turf or surface scrapings or both. There is no evidence for this, however, and association with the mound is probably more likely. The rarity of finds in the fill is surprising in either case.

As argued above (p.78), the burial of Cremation 5 is likely to have occurred some time after, perhaps long after, the non-funerary use of the site (tentatively dated to *c.*2000-1700 bc (p.101) had ceased. The stratigraphic position of cremation 1 is unclear but it too may have been comparatively late. Accordingly, there are no definite grounds for suspecting that the date of either of the surviving cremation deposits from the barrow differs very markedly from that of the fourteenth-fifteenth century bc burial in Site 3659, especially since P61 (a probable cinerary urn sherd) may have originally accompanied cremation 1 or another, completely ploughed-out, burial. An earlier date for one or both of the surviving burials, however, cannot be ruled out, as cremation was an integral part of Beaker burial ritual for much of its history in the British Isles (Petersen 1981, app.VII).

It is impossible to tell how far these two simple bowl barrows are representative of the group as a whole. By analogy with barrow groups containing bell, disc and pond barrows in Wessex, more elaborate and specialised burials of rather earlier date, including inhumations (Grinsell 1974, 85-90; Burgess 1980, 98-108), may be present in some of the unexcavated barrows at Weasenham.

8. Notes on Three Norfolk Barrow Excavations at Bridgham, Cockley Cley and Old Hunstanton

by Andrew J.Lawson

with a Note on a Barrow Excavation at Garboldisham
by David J.Tomalin

I. Bridgham, 1953

In January 1953 a circle of chalk fragments revealed by ploughing identified an isolated, eroded barrow north-east of Bridgham village. The site (Site 6011: NGR TL 9752 8708) is located 30.5m south of a wire fence which follows the parish boundary between Bridgham and Roudham and is approximately 150m due north of a small plantation (Fig.89). It stands on the 100ft (30.5m) contour on the northern side of the relatively flat summit of Sandpit Hill, which forms a low interfluve between the river Thet to the south and east, and a small tributary to the north, near the eastern edge of Breckland. Here the Cretaceous Upper Chalk is thinly mantled with Pleistocene chalk-sand drift, the composition of which is extremely variable (Corbett 1973, 8-13). Although the soils on Sandpit Hill are typical brown sands (Newport series) and argillic brown sand (Worlington Series), away from the hill there are shallow calcareous soils (Newmarket, Elveden and Methwold series).

The chalk fragments which originally led to the recognition of the site were still visible, albeit more

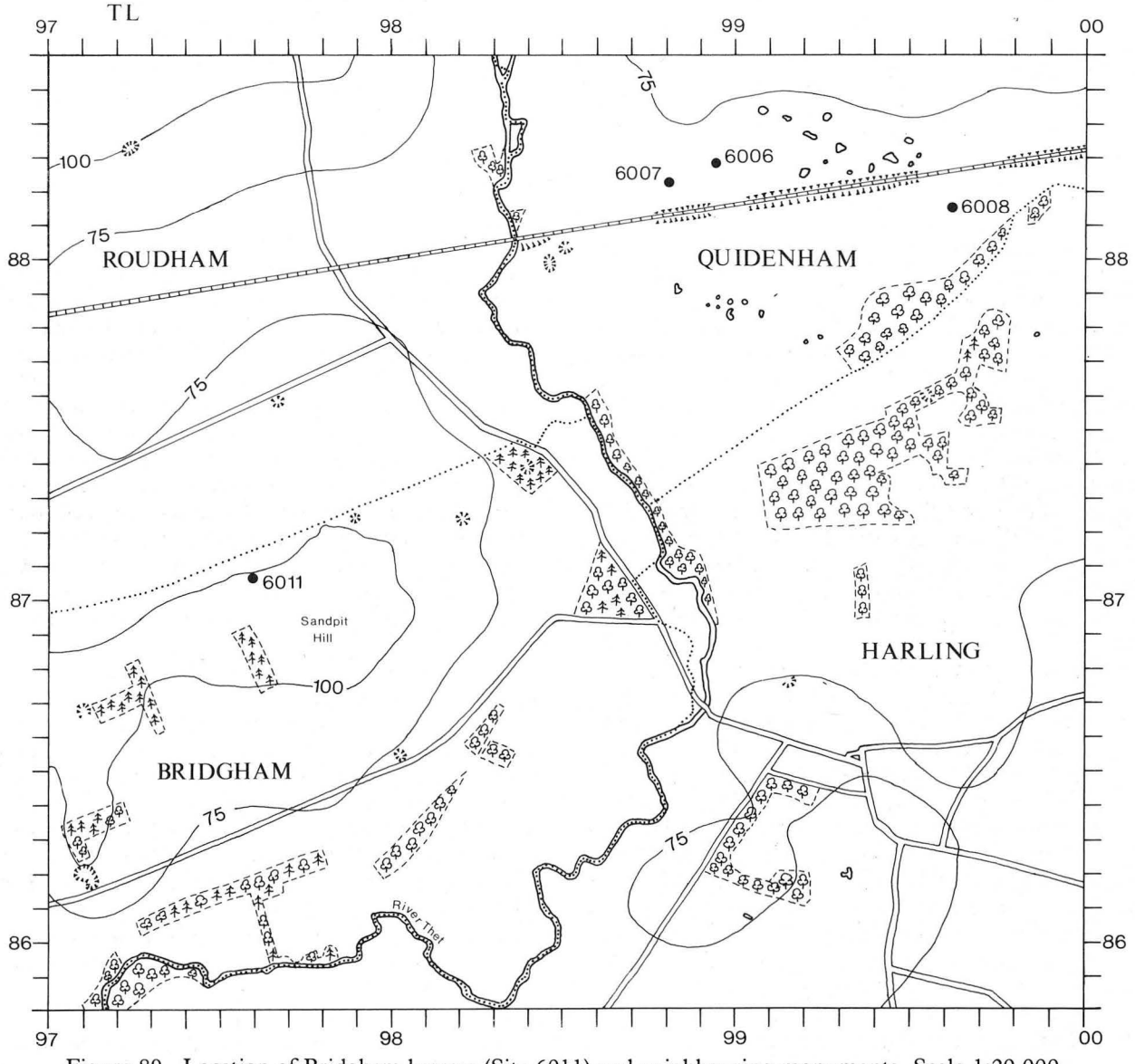


Figure 89 Location of Bridgham barrow (Site 6011) and neighbouring monuments. Scale 1:20,000

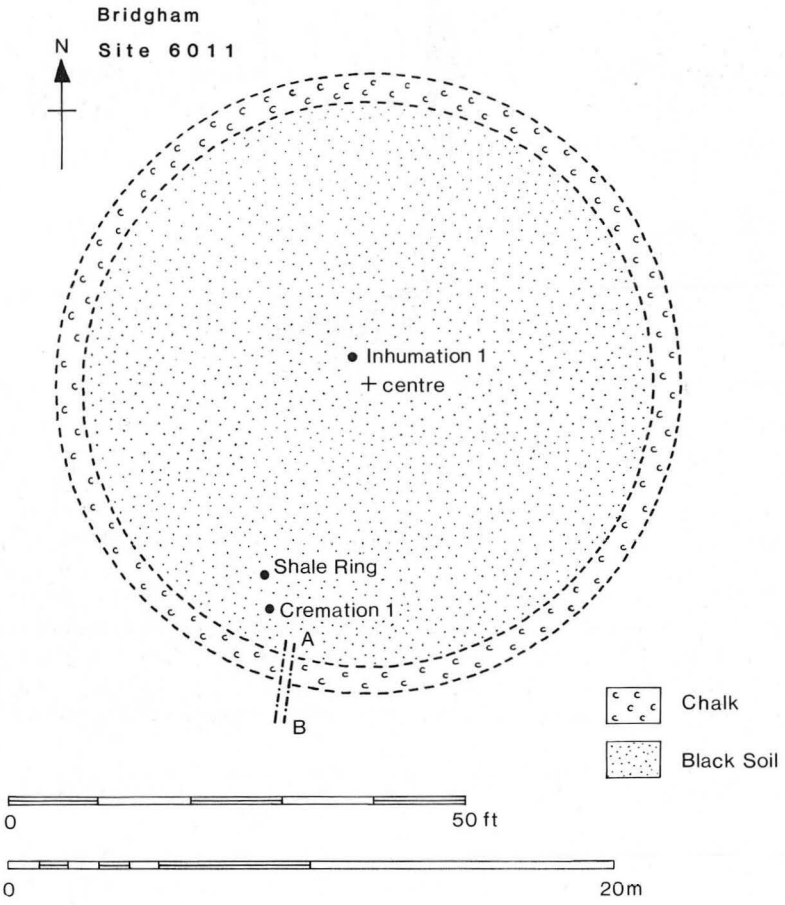


Figure 90 Schematic plan of Bridgham barrow (Site 6011). Scale 1:250

dispersed, beneath stubble, when the site was visited by the present writer on 12 February 1976. At that time the mound was barely visible, being an estimated 35cm high.

The barrow was investigated by R.Rainbird Clarke and other members of the staff of Norwich Castle Museum on 30 January 1953. No written record of this investigation was made and consequently little more detail can be added to the seven-line note published in 1957 (Clarke 1957, 597). Although a schematic site plan was drawn (Fig.90), this does not show the extent of the 'small scale excavations'. Little can be said of the structure of the mound, other than that it had a circle of chalk fragments 3ft (1m) wide with an internal diameter of 62ft (18.9m) surrounding a low mound of 'black soil'. Although unproven, this material was probably derived from an encircling ditch. The surviving plan shows the position of a section (at A-B) across the chalk circle accompanied by the comments 'chalk 2 ins; soil 9 ins; C.B.Clay—Depth unknown'. However, it is doubtful that the barrow was actually situated on Chalky Boulder Clay unless this was an extremely localised patch. The height of the mound at the time of investigation is unrecorded. No evidence exists to support the claim that the inhumation burial which was discovered was 'primary', other than its near central location. Similarly, the suggestion that the two recorded cremations were secondary was presumably based on the assumption that cremation burial was a later practice in the Bronze Age and that one of the cremations lay close to the ditch.

