



NORWICH SOUTHERN BYPASS, Part I: Excavations at Bixley, Caistor St Edmund, Trowse

East Anglian Archaeology

Archaeology and Environment, Norfolk Museums Service 2000

EAST ANGLIAN ARCHAEOLOGY

In memory of our friend and colleague Sue Margeson,
1948-1997

**Excavations on the
Norwich Southern
Bypass, 1989–91
Part I: Excavations
at Bixley, Caistor St
Edmund, Trowse,
Cringleford and
Little Melton**

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Sarah Bates**

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Cover photograph

Bixley Site 6099, barrow ring-ditch after excavation, looking south.
Photo: Stephen Kemp (6099 BXY 65)

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Kenneth Penn catalogued and analysed the Anglo-Saxon graves from Harford Farm. This material is to be presented in a companion volume, Part II of this report, which is mostly his work. The main text of this present volume was largely written by Trevor Ashwin,

Chapters 5 and 6 being co-written with Sarah Bates. Of those who have read the text, either fully or in part, we are especially grateful to Frances Healy, Edward Martin and Jez Reeve for their detailed comments and encouragement.

TA Spring 1997

Summary

The Norwich Southern Bypass Project, a major series of excavations and watching briefs, was conducted by the Norfolk Archaeological Unit during the period 1989–92 in advance of highway construction. This volume, Part I of the final publication in *East Anglian Archaeology*, offers a synthesis of the results of the entire project with the exception of an important Middle Saxon cemetery excavated at Harford Farm, Caistor St Edmund. This will be published in a separate volume as Part II of the Norwich Southern Bypass report (Penn forthcoming). Funding for works on the line of the road itself was provided by English Heritage; excavations necessitated by gravel extraction in areas bordering the route were funded by the contractors undertaking these works.

The present volume comprises a series of six discrete excavation reports, followed by single chapters presenting environmental information and a concluding discussion. *Chapters 1 and 2* describe the context and history of the project, providing an account of research aims, excavation procedures and analysis methods. *Chapter 3* recounts the excavation of a series of three crop-mark ring-ditches, dating to the third–second millennia BC, at Bixley (Sites 6099 and 9585). At Harford Farm, Caistor St Edmund (Site 9794; *Chapter 4*) five more ring-ditches were excavated, along with evidence of Middle Iron Age occupation, an intriguing series of square-ditched enclosures probably of Late Iron Age date, and an important series of Middle Saxon inhumations. *Chapters 5 and 6* describe prehistoric occupation sites at Valley Belt, Trowse (Site 9589) and at Markshall, Caistor St Edmund (Site 9584), which were excavated in advance of gravel extraction for the new road. *Chapter 7* publishes the results of limited excavations conducted in 1978–9 at a nearby occupation site at the Frettenham Lime Co. Quarry, Caistor St Edmund (Site 11350); *Chapter 8* describes outstanding prehistoric findings from the watching brief observations maintained during the construction of the road itself. Environmental and zoological data are summarised and discussed in *Chapter 9*, while *Chapter 10* offers a general synthesis of the results of the Project.

Period 1: earlier prehistoric (human activity pre-dating c. 1000 cal. BC)

Mesolithic activity was attested by very small quantities of microlithic flint. A small number of natural features produced pine charcoal and evidence of fire-reddening, but there was no positive evidence that this represented deliberate woodland clearance by humans.

Scarcely any evidence of Early Neolithic activity was noted, despite the scope of the Project, but both funerary

and occupation evidence of the later Neolithic and Bronze Age were recorded. Eight crop-mark round barrows dated to the third and second millennia cal. BC. They make a significant addition to knowledge of the well-known 'Arminghall group' of barrows lying in the vicinity of the Arminghall Henge, a number of which had seen previous excavation. Although heavily plough-damaged, the barrows emerged as an extremely diverse group. Evidence for inhumed and cremated burials was recorded, some of them accompanied by Collared Urn (Bixley) and Food Vessel (Harford Farm) pottery. A burial at Harford Farm was accompanied by a composite bracelet of shale, jet and faience. A series of six radiocarbon determinations, mostly made on pyre charcoal, ranged (when cited at two sigma) between 3260–2040 cal. BC (GU-5189; 4060±200 BP) and 2290–1930 cal. BC (GU-5187; 3740±80 BP).

Later Neolithic and Bronze Age occupation evidence was sparse, and mostly took the form of pit groups associated with Beaker pottery of typologically 'late' pattern, although some features containing Grooved Ware were also examined. The results of environmental sampling suggested that food-gathering as well as agriculture was important to subsistence. A dump of later Bronze Age pottery possibly representing kiln waste was recorded during watching brief work, and was associated with a radiocarbon determination of 1520–1220 cal. BC (GU-5290; 3110±60 BP).

Period 2: later prehistoric (c. 1000–50 cal. BC)

Two extensive and contrasting sites of the Early-Middle Iron Age period were examined, both of them chance discoveries made while examining unrelated crop-mark sites. At Harford Farm a loose and unenclosed complex of roundhouses and pit groups lay in the midst of an earlier barrow group; the landscape at Valley Belt, Trowse, featured pits, four-post structures and enclosure boundaries. An important assemblage of over 28kg of coarse pottery was recovered. Cereal grains and hazel nutshell fragments were prominent in assemblages of plant macrofossils.

Period 3: Late Iron Age–Romano-British (c. 50 BC–400 AD)

At Harford Farm a series of six small square-ditched enclosures was examined. These were arrayed in a north-to-south line in the northern part of the Period 1 barrow group; although burials and artefactual dating evidence were not recovered, it is suggested that these features were ritual or funerary monuments of the ultimate

Iron Age or the Early Roman period. Two other enclosures of this type were excavated at Valley Belt, Trowse.

No Romano-British occupation remains were recorded during the excavations or the watching brief. This absence was striking considering the proximity of the *civitas* capital of *Venta Icenorum*.

Period 4: Early/Middle Anglo-Saxon (c.400–800 AD)

Forty-six burials, dating to the late seventh or early eighth centuries, were excavated at Harford Farm. With the exception of an unpublished group of graves from Thornham, in the north-west of the county, they represent the first example of a 'final phase' Anglo-Saxon cemetery recorded in Norfolk to date. A small number of graves contained exceptional objects of gold and silver, including

gold pendants and a composite disc brooch; it is possible that these burials reflect the continuing high status of *Venta Icenorum* during the Middle Saxon period. They are published in full in Part II of this report (Penn 2000).

A pit excavated at Markshall containing a globular ceramic bowl was tentatively interpreted as an isolated pagan Saxon inhumation grave.

Period 5: later Anglo-Saxon/Medieval/modern (human activity post-dating c. 800 AD)

Very few features of medieval date were recorded, with the exception of field-ditches. Large quantities of Thetford-type ware from the vicinity of one of the Period 1 barrows at Bixley might represent manuring or rubbish-disposal during the Saxo-Norman period.

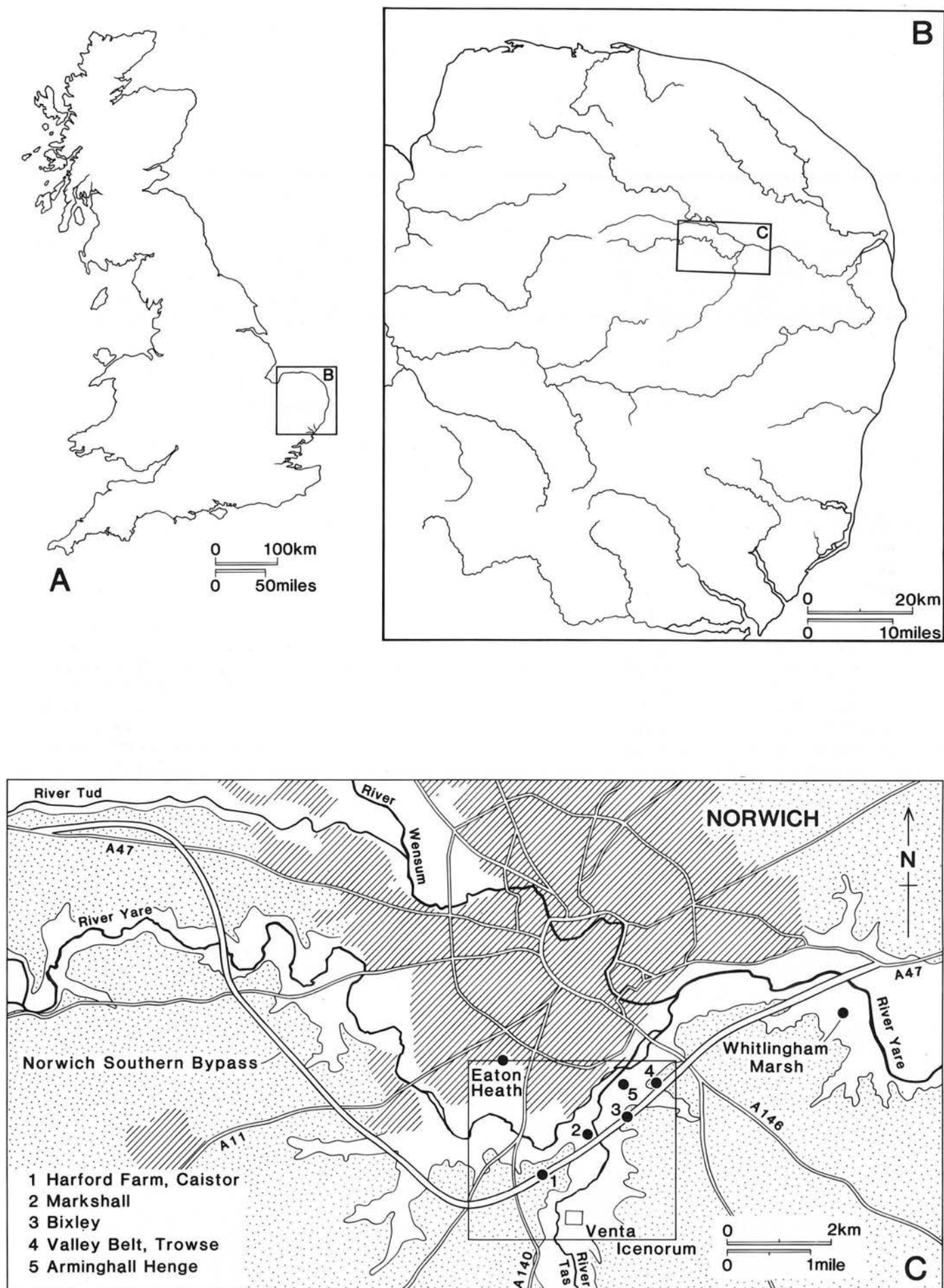


Figure 1 Location map showing Norwich Southern Bypass study area. Inset shows area detailed in Fig.2

1. Introduction

by Trevor Ashwin

I. The Norwich Southern Bypass

(Figs 1 and 2)

After over fifteen years of consultation and planning, the construction of the Norwich Southern Bypass was begun during the summer of 1990. The new highway, a fourteen-mile length of dual carriageway, diverts the A47 Leicester-Great Yarmouth trunk road south of its pre-existing course through the built-up area of Norwich via the parishes of Easton, Bawburgh, Little Melton, Colney, Cringleford, Keswick, Caistor St Edmund, Bixley, Trowse, Kirby Bedon and Postwick.

The new road passes through the entire range of different types of countryside and rural topography in the area, including the prominent gravel hills to the south-east of Norwich and the Yare Marshes at Whitlingham and Postwick. It crosses the Rivers Tas and Yare, the latter in two places. Its potential archaeological value as a transect through the landscape, providing information about past human activity through a series of contrasting zones of surface geology, drainage and land use, was clear from the outset. The Norfolk Archaeological Unit (hereafter NAU) had taken a keen interest in the Norwich Southern Bypass's possible impact ever since consultation on possible route alignments began in the early 1970s, and a preliminary report on the archaeological implications of the development (Norfolk Archaeological Unit 1974) was published. This comprised a brief summary of the area's archaeological potential and a gazetteer of 152 located sites.

The area immediately to the south-east of Norwich in particular has been a natural focus of human activity since prehistoric times. The most important reasons for this are topographical, since the principal rivers draining this part of the county — the Yare, Wensum and Tas — all meet at two confluences in Bixley and Trowse parishes. Because of this, natural routeways down the valleys of these three rivers all converge upon the same small area, which was also the lowest bridging point of the River Yare until the construction of the Great Yarmouth Haven bridge in the fifteenth century.

Sites from the whole spectrum of past human activity were listed in the NAU's implication survey. Earliest were a number of Palaeolithic date, most notably the major flint-working site at Whitlingham Marshes in Kirby Bedon parish. The 'Arminghall Henge', sited close to the Yare-Tas confluence itself, was clearly an extraordinary Neolithic and Bronze Age ceremonial centre which may have been in use for a considerable length of time. In the vicinity of the Henge were a series of crop-mark ring-ditches, mostly representing flattened round barrows of prehistoric date. Thus the area was seen to be a centre of human activity long before the establishment of *Venta Icenorum*, the region's capital city in the Roman period, in the first century AD. That the area remained significant in post-Roman times too was demonstrated by the two important Early Saxon cemeteries (Myres and Green 1973) which were situated immediately outside the Roman town.

II. The sites

(Pls I, II, XIV; Fig.2)

The finalised route of the Norwich Southern Bypass did not directly threaten either the Arminghall Henge or the known extent of Roman *Venta Icenorum*. However it was seen that it would pass very close to both monuments, in the case of the Henge at a distance of only about 300m to the south-east. It was also clear that two important crop-mark sites would be largely destroyed by the road. These were a group of three ring-ditches in Bixley parish on high ground overlooking the Arminghall Henge (Sites 6099 and 9585), and a major complex of features on the hilltop at Harford Farm, Caistor (Site 9794) which included six ring-ditches and a series of at least four smaller square enclosures.

In 1989, the NAU applied to English Heritage for funds to conduct a Watching Brief along the entire length of the road and to excavate the two crop-mark sites at Bixley and Caistor. The two rescue excavations were directed by Trevor Ashwin and were carried out between November 1989 and August 1990, the site at Bixley being examined first. It was originally intended that the excavations and the watching brief both be carried out while the main earth-moving work was in progress. However last-minute delays in the start date of the road construction meant that the formal excavations had to be carried out in advance of the engineering work. Excavations at Bixley and Harford Farm were funded by English Heritage, who augmented their original contribution after the chance discovery of the 46 Anglo-Saxon burials at Harford Farm in April 1990.

Earthworks connected with the highway construction began in August 1990 and continued for a year. During this time a watching brief was kept on the entire length of the road by Jayne Bown of NAU.

Engineering work between September 1990 and April 1991 necessitated two additional rescue excavations in the bypass zone. Both of these projects examined areas adjacent to the road line in advance of gravel extraction. At *Valley Belt, Trowse* (Site 9589), a previously-identified circular crop-mark proved to be modern but extensive remains of prehistoric settlement were revealed in the surrounding area. At *Markshall* in Caistor St Edmund parish (Site 9584), evaluation-stripping of a large area situated between two major crop-mark ring-ditches close to the River Tas produced a smaller number of features. These were of Neolithic and of medieval or post-medieval date. Both of these projects were funded by the contractors responsible for each borrow pit.

III. Topography and geology

The relief of the area immediately to the south and south-east of Norwich is dominated by the confluence of the north-flowing River Tas with the east-flowing River Yare, and by the steeply sloping hills composed of Pleistocene glacial till which surround and lie between the

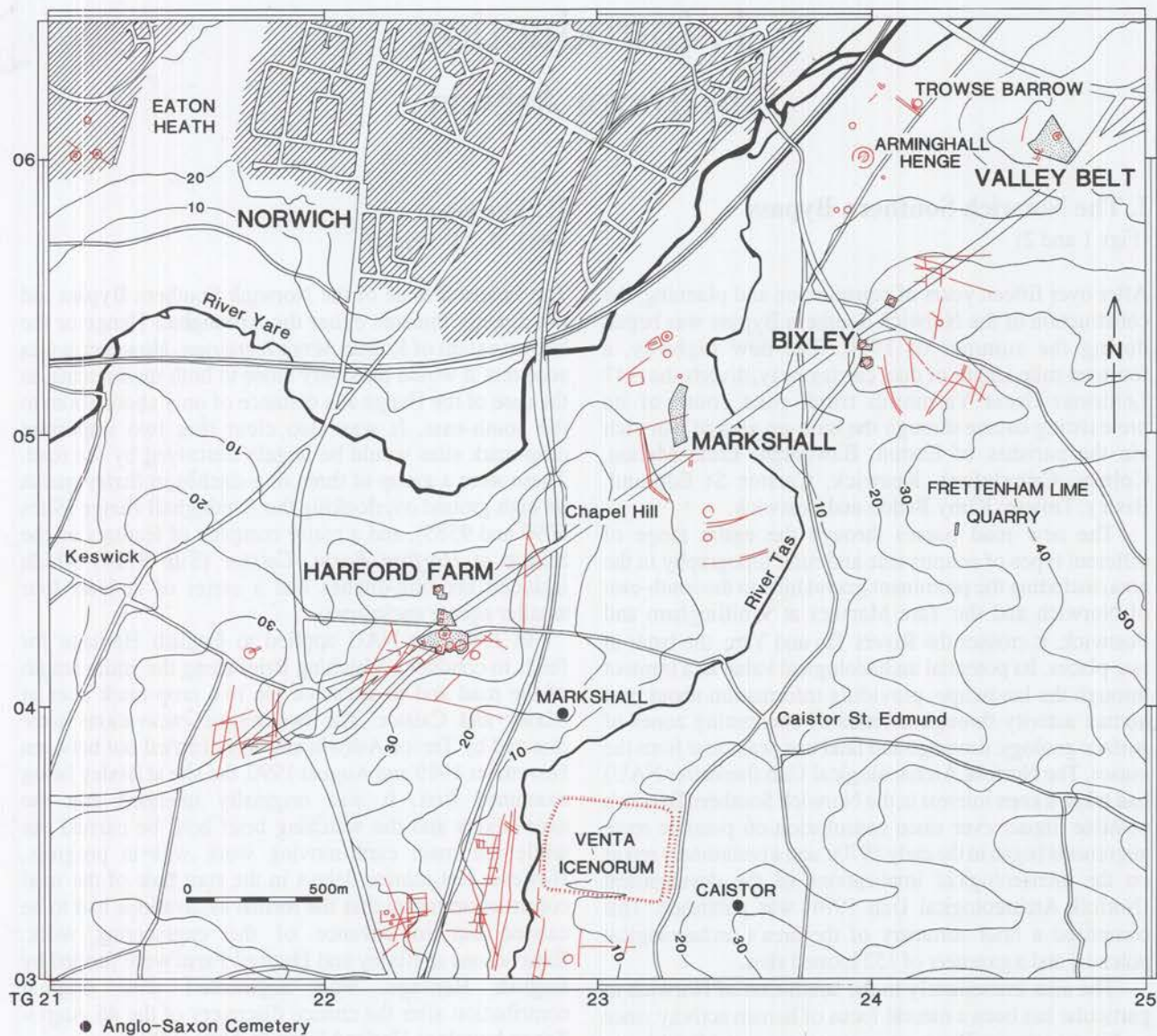


Figure 2 Yare-Tas confluence: topography, crop-marks, previous excavations, location of Norwich Southern Bypass sites. Scale 1:25,000

two rivers. This very distinctive hilly relief continues further to the north as well, occupying most of the area between the Yare and Wensum valleys, but here it is covered by the medieval and modern city of Norwich.

Most of the surface geology of the area consists of mixed sandy gravels with occasional inclusions of clayey crag material. These light glacial outwash deposits have been laid down over boulder clay and periglacially modified chalk bedrock. In the valley bottoms a series of peaty sediments had been laid down in more recent times. These are described and discussed by Peter Murphy in Chapter 9.

IV. Previous investigations

Since the late 1920s air photography of the countryside to the south of Norwich has produced large numbers of crop-mark sites, especially around the confluence of the Rivers Yare and Tas. The pioneering work of Wing Commander Insall, H. Frederick Low and others in the inter-war years led very rapidly to an appreciation of the area's significance in pre-Roman times (Clark 1936, 1–5).

However, although most previous study of the intense prehistoric activity has focussed on the 'Arminghall Henge' and other such aerial discoveries, significant research into the prehistoric sites and monuments of the area took place before this time. By the early nineteenth century the large numbers of barrows around the convergence of the two valleys had attracted the interest of antiquaries. These included Samuel Woodward, who in 1827 opened two of the barrows to the north of the River Yare at Eaton Heath (Site 9549; Healy 1986, 50–1). However, it is clear from Woodward's account of his work and from other sources that his were not the only 'excavations' conducted on these monuments. His report (quoted in Healy, *op. cit.*) records his suspicions that one of the Eaton barrows had previously been 'opened by stealth in the night' by 'two persons from London', while further sources cited by Healy allude to otherwise unrecorded interventions.

While ancient funerary remains were first recognised in the area long ago, its significance to Quaternary studies was also identified. In the early twentieth century several chance finds of palaeolithic items were noted, and in 1926 a major Acheulean flint-working site was discovered close to the River Yare at Whitlingham. Here the exploitation of gravel pits revealed a series of implement-bearing deposits stratified between 2.3m and 4m below ground level, and limited excavation (Sainty 1927) produced a large group of flint tools of great regional significance.

1929 saw the accidental discovery of the 'Arminghall Henge' (Site 6100). Situated on low-lying terrain close to the River Tas in Bixley parish, this site was first observed by Insall and was partially excavated by Grahame Clark for the Norfolk Research Committee and the Percy Sladen Memorial Fund shortly afterwards. Clark's work was published promptly and skilfully in 1936. As well as elucidating the construction of this extraordinary ceremonial monument his report sought to place it in its national context, by including pioneering discussions both of 'hengés' as a monument class and of the rusticated Beaker pottery which was found there.

Since that time many other crop-mark sites have been recorded in Caistor St Edmund and Bixley parishes, including a total of over twenty ring-ditches. These features lay close to the Arminghall Henge, on the gravel hills immediately to the east of the Tas (Sites 6099 and 9585) and on high ground between the Rivers Tas and Yare (Site 9794). Most of them were interpreted as part of an 'Arminghall group' of levelled round barrows, although it is possible that at least one of the larger low-lying crop-marks was in fact a further henge monument (Chapter 10).

Two prehistoric sites in the area have been excavated and published in relatively recent times. A round barrow known from air photography in Trowse parish (Site 9592) was partially excavated in 1958–9 by Rainbird Clarke and again in 1976 by Keith Wade (Healy 1982), while in 1971 a Neolithic and Romano-British settlement site (Site 9544) was examined by Geoffrey Wainwright at Eaton Heath (Wainwright 1973).



Plate I Norwich Southern Bypass under construction, looking north-east, 20 April 1991 (TG2305/ADM/GGL10, Derek A. Edwards)
 Fieldwork sites: 1. Markshall Borrow Pit (Site 9584), 2. Bixley (Site 9585), 3. Bixley (Site 6099), 4. Frettenham Lime Co. Quarry (Site 13350), 5. Trowse Valley Belt (Site 9589)

2. The Norwich Southern Bypass Project

by Trevor Ashwin

I. Excavation research aims

The academic rationale of the Norwich Southern Bypass Project was set out in an Excavation Research Design written in 1989 by John Wymer, at that time Field Officer responsible for prehistory at the Norfolk Archaeological Unit. This document put forward four main objectives for the fieldwork, as follows.

1. *Area stripping of the main areas of crop marks at Harford Farm, Caistor (Site 9794).* This was to be followed by cleaning of all exposed surfaces and by partial or total excavation, depending on the results. A large part of the area included in the scheme lay outside both the scheduled and directly threatened parts of the site. This was to allow as large an area as possible of such a well-preserved site to be examined, and to help ensure that the features were well understood as a group as well as individually.

2. *Individual stripping of the three Bixley ring-ditches (Sites 6099 and 9585), and the excavation of any features which they enclosed.* This was intended to demonstrate whether or not these features were in fact round barrows, to clarify their relationship with the Arminghall Henge and other nearby crop-mark sites, and to attempt to offer a developmental model which might be applicable to barrow groups elsewhere in Norfolk.

3. *Environmental sampling of peaty sediments exposed in the Tas valley bottom* by the highway construction. It was hoped that this work, to be organised and co-ordinated by Peter Murphy of the Centre of East Anglian Studies, University of East Anglia, would elucidate the vegetational history of the area and reveal organic deposits contemporary with the excavated sites (Chapter 9).

4. *Maintenance of a watching brief along the entire line of the road,* to ensure that no disturbance of further unknown sites went unrecorded.

II. Excavation method

The work was undertaken by a team of NAU archaeologists which varied in size between seven and thirteen people, depending upon the scale of each excavation and the resources available. It included the project director, up to three site supervisors — each of them responsible for a specific area of the site — and a finds supervisor. This basic team was augmented from time to time by volunteers, notably by members of the Norfolk Archaeological Rescue Group and — during the summer of 1990 — by undergraduate students from the Archaeology Department of Exeter University.

Approaches to site clearance varied somewhat from excavation to excavation. After initial fieldwalking and metal detecting, the topsoil and subsoil deposits were removed mechanically to expose undisturbed natural deposits. This was usually followed by shovel-scraping to define the subsoil features. However, where the natural

deposits were gravelly it was often possible to clean areas of the sites gently using a large hydraulic excavator, notably at Valley Belt, Trowse. This method often worked so well that very little hand-cleaning of areas was necessary. After the initial cleaning process, as many features of human origin as possible were dug in half-section. Areas of special significance such as structural features or putative graves were identified for closer study where necessary. Ditches were sampled by trenching: care was exercised in the siting of sections, and wherever possible a ten-percent sample was excavated.

Subsoil deposits on the sites were all composed of sands and gravels in varying proportions. While this material was rapid-draining and easy to clean, its nature gave rise to other problems. Natural material and archaeological deposits alike were highly acid, giving rise to poor organic preservation. Virtually no animal bone whatever was found, and human skeletons were represented only by 'body stains'. Although most inhumations of Anglo-Saxon date were reasonably well-defined, body stains of prehistoric date were usually much more diffuse and sometimes evaded detection altogether. Apart from occasional charcoal-rich deposits, most feature fills were very similar in colour and consistency, usually being described as yellowish brown sands and silty sands with Munsell hue values in the 10YR 4- and 10YR 5- ranges. This uniformity, combined with animal burrowing (usually by moles) which tended to 'spread' the uppermost parts of archaeological deposits lying in the sandier subsoils, often made it difficult to see the precise shape and extent of features in plan before their excavation began.

A basic scale of 1:50 was adopted for excavation plans, and each site was planned using sheets of A3 size in a grid-defined format. Occasionally, where features were sparse, a smaller scale was used for general site plans, with only specific areas where features were present being planned at 1:50. Detail plans of graves and other features were made wherever necessary, usually at a scale of 1:10. However larger scales were sometimes used, particularly during the recording of graves where complex groups of objects were often drawn *in situ* at life size.

Excavation was easiest when conditions were damp. The uniformity of the soils often made the accurate sequential excavation of all the deposits within features impractical, and most important stratigraphic information was seen to best advantage in section. Because differences in soil colour and consistency between layers were often very slight they were recorded when wetted; close observation both of layer interfaces and inclusions was encouraged. Context numbers were assigned to all individual stratigraphic units which were distinguished during the excavation of features. Contexts were recorded by excavation staff and volunteers, under the oversight and guidance of the site supervisors, using the NAU standard Cut/Deposit and Skeleton pro-forma cards. 'Master context' numbers were used to identify major linear features such as ditches which were dug segmentally. This

permitted each excavated cutting to be assigned its own context number and then described fully, and allowed finds from such features to be conveniently located without time-consuming three-dimensional plotting.

A programme of environmental sampling was continued throughout the project (Murphy, Chapter 9). Due to the acidic and sterile nature of most deposits, this was highly selective. Sampling for flotation and subsequent botanical analysis was concentrated on features which were likely to be datable, particularly where visible charcoal or other organic remains gave a clear indication of environmental potential. These samples were augmented by a small number which were taken purely in the hope of retrieving material suitable for radiocarbon assay from features which were otherwise undatable. In exceptional circumstances, sand stains and other possibly organic deposits from graves were taken for laboratory analysis, in the hope of revealing botanical evidence comparable to those from similar work undertaken during the excavation of a barrow ring-ditch at Bowthorpe to the west of Norwich (Lawson 1986b, 43–5). These analyses produced negative results, however.

III. Post-excavation analysis

When excavation was completed, a preliminary assessment of the site archive and finds was carried out. As a result of this a revised Research Design for the Norwich Southern Bypass project was drawn up. This had four broad objectives: the ordering of the site record into an integrated Research Archive, analysis of the resulting body of data in order to describe how human activity on each site changed over time, detailed discussion of this activity, and assessment of its regional significance. English Heritage provided grant aid to fund the writing-up of the excavations at Bixley and Harford Farm, and agreed subsequently to a selective programme of post-excavation analyses on the results of the Watching Brief, published in Chapter 8. This additional work also included the publication of an important group of prehistoric features found during various recent watching briefs at the nearby Frettenham Lime Company quarry at Caistor St Edmund, and the integration of these results with those of the Norwich Southern Bypass fieldwork proper. Analysis of the results of excavations at Trowse and Markshall was funded by the developers concerned, Wyatt of Snetterton Ltd and May Gurney Construction Ltd.

Post-excavation work began with the checking and cross-referencing of site plans, context cards and finds records. Following this, all excavation data was input onto the NAU Contexts, Bulk Finds and Small Finds computer databases. This was done to ensure speed and flexibility in generating the large quantity of tabulated site data required by the Research Archive. Several specialist studies of artefactual material were undertaken externally. The struck flint was analysed by Stephen Kemp and Dr Peter Robins, and the cremated human bone by the Ancient Monuments Laboratory under the auspices of Simon Mays. The accessory vessels and other items from the prehistoric graves were reported on by Dr Helen Bamford, while the remainder of the pottery and fired clay was catalogued and analysed by the NAU's Sarah Percival.

Analysis of the site records was carried out by Trevor Ashwin and Sarah Bates. Cataloguing and analysis of the

material from the Anglo-Saxon graves was undertaken by Kenneth Penn of NAU, utilising his specialist knowledge of the period. Penn's work, published as Part II of this report, took the form of a large 'specialist report' within the framework of the main post-excavation work. Illustrations for archive and publication were mostly prepared by David Fox and Steven Ashley.

IV. Chronology and phasing

In many of the excavated areas difficulties were encountered in interpreting features conclusively, while many parts of the site proved very difficult to phase. Such problems are, of course, commonplace on eroded rural sand-and-gravel landscapes like those of the Norwich Southern Bypass. Plough-truncation of the sites had probably affected most features to some degree, and at Harford Farm and Trowse would have swept away all that were less than c. 0.2m deep. This left the NAU team with only a very partial sample of the archaeological deposits which once existed, and the damage to what remained tended to impede any attempts at phasing pits and other such features by comparison of their form and depth. Furthermore, most of the deposits which survived for excavation contained no finds. This was partly due to the very poor level of organic preservation on the sites, but a further important factor was the funerary and ceremonial nature of much of the activity, which probably led to the deposition of relatively little material in the form of rubbish.

These problems — particularly the shortage of artefacts — made it impossible to construct a detailed phasing scheme for any of the sites without either taking a highly judgmental approach or placing undue pressure on the written and drawn site record itself. Instead, for the purposes of analysis and publication, it was decided to describe human activity on all of the sites in terms of five broad chronological 'periods'.