Of the inhumation, only skull fragments remained, 'just N of centre point' (SMR). These were apparently associated with a Beaker sherd (presumably Fig.91, No.1) and seven heat-shattered flint fragments, but also possibly other sherds of Iron Age, or more probably, Early Anglo-Saxon date. The occurrence of the latter sherds suggests subsequent intrusion into the barrow if these did not actually accompany the inhumation burial. Cremation I was found south of the centre, 3ft (0.9m) within the chalk circle and at a depth of 1ft (0.3m). There were no associated objects, but 4ft (1.2m) to the north-east an incomplete ring of jet-like material (Fig.91, No.3) and sherds of an Early Bronze Age character were found. The position of Cremation II was not recorded, but it was accompanied by, if not actually contained within, a small complete undecorated bipartite Collared Urn (Fig.91, No.4), together with a copper alloy awl or tracer (Fig.91, No.5) (Norfolk Museums Service 1977, 28).

Notes on the contents of the Collared Urn
by the late Calvin Wells.

These remains consist of several dozen fragments of human bone, almost all very small. Several of these fragments are precisely identifiable, for example petrous temporal, maxillary alveolies, teeth etc. Others are less narrowly identifiable - fragments of vault, long bones etc. Two individuals are represented here: (a) a late adolescent or young adult female, and (b) a newborn baby. Cremation has been efficiently performed, but collection of the fragments has been perfunctory. No animal bones could be identified with certainty. (March 1973).

In addition to these finds one other amorphous sherd survives. All the excavated material was donated by the

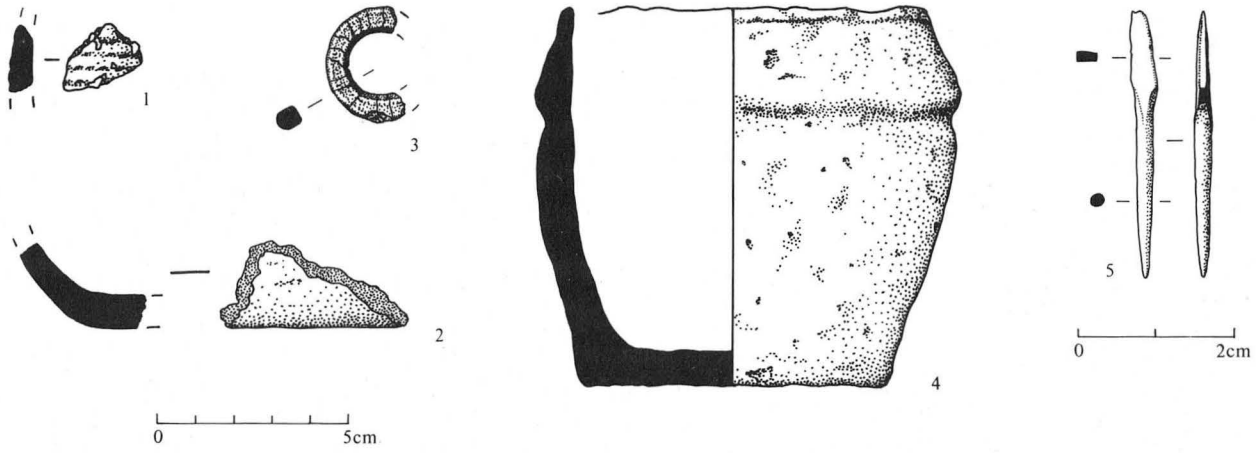


Figure 91 Excavated finds from Bridgham barrow (Site 6011). Scale 1:2, except No. 5, 1:1

landowner Mr J.R. Ware to the Castle Museum, Norwich, where it is now housed[1].

Description of the finds

(Fig.91)

A. Abraded sherd (Fig.91, No.1) Buff-orange; soft fine fabric with crushed flint filler; exterior possibly decorated with parallel impressions. ?Beaker. ?Inhumation I.

B. Four sherds. Dark brown-black; partly burnished surfaces; fine, hard, gritty fabric; sooted interior. One sherd a slack base (Fig.91, No.2). Early Anglo-Saxon (or Iron Age). ?Inhumation I.

C. Seven heat-shattered flint fragments (not illustrated).

D. Seven sherds (not illustrated) of a vessel greater than 25cm in diameter. Exterior orange-brown, interior black; medium hard fabric with sparse fine chalk, grog and flint filler. One sherd possibly a pointed rim. Early Bronze Age. 4ft (1.2m) north-west of Cremation I.

E. Incomplete ring of jet-like material with sub-square section (Fig.91, No.3). 4ft (1.2m) north-west of Cremation I.

F. Complete, irregular undecorated bipartite Collared Urn (Fig.91, No.4), *c.*11cm diameter. Beige-orange; medium hard grogged fabric. Cremation II.

G. Copper alloy awl or tracer (Fig.91, No.5) with one end pointed, the other spatulate. Cremation II.

H. One small abraded sherd (not illustrated) Dull black-brown; medium hard, gritty fabric. Unprovenanced.

II. Cockley Cley, 1963

The excavated barrow is one of a pair that are amongst the earliest referred to in the county. It is possible that originally a larger barrow group existed, as Thomas Martin's (*c.*1740) notes state that 'on each side of the road are several tumuli' (Cozens-Hardy 1933, 305). These are probably the monuments referred to by Blomefield (1807, VI, 1) when he suggests that the Hundred 'takes its name *Greenhoe* from the *green hills* or *tumuli*, lying by the *London* road to *Swaffham*' and where courts had been held until shortly before his time. The two surviving barrows are identified on Bryant's (1826) map of Norfolk by the word 'Barrows', and were first plotted individually on the Old Series Ordnance Survey (OS) one inch map (Sheet 65; 1824-40).

In his early survey of the county's barrows, Clarke (1913, 419) only lists one barrow and more recent OS maps only mark the excavated monument, describing it as '*Tumulus* (site of)'. However, the excavated barrow (Site 2688) is still visible in a conifer plantation as a mutilated mound *c.*32m in diameter and an estimated 40cm high. The second barrow (Site 2690), 350m south-west, is visible as a spread mound 28m in diameter and some 40cm high. (A third site (2689) in the SMR is apparently a duplication of one of these two).

The barrows are situated in the north-east corner of Cockley Cley parish, 3km south of Swaffham and directly east of Red Lodge Farm (NGR for 2688, TF 8280 0562). They lie on the 150ft (46m) contour on the gentle north-east slope of a valley which further west carries a small tributary of the River Wissey (Fig.92). This area forms the extreme north-east part of Breckland, the soils being well drained rendzina (Newmarket and Elveden Series) or brown calcareous soils (Methwold Series) which have formed on the Pleistocene chalk-sand drift (Corbett 1973, Sheet 1).

The excavation of Site 2688 was conducted by the landowner Sir Peter Roberts and his family. The barrow had been noted by Sir Peter when he first moved to Cockley Cley in 1924, before it was covered with trees. When his children expressed an interest in excavation, he suggested that they should attempt that of the barrow. Only a small hole was dug into the centre of the mound without result and the work was abandoned. Subsequently the unfilled excavation became a fox's lair. Excavation resumed in June 1963 when Sir Peter's son-in-law also expressed an interest in archaeology. The original *sondage* was enlarged and deepened, fortuitously revealing a flexed inhumation lying on its left side, accompanied by a copper alloy dagger (Fig.83). Later examination of the skeleton (below, p.00) suggests that the grave group was larger, as at least eleven of the bones bear green stains. Two loose rivets may have belonged to another object. However, no other finds were reported.

With the exception of a few photographs, no record of the work was made. Following the discovery of the burial, the site was visited by Miss Barbara Green of the Castle Museum, Norwich and Mrs Vivienne Knowles. Due to the method of excavation it was not possible for them to determine any stratigraphical information about the interment, and the site could only be photographed (Pl.XIX) and the dagger sketched. The skeleton is now displayed in the privately-owned Forge Cottage Museum at Cockley Cley and the dagger, mounted in foam-rubber, housed at the Hall.

The dagger, comparable to those of the earlier Wessex-style burials, suggests a date in the early fifteenth century BC for the burial.

Notes on the skeleton

by the late Calvin Wells.

This is the remains of a single inhumation—a male aged 45 ± 5 years. Most of the body is in poor condition. The skull, vertebrae, ribs and