Period 1: earlier prehistoric

human activity pre-dating c. 1000 BC

Period 2: later prehistoric

1000 BC–50 BC

Period 3: Late Iron Age–Romano-British

50 BC–AD400

Period 4: Early/Middle Anglo-Saxon

AD400–800

Period 5: later Anglo-Saxon/Medieval/modern

human activity post-dating c. AD800

All natural features were assigned to **Period 0**.

This periodisation scheme was devised during the initial post-excavation assessment of the site archive, and its outline was dictated by the excavation data and the apparent sequence of activity on the sites themselves rather than by external considerations of any kind. It remained unaltered throughout the analysis of the Bixley and Harford Farm data, and was subsequently applied to all the Norwich Southern Bypass sites. Bearing in mind the many obstacles to detailed phase analysis, the system was intended as a descriptive tool to chart the sites' development as closely as possible while remaining within the limits imposed by the quality of the data itself.

A proportion of the features from each site remained 'unphased' at the conclusion of the analysis process. This was usually because datable material and clear



Figure 3 Illustration conventions

stratigraphic or spatial links with other features of known period were both absent.

At the start of the analysis process, each of the sites was broken down into a series of convenient subdivisions. Once defined, these 'Context Groups' were then analysed and phased individually. This was usually performed by combining thorough spatial analysis of the checked and edited site plan with the finds data, in particular the draft pottery catalogue. This methodology was both rapid and effective in providing an initial 'phasing', which could then be refined by closer examination of individual features and groups of contexts posing specific problems.

V. Radiocarbon dating

A total of ten samples of charcoal or peat collected during the excavation and watching-brief work was submitted to the Scottish Universities Research and Reactor Centre, East Kilbride, for radiocarbon dating. The results of these determinations are listed in full in Appendix 1 (p.243).

All calibrated dates cited in the text have been calculated using the maximum intercept method of Stuiver and Reimer (1986), and are quoted at 95% confidence. They are quoted in the form recommended by Mook (1986), with the end points rounded out to ten years. The calibrations have been calculated using the data published by Stuiver and Pearson (1986), Pearson and Stuiver (1986), Pearson *et al.* (1986) and a bi-decadal weighted average of data from Linick *et al.* (1985), Stuiver *et al.* (1986) and Kromer *et al.* (1986).

VI. Publication policy

In presenting the Norwich Southern Bypass Project to the public, the authors of this volume have sought to follow the philosophy expounded by the Society of Antiquaries' recent paper (1992) discussing the aims and priorities of archaeological publication. Their aim has been to produce a descriptive synthesis of the excavated results and an assessment of their broader significance which remains of readable length. It became clear that a monograph report on these excavations could rapidly have assumed great size. We have tried to avoid this by means of the selective publication of raw data and of purely descriptive material.

Summary descriptive information on all contexts is presented in tabular form in the Research Archive, along with the full texts of all finds reports and other specialist contributions. The excavation data is accompanied by a full archive site report. Rather than merely re-stating the contents of the archive, this report was intended to provide an initial level of synthesis. It recounts in detail the history of the project, the methods used in the research and the contents of the site archive. It then proceeds to describe each group of deposits and their interpretation, and the rationale behind the 'phasing' of each Context Group. Chapters 1-8 of this volume have been synthesised directly from the archive site report. Each of the sites has been described and discussed using the 'Period' framework described above. As far as possible, all specialist material has been integrated with the main body of the narrative text, rather than being consigned to an appended Finds Report at the end of the volume.

An exception to this policy has been made for the report on the forty-six Anglo-Saxon graves at Harford Farm, (Penn 2000). It was felt that the catalogue of this nationally significant group of burials would be of great interest to the many specialists working in the field of Anglo-Saxon cemetery studies. Because of this it was decided to publish this data as a second volume of the Norwich Southern Bypass report, to make it available separately to those students who did not require the full account. This publication follows the familiar pattern of other *East Anglian Archaeology* reports on Anglo-Saxon cemeteries, such as Spong Hill (Hills, Penn and Rickett 1984) and Moming Thorpe (Green, Rogerson and White 1986). The catalogue is accompanied by discussion of the rite employed and the artefacts types found, and of the

wider significance of the graves, possibly the earliest Christian cemetery so far discovered in the county.

VII. Finds and archive

Archive material relating to the project includes finds, primary site records and photographs, as well as documents, computerised data and other material generated during post-excavation analysis. Photographs will reside with the county photographic archive curated by Norfolk Museums Service at Gressenhall. After security copying, all other material will ultimately be deposited with Norfolk Museums Service for storage at Norwich Castle Museum or elsewhere.

3. Excavations at Bixley (Sites 6099, 9585), 1989–90

by Trevor Ashwin

I. Summary

Rescue excavation of three crop-mark ring-ditches lying in the path of the Norwich Southern Bypass at Arminghall Lane, Bixley, took place at the outset of the Project. As predicted in the Excavation Research Design, each of the ring-ditches proved to be the remains of a plough-flattened round barrow.

Use of the site before the construction of the barrows left few traces; although the lithic assemblage suggested that the manufacture of flint tools had taken place in the vicinity of the site, this could just as well have post-dated as pre-dated barrow construction.

The precise sequence of the construction and use of each barrow remains largely unknown. This was because severe plough-truncation had removed two of the barrow mounds entirely and left only ephemeral traces of a third. The northernmost monument, however, was represented by three concentric ring-ditches, and it is thought that this barrow had been re-modelled at least twice during its period of use. The northern and southernmost barrows produced both inhumed and cremated burials, four of which were accompanied by accessory Collared Urns. Radiocarbon determinations from pyre charcoal ranged within the mid to later third millennium BC (GU-5185, 4020±70 BP, 2870–2390 cal. BC; GU-5184, 4090±50 BP, 2880–2490 cal. BC). Sited between the two large monuments was a smaller barrow. The only surviving burial which it contained was a substantial urned cremation; accompanying charcoal was radiocarbon dated to 2460–1930 cal. BC (GU-5187; 3740±80 BP).

Little evidence was found for the site's later occupation or use, although the deep outer ring-ditch of one of the barrows contained evidence for rubbish disposal or manuring during the Saxo-Norman period.

II. The site

Discovery and location

(Pl.II, III; Figs 2, 4)

The existence of the site was revealed by aerial photography during the 1930s, and the strong positive crop-marks the features produced were photographed many times subsequently. Most recently they were recorded by Derek Edwards of Norfolk Field Archaeology Division, under whose auspices they were plotted onto the crop-mark overlay maps held by the Norfolk Sites and Monuments Record.

The three ring-ditches excavated at Bixley were situated on either side of Arminghall Lane, the modern route connecting Arminghall village with Caistor St Edmund. They were prominently sited atop the gravel scarp which forms the eastern side of the valley of the River Tas, each one occupying a slight natural eminence. The group as a whole overlooked the Arminghall Henge a mere 300m to the north.

The crop-mark ring-ditch to the north of Arminghall Lane had been recorded as county Sites and Monuments Record Site 6099, while the area to the south in which the remaining monuments lay comprised Site 9585. A fourth prominent crop-mark ring-ditch was identified upon a hilltop some 200m further east at TG 243 054 (Fig.2). This feature alone of all of the ring-ditches in this area had been scheduled (part of Scheduled Ancient Monument 243). If this ring-ditch was indeed another barrow, the central cross-shaped marking within it implies subsequent use as a mound for a post-mill of medieval or more recent date.

Previous research

The sites were visited in the latter 1930s as part of the Norfolk Barrow Survey, conducted by the Norfolk Research Committee, which sought to catalogue the circumstances and the state of preservation of as many as possible of the county's known barrows, either upstanding or ploughed-out. No trace of a surviving barrow mound was visible within any of the ring-ditches at Sites 6099 and 9585, indicating that they had been ploughed entirely flat many decades before the NAU excavation of 1989–90.

During the 1950s, a trial trench was dug in the vicinity by the Norfolk Research Committee to investigate a ring-ditch to the north of Arminghall Lane. This produced only negative results. Although listed in the Sites and Monuments Record as part of Site 9585, the excavator's sketch plan suggests that the ring-ditch which he sought was in fact one of those lying in the valley bottom to the north of Site 6099 and close to the Arminghall Henge itself (Fig.2). There is no other evidence for previous archaeological excavation in the vicinity.

The Excavation Research Design

The aims and academic rationale of the Bixley excavations were set out in the Norwich Southern Bypass Excavation Research Design, submitted to English Heritage along with an application for grant aid in the summer of 1989. This document was written by John Wymer, at that time Field Officer (Prehistory) with the Norfolk Archaeological Unit. The Research Design proposed the mechanical stripping of the three crop-marks as a series of three separate trenches. This was to be followed by the cleaning of all exposed surfaces internal to the ring ditches and the excavation of any features which were identified.

The excavation

(Figs 4 and 5)

A team of twelve NAU archaeologists began work at Bixley on November 20 1989, this marking the first stage of the Norwich Southern Bypass excavation project. A last-minute delay in effecting the Compulsory Purchase Orders for the land in the line of the road led to NAU gaining access to the site by kind agreement of the landowner, Crown Point Estates.

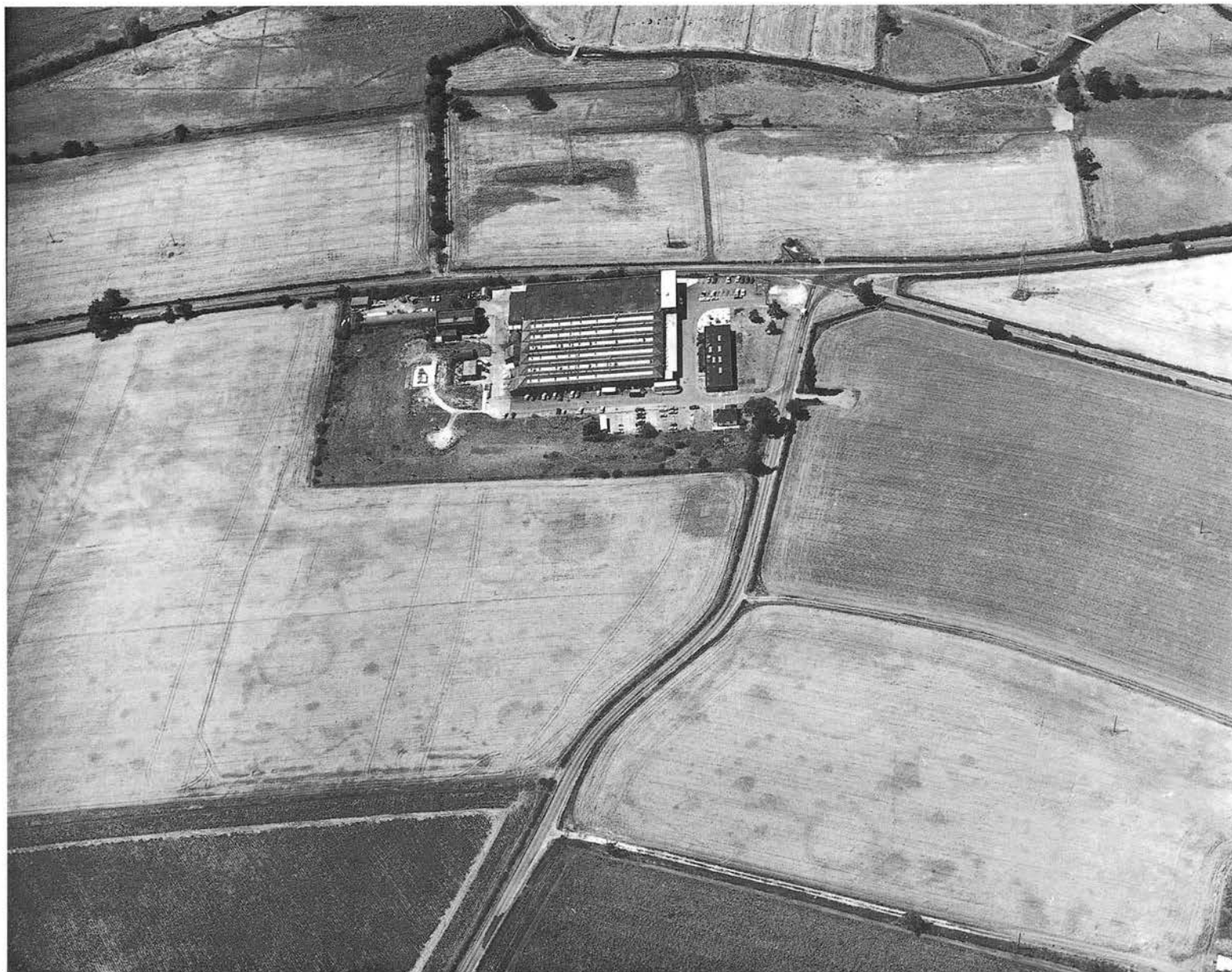


Plate II Ring-ditch crop-marks at Bixley Sites 6099 and 9585, looking west. The northern crop-mark ring-ditch at Site 9585 is only visible very faintly. (TG2405/R/AEY2, 29 June 1976, Derek A. Edwards)

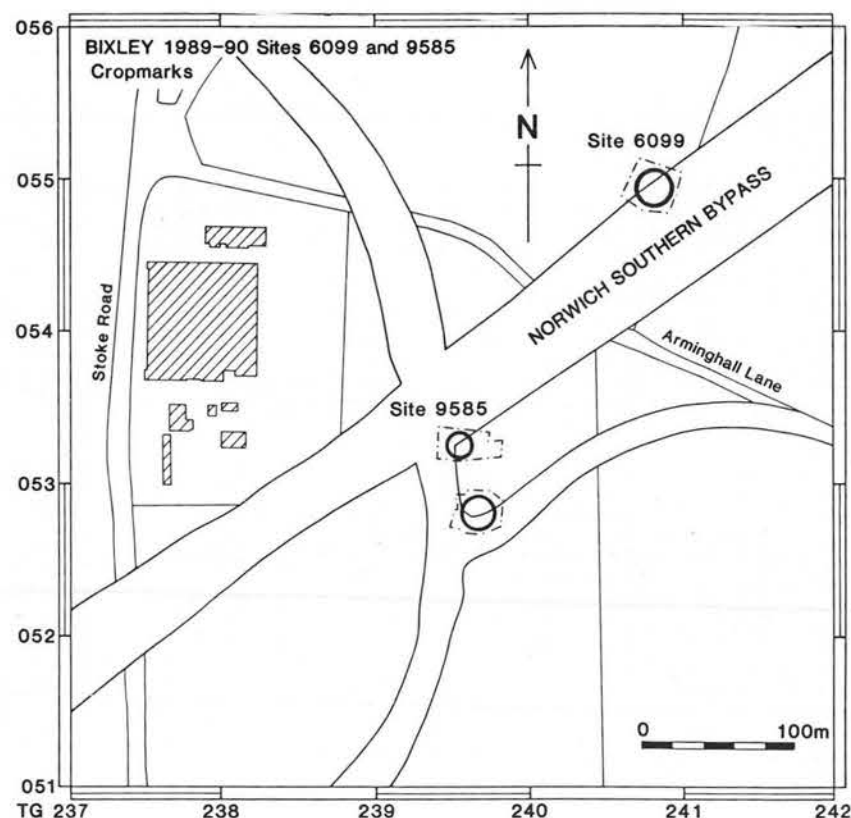


Figure 4 Bixley site location plan, showing line of Norwich Southern Bypass, trenches and cropmarks. Scale 1:5000

The three trenches were stripped of topsoil using a hydraulic excavator. Sites 6099 and 9585 had long been under cultivation, and it was at once clear that not only had practically all trace of the barrow mounds themselves been removed but that the natural surface too had been heavily degraded in places, by ploughing and subsoiling and by natural processes of erosion and soil creep. Many of the surviving features showed signs of heavy truncation, and it was assumed that any secondary burials or other features cut into the barrow mounds would have been removed without trace.

Excavation and recording work was often hindered by severe winter weather. Work was often interrupted — despite the tenacity of the staff — by rain and gale-force winds, and the blowing-over of the main site hut in mid-January caused further delays by making the equipment and archive material which it contained inaccessible for several days. Digging became increasingly selective to ensure that the NAU vacated the site within the time-limit agreed with the landowners. Work on the Bixley sites finished in late February 1990. Topsoil and subsoil were reinstated mechanically in the sequence in which they had been stripped, to restore the site to its original condition before it was returned to agricultural use.

All features identified within the circuit of the ring-ditches were excavated, and the ring-ditches and other linear features were examined by trenching. In the excavation programme for each trench, priority was given to potential graves and cremation pits. Any such features identified were completely emptied, to ensure that no burial deposits important to the dating and interpretation of the monuments remained undiscovered. The shortage of available time and the numerous delays caused by the weather led to the sample excavation of the large

ring-ditches becoming increasing summary. This was particularly the case with the deep ring-ditch 7 at Site 9585, the last major feature to be examined.

A feature of the site was the large number of 'solution holes'. These round shaft like features were often prominent in plan, being up to 5m in diameter. When excavated they featured well-defined sheer sides. Yet these 'pipes' are purely geological phenomena, and represent the localised subsidence of the highly mobile glacial drift material into pipes and caverns in the underlying chalk bedrock. The nature of these features and their formation is well summarised in Healy 1986. Often they are very deep, and Healy notes an example nearby at Eaton being augered by construction engineers to a depth of 23m below the present surface without a base being encountered.

III. Period 0: natural features

Sites 6099 and 9585

Introduction

Natural features fell into two main categories; round shaft-like solution holes (above) and linear hollows, some of them ice-wedges. They are described and discussed within the archive site report.

Solution holes

(Figs 20, 22)

The formation of solution holes both pre-dated and post-dated the construction of the barrows. This was made clear at Site 9585 by the manner in which some solution holes had been cut by Period 1 ring-ditch 7 while others had clearly 'opened' after the raising of the mound and —



Figure 5 Plan showing all features. Scale 1:750

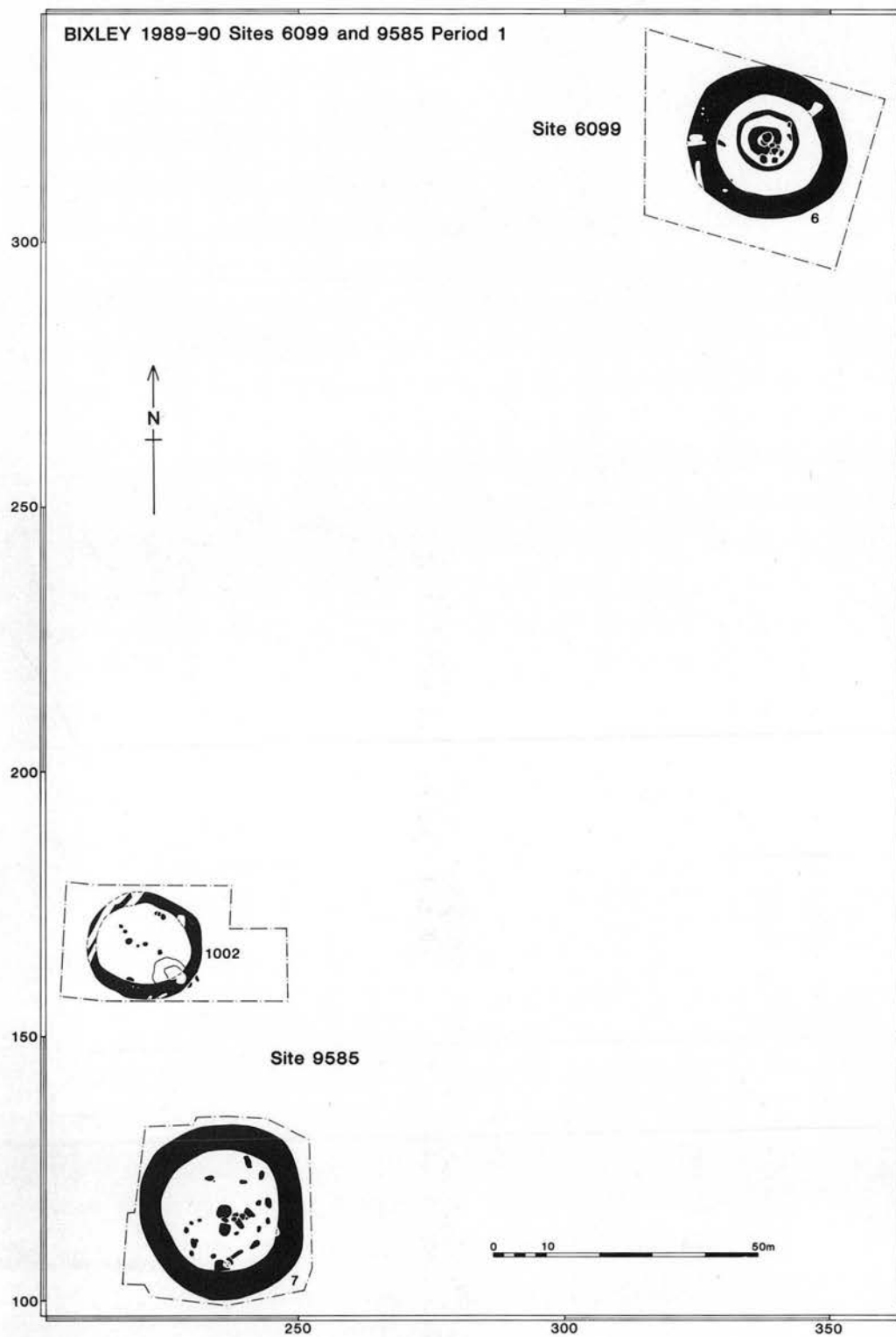


Figure 6 Period 1 phase plan. Scale 1:1250



Plate III Ring-ditch crop-marks at Bixley Site 9585, looking south-east. Note prominent round crop-marks of geological solution holes. (TG2305/AFM/DHX6, 15 June 1989, Derek A. Edwards)



Plate IV Site 6099, barrow fully excavated looking south. (FLU 3, Stephen Kemp)

in the case of solution hole 63 — the infilling of the ring-ditch itself.

The solution holes varied in diameter, but all were round with sheer sides, and in no instance was a base in undisturbed natural material encountered, even by augering to depths of up to 5m below the stripped surface. Hand-excavation of their upper fills sometimes produced finds, most notably in the case of solution hole 110 from Site 6099 which contained a barbed-and-tanged arrowhead and four Beaker sherds in addition to a sherd of Neolithic bowl pottery. Cultural material such as this had been introduced into the holes by the continual episodic slumping of soil into these deep pipes.

At Site 9585, solution holes 63 and 70 were excavated along with northernmost ring-ditch segment 23 and formed part of a stratigraphically complex series of events illustrated by Fig.20. A large solution hole 70 lay below the ditch at this point, but it appeared that after the ditch had been infilled, renewed slumping into this underlying feature led to major disturbance of the ring-ditch fills and to the formation of an apparently 'later' solution hole, 63.

Other natural features

The more linear of these pit-like natural features were the eroded remains of ice-wedges. Others were natural hollows probably of immediately post-glacial date.

The fills of these 'pits' were often distinctively dark and sometimes showed evidence of burning in the form of charcoal inclusions and scorching, presumably evidencing natural fires. Of special interest was a group of features from Site 9585 in the western part of the area enclosed by barrow ring-ditch 1002. This was originally excavated as a group of four intercutting pits. However, pine charcoal retrieved by flotation from one of these features produced a radiocarbon determination of 8990±100 BP (GU-5186). This showed that these phenomena considerably pre-dated the funerary activity on the site.

IV. Period 1

(Fig.6)

Introduction

All of the Period 1 features that were identified were associated with the crop-mark ring-ditches. Reconstructing the barrows which these ring-ditches once encircled was made very difficult by the severity of the plough-damage, which had removed almost every trace of upstanding structure. A further handicap to interpretation was the very low level of organic preservation, which caused problems in identifying which pits had once contained inhumed burials. In the following account, every effort has been made to reconstruct the appearance and use of these monuments within the limitations posed by the quality of the data.

Activity pre-dating barrow construction

No significant cultural features clearly pre-dated the construction and use of the barrows. Lithic material retrieved from the fills of the barrow ditches is likely to post-date their excavation.



Plate V Site 6099, central area of barrow under excavation looking north. (FLU 24, Stephen Kemp)

Site 6099: Ring-ditches 6, 91, 200

(Pls IV–VII; Figs 7–17)

No trace of this multi-phase round barrow, delineated by a series of three concentric ring-ditches, remained upstanding.

The ring-ditches

The innermost of the three circuits, *ring-ditch 200* (Figs 7, 8 and 10), was egg-shaped in plan, its long axis lying approximately east-west. In contrast to the steeper-sided outer ring-ditches 6 and 91 it was very shallow, its greatest observed depth a mere 0.3m. Its flat base was clearly seen in section but was sometimes hard to distinguish during the excavation process because of the similarity between its sterile sandy fills and the natural deposits into which it had been cut. The southernmost section dug through the ditch, 232, was seen to cut small round 'feature' 254. At first this was viewed as a truncated post-hole but it is now thought more likely to be merely a localised hollow in the ditch base. A similar depression 0.25m to its south, again probably a localised irregularity in the base of the ditch, was filled with material identical to the ditch backfill.

The intermediate *ring-ditch 91* (Figs 7, 9) was roughly circular, with a greatest outer diameter of 12m. The southern part of its circuit was evenly rounded in shape but its northern sector was more polygonal, comprising four distinct 'facets'. The six segments excavated through it revealed a well-defined and steep-sided feature, wholly different in character from the very shallow ovate inner ring-ditch 200 which it encompassed. Most of its fills were sandy, and apparently represented the infilling of the ditch by natural means: considering its slender dimensions this would have occurred very rapidly. Twiggy hazel charcoal from the upper fill of the ditch produced a radiocarbon determination of 2560–2140 cal. BC (GU-5188; 3860±60 BP).

Ring-ditch 6 (Pls IV, VI; Figs 7, 11, 12) was the outermost — and much the largest — of the three concentric ring-ditches, with an external diameter of 30m and an average depth of 1.6m. Six full sections were excavated. The sides of the ditch became gradually steeper with depth, while its slot-like flat base was very pronounced. A seventh segment (27) in the north-western part of the feature was not fully excavated. The lower fills of the ditch were everywhere clean, light-coloured sands which suggested rapid infill though the natural collapse of the sides. This material was sealed by a great many darker, often stonier, fills representing slower silting and



Plate VI Site 6099, south-west facing section through ring-ditch 7 (seg. 44). Scale =2m.
(FLD 22, Trevor Ashwin)

weathering. In segment 68, dug across the south-western part of the ring-ditch, most of these layers seemed to have entered the ditch from its inside edge, suggesting that they resulted from the weathering of a barrow mound. However no such sequence could clearly be seen in any of the five other excavated segments. Saxo-Norman pottery (Thetford-type Wares) was abundant in many of the ditch's upper fills, making clear that it was still open to half of its original depth in the eleventh and twelfth centuries AD.

The graves

(Pl.VII; Figs 10, 13–15)

A dense intercutting group of putative graves and cremation pits lay in the centre of the barrow. It appeared that a series of three probable inhumation graves had been overlain by a sequence of three further pits, two of which contained un-urned cremations. These features were excavated at an early stage of the project, when the author and team were still unfamiliar with subsoil conditions, and the features were not dug in half-section due to anxiety that ephemeral body stains would not be recognised in plan. Instead they were emptied and planned individually, and their lower profiles were recorded on a south-east facing cumulative section across the group of features.

Graves 201 and 308 were the two primary features in the sequence. *Grave 308* (Figs 10, 13) was an east-west aligned oval cut 1.8m long, with sheer sides and a flat bottom: although heavily cut away its base and western terminus both survived intact. No trace of a body stain was found on the base of the feature, but the form and dimensions of the cut left no doubt that it was an inhumation grave. Its location 0.15m inside ring-ditch 200 and the common alignment of the two features at this point make it possible that they were contemporary. *?Grave 201* (Figs 10, 13) lay only 0.5m south-west of *grave 308*, but any stratigraphic contact between the two cuts had been destroyed by the deeper *?grave 260* which had removed the entire feature apart from its south-western part. It had probably been ovate or sub-circular, and may have been up to 1m in diameter. No trace of a body stain was found. *?Grave 260* (Figs 10, 13) post-dated both of these. It was ovate, with a distinctively flattened south-west side, and was 1.1m in diameter. It had been dug into the north-eastern part of the shallower *grave 201* but had also disturbed the southern edge of 308. The feature was interpreted as a grave on the strength of its vertical sides



Plate VII Site 6099, grave 237 before excavation, showing outline of coffin. Scales =1m (side), 0.5m (end).
(FLH 14, Stephen Kemp)

and well-defined flat base. The surviving part of the feature had been filled with a series of sand deposits, apparently representing backfilling from the western/north-western side of the pit. No artefacts or body stain were found.

The circular *cremation pit 300* (Figs 10, 13) had been cut into the eastern side of *?grave 260*. Primary deposit 277 was a dark yellowish brown silty sand containing charcoal and abundant cremated human bone throughout. A small copper alloy object from the lower part of the layer — probably an awl — was in very poor condition, and was retrieved in six pieces. The upper silty sand fill had been heavily truncated by later pit 289, but also contained much cremated bone. The cremation deposit itself was incomplete but represented an adult, possibly female. *Cremation Pit 289* (Figs 10, 13) was broader and shallower, with a diameter of 1.35m. Its fill 197 was a yellowish brown sand. This was uniform in colour and consistency, but contained large quantities of charcoal and cremated bone representing an adult of unknown gender. This was concentrated around the southern part of the feature's base. A radiocarbon determination on oak charcoal from this deposit produced a date of 2870–2390 cal. BC (GU-5185; 4020±70 BP). *?Grave 202* (Figs 10, 13) was the most recent of the group of six cuts in the barrow's central area. It too was filled by a homogenous sand deposit, 198, and no finds or organic remains were found. Slight horizontal 'banding' and lamination observed in this layer was almost certainly a post-depositional effect.