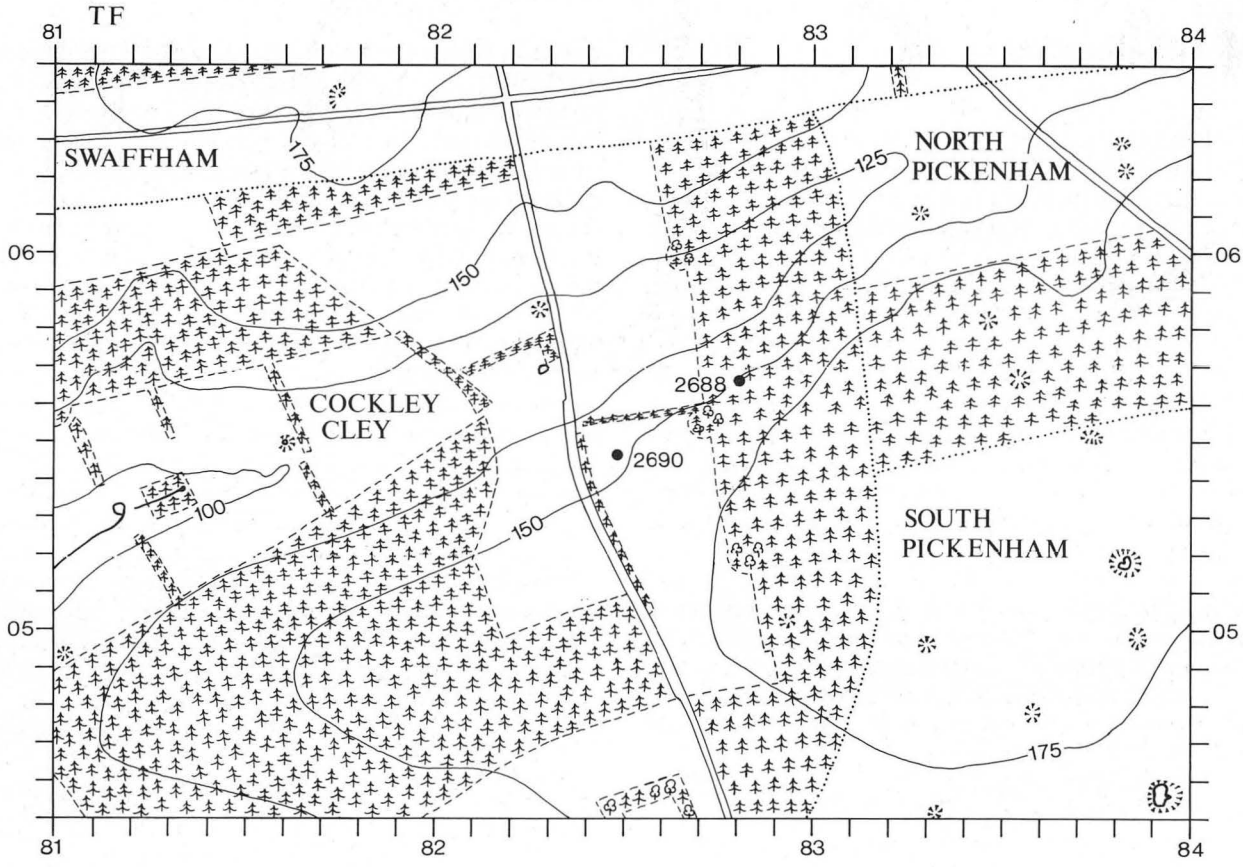


Figure 92 Location of Cockley Cley barrows. Scale 1:20,000

pelvis are especially badly damaged. As a result, little can be said about this potentially interesting and important burial.

The stature can be reconstructed with some confidence to about 1802mm (5ft 11ins). Muscle attachments throughout the body are strongly developed and point to an unusually powerful individual. He seems to have led a life of considerable physical strain and this is reflected in the presence of osteo-arthritis in his knee joints and feet, and to a less extent in his elbow joints.

Squatting facets are present at both ankle joints and these indicate that, when not standing or walking, he habitually adopted a crouching posture—either for repose or to carry out tasks such as pelt scraping, woodworking, *etc.*

His teeth show severe attrition on the occlusal surfaces, no doubt due to the coarseness of a diet which may well have included coarse ground flour containing a high percentage of grit from friable hand querns. This dental attrition is much more marked on the right side of the jaw than on the left—suggesting that he may have been right handed and accustomed to hold bones, etc., in that hand when gnawing them.

A congenital anomaly is the presence of a bilateral mandibular torus.

Owing to the severe damage which the skull has suffered (and examination of it shows this damage to be wholly recent) it is impossible to give any reliable account of its racial type. It seems, however, to conform fairly closely to the Bronze Age pattern as modified by Neolithic hybridization.

There is clear evidence that this body was associated with numerous metal grave-goods. At least eleven bones have been in contact with bronze and these include thoracic and lumbar vertebrae, the pelvis, a clavicle, a tibia and ?part of a much damaged metatarsal. No metal objects were detected when I seived the residual soil and any which were present at the excavation must either have been overlooked by the excavators or have crumbled completely.

There is also dubious evidence of the survival of some material, perhaps leather, in various parts of the body (*e.g.* around the feet), but definite proof of this may no longer be possible. Sufficient hints survive, however, to suggest that a further examination of the barrow might reveal additional information of considerable interest.

Description of the dagger
(Fig.93)

Cast copper alloy dagger (not analysed) broken in three; base of hilt plate omega-shaped with traces of wood and grained impressions surviving around the rivets; four rivets surviving *in situ*, *c.*12mm long, *c.*3.5mm diameter; originally six rivets on the shoulders of the dagger now damaged; two smaller loose rivets perhaps belong; little suggestion of broken languette; triangular bevelled blade with broad rounded midrib flanked by two grooves set 6mm from the edge of the blade; upper part of blade eroded with bronze disease; lower part with brown patina and limited bronze disease, but generally in sound condition. Armorico-British A (Type Winterbourne Stoke; Gerloff 1975, No.117, 72).

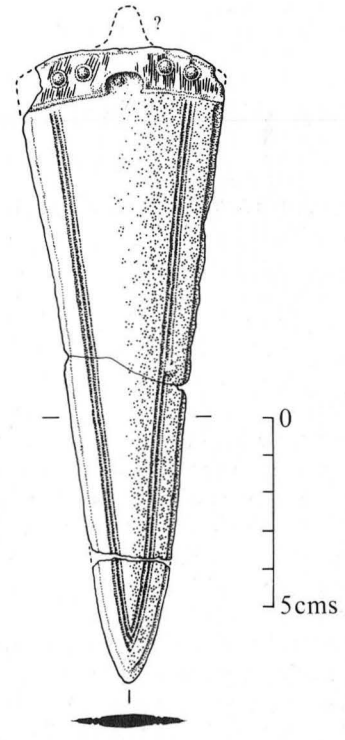


Figure 93 Excavated dagger from Cockley Cley barrow (Site 2688). Scale 1:2

III. Old Hunstanton, 1968

An isolated round barrow was first recognised in April 1954 by the late C.H.Lewton-Brain (1967, 5). At the same time a fragment of a Group XVIII (Whin Sill) stone battle-axe was picked up on the southern perimeter of the mound (Site 1263; Clough and Green 1972, N83, 148). The site is located on Downs Farm in the south-east corner of Old Hunstanton parish immediately next to a field boundary which runs north-eastwards from the A149 road where it crosses Redgate Hill, and 300m from the road, at NGR TF 6805 4013 (Pl.XX). It lies at 110ft (33.5m) OD on the east side of the summit of the hill which stands between a small stream to the south-east and the coast 1km to the west (Fig.94). Here shallow rendzina soils (Newmarket and Rudham series) and slightly deeper brown calcareous soils (Methwold and Swaffham Prior series) lie on the glaciated Upper Cretaceous Chalk. The chalk rests on the weathered surface of the Lower Cretaceous Red Rock which is dramatically exposed in the Hunstanton Cliffs (Larwood and Funnell 1970, 289, 299). This lithological change is also marked by soil colour change in the ploughed fields to the south of the barrow.

In November 1968, Mr A.C. Renaut, the tenant farmer, gave permission to Mr Tony Gilding, then groundsman at the Glebe House School, Hunstanton, to excavate the site of the barrow. Mr Gilding had noticed the slight mound earlier whilst ploughing, but was unaware of its earlier discovery. On Saturday 30 November a trench 5ft (1.5m) wide, 2ft (0.6m) deep, at right angles to the field boundary and some 75ft (22.9m) from it, was begun from the south. A fine, soft, even-textured soil, almost devoid of stones, and rich red-brown in colour lay beneath the ploughsoil, whilst at a depth of 2ft, a layer of black ash extended throughout the excavated area. This was presumably a remnant of the barrow mound. At a distance of 6ft (1.8m) from the southern end of the trench a layer of compacted small chalk lumps was discovered in the north-west corner of the cutting at a depth of 1ft 9in (0.53m). At one point this layer was broken to reveal a void, at the bottom of which the rim of an urn (Urn 1; Fig.95, No.1) containing cremated bone, was visible. By deepening the trench to 3ft (0.6m) Mr Gilding exposed the chalk bedrock whilst leaving the urn in section. At the foot of the urn a miniature vessel (Fig.95, No.2) and a flint scraper were revealed. The chalk lumps formed a dome 3in (7.6cm) thick in the middle and thinning at the edges within which a void, 3in (7.6cm) taller than the urn existed.

The urn stood on the chalk bedrock, in a depression which extended to the west. (It is uncertain whether this depression was artificial or natural). The soft brown soil which surrounded the urn, and in part filled it, contained much charcoal. However, within the urn, the cremated bones of a young adult female (below) were loosely heaped in the centre of the urn. Sufficient space existed so that fingers could be placed between the bones and the wall of the vessel. On subsequent examination it was found that the larger bone fragments were placed at the top of the deposit whilst the smaller fragments including those of the skull lay at the base.

On the west side of the dome more chalk fragments were revealed. Consequently, Mr Gilding and his family broadened the trench by 4ft (1.2m) in this direction and continued the cutting for a further 6ft 6in (2m) northwards at a depth of 2ft 6in (0.8m). This exposed an oval ring of chalky soil 3ft 6in (1.1m) north to south by 1ft 10in (0.56m) from east to west standing 9in (23cm)