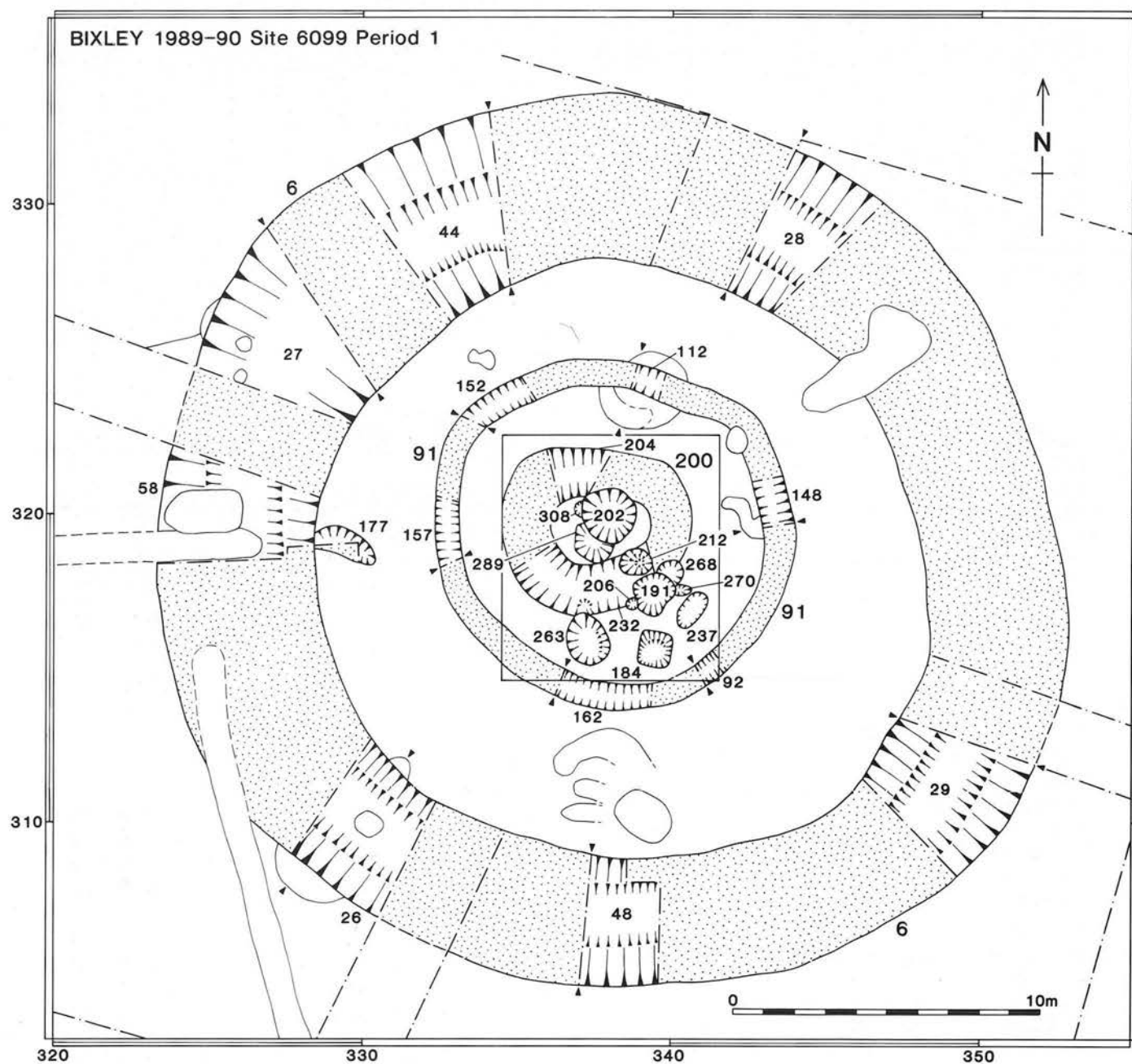


Figure 7 Site 6099: Period 1 features. Scale 1:200. Central inset area shown at larger scale in Fig.10

BIXLEY 1989-90 Site 6099 Period 1

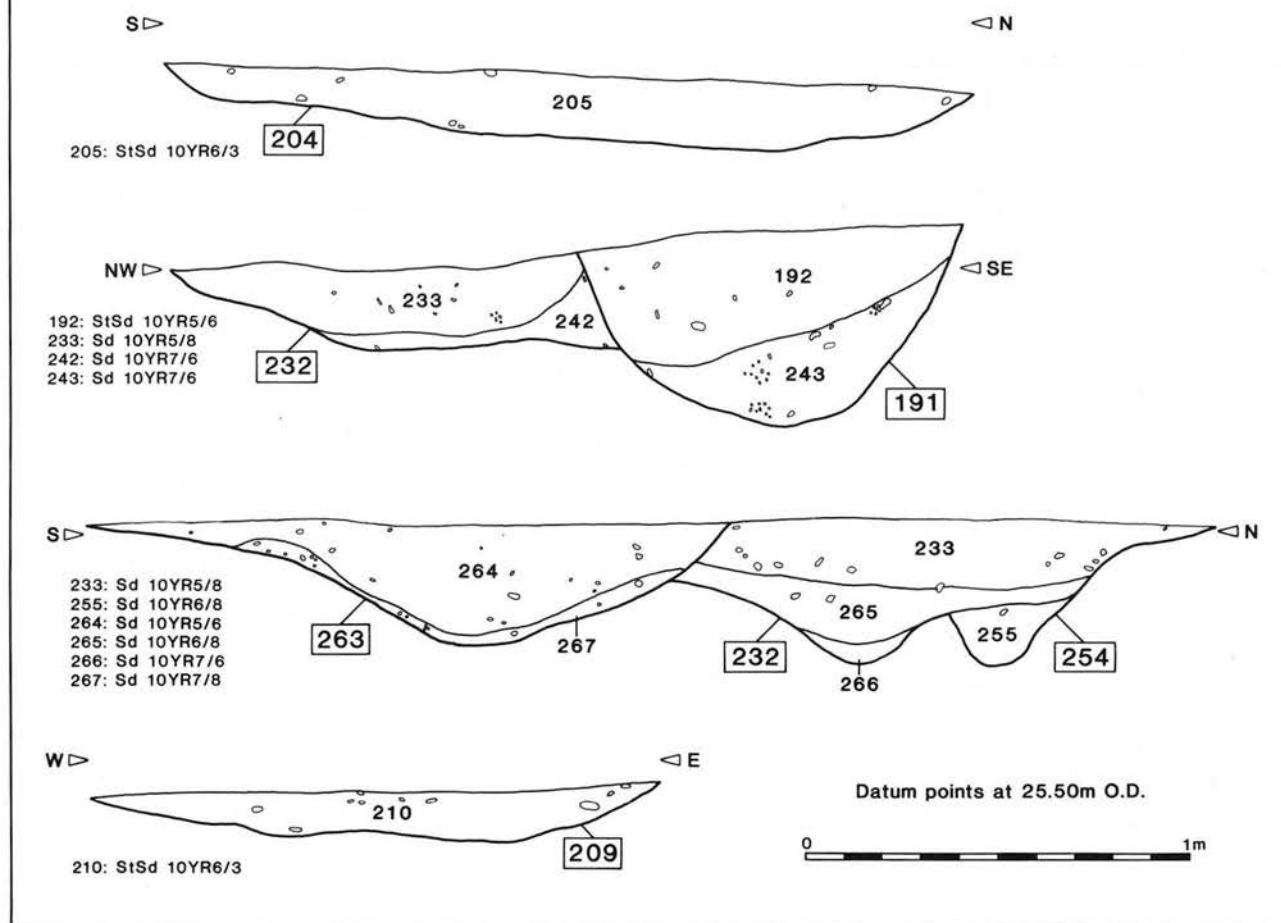


Figure 8 Site 6099, sections through ring-ditch 200. Scale 1:20

BIXLEY 1989-90 Site 6099 Period 1

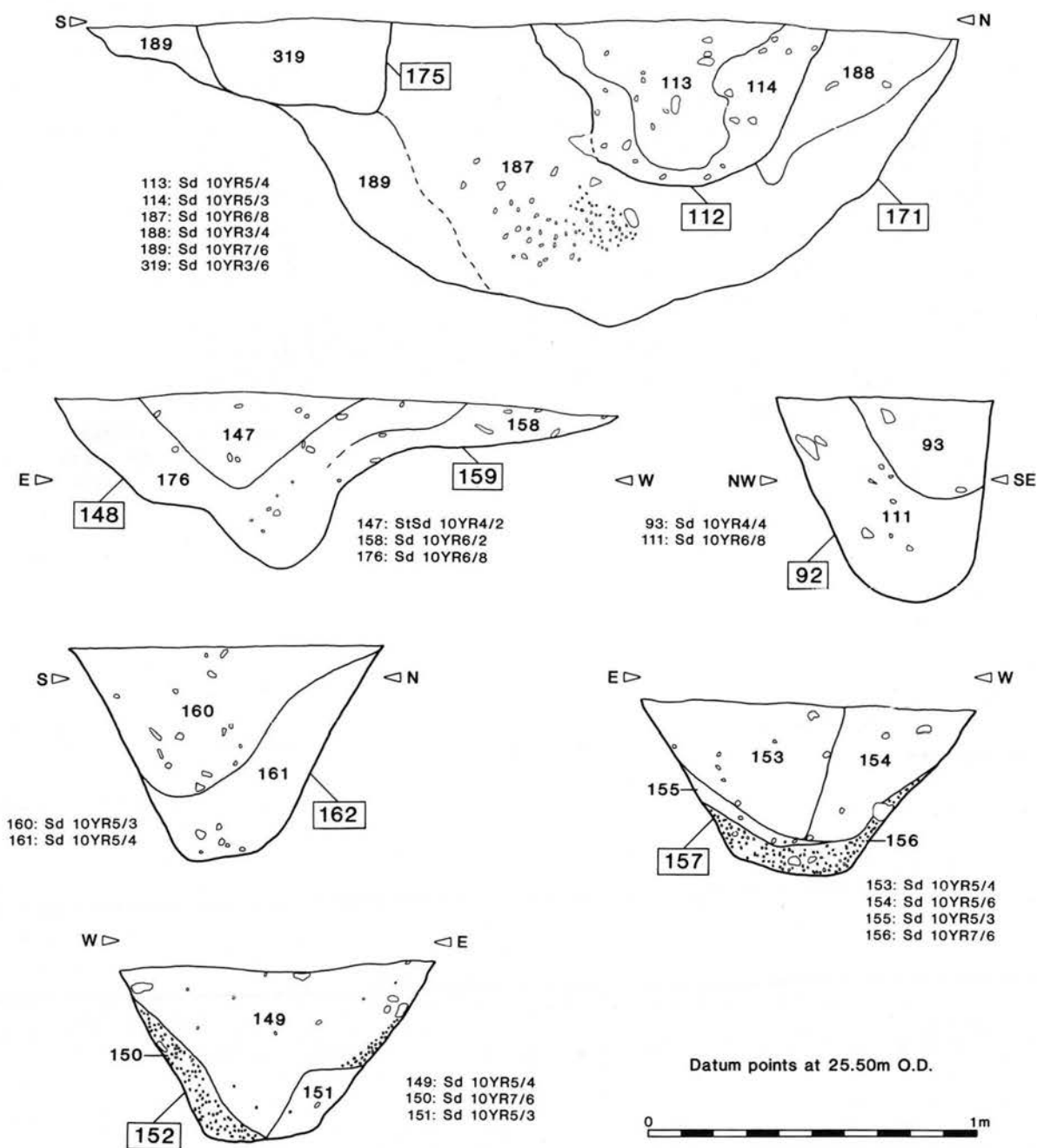


Figure 9 Site 6099, sections through ring-ditch 91. Scale 1:20

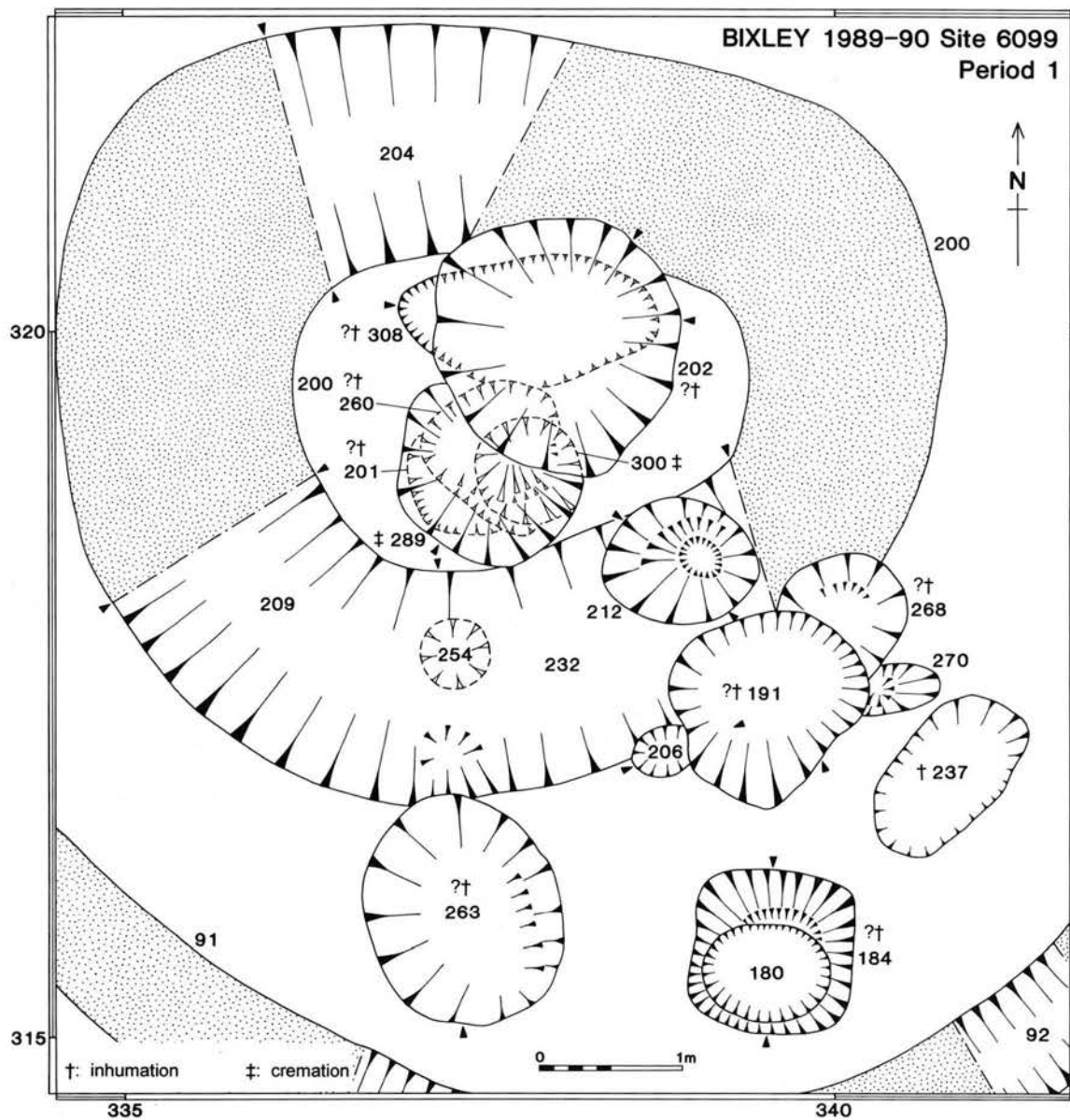


Figure 10 Site 6099, detail plan of centre of barrow. Scale 1:50

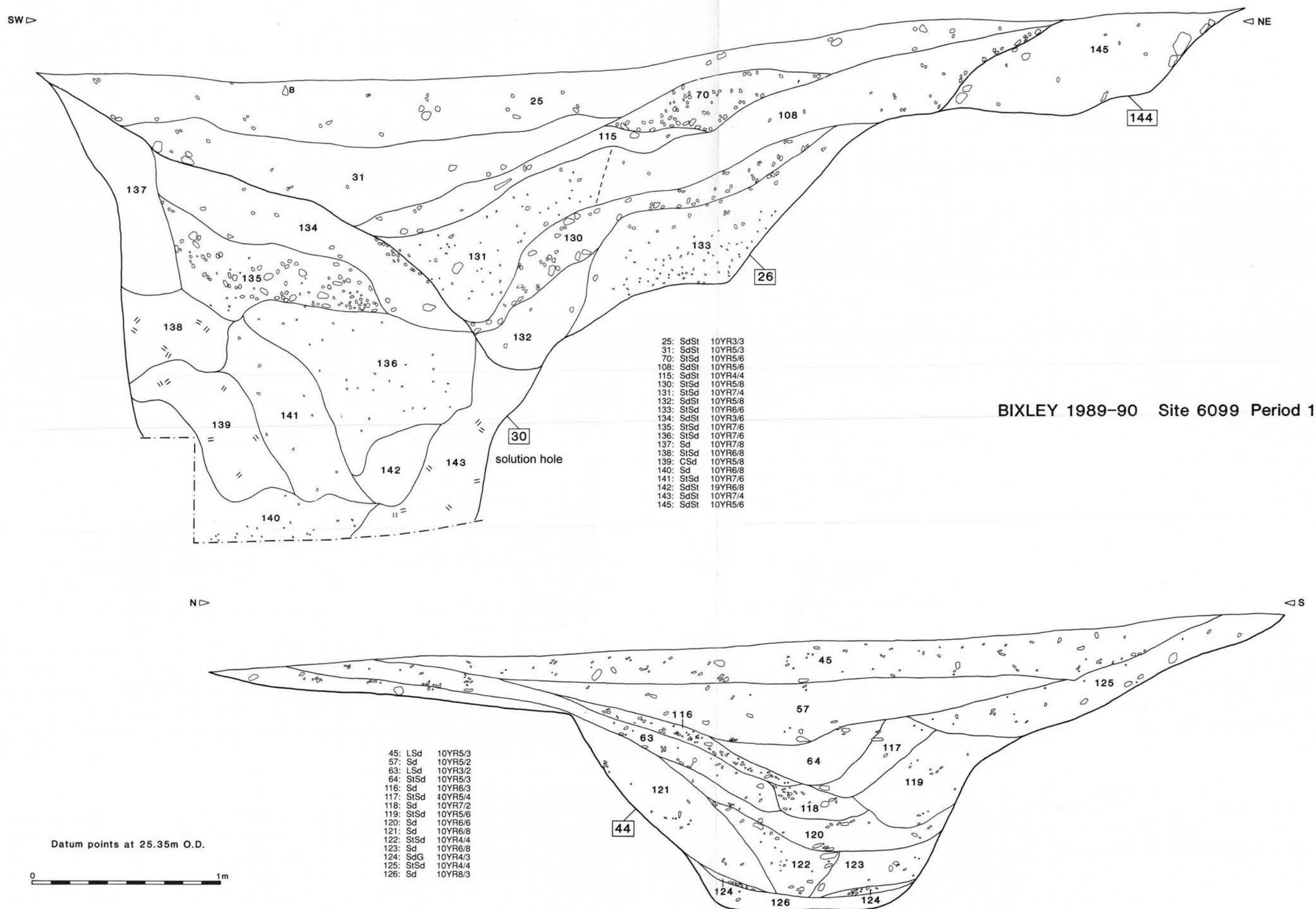


Figure 11 Site 6099, sections through ring-ditch 6 (segments 26 and 44). Scale 1:20

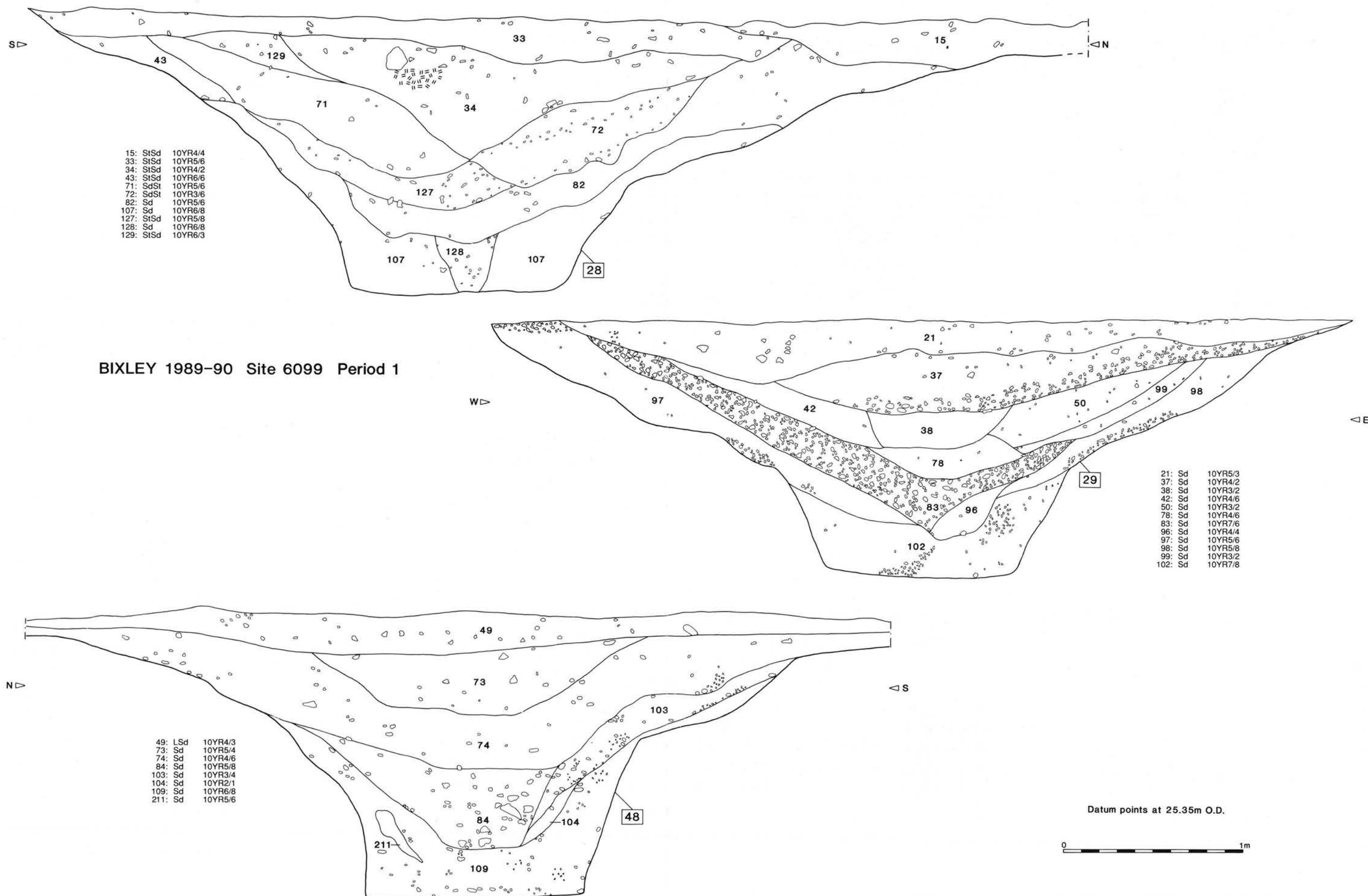


Figure 12 Site 6099, sections through ring-ditch 6 (segments 28, 29 and 48). Scale 1:20

BIXLEY 1989-90 Site 6099 Period 1

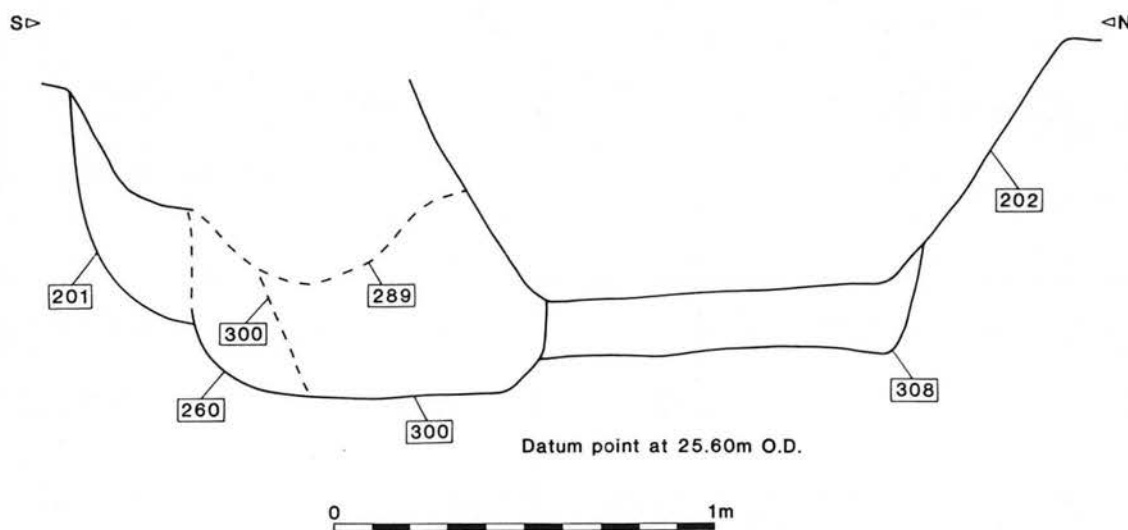


Figure 13 Site 6099, excavated profiles of features within ring-ditch 200. Scale 1:20

A group of five probable inhumations lay in the southern part of the area enclosed by ring-ditch 91. These features varied in shape and none produced a convincing body stain, but all are best interpreted as graves in the absence of further information. Three of them, 191, 263 and 268, had been cut into the south side of inner ring-ditch 200 after it had infilled. *Grave 184* (Figs 10, 14) was a sub-square feature whose base was approximately flat. No body stain was detected, but lying on the northern end of the pit base was a complete inverted Collared Urn (Fig. 35, P4). An isolated post-hole, 180, had been cut into the centre of the grave after it had been fully backfilled. It is possible that this feature represented a grave marker. *Grave 191*'s northern half had been cut into the fully-infilled inner ring-ditch 200 (Figs 8, 10). The sides of the cut were steep and its base flat, but no body stain could be seen.

Grave 237 (Pl.VII; Figs 10, 15) was elongated in plan and was oriented north-east to south-west. Deep modern plough-marks were evident in the area, and truncation had reduced its depth to a mere 0.02m. No body stain was seen, but initial cleaning of the feature revealed traces of a plank coffin. This was visible most clearly along the south-eastern edge of the feature, where mineralised sand 238 apparently represented a plank 5cm thick. The north-western side of the coffin was indicated by the linear distinction between sand fills 239 and 240. No evidence for a lid was found but erosion would have removed any such traces. *Grave 263* (Figs 8, 10) was ovate, and was aligned north-south in the southern part of the area between ring-ditches 200 and 91, its northern edge cutting the former ring-ditch which it cut at the junction between excavated segments 209 and 232. The slope of the sides varied, being steepest in the south-eastern part of the feature, but the base of the cut was nearly flat. *Grave 268* (Fig.10) was very shallow, and probably mostly truncated.

The south-western part of the feature had been removed by *grave 191*, while its sole fill was very similar to that of the latter grave; because of this, it was not identified as a discrete cut until much of its fill had been removed in error, and it proved impossible to half-section what little remained.

Other features (Figs 10, 16, 17)

A small number of pit-like features, interpreted neither as graves nor as cremation pits, were also found. *Pit 206* (Figs 10, 16) was a small ovate cut whose eastern end had been cut away by *grave 191*. It contained a stain of black organic sand, interpreted as the remains of an organic vessel or 'lining' of some kind. Such a vessel would have measured some 0.3m in diameter. The stain was distinct and easily traced during excavation, but was notably better preserved on its northern side. This can probably be explained by the way in which the southern part of the vessel was in contact with the (much more acid) natural sands rather than the fills of ring-ditch segment 232. Microscopic examination of a sample of the deposit by Peter Murphy detected no surviving traces of identifiable plant material or leather. The 'vessel' itself contained two sand fills, 199 and 194, neither of which contained finds.

Pit 270 (Fig.10) resembled a post-hole, although no trace of a post impression or packing deposit was seen. *Pit 212* (Figs 10, 17) was a larger feature which had been cut into the fills of inner ring-ditch 200. Its sides sloped steeply down to a round, flat base which was offset somewhat to the east and thus did not appear on the section drawn across the centre of the feature. No post-pipe or packing material could be seen. During excavation it was thought possible that 212 was a substantial post-hole from which a timber upright had been robbed.