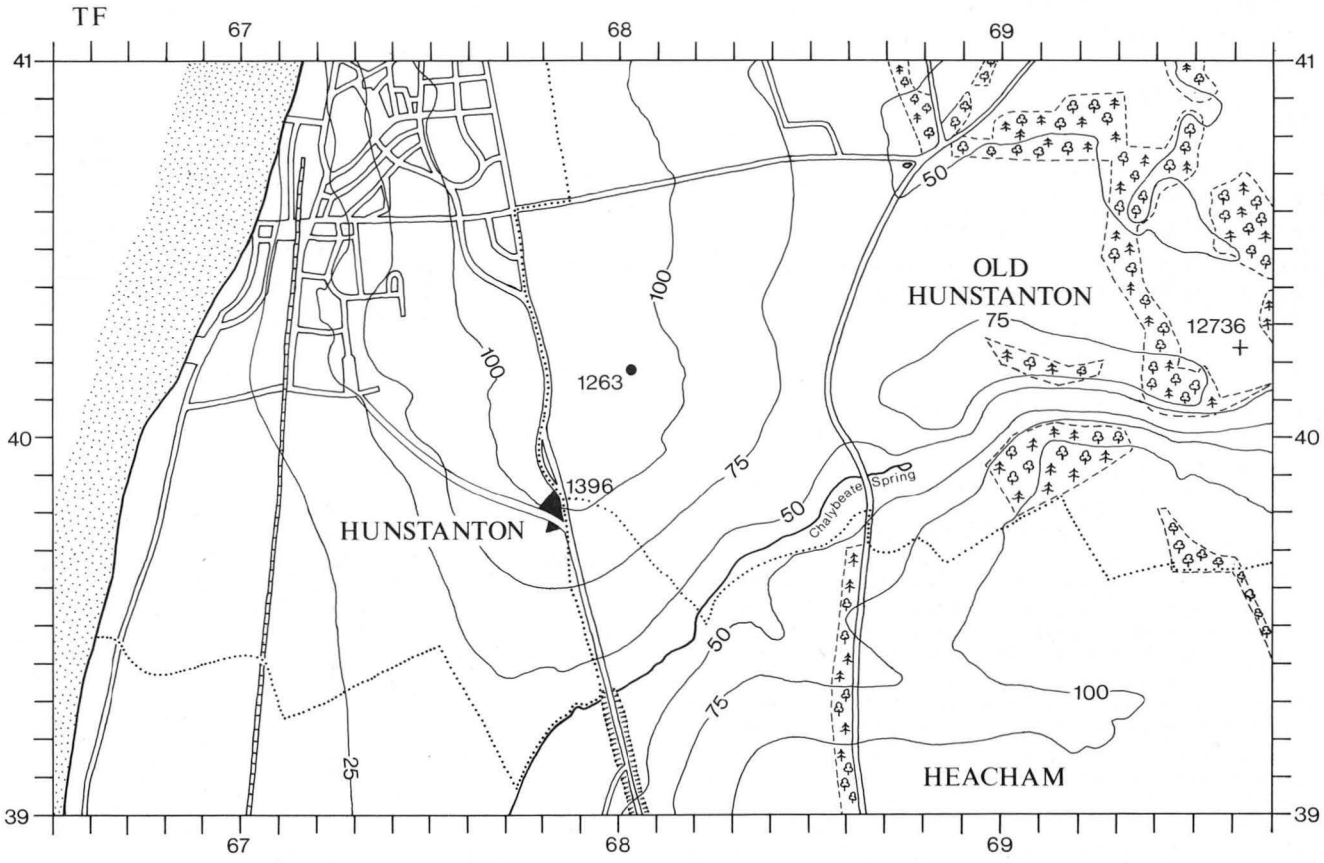


Figure 94 Location of Old Hunstanton barrow (Site 1263). Scale 1:20,000

above the base of the trench. The ring enclosed an area 2ft 6in (0.76m) by 1ft 2in (0.35m).

At this stage of the excavation, Mr Gilding called on the assistance of Miss A.S.Mottram, then Curator of King's Lynn Museum. Miss Mottram arrived at about 4pm on Sunday 1 December and helped Mr Gilding pin-point the excavation on the map. (Miss Mottram's subsequent draft reports form the basis of this description, although a number of ambiguities remain.) As it was thought that ploughing would start the following day, and due to the inclemency of the weather and the fragility of the exposed vessels, the finds were removed to King's Lynn Museum complete with their contents.

On Friday 5 December Mr Gilding returned to the trench with Mr Hamon Le Strange, the landowner. They collected a number of flint scrapers from the surface of the barrow before resuming work. Weathering had exposed a patch of charcoal on the northern side of the oval chalk feature. Examination demonstrated that the charcoal formed a conical mound situated on the north-west side of the chalk feature. Beneath the charcoal a layer of fine ash with small pieces of shell or bone covered a further mound of chalk fragments. This mound concealed a damaged inverted urn (Urn II; Fig.95, No.3), the base of which lay 2ft 3in (0.8m) below ground level. The following day Miss Mottram returned to lift the second urn and to help backfill the excavation.

The urn was found to contain a cremation mixed with a quantity of bright yellow sand, a naturally perforated pebble (Fig.95, No.4) (possibly a pendant) and a copper alloy awl (Fig.95, No.5). Subsequent analysis of the cremation showed that it contained the remains of at least four individuals as well as animal and bird bones (below).

During the excavation neither plans nor sections were drawn. A few worked flints were apparently collected, but no flint artefacts survive with the other finds which were generously donated by Mr Hamon Le Strange to King's Lynn Museum where they are now displayed.

The style of the recovered vessels places them late in the Collared Urn series (Burgess and Varndell 1978, 28) while the association of a miniature vessel lends further support to a suggested date around the fourteenth century BC for these burials, contemporary with Wessex II-style burials elsewhere in southern England.

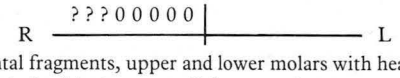
The vestiges of the barrow were still visible in 1976 as a low mound barely more than 10cm high and 30m in diameter. Although no detected during the excavation, the presence of circumferential ditch is indicated by a crop-mark recorded by aerial photography (Pl.XX).

Report on the human cremations

by the late Calvin Wells

Urn 1

This cremation consists of many hundreds of fragments, almost all small, but with a few large pieces up to 150mm long. Apparently only one individual is represented: a young adult female. All parts of the body are represented and many dozens of identifiable fragments were recognised. These include pieces of cranial vault with almost no trace of sutural fusion; orbital margin; parts of sphenoid, occiput and maxilla. About twenty fragments of teeth and part of a jaw which showed:



of the dental fragments, upper and lower molars with heat-split crowns were found. Attrition was very light; no caries was seen.

Post-cranial remains include many vertebral, pelvic and long bone fragments; pieces of scapulae, sternum, etc. It was felt that the amount of cranial vault material (which is usually easy to collect) was disproportionately small and that, if it had been collected, some of it may have been retained as 'souvenirs'. This point may be emphasised by recording that fragments of at least thirty-three phalanges—including six tiny terminal phalanges—had been meticulously collected; a task which must have entailed a very minute search among the ashes. The cremation had been efficiently done—only two lumber vertebrae showed slight under-firing, presumably due to oxygen lack as the corpse lay on the ground.

No animal bones were detected.

Urn II

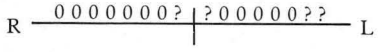
This contained many thousands of fragments of bone—the great majority were very small but several dozen were of substantial size. At least four persons are recognisable:

(a) Adult male
(b) Adult female
(c) Child aged 3-5 years
(d) Child aged 1½-2 years

It is just possible, but unlikely, that some identifiable tiny fragments may be from an additional young infant in the first few weeks of life. Both adults were young—probably in the 23-30 year range. Hundreds of fragments were identifiable with more or less precision and it would be tediously profitless to enumerate them all. All parts of the body were represented as the following token list will serve to show:

Numerous fragments of cranial vault one had an irregular area about 60×30mm which might be the result of a chronic osteitic reaction following disease or injury. Post-mortem damage makes it impossible to be sure about this.

Other cranial fragments include the temporal root of the right zygomatic arch with part of the glenoid fossa; an infused basi-occiput; the medial parts of six petrous temporal bones from at least four persons; parts of the frontal, parietal, occiptal and sphenoid bones; a left and a right mandibular condyle and damaged ramus; parts of a mandibular alveolus which showed that probably all teeth had been present at the time of death—the precise state being:



Fragments of about twenty teeth were present. These included adult molars with light wear on the cusps and deciduous molars with no wear; also the crowns of two first deciduous molars with no cusp wear and incomplete roots.

Post-cranial remains include: several dozen fragments of vertebrae from all levels—many of these were from children; a few rib fragments; part of a right iliac bone of a female; fragments of ischiam, acetabula and sacrum; scapular and clavicular fragments; parts of both humeri, ulnae, radii, femora and tibiae; extensive areas of articular surface are present; a patella; humerous carpal, tarsal, metacarpal, metatarsal and phalangeal elements of various sizes.

One fragment of distal tibial articulation may have had a small squatting facet on it. No osteophytosis is present on the vertebral bodies and no signs of osteoarthritis on any of the many articular fragments of the axial skeleton or the long bones.

Firing has been good except for slight underfiring of lumber and sacral elements and of some metatarsals. This suggests that the body was laid on the ground with a moderate sized pyre above it and that before firing was complete the feet of one of them may have protruded a little at the periphery.

Collection seems to have been very thorough. Again, as in Urn I the surviving vault fragments seem disproportionately few when compared with the meticulous preservation of many tiny phalangeal splinters, and again this may suggest ritual or sentimental retention of some of the pieces of skull.

A few small fragments of animal bone were present in this urn. These included parts of the shaft of a large bird—perhaps about the size of a heron.

Description of the finds

(Fig.95)

1. Large, complete, but irregular tripartite **Collared Urn** (I). Narrow flat rim; internal bevel bearing some vertical, some oblique lines; interior encrusted with soot, and at the time of discovery with a 'whitish substance'. Disporportionately small base; black/beige with smooth surface; collar with prominent lower edge decorated with irregular lattice of tooled lines set between single horizontal lines. Hard fabric with sparse flint filler.

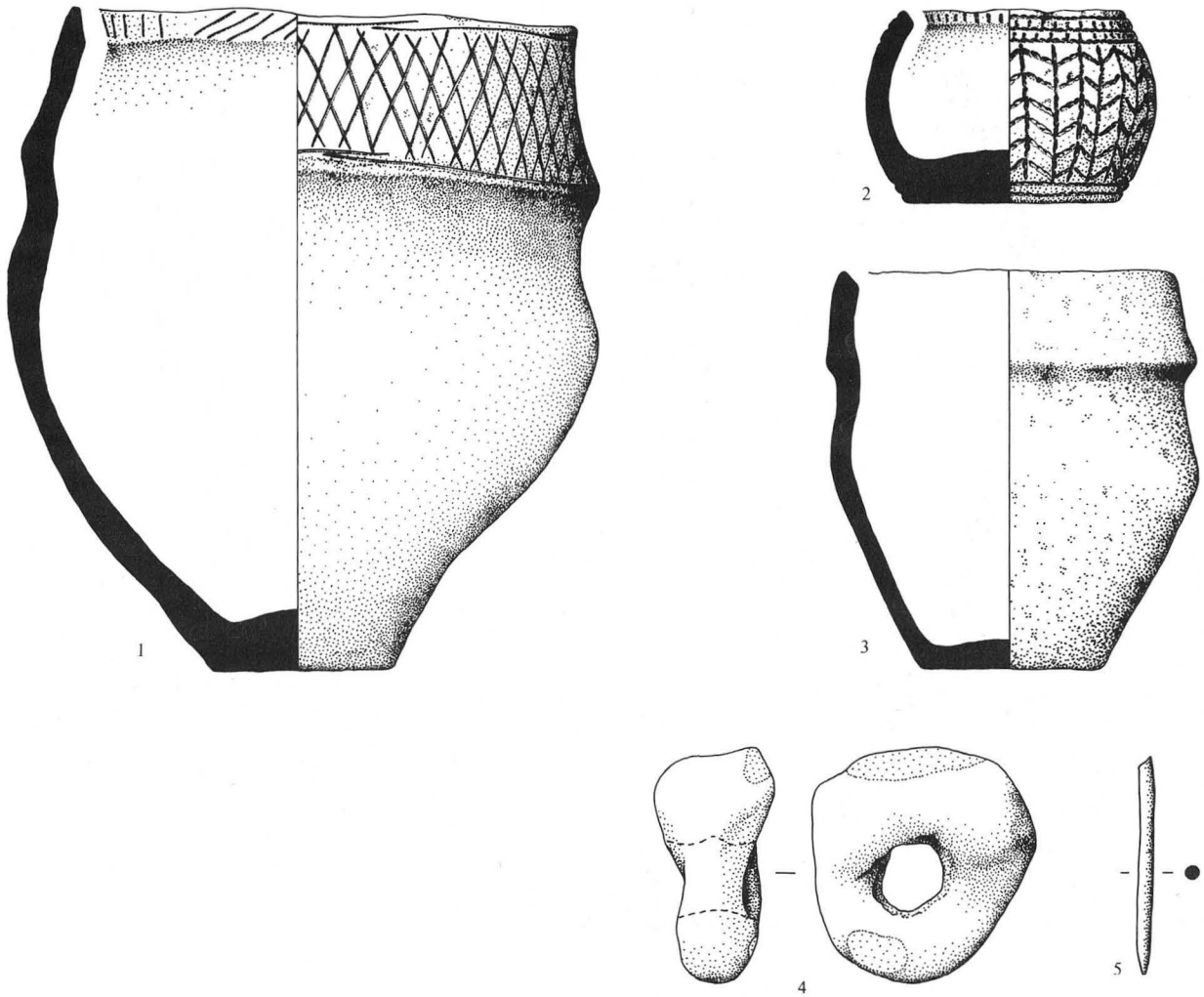


Figure 95 Excavated finds from Old Hunstanton barrow (Site 1263) and associated sites.
Scales 1, 1:4; 2, 1:2; 3, 1:4; 4 and 5, 1:1

2. Complete **miniature vessel** with rounded body. Rim decorated with small elongated impressions; exterior decorated with impressions of twisted cord (with S-twist) set in a geometric design consisting of a broad zone of chevrons interrupted by vertical lines set between horizontal impressions, the upper three horizontal lines separated by small vertical impressions; beige/brown; medium hard fabric with fine ?shell and sand filler only exposed in one small area.
3. Complete, plain tripartite **Collared Urn** (II). Internally bevelled rim; beige/black smoothed surfaces; medium hard fabric with flint ?grog filler (not exposed in fracture).
4. Naturally perforated grey flint pebble. **?Pendant;** slightly fired. Within Urn II.
5. Copper alloy **awl** with one end pointed, the other spatulate. Within Urn No.II[2].

Comments

Although the Old Hunstanton barrow is an isolated monument, many other contemporary finds have been made in the vicinity. Flint artefacts have been collected from the whole area over a period of more than fifty-five years by Mr Hamon Le Strange during his relentless fieldwalking (Le Strange 1968). Little of this material has been analysed by archaeologists, with the major exception of that from the field on the southern slope of Redgate Hill (Site 1396; Healy 1980, vol.II, 711-727). This analysis was prompted by the excavation of an Early Bronze Age enclosure (Kinnes 1972) which was initially discovered by Mr Gilding in 1970[3]. The single radiocarbon date of 1736 ± 63 bc (BM-704) from the excavated site suggests contemporaneity with the barrow which lies 500m to the north-east, a suggestion which is strengthened by the occurrence of Late Neolithic, Beaker and Bronze Age ceramics in the enclosure.

A further find, from Ringstead Downs, Old Hunstanton (Site 12736) 1.6km east, comprises the burial of a young adult female accompanied by a Developed Southern Beaker also dated to the second quarter of the second millennium bc (Kinnes 1978, 20).

IV. Garboldisham, *c.*1963

by David J.Tomalin

Introduction

This brief account concerns a minor and previously unpublished excavation carried out in the early 1960's on the summit of Soldiers Hill, a conspicuously large round barrow in the parish of Garboldisham (Site 6112; NGR TL 9913 8178). This tree-clad barrow, which is approximately 4m in height and 32m in diameter, is also known as 'Boadicea's Grave' (Lawson, Martin & Priddy 1981, 11)

The excavation

(Fig.96)

At a date during, or close to, 1963, extensive rabbit disturbance on the summit of the barrow was investigated by the local antiquarian and fieldworker, Basil Brown. Prompted by some freshly exposed sherds in the rabbit earths, Mr Brown carried out a small excavation during which he was accompanied by a schoolboy companion, Stephen Hutt.

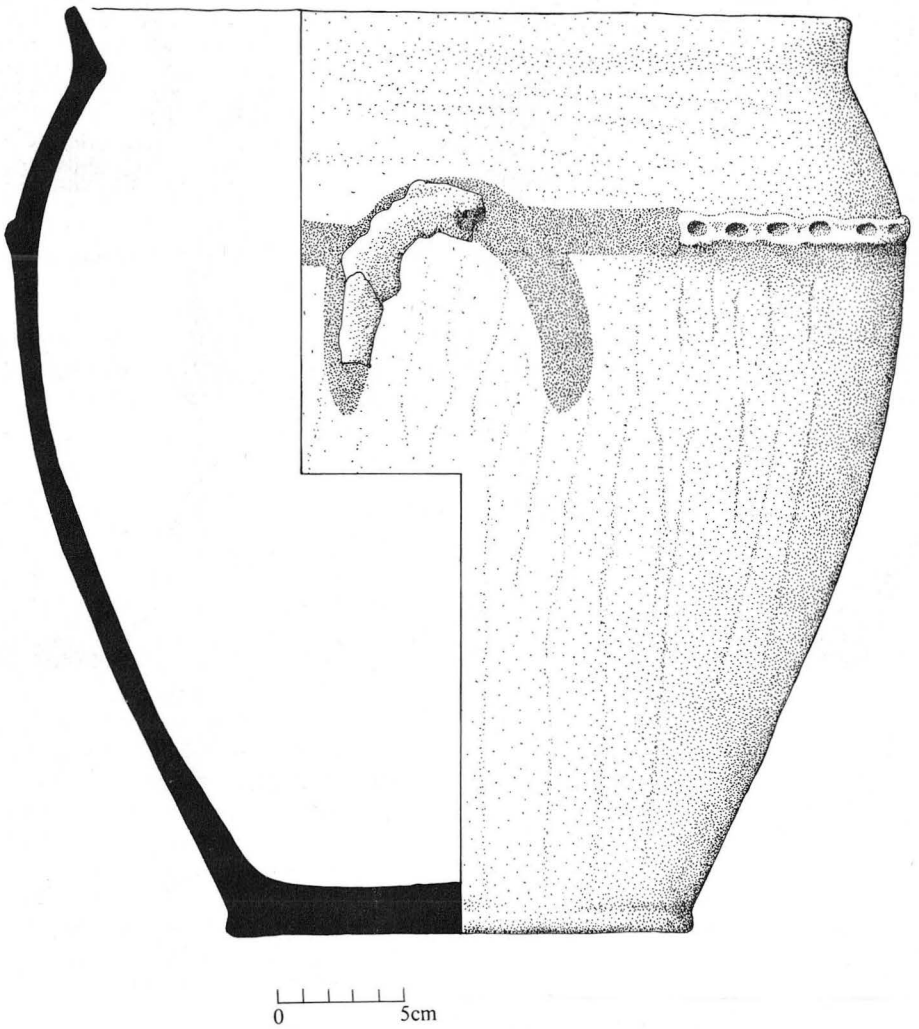


Figure 96 Biconical Urn from Soldiers Hill, Garboldisham (Site 6112). Scale 1:3

At a depth of approximately 0.4m a Biconical Urn was uncovered together with 169.29g of cremated bone. This has been identified by Sharon Pay as representing most body parts of a single adult of unknown age and sex. Two flint flakes and a 'thumb-nail' scraper, 1.8cm long and 2.0cm broad, were also recovered somewhere in the excavation. The inverted urn was found to be a convenient refuge for the burrowing rabbits whose clawings remain permanently recorded on its interior surface. A label attached to a slab of tabular flint preserved with some cremation fragments and marked 'flint surround of cremation' implies that this secondary burial was contained within stone packing perhaps similar to that observed by Lukis around the Biconical Urn secondary cremation burial which was uncovered in 1842 in a bell barrow at Bircham (Site 1705/c4; Fig.97; Lukis 1843).

Fragments of the Garboldisham urn together with sherd finds from two further barrows in the neighbouring parish of Knettishall (Suffolk) were later passed to Stephen Hutt sometime before the excavator's death. Recently the find was kindly brought to the present writer's attention by Stephen Hutt who was anxious that the results of Mr Brown's activities should not go unrecorded. The urn was first noted by the present writer in 1983 when the barrow was mistakenly attributed to Suffolk. Its correct reference should read urn N.B15 in the writer's corpus of British Biconical Urns (Tomalin 1983)[4].