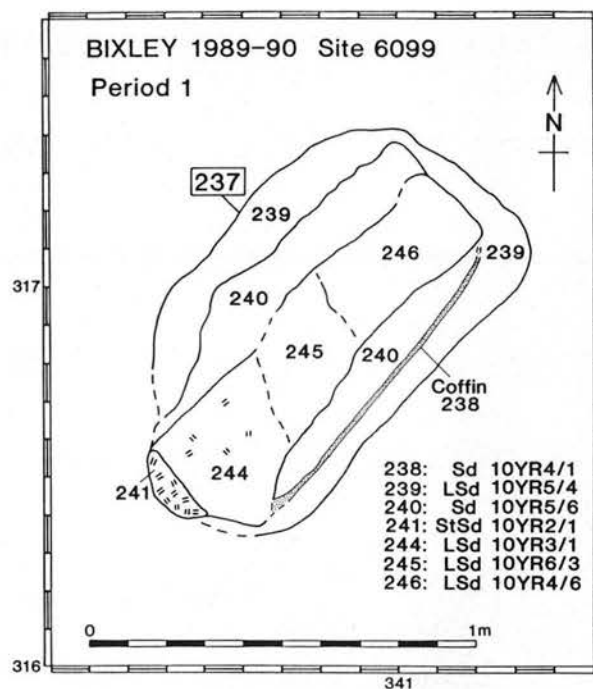
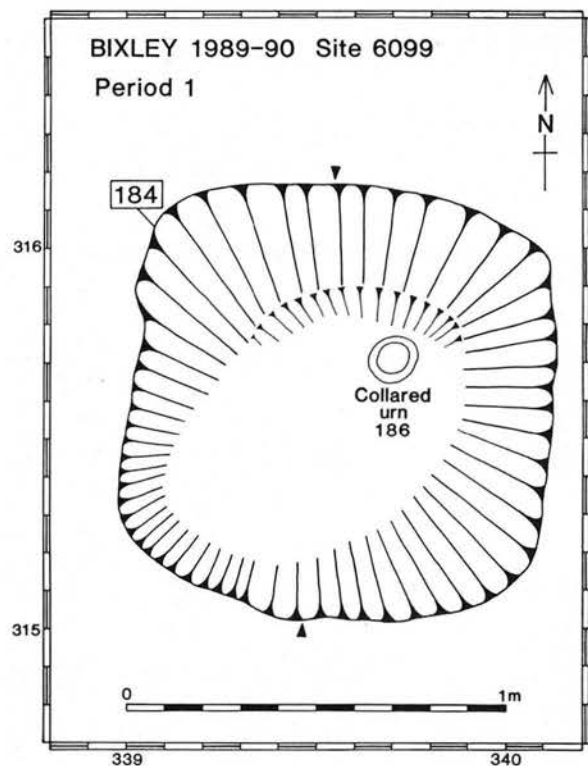


Figure 15 Site 6099, plan of grave 237. Scale 1:20

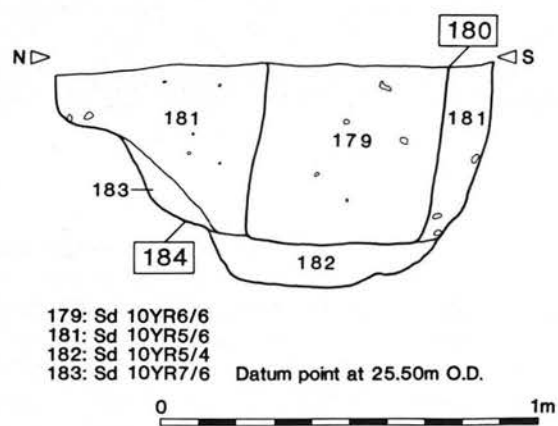


Figure 14 Site 6099, plan and section of grave 184. Scale 1:20

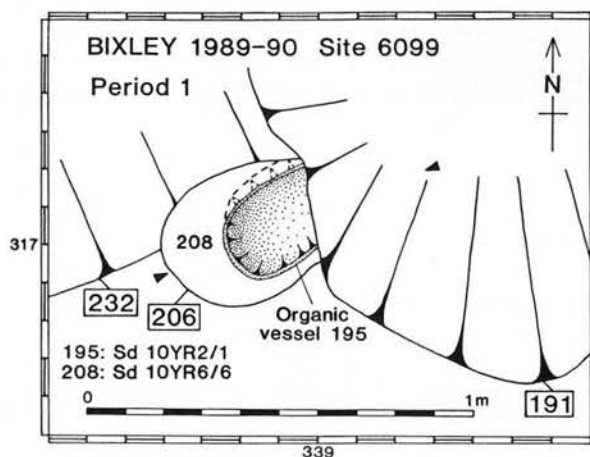


Figure 16 Site 6099, plan and section of pit 206. Scale 1:20

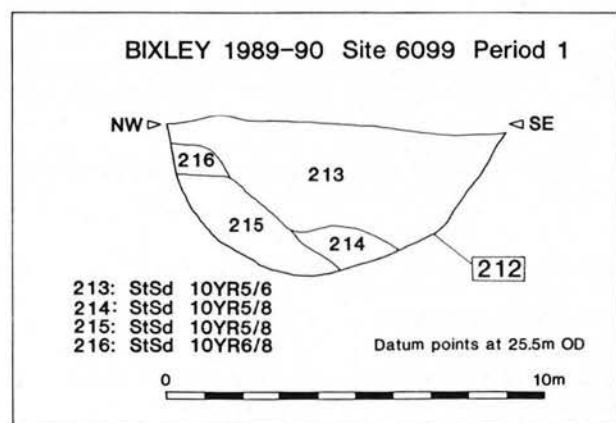


Figure 17 Site 6099, section of pit 212. Scale 1:20

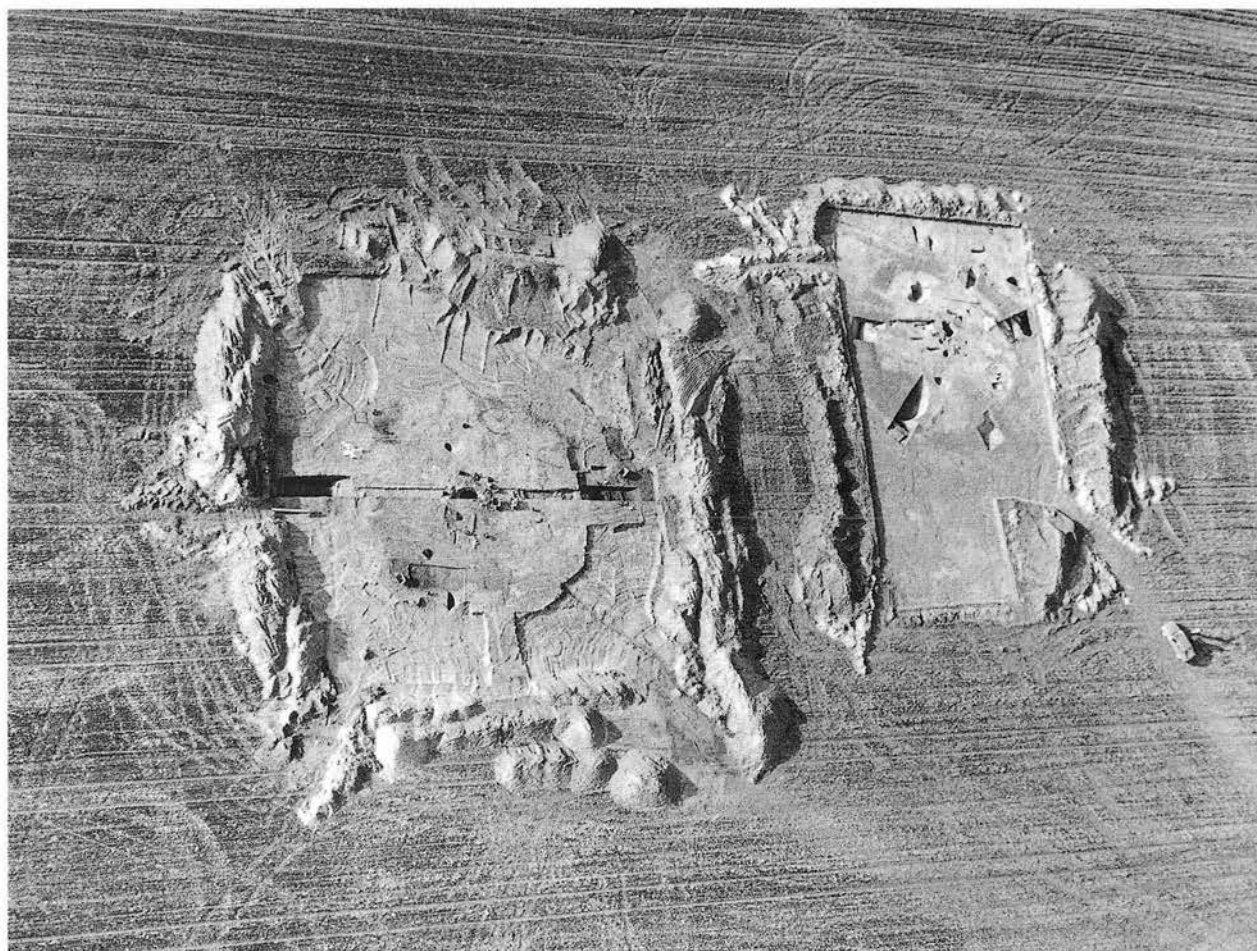


Plate VIII Site 9585, barrows under excavation, aerial view looking west-north-west.
(TG2305/ABP/DYM9, 1 February 1990, Derek A. Edwards)

Site 9585: Ring-ditch 7

(Pls VIII-X; Figs 18-26)

This ring-ditch encircled the truncated remnant of a barrow which had, like the three other Bixley barrows, been constructed upon a slight natural eminence. A number of graves, both cremations and inhumations, had been cut into the mound.

The ring-ditch

(Pls VIII-IX; Figs 18-22)

Ring-ditch 7 was very much more substantial than ring-ditch 1002, its neighbour immediately to the north, with a greatest observed depth of nearly 2m. The extreme shortage of time available for excavating such a substantial ditch meant that only two segments could be hand dug. These were sited in the northern and southern parts of its circuit, and were connected by a continuous recorded section through the remnant barrow mound 61 and central grave 21 (Figs 19-21). When the northernmost of these segments, 23, was excavated it was found that the ditch in this area had been greatly disturbed by subsidence into an underlying natural solution hole. Therefore a third segment was machined through the ditch's western part during the final days of excavation (Fig. 22) so another profile could be recorded through its fills. As with ring-ditch 6 at Site 6099 the steep sides of the ditch led down to a very pronounced flat base over one metre wide.

The lower fills of the ditch would have built up rapidly, and resulted from collapse of the gravel sides and silting

by water- and wind-borne deposits. The stonier layers occupying its upper parts may, at least in part, have represented the slower weathering of the adjacent barrow mound. No finds were made apart from a very small amount of pottery from the upper fills of segment 23, including a single Beaker sherd.

Features sealed by the barrow mound

(Fig. 18)

Only two cut features, 99 and 201, were obviously primary to the mound construction. Both of these were rather amorphous pit-like cuts. They were interpreted as tree-holes, perhaps evidencing the removal of trees and bushes from the barrow area at the same time as the wholesale removal of topsoil before the construction of the mound. This was clearest in the case of the sub-circular 201: eight deposits were identified within it, but none of these layers extended across the entire width of the cut. Instead they appeared to run *across* the feature in a series of north-south aligned lenses, in a manner most uncharacteristic of the infilling of pits or other cut features.

The lack of pre-barrow features was striking, and certainly came as a surprise to the excavation team. There seems little doubt that the death was a genuine one, however, since close supervision of the machine-removal of the mound was followed by full examination of the undisturbed natural sand beneath.

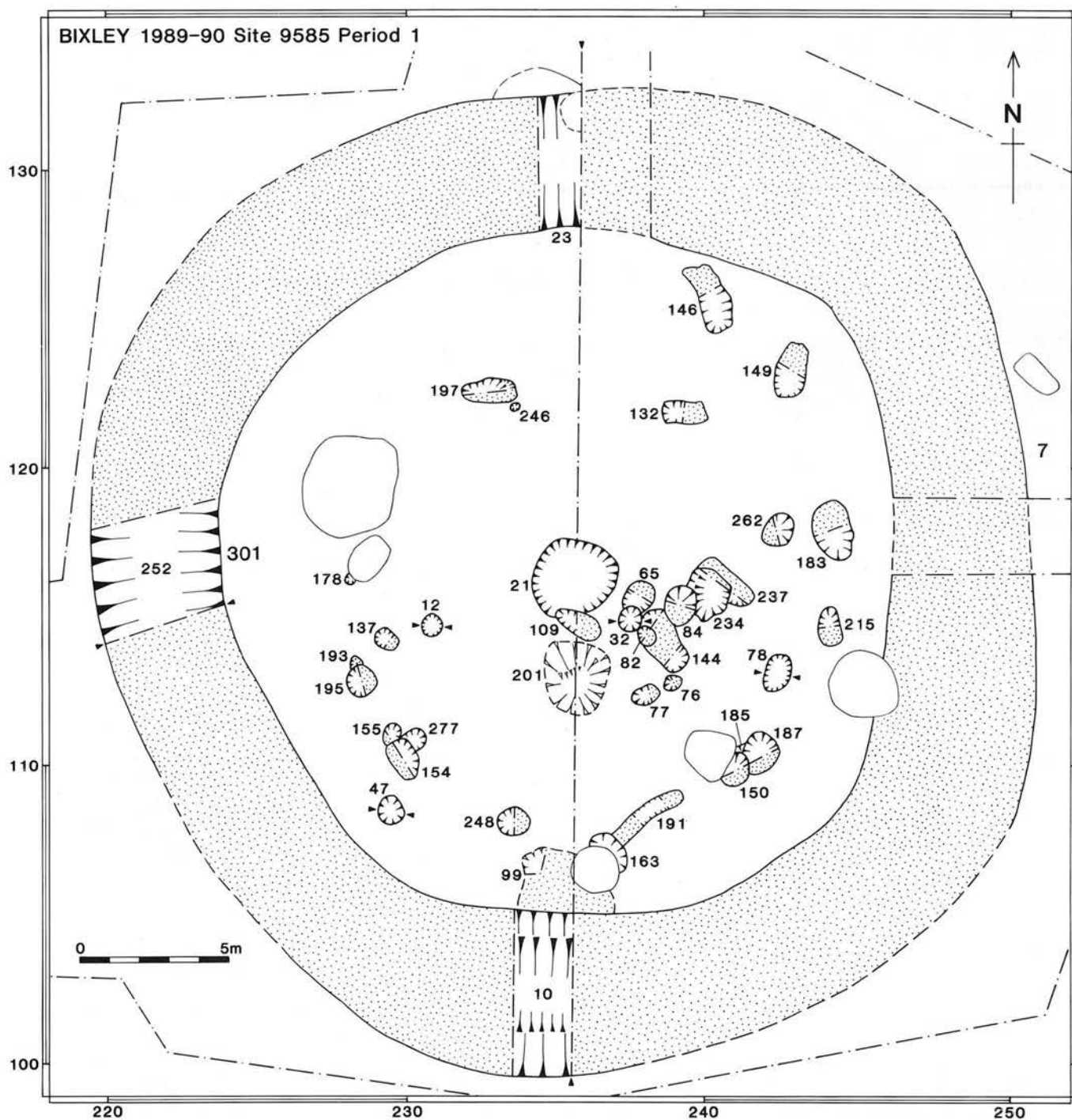


Figure 18 Site 9585, plan of southern barrow. Features sealed by barrow mound material 6/ denoted by open hachures.
Scale 1:200

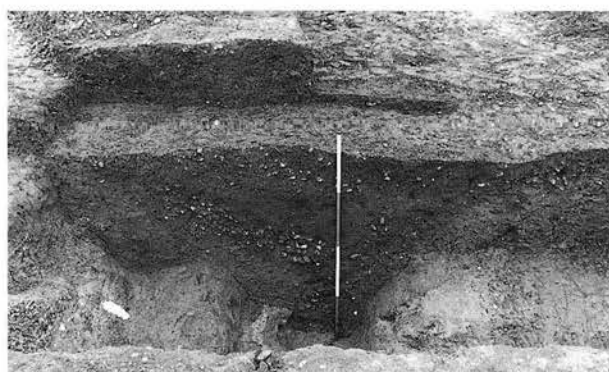


Plate IX Site 9585, west-facing section through ring-ditch 7 (seg. 33). Scale =2m. (FLR 2, Thomas Gledhill)



Plate X Site 9585, west-facing section through grave 21. Scale =2m. (FLP 2, Thomas Gledhill)

The barrow mound

(Figs 19–21)

The entire area enclosed by ring-ditch 6 was covered by the mixed *barrow mound 61*. Surviving to a maximum height of 0.35m, it was interpreted as the truncated remnant of an originally much taller earthwork. That this was so was demonstrated by the presence of deposits in the fill of ring-ditch 7 which clearly resulted, at least in part, from the degradation of the upper part of the earthwork.

The mound material had been laid directly upon the upper surface of the undisturbed natural material. Topsoil and vegetation had clearly been removed from the area of the barrow before it was constructed. The mound was composed of a mixed layer of sand and gravel, containing occasional small inclusions of sandy loam and humic material. Pea grit was abundant in the basal 0.1m of the mound's thickness, where it had probably been deposited by earthworm activity.

In the eastern half of the mound was excavated a localised silty sand deposit, 3, which was only 10cm deep but stone-free and very different from the rest of the mound matrix. A small lens of reddish brown sand within it at site grid 243.00E/120.50N produced sherds from a decorated pot, maybe a Food Vessel (Fig.37, P10).

The graves

(Pl.X; Figs 18, 20, 23–26)

Although no graves lay sealed below barrow mound 61 five burials had been cut into it, two of them inhumed and three cremated. It is very possible that further, shallower graves had been removed by erosion of the upper part of the mound.

Grave 21 (Pl.X; Figs 18, 20) was 2m deep, and had been cut into the exact centre of the mound. The uppermost c. 0.3m of its surviving depth had been cut through the barrow mound material 61, while the remainder of its sheer sides were in compact natural sand and gravel. No body stain or artefacts were found, and the cut was interpreted as a grave on the strength of its position and its flat base.

It is unclear what events followed the deposition of the presumed primary burial. The absence of a rapid build-up of weathered sand and gravel in the base of the pit suggests that it was not left to infill entirely by natural means. Yet it is unlikely to have been backfilled at once: no fewer than nineteen stratigraphically discrete deposits were identified within it, forming a series of layers in which clean wind- or water-borne sands alternated with more humic material. Bulk sample collection from a series of deposits produced a small assemblage of charred grain and other material which, in the opinion of Peter Murphy (Chapter 9), was of a 'domestic' character. These macrofossils might be chance incorporations; however if the pit has indeed been interpreted correctly as a grave they might indicate the deliberate introduction of foodstuffs or domestic detritus.

The uppermost fill of the pit, context 20, produced sherds from a Biconical Urn with distinctive 'horseshoe'-type handles (Fig.37, P9) and a few inclusions of cremated bone. The latter is best regarded as a chance incorporation, probably from a nearby cremation destroyed by erosion and ploughing.

Grave 78 (Figs 18, 23) in the south-eastern quarter of the barrow mound was much shallower, but featured steep sides leading down to a well-defined rectangular base. A

small undecorated Collared Urn (Fig. 35, P3) had been placed upright on the base of the cut at its south end. Although badly fragmented the vessel was essentially complete, with its base intact *in situ*. This was probably an accessory vessel placed at either the head or the foot of a contracted inhumation of which no physical traces could be recovered.

Cremation pit 32 (Figs 18, 24) was found only 1m to the south-east of central grave 21. Its lower fill contained the incomplete, un-urned cremation of a young adult female, accompanied by a small undecorated Collared Urn (Fig.35, P4) which was found lying on one side immediately above it. Oak charcoal stratified with it in deposit 33 produced a radiocarbon determination of 2880–2490 cal. BC (GU-5184; 4090±50 BP).

In the south-eastern quarter of the barrow were found two further un-urned cremations in small round pits which were not accompanied by accessory vessels or other finds. *Cremation pit 12* (Figs 18, 25) was steep-sided. Its primary fill 19 contained cremated remains representing an adult of undetermined gender. Much charcoal was also present, comminuted throughout the matrix and in large lumps too. The sides of the pit were scorched orange-red in many places, making clear that the cremation itself had probably occurred nearby immediately prior to deposition. *Cremation pit 47* (Figs 18, 26) was broadly similar to 12, and scorching of the edges of the feature was once again apparent. The south-western part of the pit cut a patch of gravelly mound material which was also discoloured orange-red by heat. It is possible that the cremated material had been deposited here while still hot, immediately before deposition in the pit. This view is supported by the manner in which the main cremation deposit in the pit, 62, seemed to have been tipped or poured in from the western side. The primary fill of the pit was composed almost purely of charcoal, combined with cremated bone representing an adolescent of unknown gender.

Other features

(Fig.18)

A great many other small features had been cut into the mound in addition to the graves and cremation pits described above. The majority fell into two broad groups, being either elongated or round; the former tended to contain sandy fills, whereas the deposits filling the latter often contained a higher clay fraction. Most of these features resembled small truncated pits or post-holes. They were concentrated most intensely in the area immediately to the south-east of central grave 21, where cremation pit 32 cut into a group of intercutting pit-like features. Elsewhere they were most numerous in the peripheral parts of the barrow mound, possibly because similar features in the highest part of the earthwork would have been more prone to removal by truncation. In the southernmost part of the barrow a short length of slightly sinuous gully, 191, was examined.

These 'pits' were often rather amorphous in shape and profile, and the edges of the features where they intercut were often curiously difficult to define either in plan or section. All were devoid of finds. Perhaps they were holes and depressions resulting from the uprooting or digging-up of vegetation and small trees.

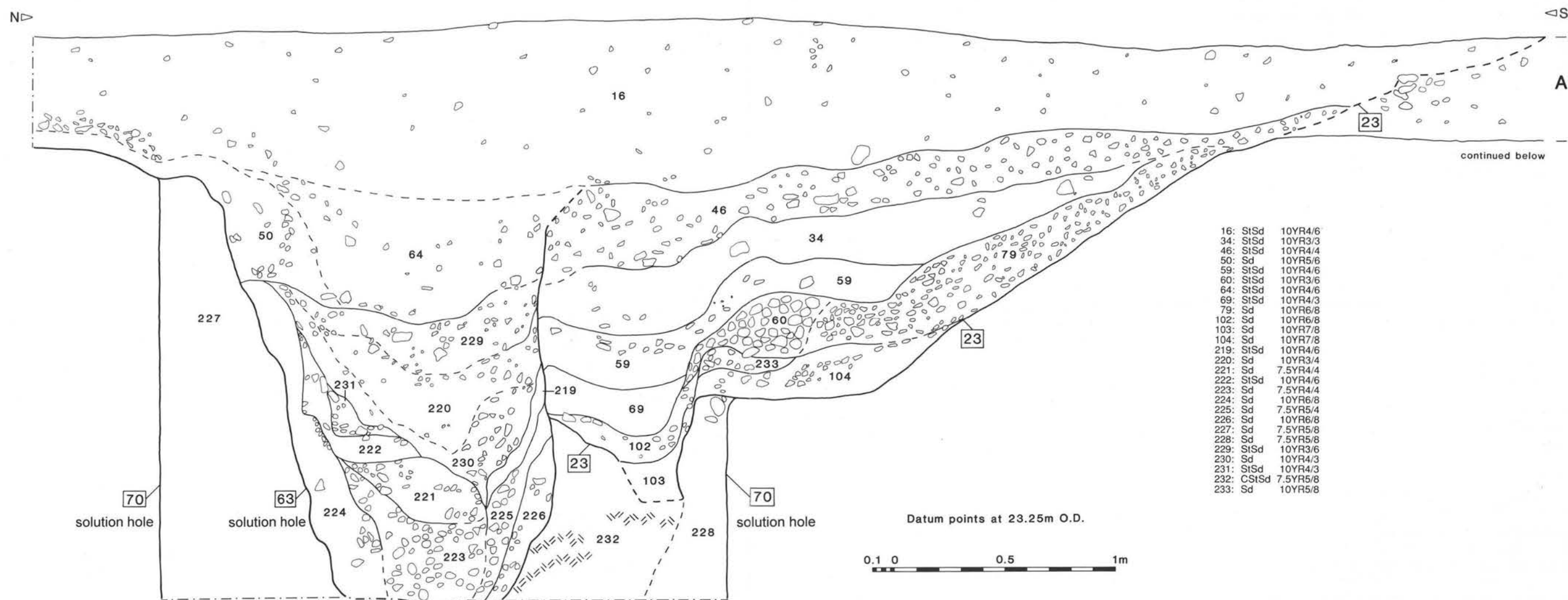


Figure 19 Site 9585, west-facing section through southern barrow (north end). Scale 1:20

BIXLEY 1989-90 Site 9585 Period 1

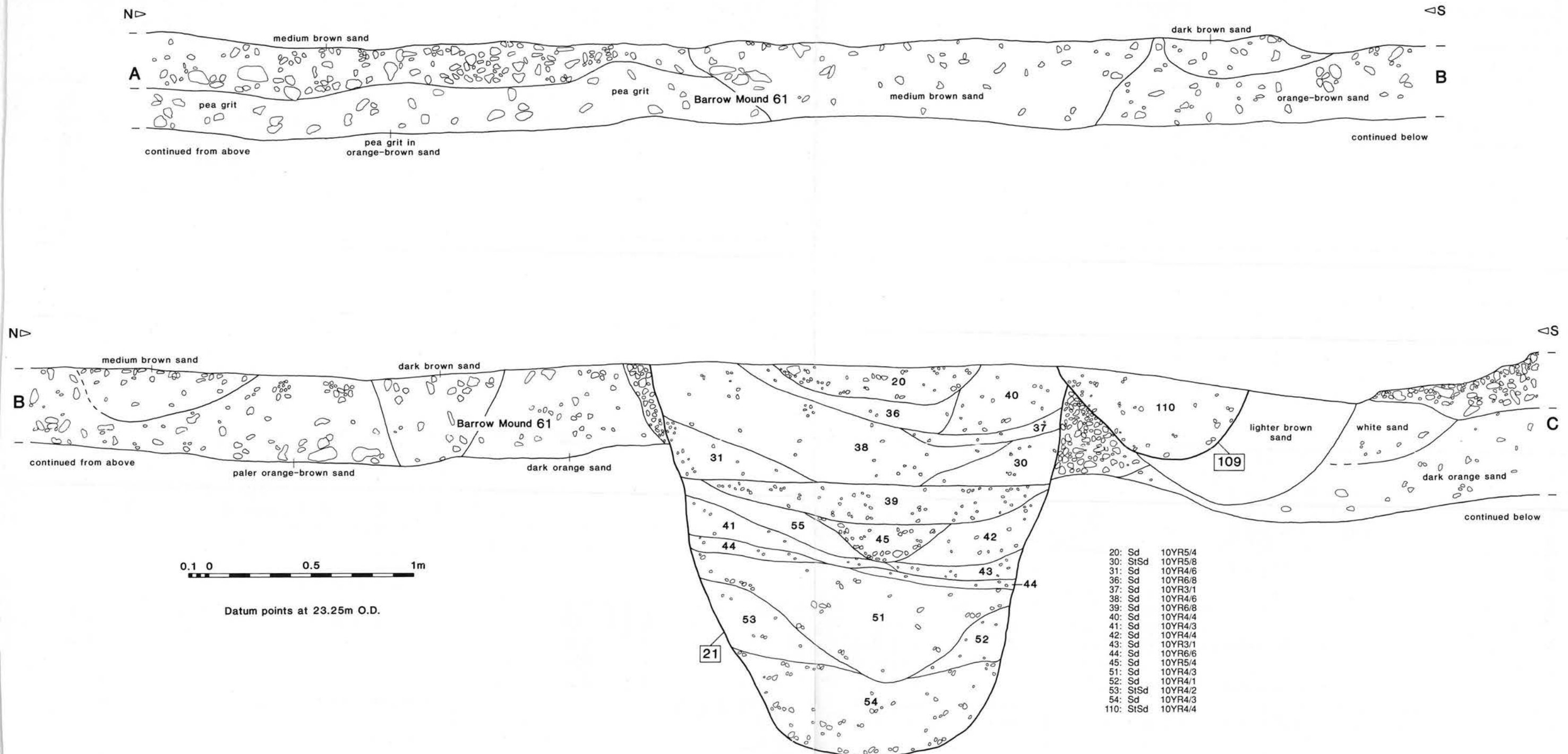


Figure 20 Site 9585, west-facing section through southern barrow (central part). Scale 1:20



Figure 21 Site 9585, west-facing section through southern barrow (south end). Scale 1:20

BIXLEY 1989-90 Site 9585 Period 1

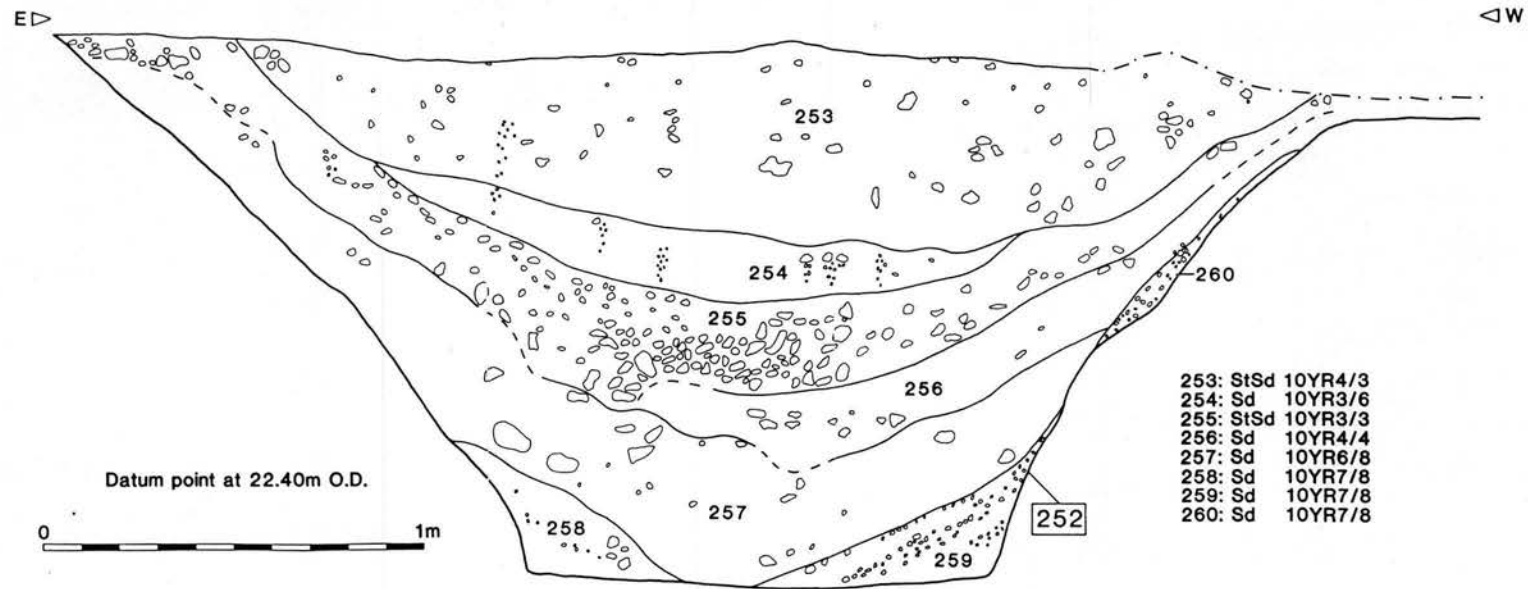


Figure 22 Site 9585, section through ring-ditch 7(segment 252). Scale 1:20

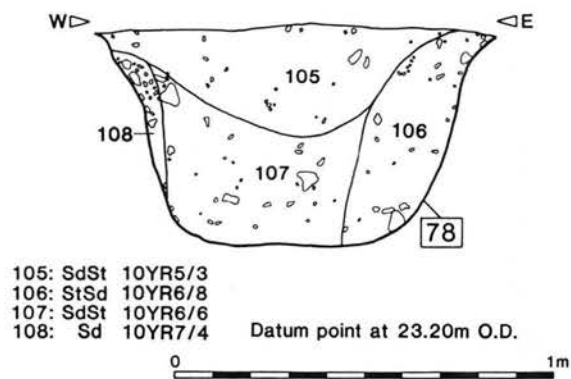
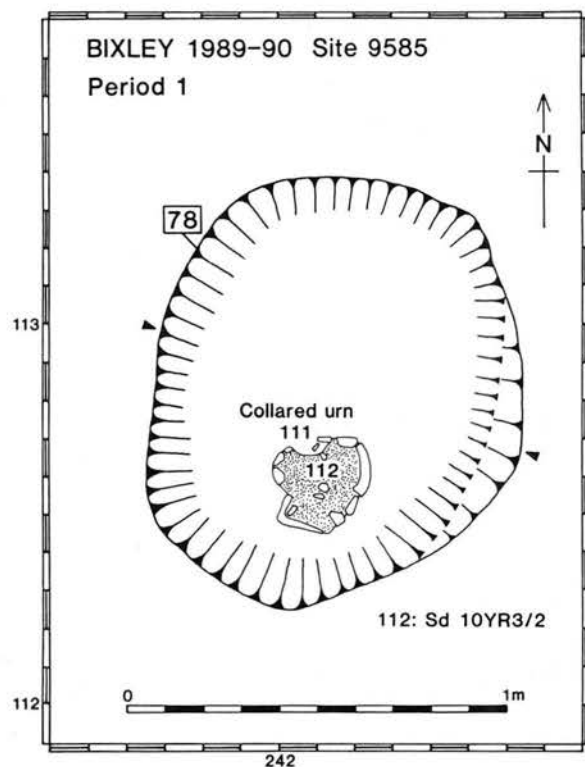


Figure 23 Site 9585, plan and section of grave 78.
Scale 1:20

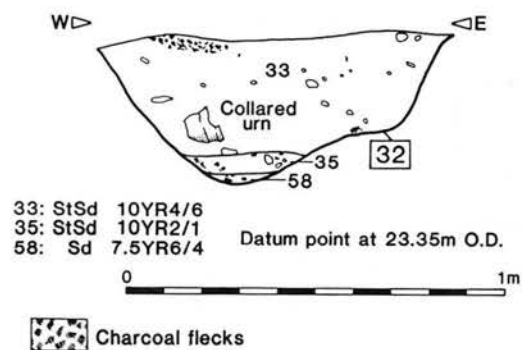
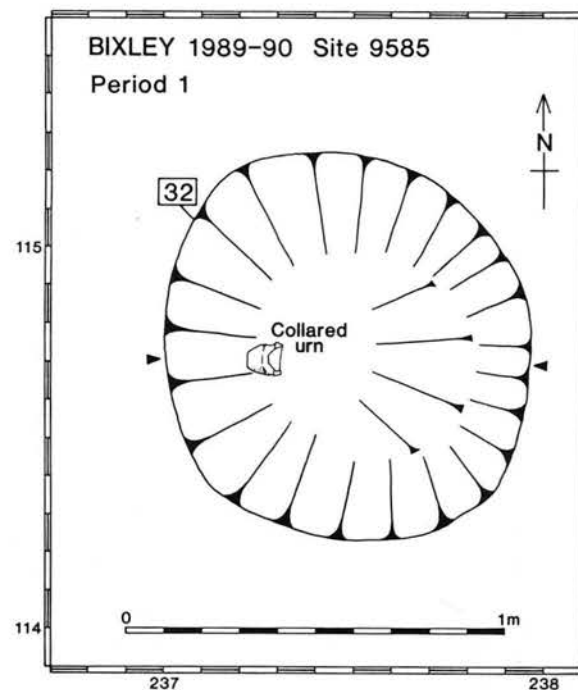