The Soldiers Hill urn (Fig.96) is 37cm high with a rim diameter of 30.5cm and a base diameter of 18cm. Its body profile together with its applied finger-tipped shoulder cordon and its two horseshoe handles make it a classic example of the British Biconical Urn tradition. A textural analysis of the vessel reveals very sparse temper comprising some 1% grog with a particle size mode of 3mm. Also present are minor incidental inclusions of white flint and sandstone. This essentially grog-based temper recipe intimates a link with the traditions of Food Vessel Urn potters and it places the pot within the writer's "Form 3" mode of British Biconical Urn production (Tomalin 1983). Further details of the texture analytical technique based on Shvetsov method (Terry and Chilingar 1955) are given in Tomalin 1983 and 1985.

Although the vessel is grog-tempered it is nevertheless harder-fired than Food Urn ceramics. Its applied cordon and horseshoe handles are poorly luted with the result that substantial portions of these features have since become detached to reveal an underlying anchorage groove. The external surface of the pot shows coarse vertical wipe-marks on the body and similar marks in a horizontal direction on the neck. This arrangement is also to be found on the Norfolk Biconical Urns N.B2 and N.B3 from Rocklands (Site 9022) and Salthouse (Site 6203), and it is commonly found on urns of similar type in Wessex. Uncommon features of note are the deep internally-bevelled rim (type BE: Tomalin 1983) and the atypical position of the handles which interrupt the shoulder cordon. Neither of these features is to be commonly found in the substantial Biconical Urn domestic assemblages from East Anglia. The latter is however to be found on the Inception Series Biconical Urn D.B15 from Milbourne St. Andrew G.16 h-i, Dorset, whilst the former occurs on vessel N.B8.2 in a Biconical Urn domestic assemblage at Hockwold-cum-Wilton (Site 14662; Tomalin 1983).

Discussion

The Garboldisham burial draws our attention to the increasing number of Biconical Urns reported from the East Anglian region. In Norfolk these urns, together with a general survey of later Bronze Age pottery have been published by Lawson (1980). In Suffolk further finds, including an important faience bead association at Semer, have been described by Smedley and Owles (1964). In addition to the analogous urn burial already cited at Bircham Magna, a possible third grave of this type may also be cited. This was uncovered in 1808 in the 'Great Barrow' on Stow Heath, Aylsham (Site 7532; Repton 1812). In 'shoving down the sides' of their 'hole',

the excavators observed 'a curious urn . . . which was cut through the middle by a spade . . . and being too soft a substance to be taken up . . . was quite destroyed.'

The upward projecting shoulder ridges observed in the side of the trench seem compatible with a cross-section through an urn with opposed horseshoe handles (Repton 1812, pl.LIII: fig.2). The excavators commented however that the ridge seemed to completely encircle the pot and if this was really the case the published illustration may be an exceptionally poor and misleading representation of a Collared Urn.

The funerary contexts of these East Anglian finds provide a strong intimation that urns of this type span a considerable time trajectory. Dr Smith (1961), in her seminal work on these vessels, long ago recognised that the Bircham urn and its associated gold-cased beads (Fig.97) indicated a chronological position 'well within the ambit' of the second phase of the Wessex Culture.

Figure 97 Biconical Urn *in situ* in Site 1705/c4, Great Bircham, and gold-covered beads found inside it, from Lukis (1843). No scale

Although both the beads and the urn are long since lost,[5] a more recent appraisal by Taylor (1980) of an identical gold-cased bead from Wilsford G7, Wiltshire, now places these artefacts within the output of the same Wessex workshop which was responsible for the halberd pendants from Wilsford G8 and Manton, Wiltshire, the Manton and Upton Lovell, Wiltshire gold beads, and the box plates from Upton Lovell and Little Cressingham (Site 5051). A further gold bead of the Wilsford type has been recovered from the Brecon cave Ogof-yr-Esgyrn, Powys, where a Biconical Urn domestic assemblage is also attested (Mason 1968; Taylor 1980). At present the burial mode and the style of the Bircham Biconical Urn provide the closest East Anglian analogy with the burial at Garboldisham.

Whilst the Bircham burial intimates an inception for British Biconical Urns towards the end of that period which might currently be termed the earlier Bronze Age, there can be no doubt that the same form persisted well into the later Bronze Age, where its transition or 'straightening' into the bucket form of the Deverel-Rimbury complex has been generally recognised (ApSimon 1962; Calkin 1964; Ellison 1975).

Barrett (1976) has placed the general closing of the Deverel-Rimbury complex around 1000 BC but even in his 'post-Deverel-Rimbury' phase he has acknowledged some further regional 'development of and departure from the preceding urn tradition'. Such late elements of the Deverel-Rimbury tradition would seem to include pots like urn 16 from Bromfield, Shropshire, which is dated at 850 ± 71 bc (Birm-63) and retains a profile which Stanford observes, 'is close to that of the classic Wessex biconical urn' (Stanford 1982, 311).

It is within a potential time trajectory extending from the mid-second millennium bc well into the first millennium bc that we must attempt to place the deposition of the Garboldisham urn. As Gomez (1982) observes, such handles exhibit a broadly-based continental pedigree which may be traced across much of the north-west European plain. The transfer of this ceramic tradition to southern Britain should be placed close to the date of the Bircham burial. Such an event seems generally synchronous with the beginning of the Wessex II grave series and the commencement of Burgess' Bedd Branwen Period (Tomalin 1983). At Bircham the bead associations are arguably contemporary with Gerloff's Wilsford Series of 'Wessex Graves', but we should remain aware that the degree of use and the wear on these particular beads cannot be established.

For the time-span of horseshoe handles like those at Garboldisham and Bircham we are afforded very few clues. the handle itself is a skeuomorphic device which was applied as a decorative feature to a select number of urns. The evidence from the East Anglian settlement sites at Mildenhall Fen and Hockwold-cum-Wilton suggest that the number of urns receiving this distinction in a domestic array was very small indeed (Tomalin 1983). With horseshoe handles evoking little attention outside the sphere of funerary selection it may not be unreasonable to propose a relatively short time for their survival in Britain. Whilst broad arc handles and arcades may claim a longer time trajectory, as attested on some Deverel-Rimbury urns, it is pertinent to observe that individual relief handles of the true horseshoe or croissant type are not usually to be found on urns of the

later Bronze Age. (The urns from Swindon, Wiltshire, and Colbury, Hampshire, (Piggott 1938; Preston and Hawkes 1933) are notable exceptions).

A final absolute chronological guideline may be drawn from the domestic Biconical Urn assemblage at Enclosure 15 in the Dartmoor settlement complex at Shaugh Moor (Wainwright *et al.* 1980; Tomalin 1982). Biconical Urns were undoubtedly in use on the site around 1330 ± 80 bc (HAR-3358) and the date of 1480 ± 90 bc (HAR-2474) might possibly backdate such use by a further century. Of particular interest is urn P13 from this site which displays the same distinct internally bevelled rim form and convex neck as that present on urn N.B15 at Garboldishm. Urns P12 and P19 found in the same pit would seem to display an early concession towards the bucket form. All three urns are chronologically fixed by HAR-3358, a date which might well seem equally appropriate for the burial at Soldiers Hill.

Endnotes

1. Acc. No. NCM 20.953
2. Acc. No. KLM 25.969
3. Excavations by the Norfolk Archaeological Unit in 1977 (Pl.XX) south of the area excavated by Dr Kinnes revealed Iron Age pits, but no earlier finds or structures.
4. Finds from the excavation remain in Stephen Hutt's possession.
5. The loss of the Bircham grave group at Houghton Hall was confirmed in correspondence between the writer and the Cholmondeley Estate in December, 1982. The present Lord Cholmondeley observed that a similar enquiry was made some forty years ago, and that the agent of the estate, who then been at Houghton Hall for many years, could throw no light on the matter.

9. Ring-ditches in Norfolk: A Review of Recent Discoveries

by Andrew J. Lawson

I. Discussion

Since the publication of the evidence for round barrows in East Anglia (Lawson, Martin and Priddy 1981), fieldwork, documentary research and aerial photography have continued to increase the knowledge of these monuments in Norfolk. Since November 1979, ten new mounds, possibly barrows, have been reported from field observation[1]. Notebooks of earlier fieldworkers such as J.E.Sainty, A.Q.Watson and H.Dixon-Hewitt, containing descriptions and photographs of barrows, have recently come to light, whilst the study of old maps and documents continues to reveal a wealth of evidence to suggest the former existence of barrows, principally from place-name evidence. For example, 'Black Hill' (Bawdeswell Site 18364) is drawn on maps of *c.*1600 and *c.*1700; mounds called 'Robyn Hoodes Buttes' (Cranwich Sites 15522-3; 4 mounds) are drawn on a seventeenth-century map; 'Howe Hill' is drawn on a map of 1579 at Cockley Cley (Beachamwell Site 4530); 'Ringlehowe' and 'Mylke Hylle' are named on seventeenth-century maps of Hunstanton; 'Guies Hylle' (Site 20549) is drawn on an early seventeenth-century map of Aylsham, and so on. Documentary work by Barbara Cornford on the Isle of Flegg has produced many place names suggestive of barrows such as Barrow Lowes in sixteenth-century Ormesby St. Michael, but only one name, 'Sepgrave' might correspond with the site of a ring-ditch (Hemsby Site 11883).

However, the greatest volume of new evidence for the sites of former barrows has come from aerial photograph (Figs.98-9). Any survey of sites discovered by aerial reconnaissance can only produce an interim statement, as the appearances of the transient crop- and soil-marks which are frequently recorded during such surveillance do not always coincide with the brief periods of observation. Between 1 April 1977 and 31 March 1983, at least 282 ring-ditches were reported in Norfolk alone, bringing the total of known ring-ditches in the county to 831. Continued surveillance by Derek Edwards of the Norfolk Archaeological Unit has frequently resulted in improved photographic results and, subsequently, more accurate plotting. This work has not only revealed new monuments, whether solitary or in groups, but has also extended previously recorded barrow and ring-ditch groups. Ten groups have either been enlarged or established around already known monuments[2], whilst other less concentrated clusters, which are not sufficiently cohesive to be necessarily regarded as diffuse cemeteries, have also been recognised.

As a result of recent photography, evidence of the morphology of many monuments has been enhanced, and the newly-recorded ring-ditches can be divided as follows:

	isolated	*in groups*
Annular	227	18
Penannular	5	—
Multiple causewayed	1	—
Double ditched	13	2
Triple ditched	2	—
TOTALS	248	20

In addition, fourteen ring-ditches have been reported, without corroborative photography. It has not been possible to classify their forms. A list of all these sites is appended (on microfiche) and includes the county number, the national grid reference, date of recording and photographic reference for each site (sample on p.118).

These totals have been calculated from the information placed on the County Sites and Monuments Record, without a systematic examination of the photographic evidence and without confirmatory fieldwork. Consequently, the unavoidable ambiguities in the interpretation of this type of site remain (Lawson, Martin and Priddy 1981, 26-30, 35). A number of sites, however, have been discounted where further evidence strongly suggests an alternative interpretation. These alternatives demand caution before presuming that any ring-ditch identifies a former barrow, as shown by the following examples of other types of circular features which have also been recorded by aerial photography:

Ashby St. Mary	15587	Post-mill
Beachamwell	14396	Periglacial hummocks
Burgh St. Peter	16005	Possible hut circles of a Romano-British settlement
Halvergate	18187	Situated on recent marshland
Great Massingham	2341	Infilled pit
Narborough	17012	Romano-British pottery on surface
North Wootton	18555	?Salt production sites
South Wootton		Fungus rings
Sall	7366	Dovecote
Suffield	18310	Searchlight station
Swanton Novers		Circular tree bank
Wramplingham		Equestrian exercise field (Wilson 1983, pl.118)

Without an accurate indication of the diameters of recorded circular crop-marks it has been difficult to suggest whether the original monument was a hut-circle, a barrow, or a circular enclosure, and, without doubt, some misinterpretations have probably been made.

Only eight ring-ditches have been investigated in Norfolk. The first, Caistor St. Edmund (Site 9794), was

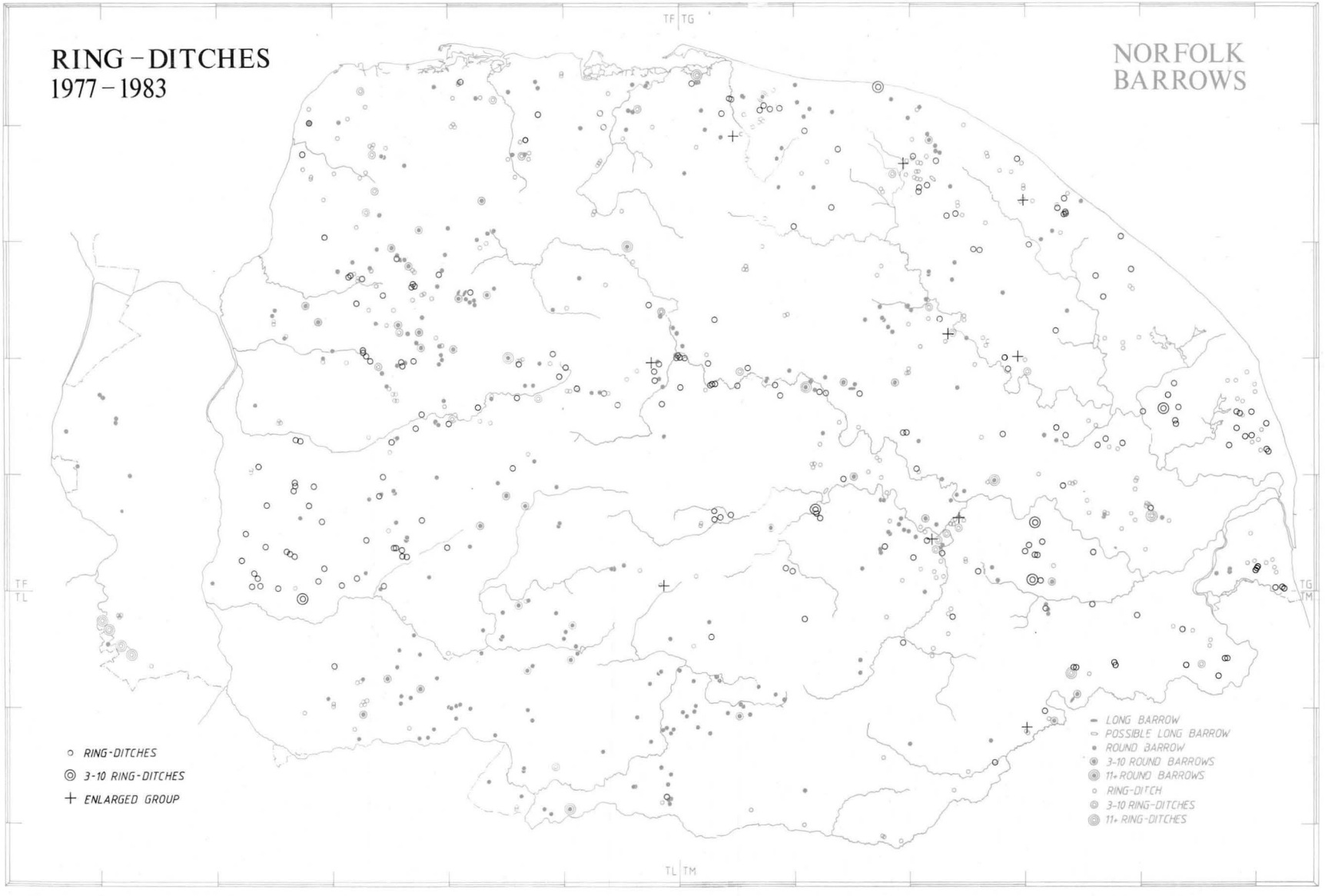


Figure 98 Distribution of ring-ditches discovered in Norfolk between 1 April 1977 and 31 March 1983 compared with the previously known distribution of barrows and ring-ditches in the county (Lawson, Martin and Priddy 1981, fig.5)

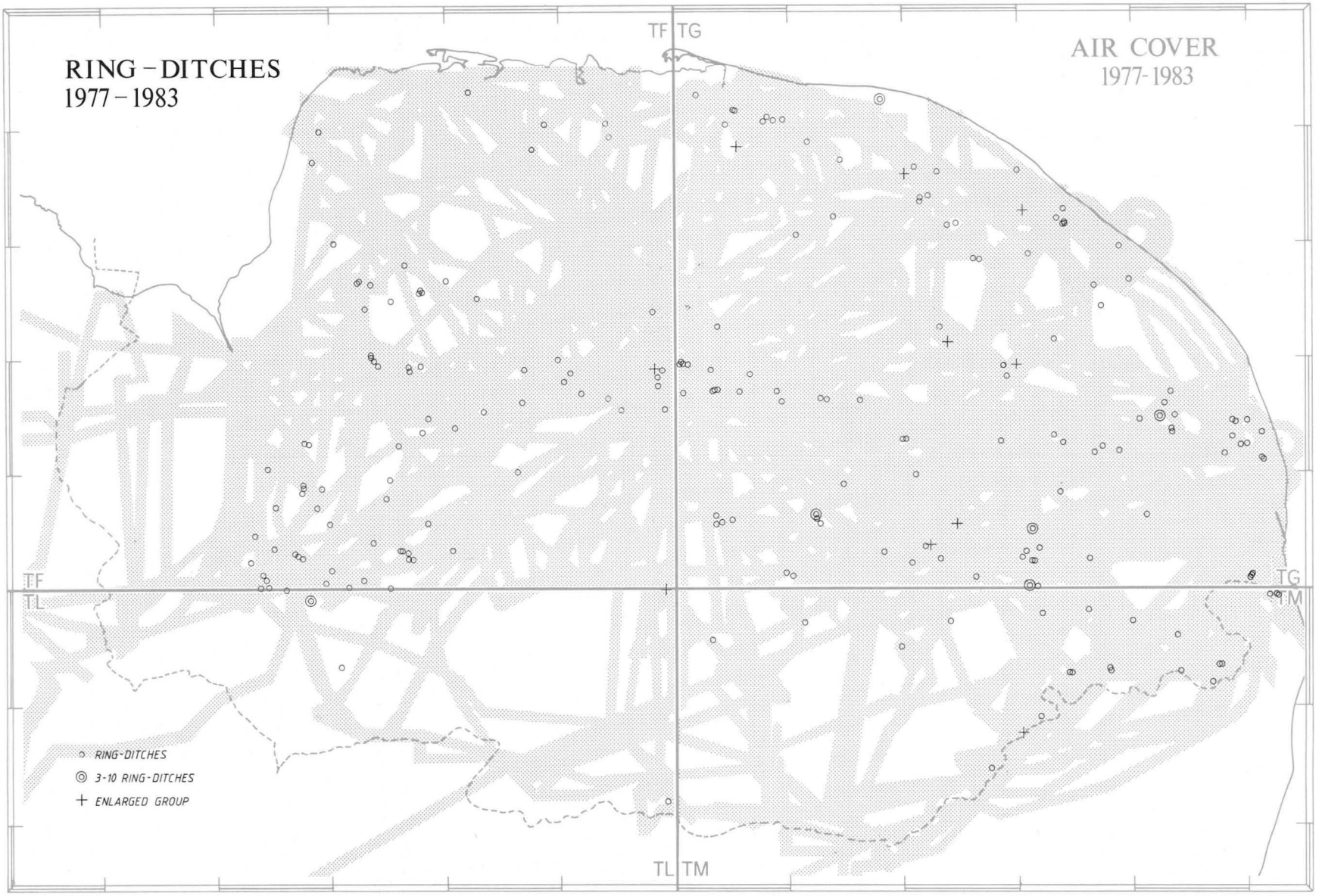


Figure 99 Ring-ditches in Norfolk revealed by air photography between 1 April 1977 and 31 March 1983, against the background of Unit flights during the same period

investigated in September 1938 by J.Wake for the Norfolk Research Committee. A large irregular crop-mark circle 150ft (45.7m) by 168ft (51.2m), set amidst many other features (Lawson, Martin and Priddy 1981, fig.18) was trenched. 'No artefacts sufficiently identifiable to date the work were found' (MS report, NCM). The purpose of the earthworks was not resolved, although it is probable that the crop-marks are of a domestic, rather than funerary nature. In 1961 a penannular ring-ditch (Site 7025) was excavated at Witton by J.E.Owles. The site was almost certainly a windmill stance. The following year two further ring-ditches (Sites 1009/c140-1) were sectioned at Witton. Although the results were inconclusive, the finding of medieval sherds throughout the ditch fills casts doubt on a prehistoric date for the features (Lawson 1983, 20-21).