Figure 24 Site 9585, plan and section of cremation 32.
Scale 1:20

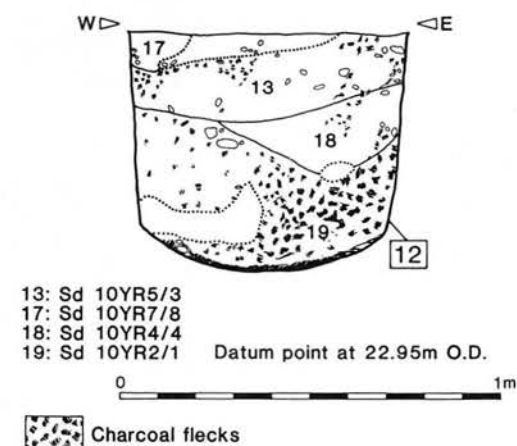
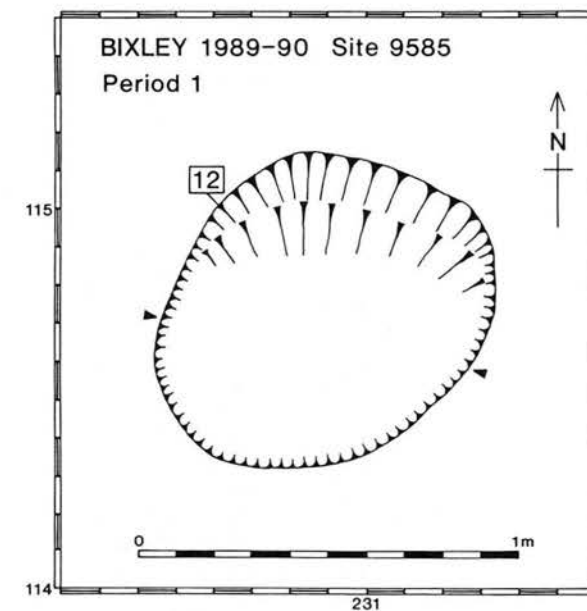


Figure 25 Site 9585, plan and section of cremation 12.
Scale 1:20

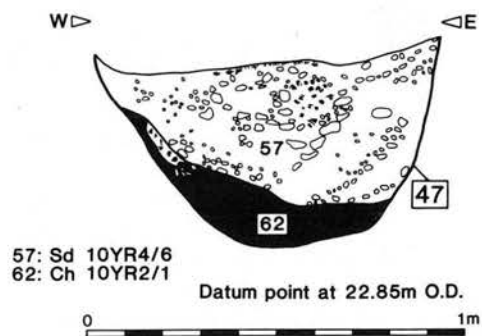
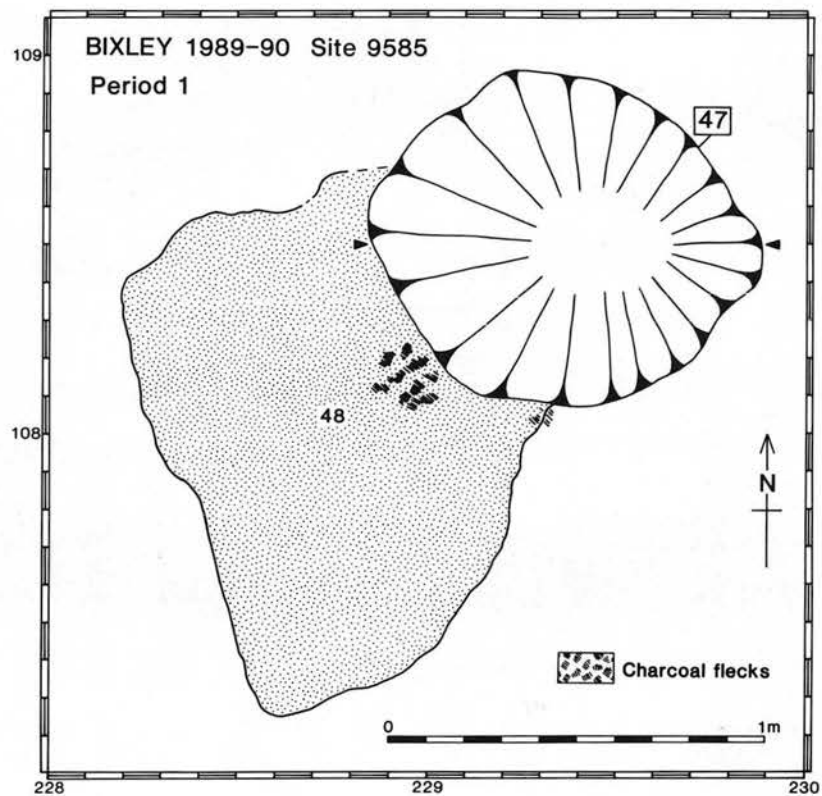


Figure 26 Site 9585, plan and section of cremation 47. Scale 1:20



Plate XI Site 9585, north barrow fully excavated, looking south-east. (FLS 34, Sarah Bates)

Site 9585: Ring-ditch 1002

(Pls XI–XIII; Figs 27–30)

The flattened remains of this round barrow were excavated a short distance to the north of ring-ditch 7.

The ring-ditch

(Pl.XI; Figs 27–28)

Ring-ditch 1002 was roughly circular, although the northern part of its circuit appeared slightly 'flattened' in plan. Its outer diameter of 20m and depth of c. 1m made it much slighter in dimensions than any of the other principal barrow ditches at Bixley. The excavated segments displayed a distinctive v-shaped lower profile, with the sides growing gradually steeper with depth towards a slot-like flat base. Localised variations recorded in the width of the ditch were probably caused by differential truncation by the plough: this would have a much more exaggerated effect upon a relatively shallow ring-ditch such as 1002 than upon, for instance, its much larger neighbour to the south, ring-ditch 7.

In the south-eastern part of its circuit the ring-ditch impinged upon the southern edge of a large sub-circular solution hole, which was excavated to a depth of 1.5m below the stripped surface and auger-profiled to a further 3.5m below this depth. At the time of excavation there was speculation that this was actually a tree-trunk 'post'-setting of exceptional size, fuelled in part by the sloping upper profile of its north-western edge which resembled somewhat the ramps displayed by the 'post-holes' of the Arminghall Henge itself (Clark 1936). Lengthy discussion of all aspects of this feature will entertain those who consult the archive site-report, where it is described in detail; it was eventually interpreted as

another example of the already-discussed natural solution holes which were so abundant on this site.

Everywhere the lower part of the ditch had been filled by sterile sandy material, deriving from slumping of the ditch sides themselves. Deposits which had accumulated above this were darker in hue and represented a slower accumulation of soil. They included layers of stony material which had entered the ditch from either side.

The grave

(Pl.XII; Fig.29)

Cremation pit 1132 was sited approximately 3m to the west of the ring-ditch's true centre. Before excavation began it was by far the most prominent feature in the barrow's central area due to its very dark fill. Collared Urn 1193 (Fig.34, Pl1) stood upright in the lower part of the cut. The collar and the upper part of the vessel were intact. Its lower body and base were fully present *in situ* but had collapsed under the weight of soil both outside and within the pot. The vessel was of exceptional size, its greatest diameter being 0.5m. During excavation it was seen to stand to a height of 0.4m within the pit, but in fully-reconstructed form it is appreciably taller.

The vessel fitted the sides of pit 1132 closely, the collar and shoulder of the urn being slightly degraded where they were in closest proximity to the (more acidic) natural sands and gravels. Areas of yellow-orange discoloration on the sides of the pit were probably caused by scorching, perhaps caused by some kind of fire which had occurred in the pit before the deposition of the cremation. The scorching is unlikely to have represented radiant heat from the pottery vessel or its contents, as the Collared Urn itself showed no obvious sign of heat discoloration post-firing.

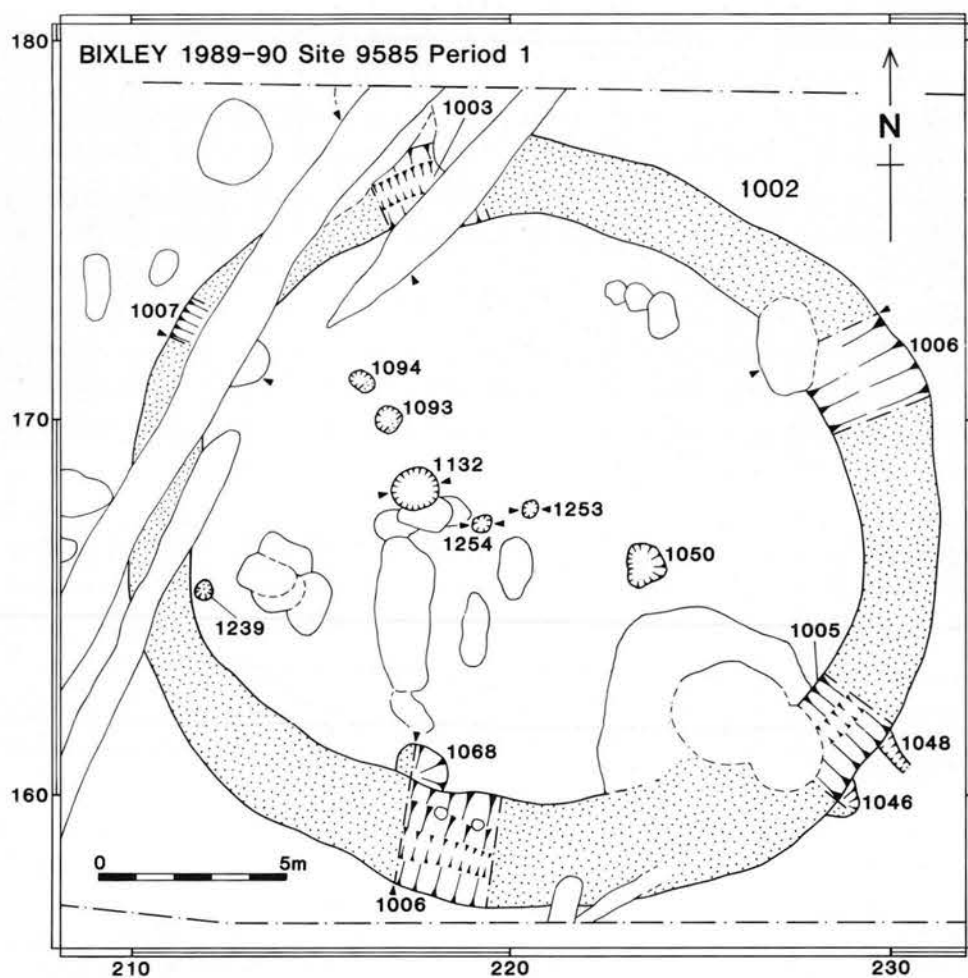


Figure 27 Site 9585, plan of northern barrow. Scale 1:200

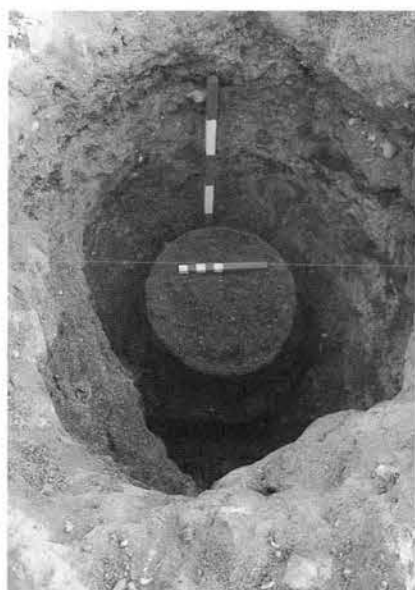


Plate XII Site 9585, cremation pit 1192, showing Collared Urn P1 *in situ*. (9585 BXY 33, Neil Sawyer)



Plate XIII Site 9585, south-facing section through pit 1253, showing ?organic vessel. (FLK 27, Thomas Gledhill)

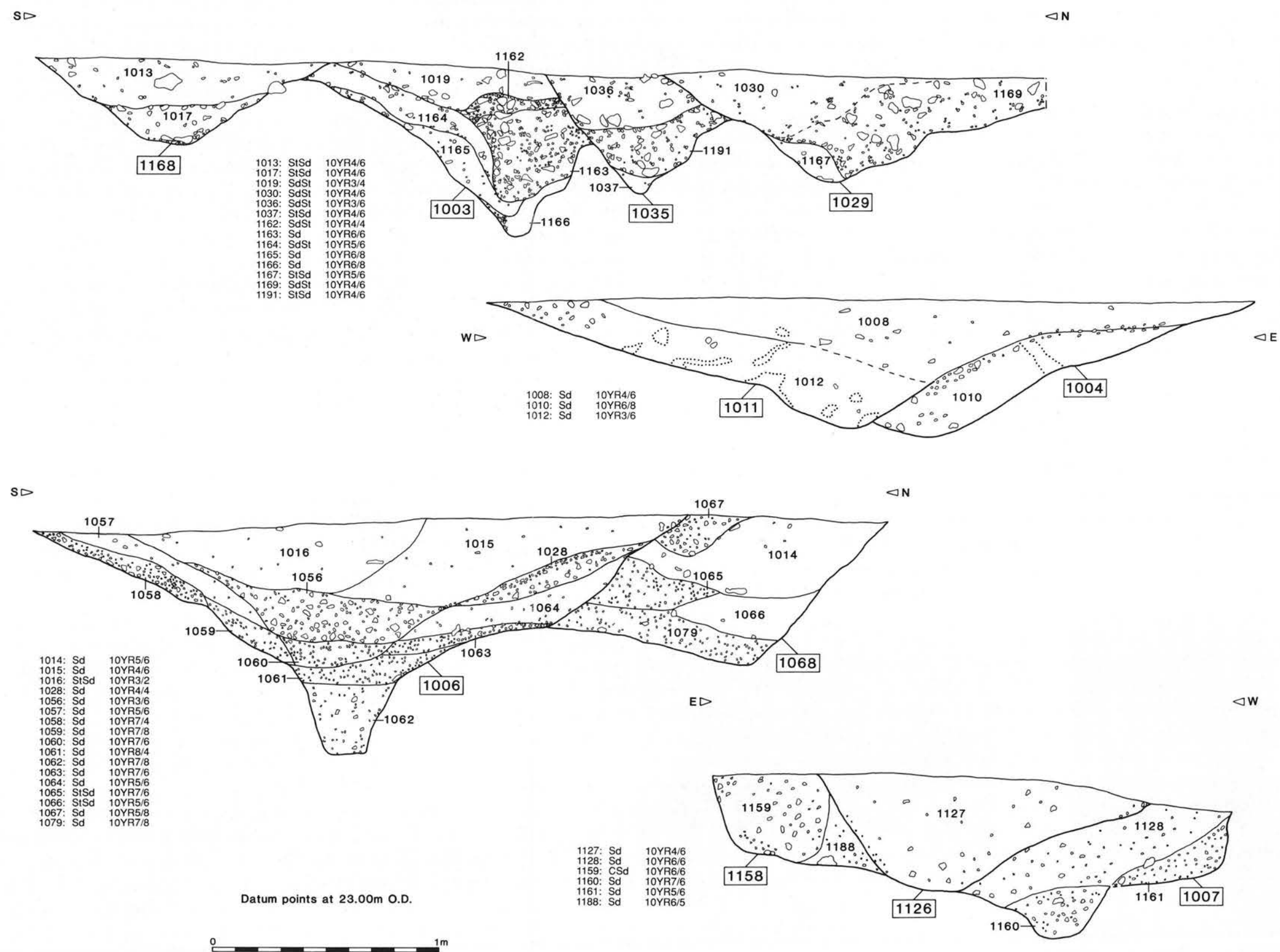


Figure 28 Site 9585, sections through ring-ditch 1002. Scale 1:20

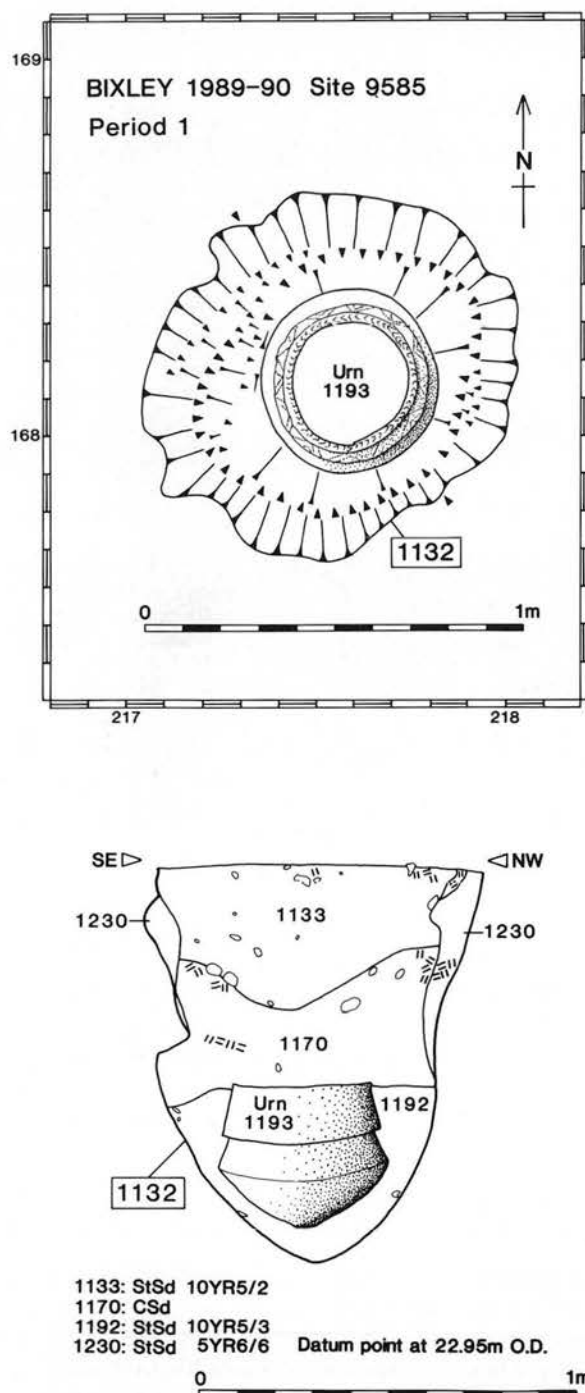


Figure 29 Site 9585, plan and section of cremation 1132.
Scale 1:20

The urn fill was predominantly black sand. Cremated bone, representing a young adult of undetermined gender, was abundant, while charcoal was present in large pieces but also comminuted throughout the matrix. Radiocarbon assay of oak charcoal from within the urn produced a date of 2460–1930 cal. BC (GU-5187; 3740±80 BP). A small quantity of blackened textile was also retrieved (Crowfoot, p.43–4). Occasional lenses of pink sandy gravels were noted, and one such concentration appeared to be roughly central within the pot. The exterior of the urn itself appeared to have been 'packed' up to the level of its rim by the brown silty sand deposit 1192. The layer sealing the urn, 1170, also contained abundant charcoal and cremated human bone, most common at the base of the deposit. Comparing the human remains recovered from within the urn with those found in the layer above it, it is interesting to note that there was no evidence for the selection of specific anatomical parts of the skeleton for insertion in the urn. Perhaps this material was cremation pyre detritus which had become admixed in this backfill layer (Mays, Chapter 9).

Other features

(Pl.XIII; Figs 27, 30)

Immediately to the east of the central cremation pit 1132 were situated two smaller sub-circular pits, 1253 and 1254. Both featured peripheral deposits of dark brown organic sands, apparently representing the impressions of vertically-sided organic vessels. These vessels may have constituted 'linings' to the pits. Unfortunately their function — ritual or otherwise — is unclear, and microscopic study of the soil matrix constituting the 'vessels' themselves and their fills has failed to reveal the nature of any of their original organic content. Pit 1253 proved difficult to excavate because of the similarity of upper fill 1129 to the surrounding natural sand. The organic stain itself varied in thickness, and was discontinuous on its south-east side. This was probably due to differential preservation of the organic material, resulting from varying acidity in the surrounding deposits. The base of the vessel was probably represented by the thin dark brown deposit 1135. A similar feature, pit 1254, lay only 0.8m further to the west. Once again the thickness of the 'lining' stain varied, and it was discontinuous on its west side. In contrast to that contained by the neighbouring pit, the base of the vessel was well-defined and rounded in profile.

A total of seven other post-holes were found in the area of the barrow. They would probably have been dug before the barrow mound was raised, since any such features post-dating the earthwork would almost certainly have been truncated along with it. Although some of them, especially 1050 in the south-east part of the area, were substantial and well-defined these post-holes could not be interpreted in structural or any other terms. They contained no artefacts.

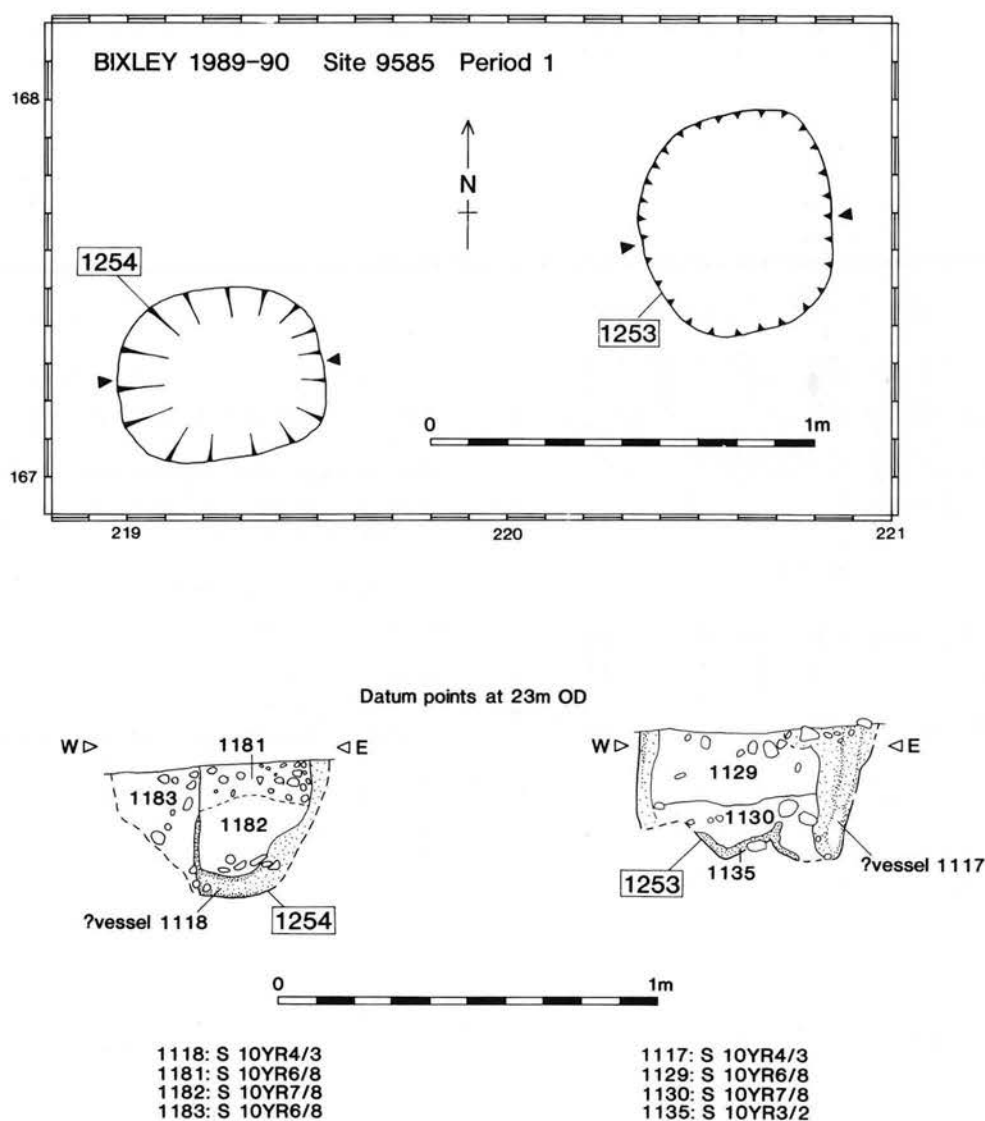


Figure 30 Site 9585, plans and sections of pits 1253 and 1254. Scale 1:20

Artefacts

Struck flint

by Stephen Kemp
(Figs 31-33)

Introduction

438 items of struck flint were found during the excavations at Bixley, 308 of them coming from Site 6099. Virtually all of these finds came either from the fills of ring-ditches or from obviously disturbed contexts. Full details of the assemblage may be found in Stephen Kemp's full report, which is held in the project archive.

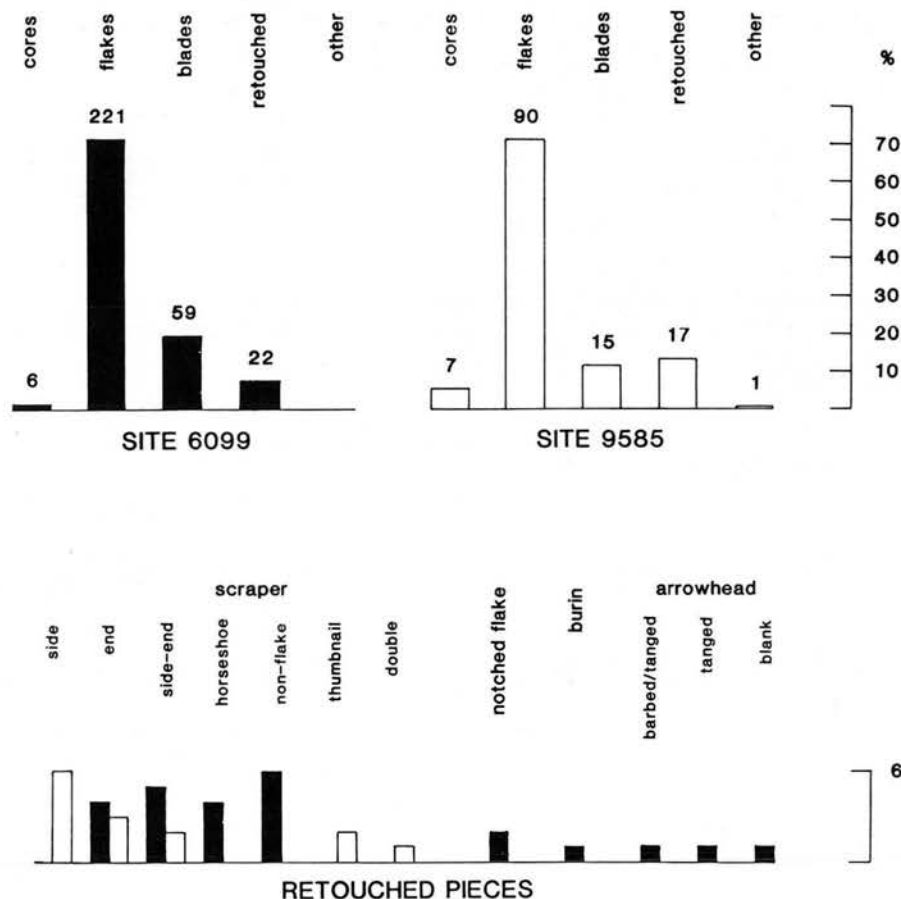
Lithic material (Fig.31)

The assemblage was entirely produced on a range of coloured varieties of flint which were locally available within the natural gravels. Although the colour of the flints was subject to some analysis, there was no obvious selection of raw material in the general assemblage, although certain types of flint appear to have been chosen

for axe-manufacture. Analysis of stratified assemblages could not be undertaken because the majority of the artefacts were either unstratified or occurred residually in deposits filling the deep Period 1 barrow ring-ditches.

Less than 10% of the items in the collection were finished pieces. These included three arrowheads from Site 6099: one of these displayed a tang apparently broken during production, while another was a blank resembling an unfinished leaf-shaped arrowhead manufactured on dark grey-brown flint. The majority of the scraper assemblage was made on non-flake blanks, with retouch occurring on between 10% and 90% of flake circumference. Retouch was largely abrupt, with occasional examples of stepped and scaled retouch. Two thumbnail scrapers found in the upper fill of grave 21 (Site 9585; including F10) were made on distinctive light grey-brown material. Few other retouched items were found, although two notched flakes and a possible burin were found at Site 6099.

Over 50% of the total flake assemblage of 217 pieces from Site 6099 comprised tertiary (non-cortical) flakes, pointing to the area's use for knapping work.



BIXLEY 1989-90 Site 6099

LITHICS SUMMARY

Figure 31 Sites 6099 and 9585, lithics summary

Site 6099: catalogue of illustrated flints (Fig.32)

- F1 Tanged arrowhead; s.f.3, context 7, fill of ring-ditch 6 (exc. section 27).
- F2 Transverse arrowhead blank; context 16, overburden.
- F3 Horseshoe scraper; context 205, fill of ring-ditch 6 (exc. section 204).
- F4 Serrated blade; context 205, fill of ring-ditch 6 (exc. section 204).
- F5 Side-end scraper; context 12, overburden.
- F6 Side-end scraper; context 2, cleaning.
- F7 Scraper, on non-flake blank; unstratified.
- F8 Scraper; context 3, cleaning layer.
- F9 Side-end scraper; context 50, fill of ring-ditch 6 (exc. section 29).

Site 9585: catalogue of illustrated flints (Fig.33)

- F10 Thumbnail scraper; context 3, fill of grave 21.
- F11 Scraper on non-flake blank; context 1171, fill of natural solution hole 1043.

Discussion

It is impossible to define a specific date range for the assemblage. This is because of the shortage of obvious temporally-restricted artefact 'types' and because most of the items were either unstratified or clearly disturbed: the

scraper F11 was found in the fill of a geological solution hole. However the presence of barbed-and-tanged arrowheads and thumbnail scrapers (albeit in small numbers) suggested a Late Neolithic or Early Bronze Age date for at least some of the material.

A significant proportion of artefacts in the assemblage were broken. While no axes or adzes are present there were a number of thinning flakes. Both of these aspects indicate the preparation of tools on site rather than their use and discard here. Axes were probably imported from a nearby flint source, arriving on site in a roughed-out form. The thinning flakes showed that light grey flint was preferred for axe-manufacture, whilst the majority of other tools were manufactured from grey-brown flint which would have been readily available from natural gravels.

It seems likely that the manufacture of stone tools was one of the activities taking place in the general area of the Bixley sites before, probably during and also after the construction of the barrows. The assemblage at Bixley contrasted markedly with that at Harford Farm (Chapter 4), where there was a higher proportion of finished flint tools and less evidence for artefact manufacture.