The investigation of a ring-ditch at Costessey (Site 7887) in February 1964 was conducted by P.H.Reeve, Headmaster of the local secondary modern school, and Mr Maityard, a member of his staff. A single trench 3ft (0.9m) wide and 51ft 6in (15.7m) long located a 'chalk ridge' which was found, in further *sondages*, to form part of a circle. No archaeological finds were made (MS report, NCM).

The first ring-ditch site, devoid of any recorded remnant mound and proven to be a former barrow site was extensively excavated in 1979 at Bowthorpe, Norwich (Site 11431; this volume). Subsequently a second site in Norwich (Site 366; this volume) has produced evidence for a similar date and function, although the trial investigation of a ring-ditch at Roydon (Site 12834) near Diss in January 1982 has led to its interpretation as a small Iron Age enclosure.

Only two of the eight investigated ring-ditch sites have, therefore, produced good evidence for their use as barrows. This proportion is, however, deceptively low as many upstanding mounds have been shown to be barrows whose ditches are only evident from crop-marks (*e.g.* Eaton Sites 9549/c3-4, this volume; Trowse-with-Newton Site 9592; Healy 1982). Based on these experiences it should be possible to select former barrow sites from the wealth of circular crop-marks, although only excavation will probably resolve doubts.

The distribution of the newly-recorded ring-ditch sites is widespread throughout the county, but principal concentrations occur in the north-east and north-west, complementing the previously known distribution, and on the higher ground of the south-west where few monuments were recorded previously. Further sites occur in the Wensum Valley and south-east of Norwich.

As the Soil Survey of England and Wales have recently (1982) published a 1;100,000 scale map of the soils of Norfolk, it is possible to state with some accuracy the types of soil on which the newly-recorded monuments lie. In the north-east, sixty-five of the sixty-eight sites lie on the rich brown earths of this 'Cover Loam' region, one site lies on brown sand, but only two on a small area of stagnogley soil.

North-west of Norwich and on the Cromer Ridge all nineteen sites lie on the typical brown sands formed on the glacio-fluvial drift. No new sites have been recorded in Breckland; twelve have been recorded on the palaeo-argillic brown earths and typical brown sands of the 'Good Sand' region. In the chalk regions, forty have been recorded on rendzinas with a further three on typical argillic brown earths, six on the typical brown sands on valley slopes within the chalk region and one on low-lying humic-sandy gley soils. Directly east of the Fens thirty-four sites have been recorded in this region of very mixed soils: ten on gleyic argillic brown sands; nine on typical brown sand; two on typical brown calcareous earths; two on stagnogley soils; five on stagnogleyic argillic brown earths and six on peat soils.

The majority of these new sites are situated on soils which are suitable for the production of crop-marks. However, the Boulder Clay region of Central Norfolk is generally considered to be unresponsive to crop-marks and an area avoided by early man. Yet, seventy-nine new ring-ditches or groups have been recorded in this region. With the exception of an indistinct ring-ditch at Foulsham (Site 18559) and a dubious site at Mileham (Site 17655), and two further sites recorded on the sandy terraces of the Waveney Valley, all are situated on the argillic brown earths of the drier Boulder Clay, the mapped units of which also contain some well-drained loamy and sandy soils. Except for the sites already mentioned, none is situated on the stagnogley soils, the wettest soils, which occupy much of the Boulder Clay region.

The absence of barrows and other archaeological sites on the Boulder Clay has often been taken as an indication of the avoidance of this area by farming communities prior to the post-Roman period. There is, however, a danger of circular argument. Although buried sites may be difficult to locate by aerial photography in heavy wet soils, they may still exist. However, because the soils on the Boulder Clay are unresponsive to crop-marks, the area tends to be avoided during aerial surveillance, whilst more productive areas continue to be searched, with the result that the contrast between the two areas is increased.

The bias is demonstrated when the distribution of new sites is compared with the areas searched. The Norfolk Archaeological Unit's composite flight plan (Fig.99) for the period 1 April 1977 to 31 March 1983 helps to explain the uneven distribution of the ring-ditches recorded in the same period. Flights were principally made from three bases, Great Yarmouth, Norwich and Swanton Morley (in the centre of the county), the flight paths radiating from them. Because of the disproportionate amount of time spent near Swanton Morley at the start and finish of flights, a large number of sites has been discovered in the vicinity (fifteen within 4km of the centre of the airfield). The most comprehensively covered areas are that to the south-east of Swanton Morley, the area of Norwich, the southern Broads and Flegg. Consequently many sites have been recorded in this zone including a group of eight monuments at Blood Hills, Ashby-with-Oby (Site 15805).

The number of flights covering the northern half of the county contrasts markedly with that for the southern half. A policy of searching the Waveney and Little Ouse valleys which mark the southern county boundary is reflected in the flight paths, but very little flying has been done over the Boulder Clay of central south Norfolk, the Breckland and, to the west, the Fens. It is, therefore, hardly surprising that few new sites have been recorded in these areas.

Hence, two principal factors appear to influence the known distribution of ring-ditches. Firstly, the area searched: obviously, sites can only be recorded in the

areas searched, and apparent blanks occur over the areas not searched. Secondly, the soils and their related properties: although ring-ditches have been recorded on a variety of soils, wet soils appear to have been avoided by barrow-builders, despite the reservations expressed above. In due course it may be possible to quantify further the relative amounts of time required to detect sites on different soils and to accept that a considerably increased time factor is required to locate crop-mark sites on wet soils.

A continued programme of aerial surveillance can be justified even from the selected results of the five years' flying presented here, especially with the discovery of concentrations in the west of the county and in the Isle of Flegg.

II. Gazetteer (microfiche)

An extract of the Gazetteer of newly-discovered ring-ditches is printed below as a sample of what can be found on the accompanying microfiche.

Endnotes

1.

Parish	*County Number*
Aylsham	18530
Bawsey	16282
N. Elmham	1121 (2 mounds)
Haddiscoe	16142
Hillington	
Horsford	18491
Middleton	17314
Seething	17699

2.

Parish	*County Number*	*No. of additional ring-ditches*	*Total in group*
Belaugh	11878	1 (double concentric)	2
Buxton with Lammas	12786	1	5
Caistor St. Edmunds	9794	1	6
Earsham	11676	4	6
N. Elmham	1012	2	4
Knapton	12918	1 (double concentric)	3
Letheringsett with Glandford	12825	1	2
Scoulton	12832	1	2
Sustead	12848	5 (possibly 6)	6 (possibly 7)
Trowse with Newton	9589	3	4

3. These clusters show on the distribution map (Fig.98) as overlapping single ring-ditch symbols.

Parish	*County Number*	*Grid Ref.*	*Date of first recording*	*No.*	*Association, references, Comments, Publications*
Aldeby	16003	TM 4689 9235	28.7.75	1	Cut by modern road and at centre of complex of linear crop-marks and old field boundaries. Indistinct and doubtful. TM4792/A TM4692/A-E
Aldeby	16882	TM 4407 9325	19.7.77	1	TM4493/A,B
Antingham	17332	TG 2440 3230	21.7.77	1	TG2432/E
Ashby-with-Oby	15805	TG 423 154 centred	3.7.76	8	Group of eight ring-ditches six being single, 1 double and 1 triple-ditched. Linear and curvilinear features in association. TG4215/A-C
Ashby-with-Oby	18394	TG 4350 1548	9.6.80	1	Near junction of three parish boundaries TG4315/A,B
Ashmanhaugh	18193	TG 3301 2215	10.7.80	1	TG3322/A
Attleborough	17219	TM 0283 9595	1.8.70	1	TM0295/A-C
Attlebridge	17217	TG 130 169	19.7.77	1	Adjacent rectangular feature TG1316/A-C TG1216/A,B
Bacton	16014	TG 3375 3350	12.9.78	1	Possible segment of ring-ditch adjacent linear crop-marks TG3333/A,B
Bacton	16653	TG 3326 3271	30.7.77	1	TG3332/AY, AZ, ABE
Barton Bendish	4492	TF 7420 0830	1944	3	Visual siting only
Barton Bendish	16880	TF 7306 0452	26.7.77	1	Extent mound TF7304/A
Beachamwell	16581	TF 7785 0729	a.1980	1	With a linear crop-mark OASP 519 76 020
Beeston Regis	6352	TG 177 431 centred	24.2.82	7	Seven small ring-ditches Dubious: on caravan park C.U.C. BKJ 67 TG1743/A
Beeston-with-Bittering	15275	TF 9375 1703	c.1978	1	TF9317/C
Beetley	18318	TF 9825 1815 centred	15.7.80	1	Possible 'ring-ditch' type feature composed of discontinuous line of pits TF9818/P,Q
Beetley	18319	TF 9810 1888	15.7.82	1	and trackway TF9818(M,N

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