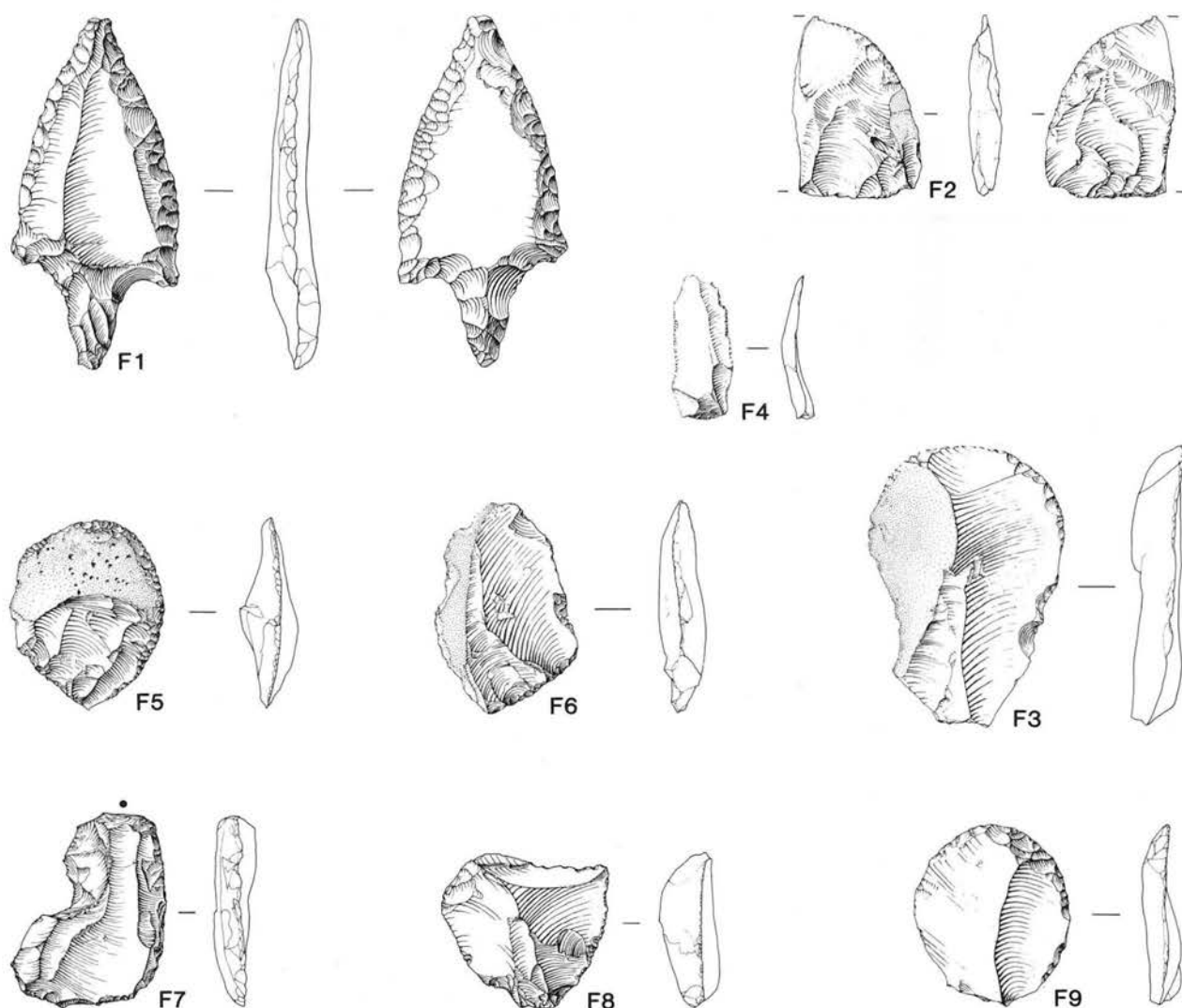


Figure 32 Site 6099, lithic material F1-F9. Scale 1:1 (F1), 1:2 (F2-9)

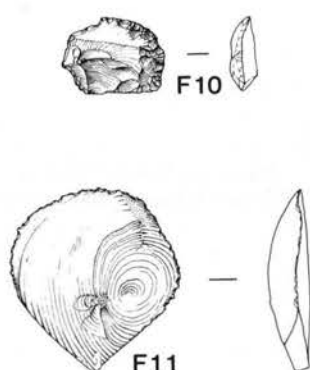


Figure 33 Site 9585, lithic material F10, F11. Scale 1:2

Objects of copper alloy by Trevor Ashwin

1. ?Awl; s.f.12. Context 277, fill of cremation pit 300. Incomplete and fragmentary: not illustrated. Very corroded and retrieved in six pieces, two of them very small indeed: longest fragment measured 23mm. Articulation of individual fragments unclear. Two pieces were clearly cylindrical and c. 1mm in diameter, but another appeared square in cross-section and was slightly thicker.

Simple pins and awls are amongst the earliest metal finds encountered in graves from Britain (Annable and Simpson 1964, Kinnes 1985) and are found associated with both inhumed and cremated deposits (e.g. Shrewton, Wilts; Green and Rollo-Smith 1984, fig.27). Bronze Age awls and similar pieces from Norfolk are listed in Norfolk Museums Service 1977 (28; cat. 18). Examples from Norfolk barrows include an awl with one spatulate end from Bridgham (Site 6011; Lawson 1986d, fig.91) and an awl or tracer from Witton, near North Walsham (Site 6920; Lawson 1983, fig.19). Both of these were found with cremations contained by Collared Urns. From a barrow at Risby, Suffolk, came an awl much more robust than the fragmentary Bixley example, found within a grave which also contained a Collared Urn and a necklace of 151 jet beads (Martin 1976, fig.26). Another awl was found along with a group of skeletons excavated at Methwold Severals on the Norfolk

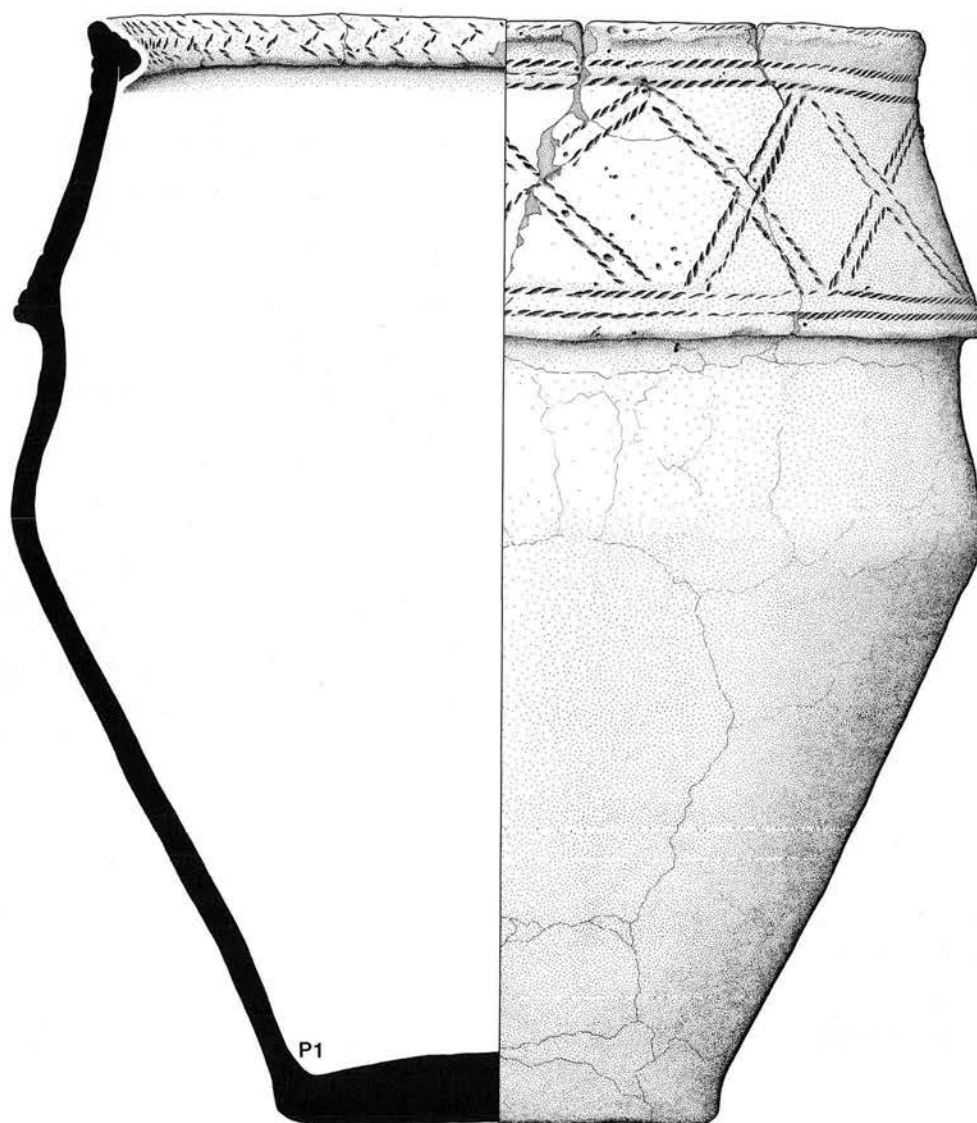


Figure 34 Site 9585, Collared Urn P1. Scale 1:3

Fen edge (Site 2542: Healy and Housely 1992, 951). The skeleton at whose waist it hung also wore jet beads, this time forming a bracelet. This latter deposit was radiocarbon dated to the late third/early second millennium cal. BC. A somewhat earlier date for the Bixley piece is implied by its stratigraphic position below cremation pit 289, charcoal from which produced a radiocarbon age of 2870–2390 cal. BC (GU-5185; 4020 ± 70 BC). The fact that the dated charcoal was of oak, however, makes this far from certain.

Cremation urns and accessory vessels by Helen M. Bamford (Figs 34 and 35)

Introduction

Four complete or substantially complete vessels were recovered from funerary contexts at Bixley. They comprised a small Collared Urn from Site 6099, and a large collared urn and two smaller undecorated vessels from Site 9585. None of these was found in direct stratigraphic association with any other, but the two undecorated vessels from Site 9585 were from grave deposits within the same barrow. The full results of Helen Bamford's analyses are held in the project archive.

Catalogue of illustrated vessels: Site 9585 (Figs 34 and 35)

- P1** **Collared Urn**; s.f. 1, context 1193, fill of cremation pit 1192. Essentially complete; twisted cord decoration on collar and rim bevel.
Fabric: Medium soft, texture moderately coarse, 'blocky'; inclusions — common grog 0.5mm–9.0mm, sparse to common chalk particles 0.5mm–1.5mm, very unevenly distributed, sparse to common sub-rounded and sub-angular quartz 0.3mm–1.0mm, very sparse flint 2.5mm–12mm unevenly distributed and probably incidental.
- P2** **Collared Urn**; s.f. 12, context 33, fill of cremation pit 32. Essentially complete; small, undecorated tripartite collared vessel, the collared effect produced by a cordon-like thickening of the neck below the rim and by vestigial internal moulding; lop-sided profile and concave base angle.
Fabric: Medium soft, texture moderately close; inclusions — common grog 0.5mm–2.0mm unevenly distributed, frequent angular, sub-angular and rounded quartz 0.2mm–1.0mm, sparse flint 2.0mm–8.0mm.
- P3** **Collared Urn**; s.f. 13, context III, fill of grave 78. Small, undecorated tripartite collared vessel. Essentially complete, excavated in 62 fragments.
Fabric: Medium soft, slightly friable, texture moderately coarse, including sparse to common irregular voids (some containing a whitish residue), 0.3mm–1.5mm, irregularly distributed; inclusions — common grog 0.5mm–7.0mm, sparse flint 3.0mm–6.0mm, sparse sub-angular quartz 0.2mm–0.5mm.

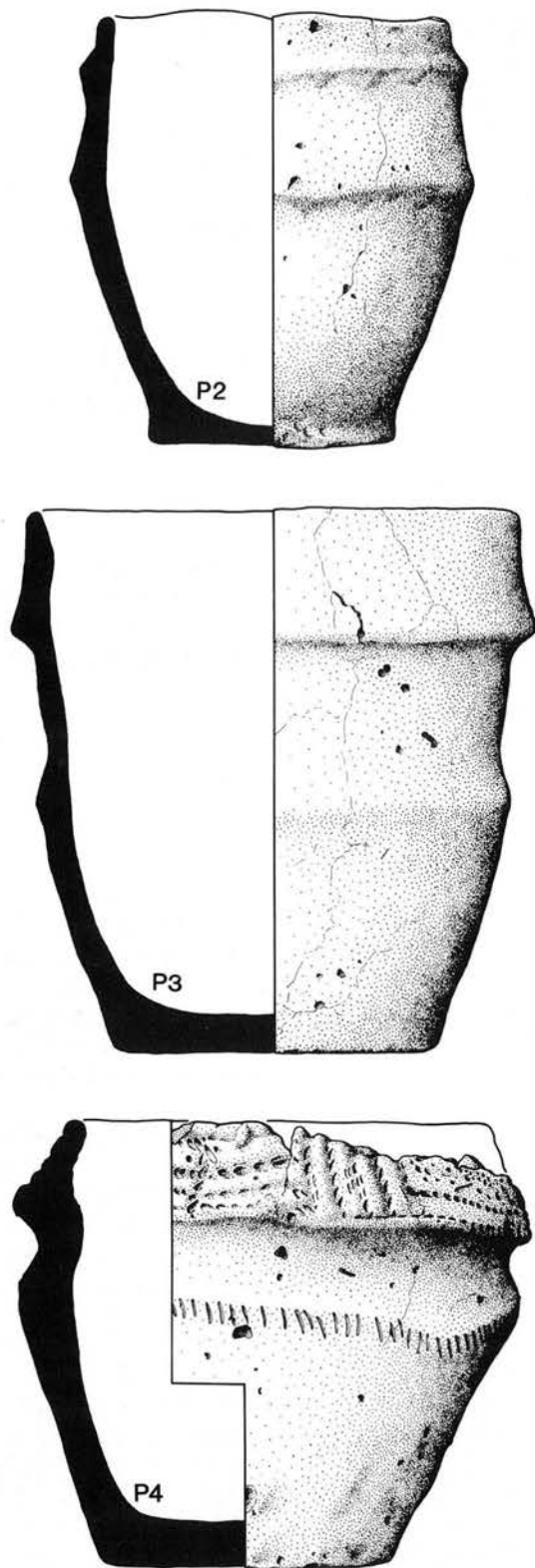


Figure 35 Site 6099 and 9585, accessory vessels P2-P4.
Scale 1:2

Catalogue of illustrated vessels: Site 6099 (Fig.35)

P4 Collared Urn; s.f. 10, context 186, fill of grave 184. Small collared vessel, complete and intact apart from erosion of rim; twisted-cord-impressed decoration on the collar and a row of small curved impressions on the angular shoulder, probably executed with a fingernail.

Fabric: Medium soft, friable at rim; texture moderately dense; inclusions — common grog 1.0mm–5.0mm, moderately common sub-rounded and sub-angular quartz 0.2mm–0.6mm.

Discussion

P1 may be described as a Secondary Series Collared Urn as defined in general terms by Longworth (1984, 29f). According to the refined and slightly modified typology proposed by Burgess (1986) it possesses specifically 'late' characteristics in the bold 'hurdle' pattern of the decoration on the collar, in the absence of decoration below the collar other than the rows of impressions on the shoulder, and perhaps also in the squat proportions of the whole. As well as these characteristics, this pot has what appears to be a significantly 'early' trait, namely a distinct internal moulding below the collar. On the strength of this it is probably to be classed with Burgess's Middle rather than Late group of Collared Urns. The suggested date of these vessels centres around the mid-second millennium cal. BC, roughly contemporary with Wessex I and the latest Beakers, but in this case it may be unwise to rule out a slightly later date.

Although vessels P2 and P3 are from different graves within the southernmost barrow, and are by no means identical, the similarity between them suggests they may not be widely separate in date. Their somewhat slack forms and absence of decoration make it impossible to classify them according to Burgess's criteria or to relate them typologically to the other Bixley Collared Urns, but there are a number of similar small, undecorated vessels recorded from funerary contexts in East Anglia and elsewhere (Longworth 1984, 228).

P4 belongs firmly within Longworth's Secondary Series, and is of Burgess's Late type. 'Late' features, according to the latter authority, include the bold lattice pattern of the decoration on the collar and the deep, hat-like collar with slightly concave profile and sharply-defined peaked base. In Burgess's scheme, Late Collared Urns belong to a post-Beaker, post-Food Vessel phase, equivalent to Wessex II and dating approximately to the earlier second millennium BC. Despite this, the vessel should not be seen as necessarily later in strict chronological terms than P1 discussed above.

Pottery

by Sarah Percival
(Figs 36, 37)

General

Apart from the complete funerary vessels already discussed by Helen Bamford, a total of fifty-eight sherds of Neolithic and Bronze Age pottery weighing 886g were recovered, mostly from unstratified or clearly disturbed contexts.

Earlier Neolithic pottery (Fig.36)

Only one sherd, P6, appeared to belong to the earlier Neolithic bowl pottery tradition. This was found in the fill of a natural solution feature along with a number of Beaker

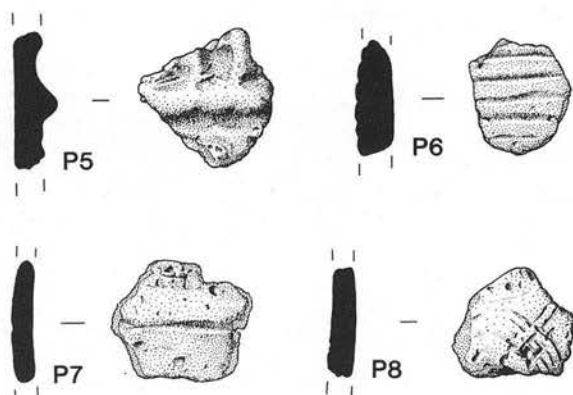


Figure 36 Site 6099, Neolithic/Bronze Age pottery
P5–P8. Scale 1:2

sherds, but was distinguished from them by virtue of its harder, better-fired fabric. The decorative incised 'channels' are paralleled by a sherd found nearby at Earlham, Norwich (Healy 1984).

Beaker

(Figs 36 and 37)

Twenty-two sherds of Beaker pottery were found, most of them small and very abraded. The largest individual context assemblage (six sherds, including P7–8) came in fact from a clearly re-worked deposit, the fill of solution hole 170 at Site 6099. This group included fragments of incised and finger-impressed vessels, all in soft fabrics. P5, with its raised cordon, featured a coarse, gritty fabric, conceivably to make it more practical for cooking.

Of a different character was P11, part of a stab-decorated Beaker in a hard, well-fired fabric. This vessel featured a flattened and folded rim, and seems to represent a straight-necked pot which widens gradually towards the waist. Its decoration can be paralleled by sherds from Hockwold, Norfolk (Bamford 1982, fig. 29).

Food Vessel

(Fig. 37)

Ten sherds forming the rim and upper body of a lugged Food Vessel (P10) were found during cleaning of the southernmost barrow mound at Site 9585. It seems that the lower body of this vessel was plain; whipped cord decoration being confined to the rim area. The remains of a double applied lug or handle survived on the upper body.

Bronze Age pottery

(Fig. 37)

Thirteen sherds of an incomplete biconical urn (P9) were found in the uppermost fill of grave 21 at Site 9585. This slab-built vessel was decorated around its outer rim with fingernail impressions and featured an applied 'horseshoe handle'. Its fabric was both soft and coarse, and wet-hand wiping produced a smooth exterior surface from which the inclusions protruded. P9 resembles a plainer biconical cremation urn recently found at Alington, south of Norwich (Wymer 1990), while another similar urn comes from Needham, in south-east Norfolk (Lawson 1980).

A small number of other sherds were attributed to the Bronze Age on the basis of fabric. These were all small and undiagnostic.

Catalogue of illustrated sherds: Site 6099

(Fig. 36)

- P5** Beaker; context 104, fill of ring-ditch 6 (exc. segment 28). Hard. Common flint, moderate quartz, some sand.
- P6** Neolithic bowl; context 170, fill of solution hole 110. Hard. Moderate quartz, sparse flint, some sand.
- P7** Bronze Age; context 170, fill of solution hole 110. Hard. Abundant sand, common quartz, moderate mica.
- P8** Bronze Age; context 170, fill of solution hole 110. Medium hard. Sparse grog, sparse flint.

Catalogue of illustrated sherds: Site 9585

(Fig. 37)

- P9** Biconical Urn; context 20, fill of grave 21. Soft. Common grog, sparse flint, mica, black vegetable inclusions. Some vacuoles.
- P10** Food Vessel; context 49, barrow mound. Medium hard. Sparse grog, sparse flint.
- P11** Beaker; context 113, fill of solution hole 72. Hard. Common grog and quartzite, some mica.

Discussion

Apart from the accessory vessels and cremation urns very little Neolithic or Bronze Age pottery was found, and a similar paucity was seen at the other barrow cemetery excavated on the Norwich Southern Bypass, at Harford Farm (Chapter 4 this volume). At Bixley, however, this seems somewhat at variance with the quantities of lithic material from the ploughsoil and ring-ditch fills at Site 6099. Neolithic and Bronze Age human activity in the vicinity, perhaps including flint-knapping, may be unrepresented in the ceramic record.

The Bixley Beaker sherds seem typical of material from Beaker domestic sites of the period, and can be assigned to Case's 'Late' phase of typological development (Case 1977). Such forms were probably current between c. 2200 and 1700 cal. BC (Healy 1991a). Indeed, it has been proposed that finger-raised cordons such as that sported by P5 are a characteristic Beaker trait of the late third/early second millennium cal. BC (Gibson 1982).

Of the other vessels from the site, it seems most likely that P10 is a representative of a regional Food Vessel tradition. Food Vessels too are conventionally dated to the earlier second millennium cal. BC. By contrast, biconical urns such as P9 are more usually placed in the middle of the second millennium cal. BC at the conclusion of the 'Early Bronze Age'. While the applied horseshoe motif superficially links P9 with the well-known Ardleigh tradition of Essex (Erith and Longworth 1960), it is possible that the Norfolk urns constitute a sub-tradition of their own, characterised by applied cordons, exterior wiping and fingernail decoration (Lawson 1980). The Bixley example may belong to the earlier part of the horseshoe-handled tradition, a fact suggested by P9's grog and flint temper, sparse decoration and angular shape.

Textile remains

by Elisabeth Crowfoot

Blackened textile remains were found with the cremated bone in cremation 1132, the urned deposit found centrally within the northern barrow at Site 9585. They appeared to be carbonised, but SEM analysis by Jonathan Webb at the Ancient Monuments Laboratory proved that preservation had been by a form of mineralisation due to contact with the cremated bones, and that the cloth had not itself been cremated. Fibres surviving within the mineralised cast resembled plant material. In the best-preserved fragments two thicknesses of textile were visible, but both layers

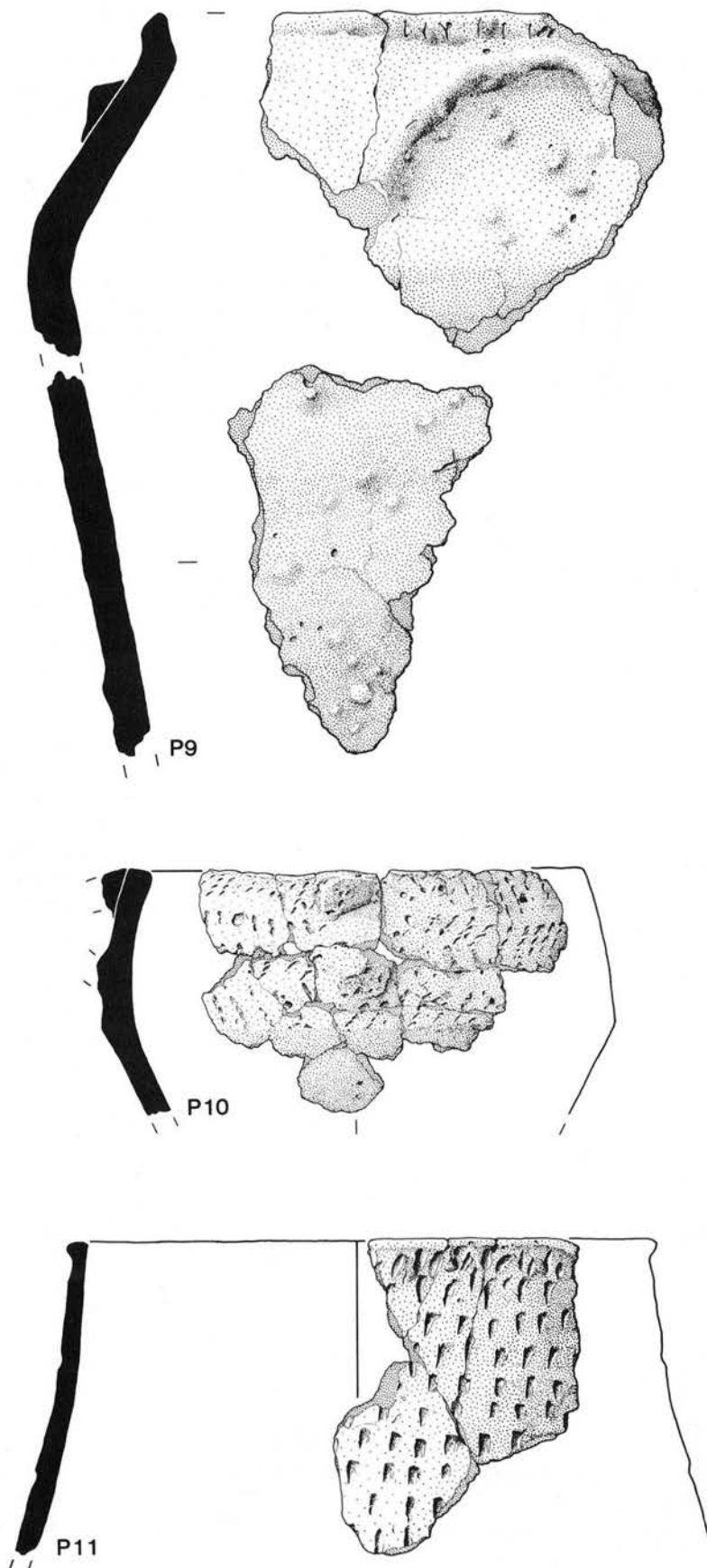


Figure 37 Site 9585, Neolithic/Bronze Age pottery P9-P11. Scale 1:2

could be folds of the same fabric. Both showed tabby weaves.

These fragments resembled Bronze Age textiles from other sites. Vegetable fibres, including flax and probably nettle, have been identified in very similar fabrics (Coles *et al.* 1964, Hedges 1972, Henshall 1950; also unpublished material from Somerleyton, Suffolk), the best-preserved examples being on metal goods which had been wrapped separately for burial. The presence of mixed fibres in one cremation deposit might represent the remains of clothes (Crowfoot 1986, 99). However, the form of preservation described by the SEM analysis probably indicates that the textile present here was either a bag or a piece of cloth holding the cremation inside the urn, or a fragment used to block its mouth (Henshall 1950, 132).

V. Period 2

Introduction

No features or deposits which could be dated to the Iron Age were excavated at Bixley. However a quantity of later prehistoric pottery was retrieved, most of it from clearly disturbed and re-worked deposits.

Artefacts

Pottery

by Sarah Percival
(Fig.38)

Introduction

A total of 173 ceramic sherds of Iron Age type, weighing 1.06kg, were found, a little over half of their number coming from Site 6099. The bulk of the assemblage was unstratified or came from the upper fills of the Period 1 barrow ring-ditches. Most of the sherds were very small and in poor condition. A contrast could be seen between the assemblages from Sites 6099 and 9585: most sherds from the former site were in coarse, gritted fabrics, whereas the latter group was dominated by sandier burnished wares.

Fabrics

Seven fabrics were identified, as follows. Alphanumeric codes refer to the complete Norwich Southern Bypass fabric catalogue included in the archive pottery report, where full descriptions are included.

IA2, medium coarse. Moderate/common flint; some sand, mica.

IA4, medium coarse. Common quartz; common flint; sparse mica; some sand.

IA5, medium coarse. Common quartz and quartzite; occasional flint, organic inclusions.

IA8, fine sandy, dense, micaceous. Common quartz, occasional flint.

IA10, sandy, dense, micaceous. Common quartz, occasional flint.

IA11, sandy, micaceous. Common quartzite.

IA12, sandy, micaceous. Moderate quartz, occasional organic inclusions.

There were few substantial body sherds, and none that bore decoration. The three rim sherds from Site 6099 were from upright jars, probably representing storage or cooking pots. Only one of these, P13, was decorated.

Catalogue of illustrated sherds: Site 6099

(Fig.38)

P12 Context 34, fill of ring-ditch 6 (exc. section 28). Fabric IA8

P13 Context 36, fill of ring-ditch 6 (exc. section 27). Fabric IA6

Catalogue of illustrated sherds: Site 9585

(Fig.38)

P14 Context 274, fill of pit 275. Fabric IA10

P15 Context 1016, fill of ditch section 1006. Fabric IA10

Discussion

Despite the fact that the total assemblage weighed slightly over 1kg, the degree of fragmentation and general lack of sherds bearing diagnostic marks make both general discussion and assessment of date difficult.

There is insufficient material available to discuss usefully the apparent contrast between the 'coarse', flinty assemblage from Site 6099 and the predominantly 'fine', sandy one from Site 9585. However the flint- and/or sand-gritted jars from Bixley are of a type 'ubiquitous' (Gregory 1991, 160) to the Middle and Late pre-Roman Iron Age in East Anglia. In general terms the group displays common features with the Iron Age pottery from Harford Farm, Caistor (Chapter 4 this volume) and the Phase 1 ceramic from Fison Way, Thetford. On the basis of our present typological understanding they may date to the fourth or third centuries BC.

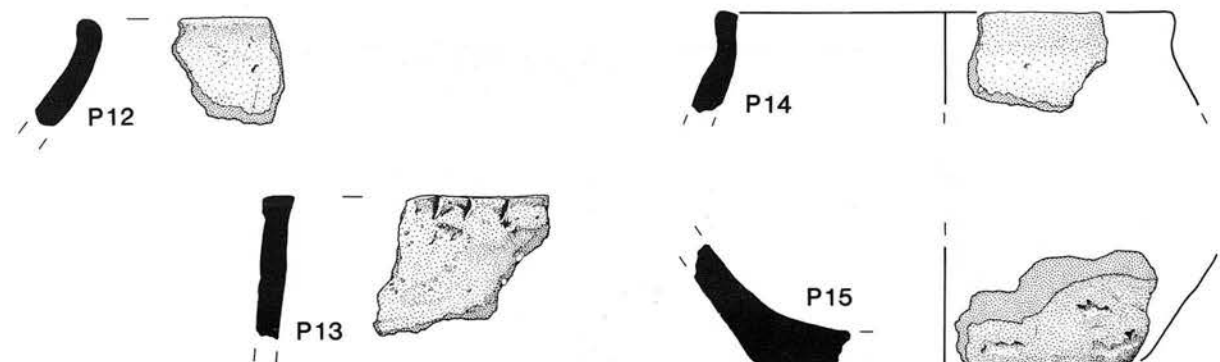


Figure 38 Sites 6099 and 9585, Iron Age pottery P12–P15. Scale 1:2

VI. Period 5

(Fig.39)

Introduction

Only at Site 6099 was any evidence of medieval or post-medieval activity identified at Bixley. This evidence included two ditches and a small number of pits and post-holes. However, quantities of Thetford-type Saxo-Norman pottery were found in the fills of the outer

barrow ditch 6. This material was frequently sooted, and was associated with quantities of charcoal and animal bone. No negative features were found which were contemporary with this episode of domestic activity. It was clear that the ditch was open to a depth of at least 0.8m at the time when these deposits were laid down: maybe it was in use as a rubbish pit for an occupation site which lay beyond the limits of the excavation.

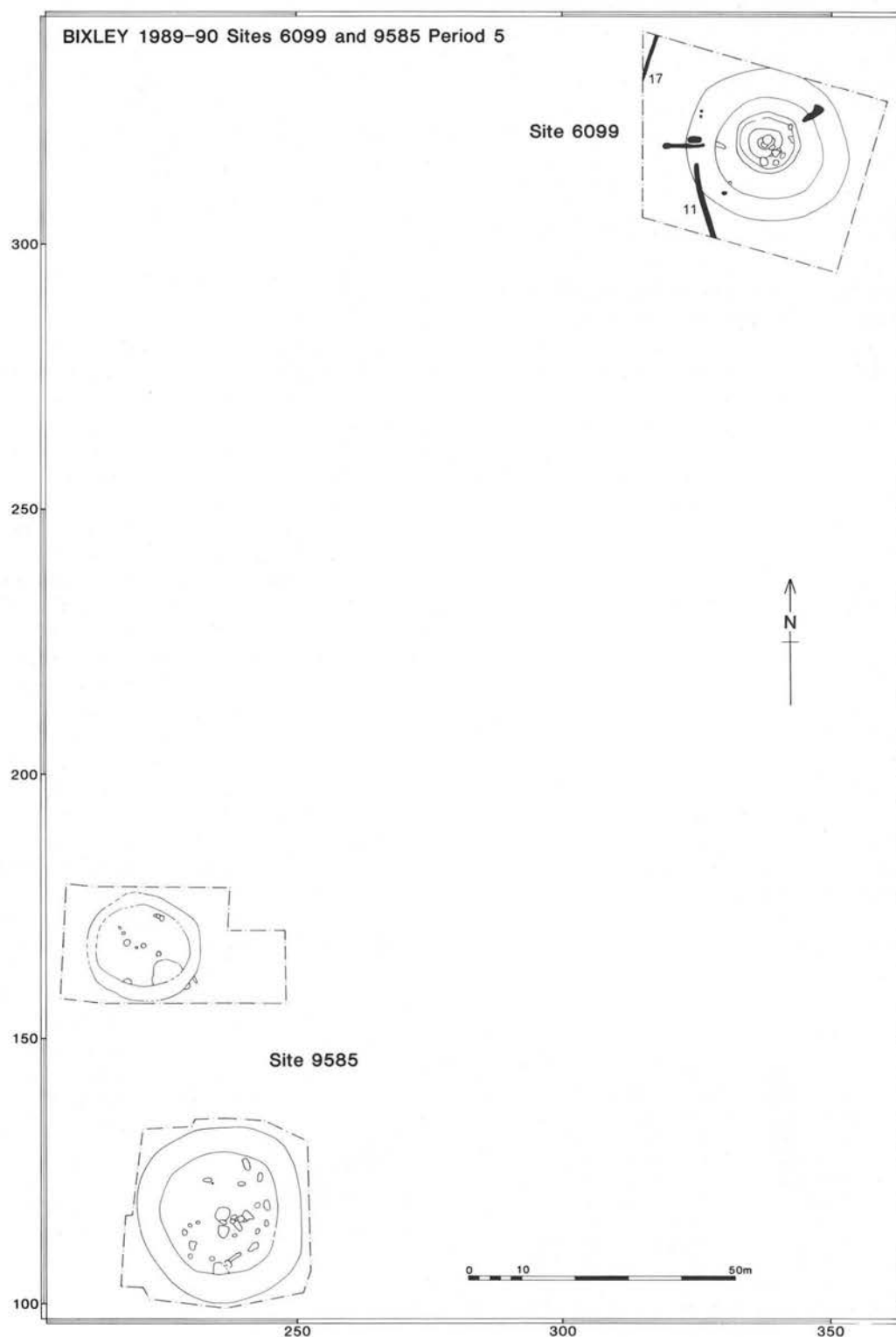


Figure 39 Period 5 phase plan. Scale 1:1250

Features: Site 6099

(Fig.39)

The north-south aligned *ditch 11* was cut tangentially into the south-western part of outer barrow-ditch 6's circuit. Its northern terminus could not be seen clearly in plan but the feature was seen to post-date the infilling of the ring-ditch at this point, making a medieval or post-medieval date certain. A short length of the slight, gully-like *ditch 17* was exposed in the north-western corner of the area. This feature had been sealed by the redeposited mound layer 321: however the southernmost part examined was seen to cut an earlier mound-slump deposit, 7. Thus the ditch was probably a field boundary or similar feature of medieval or post-medieval date which was cut during a hiatus in the 'spreading' and erosion of the barrow mound.

A number of pits and post-holes were seen to cut the upper fill of ring-ditch 6. These were of unknown function, and were not closely datable save that they lay stratigraphically above those ring-ditch fills which contained abundant Thetford-type pottery.

Stripping of topsoil during the opening of the site revealed natural sands and gravels throughout the area enclosed by ring-ditch 6, while the peripheral area of the trench was covered entirely by a blanket of yellowish brown silty sand up to 0.3m thick. This layer sealed the latest fills of ring ditch 6 and masked its outer edge throughout its circuit, and was removed summarily. The deposit radiated outwards from the area of the putative mound, and was thought likely to represent spreading and redeposition of the barrow mound by ploughing. The upper part of the layer was disturbed in many places by recent ploughing and subsoiling, and such disturbance was probably responsible for the presence in places of Saxo-Norman pottery in the deposits overlying the ring-ditch.

Artefacts

General

Reports on the Thetford-type Wares and on two exceptional metalwork finds are presented here. Summary information on a total of thirty-one ferrous and non-ferrous metal small finds, most of them nails or unidentifiable fragments, is catalogued in the project archive. Notes on the animal bone assemblage and on two fragments of human bone may be found in Chapter 9 of this report.

Objects of copper alloy

by Sue Margeson

(Fig.40)

- 1 **Strap-end**, Middle Saxon; s.f.4, Site 9585 context 2 (unstratified). The split end has a u-shaped nick between two rivets. Below is a shield-shaped field inlaid with niello and silver wire spirals. The shield has a scalloped upper edge. A transverse band separates this field from the circular field below, and causes the strap-end to be waisted here. Within the circular field is a roundel containing niello and three symmetrical double spirals of silver wire, with annulets between the spirals and the edge of the roundel. The animal-head has lentoid ears, with crescentic grooves to indicate relief. Transverse lines above the eyes are inlaid with niello. The drilled eyes were probably once inlaid with glass pellets.
- 2 **Looped bar-mount from belt**, medieval; s.f.7, Site 9585 context 2 (unstratified). Gilded u-shaped loop, the front of which is in the form of a half-round animal body, with the animal-head facing the loop. The animal-head is squat, with two circular eyes. The half-round body is decorated with pairs of diagonal lines meeting at a central pair of transverse lines. The body terminates in a pair of tiny lobes. The loop is secured midway along the animal body by an integral shank.

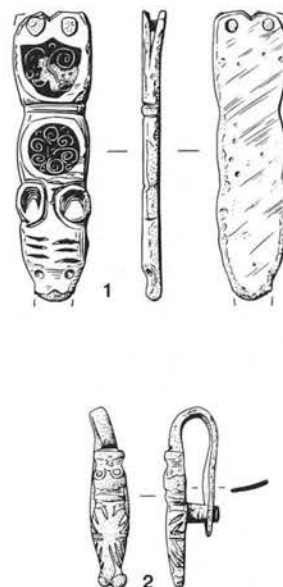


Figure 40 Site 9585, objects of copper alloy. Scale 1:1

The strap-end is of standard ninth-century type. However the quality of the decoration is exceptionally fine, and some of the features are rare. The shield-shaped field inlay is perhaps a more elaborate version of the linear fan-shaped field often found on strap-ends of this type (Wilson 1964, cat. 116, 117; Graham-Campbell 1982, fig.3: 1,3,4; Rogerson 1995, cat. 68–70). The roundel in the central field is also an unusual feature. Two unpublished examples from Norfolk have similar central roundels: One from nearby Trowse with Newton (Site 25709) has interlace in the field, the other from Wrenningham (Site 30201) has both a shield-shaped field and a roundel, and both are inlaid with niello and silver wire. Two examples in the National Museum of Ireland are of similar central-roundel type, one from Duntinny, Donegal, and the other from Doonlonghan, Galway. A more elaborate version of the roundel is found on a strap-end from North Pickenham, Norfolk (Site 24012), where it is decorated with a cast sun-burst relief. The strap-end in this case is more rounded in section, and has a highly stylised animal head terminal, almost triangular in form, and with no features.

Similar belt-mounts to 2 have been excavated at Harling, Norfolk (where the decoration is in the form of a human face; Rogerson 1995, copper alloy cat. no.103) and in London (Egan and Pritchard 1991, fig.134 no.1164; fig.138 nos 1189, 1190, 1191; fig.140 nos 1194–8). Some retain their pendant rings, which might have suspended toilet articles from a belt; others would have suspended decorative arched pendants, to add to the ornamental effect. They are known from sculpture and can be dated to the thirteenth century.

Pottery

by Sarah Percival

(not illus.)

383 sherds of Thetford-type Ware, weighing 2.9kg, were recovered from Bixley Site 6099. Virtually all of them were either unstratified or from the upper fills of the deep barrow ring-ditch 6. Full quantification of the assemblage and correlation to established fabric and form series may be found in the archive pottery report.

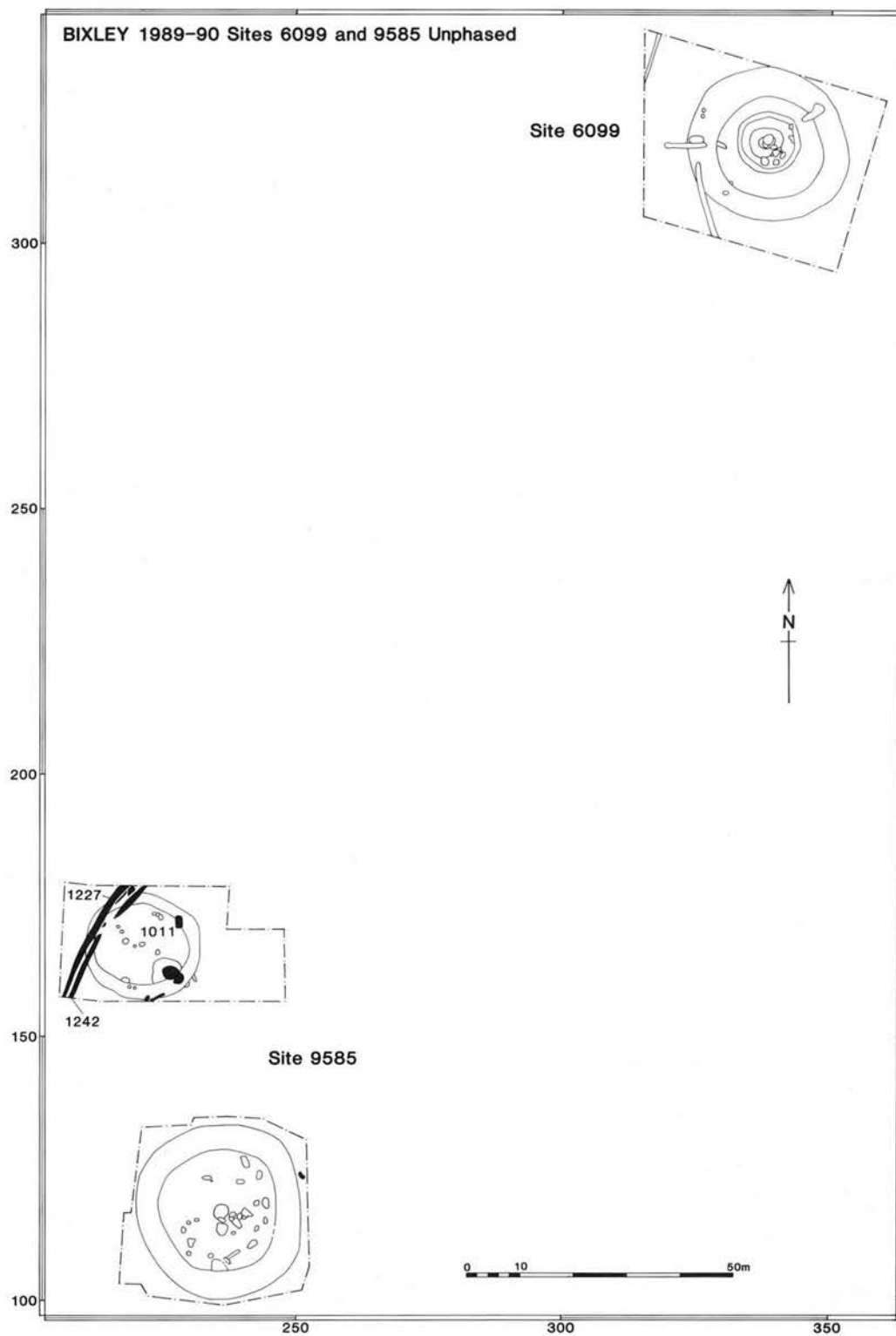


Figure 41 Plan of unphased features. Scale 1:1250

The sherds were made of hard, quartz sand-gritted fabrics, most of them reduced although a few were oxidised. These fabrics resembled those seen in assemblages excavated in Norwich at Bedford Street, where part of a Thetford-type Ware kiln was excavated in 1973 (Site 163, Carter *et al.* 1974), and at Bank Plain (Site 14, Atkin, Ayers and Jennings 1983). The assemblage comprised characteristic Thetford-type jars, cooking pots and bowls, although some of the vessels displayed unusual sagging bases. Two sherds were decorated with bands of diamond rouletting.

The Bixley pots resemble Thetford-type material from Norwich itself rather than from the surrounding rural area. The only rural kiln known in the area to the south-east of Norwich is that at Kirstead, in the parish of Langhale (Wilson and Moorhouse 1971). Pottery from this kiln was dissimilar to that from Bixley, being sandier with larger rounded inclusions (I. Lentowicz pers. comm.). The distinctive sagging bases may suggest an eleventh-century date for the Bixley group (Jennings 1981, 14).

VII. Unphased

(Fig.41)

Site 9585

Introduction

The majority of features which could not be assigned to a specific Period were ditches and pits which had been cut into ring-ditch 1002 at Site 9585 after it had silted up fully.

Ditches

(Fig.41)

The western side of Period 1 ring-ditch 1002 had been cut tangentially by straight, parallel ditches 1227 and 1242 which were aligned roughly north-east to south-west across the western part of Area B. The easternmost of these two, 1242, briefly passed within the area enclosed by the ring-ditch but was partly truncated in this area, probably because at this point it had been cut into the now-truncated barrow mound. They were excavated very little on account of their clearly intrusive nature: while they had been dug only when the earlier ring-ditch had silted fully, there was no other indication of their date. Both ditches were very shallow. It is possible they had lain on either side of a hedge-bank which had at one point incorporated the remains of the Period 1 barrow mound. This boundary may have been redefined at least once, since ditch 1227 was seen to cut a parallel gully-like feature close to the northern limit of excavation.

Other features

(Fig.41)

Most other unphased cuts were pits of unknown date or function which post-dated Period 1 ring-ditch 1002. Pit 1011, inserted into the north-western part of its circuit, had been dug before the ring-ditch had infilled completely and contained several sherds of Romano-British Nar Valley Ware jar. However the presence of more of this pottery in the adjacent ring-ditch fills made it useless as dating evidence. The southern part of the ring-ditch had been cut by two post-holes and traces of two gully-like features of very slight proportions, but none of these could be interpreted or discussed further.

VIII. Discussion

Period 1

General

Despite being so comprehensively levelled, the three barrows at Bixley provide fascinating examples of the diversity of round barrow mortuary practice during the late third and early second millennia cal. BC. Their interest is enhanced by their proximity to each other and by their context within a landscape as rich in prehistoric monuments as the southern environs of Norwich. This section of the report will concentrate on summarising the evidence from the Bixley sites themselves. More general discussion of the Arminghall group as a whole will be deferred until Chapter 10 in this volume, when the barrows at Sites 6099 and 9585 can be viewed alongside not only the Arminghall Henge and the other excavated barrows in the vicinity but also the contemporaneous settlement information too.

The topographic position of the Bixley barrows testifies to the importance of their proximity to the adjacent henge. All three were arrayed in a line, not on the true summit of the hill, which was occupied by the crop-mark of a probable post-mill stance (Fig.2), but on a 'false crest', at a slightly lower elevation but on the edge of the steep slopes leading down to the River Tas. This ensured that the barrow mounds would have appeared on the skyline from the vantage-point of the Tas valley bottom, and may have given them an almost theatrical presence.

Before the barrows

The small size of the areas opened and the degree of plough denudation may well have concealed or removed any features representing the site's use before the barrows were built.

The barrows

(Fig.42)

Although two of the three ring-ditch monuments shared a similar external diameter, excavation showed that all three barrows had developed in very different ways and shared few common traits.

Site 6099

The three-ringed northern barrow at Bixley was the most complex of the eight ring-ditch monuments excavated during the Norwich Southern Bypass Project. Multi-phase barrows of similar complexity from Barnack, Cambs and West Ashby, Lincs have been elucidated skilfully by Donaldson and Field respectively (Donaldson 1977, Field 1985). In the case of this barrow it has proved impossible to 'phase' its construction and sepulchral use precisely. This is largely due to the total absence of *in situ* mound material; even in plough-damaged form, this might have provided some concrete stratigraphic relationships across the monument as a whole. Thus, while a broad structural sequence may be suggested, it has not proved possible to integrate all of the graves and other excavated features into it.

The shallow egg-shaped inner ring-ditch 200 seemed to be the primary element in the barrow's construction. There was no evidence to show whether or not it enclosed a mound, but any such earthwork would probably have

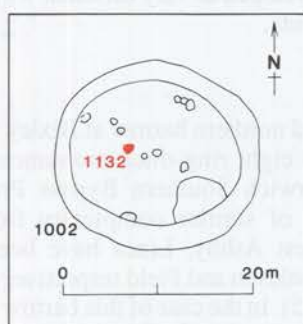
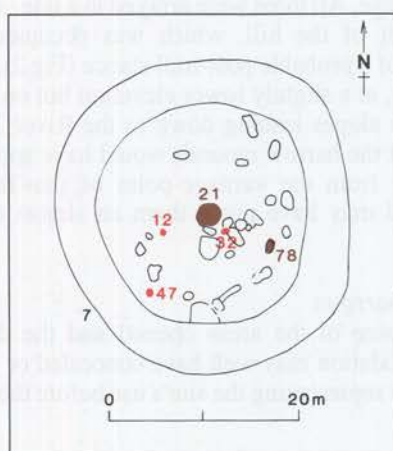
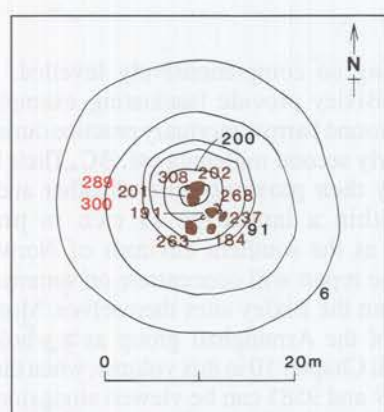


Figure 42 Sites 6099 and 9585, interpretative plans of barrows. Inhumations shown in brown, cremations in red

been very slight. It is proposed that the two earliest inhumation graves within its circuit, 202 and 308, were contemporary with this phase: especially the latter elongated pit, which lay parallel with the northern side of the ring-ditch and a mere 0.15m inside its inner edge. This was apparently followed by an expansion of the monument represented by the 'intermediate' ring-ditch 91. Several putative inhumation graves and pits within the southern part of its circuit probably dated to this phase of use, and some of them had cut the inner ring-ditch 200. It seemed likely that the latest burials in the central area, cremation pit 289 and ?inhumation 202, also belonged in this second phase since they too post-dated the filling of the inner ring-ditch. However it is most interesting that some of these features cut the inner ring only peripherally, suggesting that traces at least of the tiny 'phase one' ring-ditch remained visible and respected at the time of the monument's expansion.

No skeletal material survived to provide any information about the people buried here or the rite employed. One, however (184), was accompanied by an inverted Collared Urn while another (237) contained an individual (probably juvenile) inhumed within a plank coffin. There was no evidence for the dimensions or nature of any mound once encircled by ring-ditch 91, but this gully-like feature would have produced very little upcast, suggesting that such an earthwork might have been small. At a later date the barrow was enlarged by the excavation of deep outer ring-ditch 6. Unfortunately no mound material or burials associated with this 'third phase' survived: it may be that any such graves had been cut into a substantial mound and removed by its levelling.

Site 9585

The southernmost barrow at Site 9585 — that encircled by ring-ditch 7 — was unique among those described in this volume in that a remnant of mound material had escaped the levelling process and survived *in situ*. The presence of this 30cm-thick deposit has been of great value in reconstructing the sequence of the monument's construction.

It seems that the first episode in the construction of the barrow was the stripping of turf and topsoil from its area, and the only features lying stratigraphically below the mound probably represented the removal of shrubs and light woodland as part of this process. A similar truncation phenomenon was apparent below the barrow at Bawsey in West Norfolk dug by John Wymer in 1984 (Wymer 1996), and below that in Witton Heath Wood excavated by the late John Turner (Lawson 1983). In neither of these cases was a 'buried soil' found, but this Bixley barrow is unusual in that no burials whatever were sealed by the mound material. Presumably mound layer 61 was raised using the gravelly upcast from the excavation of the ring-ditch 7: no sign of a turf 'core' to the earthwork could be seen, suggesting that the topsoil removed before its construction had been deposited elsewhere. After an unknown lapse of time, deep grave shaft 21 had been cut into its exact centre and then left to infill naturally at least in part. A parallel for this is provided by grave 1469 within barrow ring-ditch 1022 at Harford Farm (Chapter 4), which was apparently left at least partly open to the elements after the deposition of the primary burial. Such practices suggest that

excarnation might have played a part in some of the inhumation rites employed here.

Traces of human bodies did not survive the acidity of the subsoil in any way, and the only other clear inhumation grave which was identified was 78, in the south-eastern part of the barrow, which contained a small, plain Collared Urn. This vessel (Fig. 35, P2) was near-identical to pot P3, an accessory to un-urned cremation 33 located a short distance away. This makes it possible that these two contrasting deposits were of very similar date. It is likely that the three cremations form only an arbitrary sample of those which once existed here. Such features would have been very vulnerable to erosion by the plough. The fragmentary inclusions of cremated bone found along with sherds of Biconical Urn in the upper fill of central grave 21 probably represented the destruction of another nearby cremation by animal action or agricultural attrition. Intense scorching of the sides of these pits was especially clear in the case of cremation pit 47, implying that the process of cremation was being carried on nearby if not in the barrow area itself, and that deposition occurred very shortly afterwards.

It is suggested that most of the other small pit-like features 'cutting' the mound represent an episode of 'weeding', perhaps when the barrow was stripped of shrubs and small trees at the outset of a new episode of burial. It is interesting to note that the cremation pit 32 was actually cut into a series of these depressions, while another such feature cut the fully-infilled central grave 21. The writer suggests that the cremation deposits constituted a secondary phase of the barrow's use, preceded by the removal of bushes and light woodland which had grown up in the time-lapse since the insertion of the central 'primary' inhumation 21. Within this hypothesis the small inhumation grave 78 is probably best seen as belonging to the 'secondary' episode, due to the already-discussed similarity between its accessory pot and that from cremation pit 33. An episode of decay and regrowth of secondary woodland has similarly been suggested by French in his account of Deeping St Nicholas barrow 28, Lincs. (French 1994, 110). Unfortunately there is no palynological or other environmental evidence to offer more concrete support for the idea at Bixley.

The third barrow, encircled by ring-ditch 1002, was entirely flattened. The former presence of a mound was made clear by the alignment of unphased north-south ditches 1227 and 1242 which skirted the west side of the enclosed area as if respecting an upstanding earthwork. The barrow's dimensions were small relative to its neighbours to north and south. However the complex sequence seen within the primary mound of the excavated Witton barrow (Lawson 1983, 24-6) — a monument of similarly modest size — gives some idea of the wealth of information which may have been destroyed. The only cut feature within the ring-ditch which was unambiguously part of the barrow was pit 1132, containing the central cremation within its magnificent Collared Urn. The two small pits 1253 and 1254 with their evidence for organic linings remain wholly enigmatic, and it is unfortunate that scientific study both of the 'vessels' and of their contents produced only negative results. In the absence of finds or other data it cannot be proved whether or not these

pits were associated with the site's funerary use, but the occurrence of a rather similar feature within the area of the barrow excavated at Site 6099 (pit 206) strengthens this possibility.

Radiocarbon dating and chronology

With the aid of the four radiocarbon determinations (see above and Appendix 1), a hypothetical sequence for the funerary use of the site may be sketched out. The determinations suggest that the large northern and southern barrows were being used for cremation burial in the latter part of the third millennium BC. Charcoal from the fill of ring-ditch 91 in the northern barrow suggested a *terminus post quem* of 2555-2140 cal. BC for this feature's major enlargement, represented by the cutting of deep outer ring-ditch 6, while the Collared Urn associated cremation deposit surrounded by ring-ditch 1002 at Site 9585 may have occurred somewhat later. On the basis of this rather approximate evidence it is conceivable that the smallest of the three barrows post-dated its larger neighbours to north and south by 300 years or more. Viewed together, the radiocarbon results all seem reasonably consistent with each other as a group, yet seem appreciably earlier than the pottery from the three barrows would suggest. As Helen Bamford has already discussed (p.42), the large Collared Urn from cremation pit 1132 at Site 9585 may be dated on conventional typological grounds to the period 1500-1250 bc. The radiocarbon determination of 2460-1930 cal. BC (GU-5187; 3740±80 BP) from charcoal admixed with the cremation it contained seems at variance with this, and the nature of the other urn pottery found at Bixley reinforces this possible discrepancy between the two dating methodologies. Perhaps the discrepancy is due to the fact that all the determinations from cremation deposits were made, of necessity, on oak charcoal, which seems to have been used almost exclusively as pyre fuel (Murphy, Chapter 9).

Period 2

No evidence of later prehistoric activity was found apart from the disturbed pottery assemblage described by Sarah Percival.

Period 3

Romano-British activity at Bixley was unrepresented by archaeological features, although a small amount of pottery was found.

Period 4

No positive evidence for Early or Middle Saxon activity was recorded.

Period 5

Like the barrow at Trowse (Healy 1982), the northernmost of the three barrows produced abundant medieval pottery and other rubbish. This is perhaps more likely to represent manuring or rubbish disposal — especially considering the closeness of the site to Norwich — during the Saxo-Norman period rather than domestic or industrial activity in immediate area. By contrast, the ceramics from the Trowse barrow dated instead to the twelfth and early thirteenth centuries.

4. Excavations at Harford Farm, Caistor St Edmund (Site 9794), 1990

by Trevor Ashwin

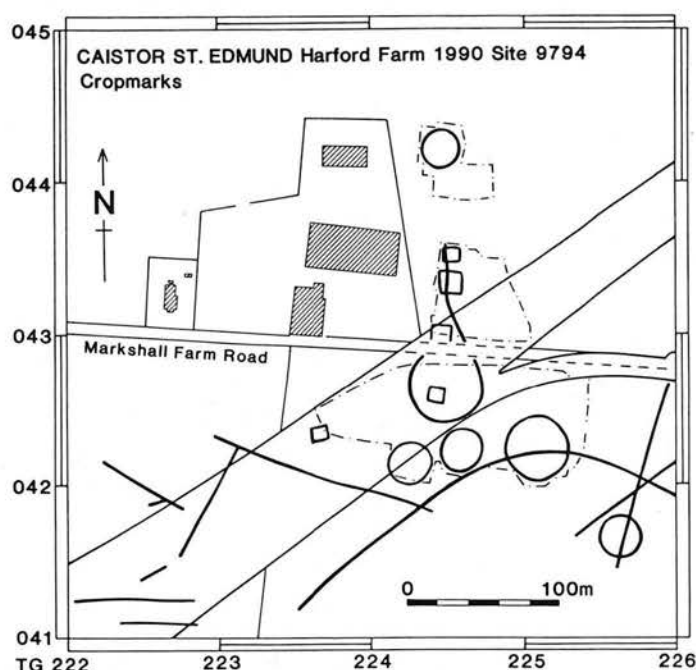


Figure 43 Site location plan, showing line of Norwich Southern Bypass, excavated trenches and crop-marks. Scale 1:5000

I. Summary

Area stripping and sample excavation of the series of crop-mark features at this site was undertaken in advance of the construction of the Norwich Southern Bypass. Five broad episodes of human activity were identified, three of them apparently funerary.

Five flattened round barrows, dating to the third and second millennia cal. BC, were excavated. A sixth was identified from air photographs lying slightly to the south-east of the main group lay beyond the threatened area and was left undisturbed. Only the ploughed-out remnants of these features survived for study. No mounds or other positive features remained *in situ*, and it is likely that many graves had also been destroyed. Despite this the barrows showed great variety in size and construction. No two were directly comparable, and monuments of 'bowl', 'bell' and 'disc' type were all recognised. One of the two largest examples was interpreted as a hengiform barrow, probably featuring a central ring of posts rather than a mound. Most of the graves identified were inhumations, and examples of tree-trunk and plank coffins were recorded. The dates of the individual barrows' construction remain unclear. It is suggested, however, that

the bowl and bell barrows were in use during the later third and second millennia cal. BC, and that the disc and palisade examples dated to the period after c. 1500 cal. BC. No evidence was found for any contemporary structures or other features in the space between the ring-ditches, nor for 'flat' graves lying in the open areas around and between the barrows.

Traces of settlement and of farming and industrial activity dating to the mid or later first millennium cal. BC were found within the area of the earlier barrow cemetery. This evidence included the remains of roundhouses and of associated land boundaries. Significant finds were pottery and loomweights of Iron Age pattern, along with quantities of carbonised grain (Murphy, Chapter 9 this volume). The extent of these remains beyond the excavated areas remains unknown, as does the duration of this occupation.

Harford Farm appears to have been re-used as a cemetery during the period c.50 cal. BC–AD50, when a series of six small square-ditched enclosures was created. It is suggested that these monuments form valuable new examples of a type of Late Iron Age square barrow known elsewhere in southern and eastern England. One of these enclosures was surrounded by a post-in-trench wall or fence, creating a ground-plan similar to that of a Romano-Celtic temple or shrine. They may once have contained cremations which were subsequently removed by the plough, and the remains of an isolated cremation accompanied by a brooch of Colchester type which was found close to the southernmost enclosure.

Despite its proximity to the Roman *civitas* capital of *Venta Icenorum* (Caistor St Edmund) there were no signs that the Harford Farm site was occupied or otherwise used intensively during this period. Perhaps this was due in part to the presence of these earlier funerary monuments.

In the early eighth century AD the location was used for burial once again. A total of forty-six Anglo-Saxon graves, one of them coin-dated to c.700 AD, were excavated. This material is to be published separately as Part 2 of this report (Penn 2000). Two discrete groups of graves were found, each in the area of one of the prehistoric round barrows. Most of the burials were aligned east-to-west and were sparsely furnished, but a small number contained jewellery items of gold and silver. The whole emerges as a most important example of a 'final phase' Anglo-Saxon cemetery, and one of the first to be discovered in Norfolk.

Other than the shallow remains of field boundaries and possible hedge-bank ditches, there was no evidence as to the use of the area in medieval and post-medieval times. Although the site has long been in arable use it was probably once open heathland.

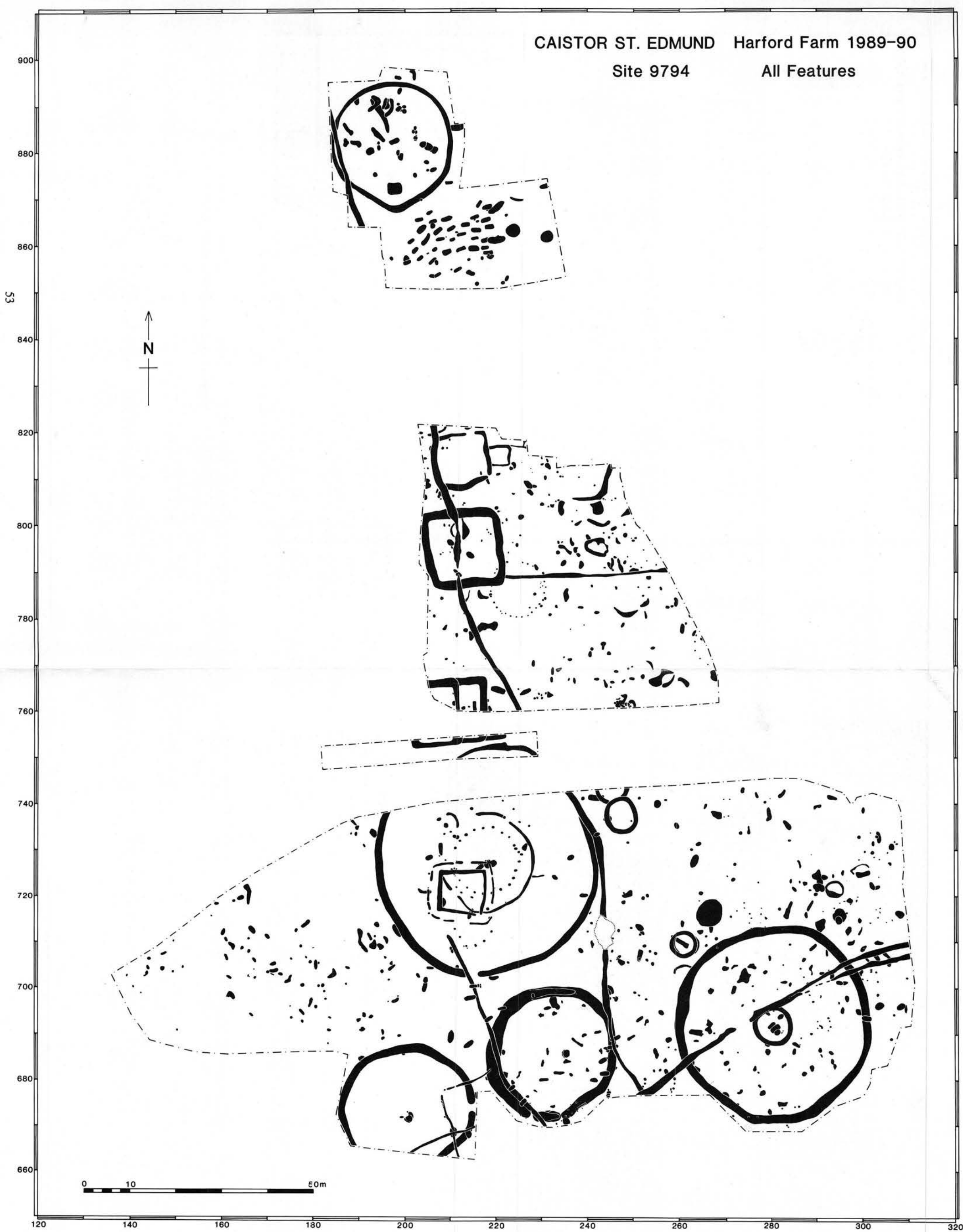


Figure 44 Plan showing all features. Scale 1:750

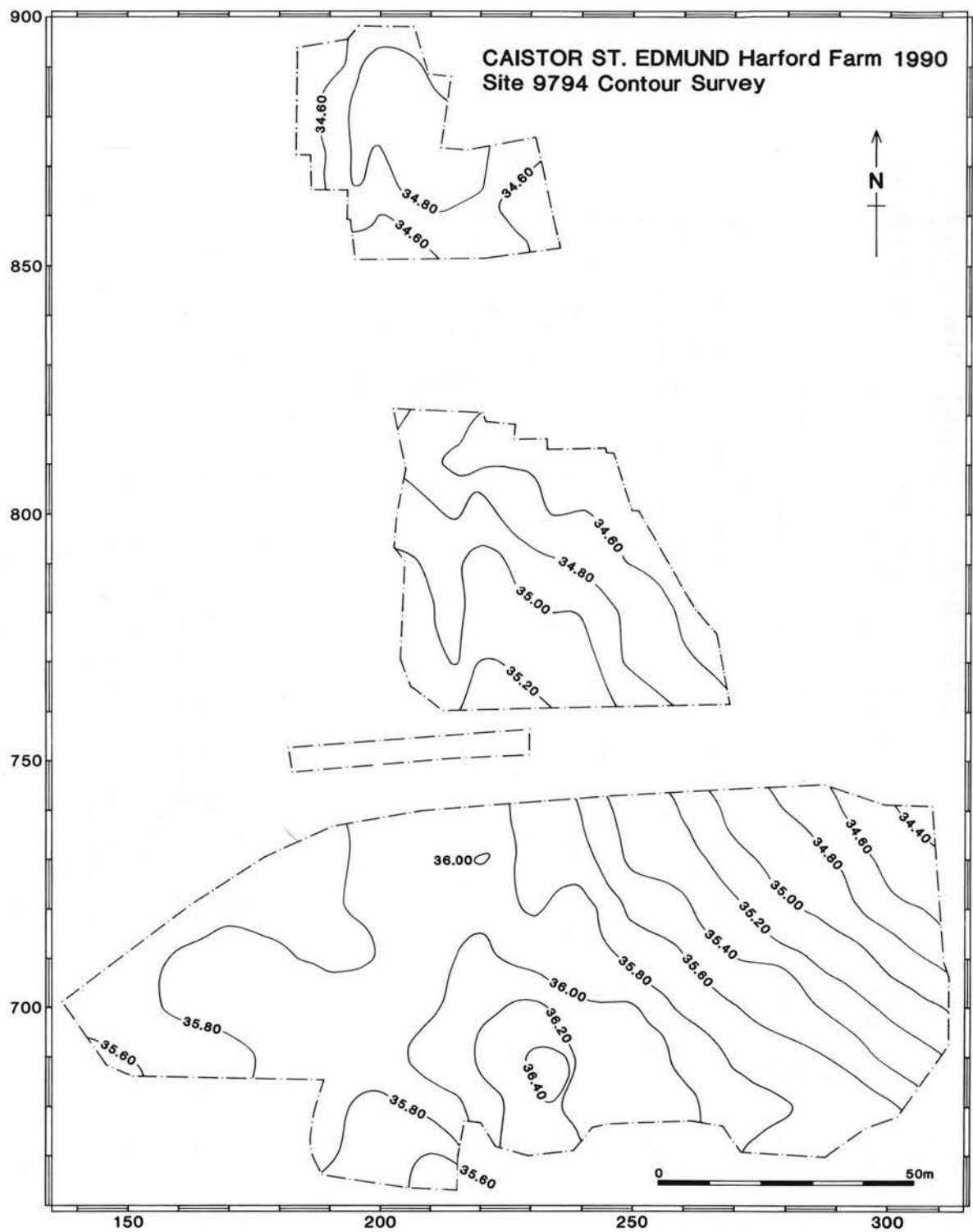


Figure 45 Plan showing excavated contours



Plate XIV Crop-marks ring-ditches and other features at Harford Farm, aerial view looking north.
(TG2204/W/AAW20, 14 June 1974, Derek A. Edwards)

II. The site

Discovery and location

(Pls XIV–XVI; Figs 2 and 43)

Before the excavations of 1990, the site's existence was known only from air photography. No upstanding earthwork has ever been noted there, but during 1933 the pioneer air photographer H. Frederick Low recorded an extensive group of positive crop-marks. Spread over an area of approximately 4ha around TG 2240 0430, these included seven ring-ditches (two of them measuring over 40m in diameter) and at least four smaller square enclosures.

The crop-marks lay on high ground, across the summit of a gravel spur which was aligned south-west to north-east and lay between the valley of the River Yare to the north and that of the River Tas to the south-east. This ridge continued for some 500m further to the north-east of the site and terminated in thickly-wooded Chapel Hill (the site of the former church and deserted medieval village of Markshall) which overlooked the confluence of the two rivers. The site lay roughly equidistant between the A140 Norwich-Ipswich road to the west and the modern village of Caistor St Edmund to the east. It was bisected by the present-day Markshall Farm Road, but no recent building

or other major disturbance had impinged upon it. Although the area was known as 'Markshall Old Heath' in the earlier part of the century, the site has long been under cultivation, and in recent decades had been used predominantly for intensive potato farming.

The elevation of the site varied between 34m and 36.5m OD, its highest point lying some 80m to the south of Markshall Farm Road. The northernmost of the crop-mark ring-ditches (context 112), was sited in a prominent position overlooking the valley of the River Yare, commanding fine views of the site of the modern City of Norwich (Pl.XVI). To the south and the south-east of the site the terrain fell away steadily but less abruptly, towards the River Tas and the site of Roman *Venta Icenorum*.

In recognition of its significance, part of the site was scheduled as Norfolk County Ancient Monument no.245. The scheduled area covered a large proportion of the crop-marks but seems to have been defined somewhat arbitrarily, especially to the north of Markshall Farm Road where it did not clearly correspond with the positions of the crop-marks.

In more recent times the features have been plotted onto the crop-mark overlay maps held by the Norfolk Sites and Monuments Record, and have been photographed on

subsequent occasions both vertically and obliquely by Derek Edwards of Norfolk Landscape Archaeology. Since 1975 one ring-ditch on the western edge of the complex, probably centred near TG 2240 0435 and clearly visible as a small but very strong crop-mark on PLXIV, had apparently been destroyed without record by the construction of a large barn and adjacent hard-standing at Harford Farm itself. Also during the 1970s a narrow trench was cut through the centre of the site to hold a gas main, running parallel to and immediately to the south of Markshall Farm Road. This minor intervention had not been monitored archaeologically either. Otherwise the site had apparently not been subject to any traumatic modern disturbance. However it was expected that recent truncation of the underlying features would be severe, because of the site's light subsoils and elevated position.

Previous research

One excavation pre-dated the 1990 stripping of the site. This was by T. Wake who, in 1938, dug a series of small trial trenches for the Norfolk Research Committee in order to trace the large ring-ditch (context 2100: Fig.46) immediately to the south of Markshall Farm Road. No report of this work was ever published. The recorded results of this intervention were meagre, comprising two sides of typescript and a single measured sketch-plan. They are deposited with the Norfolk County Sites and Monuments Record. It seems that this work succeeded in encountering the ditch in some places, but in the south-eastern part of the monument Wake accidentally revealed the later north-south ditch 107 (Period 5; Fig.106) instead of the feature which he sought. Probably this led to his mistaken and confusing conclusion that ring-ditch 2100 was in fact oval rather than round.

The report indicates that trenches were dug through the ditches by Wake's labourers. In spite of diligent searching, however, the NAU team could find traces of only two of these cuttings at the most. In the absence of photographs or section drawings, it is unclear in exactly how many places features exposed in these trenches were actually dug into. The report described the ditches as being 'from 19 to 22 inches deep'. This shows that Wake must have excavated only the latest siltings, and not removed the gravel lower fills to reach the true bases of the features, since the 1990 excavations showed that ring-ditch 2100 survived to an average depth of 1m below the stripped surface (Fig. 66).

There was no proper record of finds, although Wake speaks of charcoal and 'a few flints showing crude working' from the ditch deposits. The report also mentions 'innumerable pot-boilers' which were found 'on the surface and in the humus above the gravel'. On this point it must be assumed that the 'pot-boilers' referred to by Wake were merely large *unburnt* natural flint nodules, since practically no genuine 'pot-boilers' (heated or thermally-fractured flints) whatever were encountered by the 1990 excavation.

Enthusiasm for the Norfolk Research Committee's barrow surveying seems not to have revived after the Second World War (Lawson, Martin and Priddy 1981, 32). There is no evidence of further interest in or research into the Harford Farm crop-marks until 1974, when it became clear that the site was likely to lie on or close to the line of the proposed Norwich Southern Bypass. In that year an aerial photograph of the crop-marks appeared as the cover

illustration of the report on the archaeological implications of the bypass construction (Norfolk Archaeological Unit 1974). It became clearer during subsequent years that excavation of Site 9794 would indeed be required, and a series of research aims for the study of the site was formulated by NAU's prehistorian John Wymer.

The Excavation Research Design

The aims and academic rationale of the Harford Farm excavation were set out as Section 1 of the Norwich Southern Bypass Excavation Research Design, submitted to English Heritage along with an application for grant aid in the summer of 1989.

The Research Design proposed the mechanical stripping of the areas covered by crop-marks, to be followed by cleaning of all exposed surfaces. This was to lead to partial or total excavation, depending on the results. A large part of the area included in the scheme lay outside both the scheduled and directly threatened parts of the site. This was to allow as large an area as possible of such a well-preserved site to be examined and to help ensure that the features were fully understood as a group as well as individually. It was felt that area stripping would prevent the three ring-ditches lying in the path of the road from being interpreted in isolation, and this was accepted by English Heritage in approving NAU's grant application.

It is most interesting that the large ring-ditches were thought more likely to represent a domestic site than a series of funerary or ritual monuments. Such a series of prehistoric settlement enclosures would have had no known parallels in northern East Anglia. The hypothesis was soon disproved by excavation, which showed that the rings were the remains of round barrows. In retrospect, three factors may have contributed to this misinterpretation.

1. R. R. Clarke's original Sites and Monuments Record card states that Wake's 1938 trial trenches revealed the remains of a 'wooden hut' within the ring-ditch (2100) which he examined. Unfortunately Wake's report makes no mention at all of such a discovery, but the presence of this comment in the SMR record might have given rise to the idea that this ring-ditch enclosed domestic buildings.

2. The size of the two largest ring-ditches. Although very large round barrows are known from elsewhere in Norfolk, the 45-metre diameter of two of the Harford Farm ring ditches certainly seemed uncharacteristic of the Arminghall group, and this alone may have fuelled speculation that the features were not funerary.

3. The NAU was unable to fieldwalk the site prior to excavation, as it proved impossible to obtain the landowner's permission to do so. Even casual fieldwalking would have shown the area to be almost devoid of surface finds and therefore unlikely to be a settlement site. Once again, Wake's work may well have misled rather than assisted on this point as his report mentioned the discovery of 'innumerable pot-boilers', implying that he had found material evidence of cooking and other domestic activity. The NAU excavation of 1990 showed that these 'pot-boilers' were almost certainly natural flint nodules unaltered by heat or any other cultural activity.

The smaller, square crop-marks appeared to be unique in Norfolk. The Research Design suggested they might be either Iron Age square barrows, of the 'Arras' type known from East Yorkshire, or else Romano-Celtic temple enclosures. The proximity of *Venta Icenorum* made the latter alternative seem a plausible one.

The excavation

The Norfolk Archaeological Unit began work at Harford Farm on February 21 1990, immediately after the completion of work at Bixley Sites 6099 and 9585. Access

to that part of the site directly in the path of the new road was ensured by the Department of Transport's Compulsory Purchase Order; the additional areas to be excavated to both north and south were entered under the terms of a crop-compensation agreement with the landowner, Dennis E. Smith (Norwich) Ltd. Initial fieldwalking and metal detector survey of the site produced very few finds, leading to early suspicions that the features below did not represent a major settlement site. During March an area of c. 2 hectares was stripped of topsoil using a towed box-scraper to reveal the crop-mark features. Due to shortage of time and resources, the isolated ring-ditch slightly to the south-east of the main group of crop-marks — which was not threatened by the highway — was not eventually excavated.

The initial excavation strategy for the Harford Farm site was dictated by a shortage of available time. By the time NAU finally gained access to the area in late February 1990, resources for only twelve weeks' excavation and recording could be guaranteed for dealing with this large site. Because of this, any excavation of features would have had to be on a very limited scale. It was decided to clean and plan the whole area (*cf.* Thetford Fison Way: Gregory 1991, 5) before anything was excavated. This was done to ensure that at least a basic record was made of the entire site within the severe constraints of time, and to try to gain a rapid overview of the area as a whole; it would also help to ensure that any programme of sample excavation was reasonably informed and problem-oriented.

The discovery of the Anglo-Saxon graves was wholly unexpected, since they could not be seen on the pre-excavation aerial photographs. In the case of the compact northern group of burials this may have been due to the masking effect of a localised deposit of subsoil. In April 1990 six of the eventual thirty-one Anglo-Saxon graves in the northern cemetery were encountered by chance in the south-eastern corner of the northern excavated area. Subsequently this area was extended to allow this group of graves to be fully examined, and additional grant aid from English Heritage permitted a further twelve weeks fieldwork. These extra resources were immensely valuable, and allowed a more realistic excavation scheme to be devised.

On the basis of the pre-excavation plan of the site, excavation work was focussed on three main objectives.

1. Understanding the prehistoric funerary/ritual monuments as fully as possible, by excavating at least a ten-percent sample of each ring-ditch and by ensuring that all putative graves were dug;
2. Gaining some information about the nature, date and function of the series of square ditched enclosures on the site by sample-excavating the two best preserved examples, along with any adjacent pits and post holes which may have been associated with their use;
3. Total excavation of all Anglo-Saxon graves and putative graves.

The entire site was cleaned before any excavation began, and all visible features were planned; the only exception to this rule was the excavation of ring-ditch 1/2 and adjacent features in the northern part of the site, undertaken during the initial machining process at a time when no other areas were available for the team to work in. The digging of the graves and other features in this northern area took place during April and May 1990, along with the sample excavation of the Period 2 roundhouses and square enclosures in the area immediately to the north of Markshall Farm Road. When work to the north of the

road was complete, the large area to the south was sample excavated, this continuing until mid-August. The areas of the site lying outside the line of the road were then backfilled immediately and returned to the landowner, while the central zone lying within the area of the Compulsory Purchase Order was handed over to Department of Transport's consulting engineers.

This concluded the main phase of work at Harford Farm. However in November 1991 the removal of the old Markshall Farm Road gave the NAU a chance to conduct a watching brief on an additional area measuring 46m long and 6m wide. This work was confined to locating and planning the extent of previously-known features which extended into the area from the north and south, and no further excavation took place.

III. Period 0: natural features

Introduction

Natural features, usually either shallow natural hollows or periglacial frost-wedges of various sizes, were abundant in some parts of the site. They seemed especially concentrated where the undisturbed natural material was gravelly in composition, a phenomenon most apparent in the south-westernmost part of the area.

At times it was difficult to distinguish purely natural features from cut features of human origin. In anticipation of this problem, the original pre-excavation plan of the site included *all* apparent features whether cultural or otherwise. Wherever possible natural features were left unexcavated. A small number were dug as specimens of the various types of phenomenon for inclusion in the site archive. Several others were dug accidentally because they resembled pits, post-holes or graves.

Natural features

A number of pit-like 'hollows' were presumably of immediately post-glacial date. Some featured charcoal and evidence of burning, probably resulting from natural fires (Murphy, Chapter 9). Indeed some of these features caused confusion to excavators by containing deposits which appeared darker in colour and contained more visible charcoal than the nearby 'archaeological' material.

IV. Period 1

Introduction

(Pl.XV; Fig.46)

No evidence could be found for pre-Iron Age activity of any kind over very large areas of the site. All Period 1 features at Harford Farm were confined to the areas of the five ploughed-out barrows, and nearly all these contexts represented activities connected either with their construction or with their funerary and ceremonial use. The spaces between them appeared blank, but this may have been the result of erosion rather than constituting authentic negative evidence.

Round barrows were sited upon the two 'summits' of the Harford Farm site, to the north and south of present-day Markshall Farm Road. The northernmost of these stood in isolation. However, that to the south was surrounded on three sides by ring-ditches which apparently represented three further barrows. Two of these were double-ringed features of considerable size.

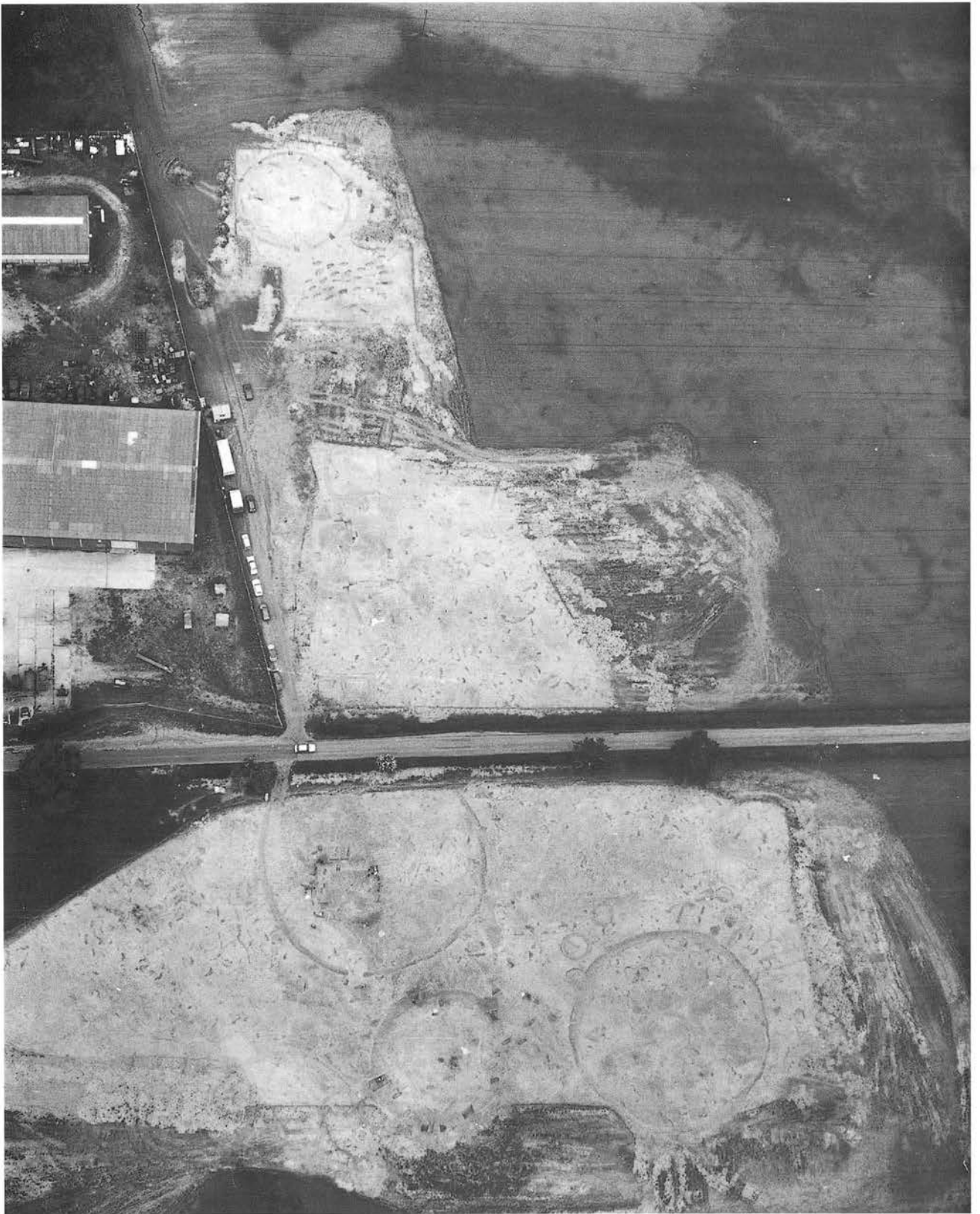


Plate XV Aerial view of the site under excavation, north at top.
(TG2204/ADR/GAD2, 13 June 1990, Derek A. Edwards)

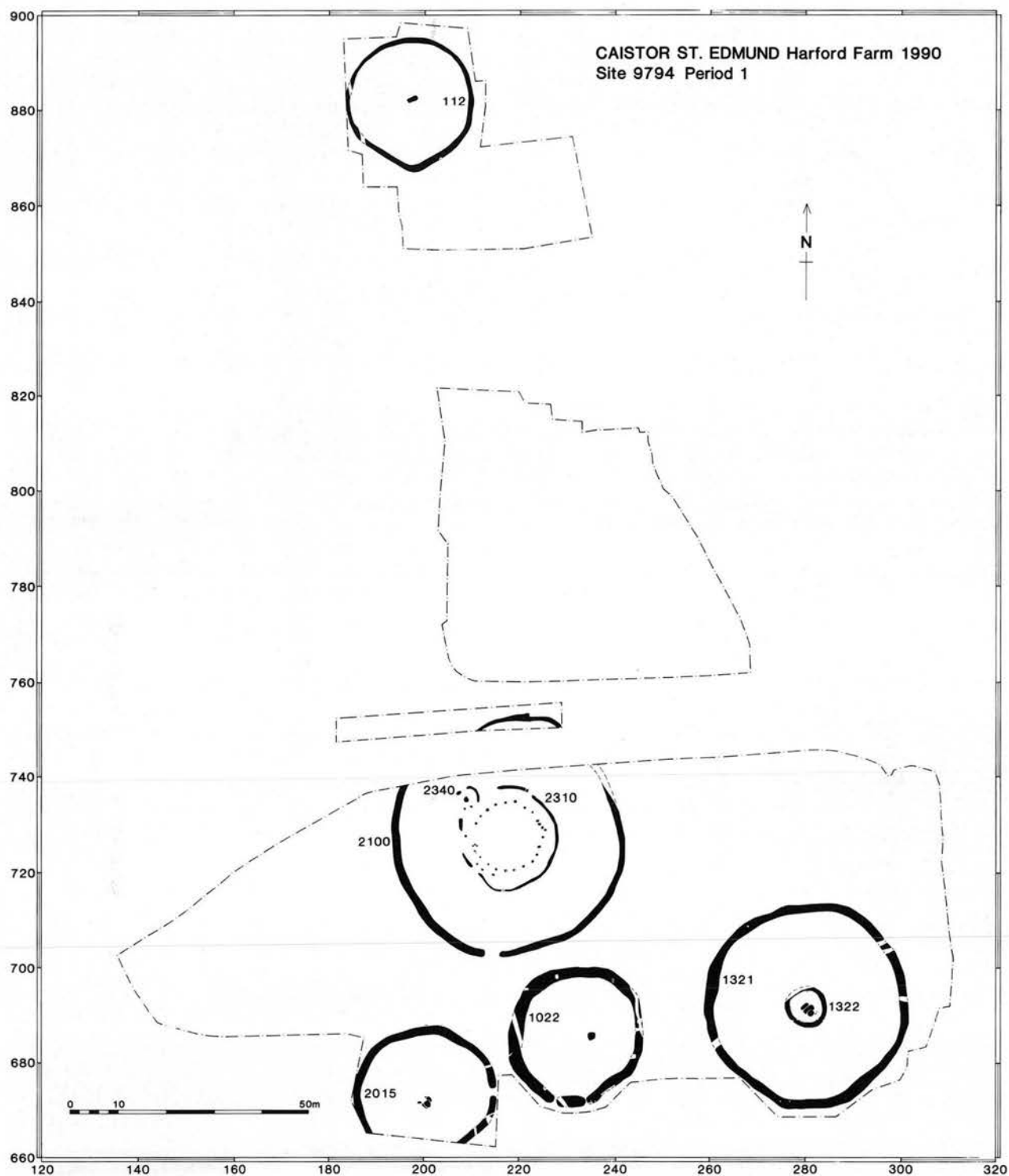


Figure 46 Period 1 phase plan. Scale 1:1250

Removal of the topsoil showed that all five barrows had been heavily damaged by ploughing, no trace remaining of any of their upstanding earthworks. Central graves were recorded within at least three, maybe four, of the ring-ditches, but it is likely that only a small sample of the burials which once existed survived for study. Any shallower graves and secondary deposits inserted into the monuments' upstanding structure must have been destroyed, perhaps in large numbers. Nonetheless it was usually possible to reconstruct the original appearance of each monument to some extent at least, and careful study of all the available evidence revealed them to be a diverse and interesting group.

Before the barrows

(Fig.56)

Human activity pre-dating the barrows was indicated by only a very small number of cut features. Most interesting of these was solitary post-hole 1798 (not visible on phase plan Fig.46 but recorded on Fig.56), which had been cut by the inner ring-ditch 1322 of the disc barrow. This feature contained some base sherds of a single finger-rusticated Beaker (Fig.74, P21), and possibly represented a phase of domestic use of the area before the erection of this barrow. It is also possible that small ovate post-holes 1804 and 1806, which lay a short distance to the south, were associated with such activity, but there was no evidence from finds or stratigraphy to make this clear.

Ring-ditch 112

(Pls XVI, XVII; Figs 47–49)

This represented the northernmost of the five barrows excavated at Harford Farm; grave 22 appears to have been the primary inhumation associated with its use. No trace of the mound itself survived, and the extent in plan of any internal earthwork could not be proven. Two factors suggested that it was originally a bell or disc barrow, with a berm of unknown width separating the central mound

from the inside edge of the ring-ditch. Firstly, the small volume of the ring-ditch itself would have not produced sufficient sand and gravel to cover the whole enclosed area. Secondly, a Period 5 (medieval/post-medieval) field ditch entered the area enclosed by the western side of the ring-ditch. Had this shallow feature been cut into the edge of a former barrow mound it would have appeared shallower or else been wholly removed by erosion in this area. This was not the case, and the ditch survived to its full depth throughout.

The ring-ditch

(Pl.XVI; Figs 47 and 48)

Ring-ditch 112 was 27m in diameter, and encircled the summit of that part of the site which lay to the north of the modern Markshall Farm Road. The south-western part of its circuit appeared distinctly 'flattened', but elsewhere it was evenly round in plan. Eight segments were excavated, mostly revealing a steep-sided 'v' profile with a slightly rounded base. Its surviving depth varied between 0.5m and 0.75m. Infilling had usually been very rapid, not surprisingly considering the feature's slight dimensions.

The grave

(Pl.XVII; Fig.49)

Grave 22 contained the remains of a coffined inhumation lying with its head to the west. Surviving body stain material was fragmentary. Legs and lower pelvis were represented by concreted sand deposit 156, but no trace of body stain survived at the western/head end of the grave. The body had been laid supine or very slightly flexed in a wooden coffin, probably of thick plank construction, which was seen in section to be at least 35cm deep at the east and west ends of the grave. The coffin's base was represented most clearly by deposit 148, a continuous layer of black mineral-replaced wood and charcoal surviving throughout the eastern part of the grave.



Plate XVI Period 1 ring-ditch 112 after excavation, looking north. Period 4 graves under excavation in foreground. City of Norwich visible on horizon. (FLY 26, Thomas Gledhill)

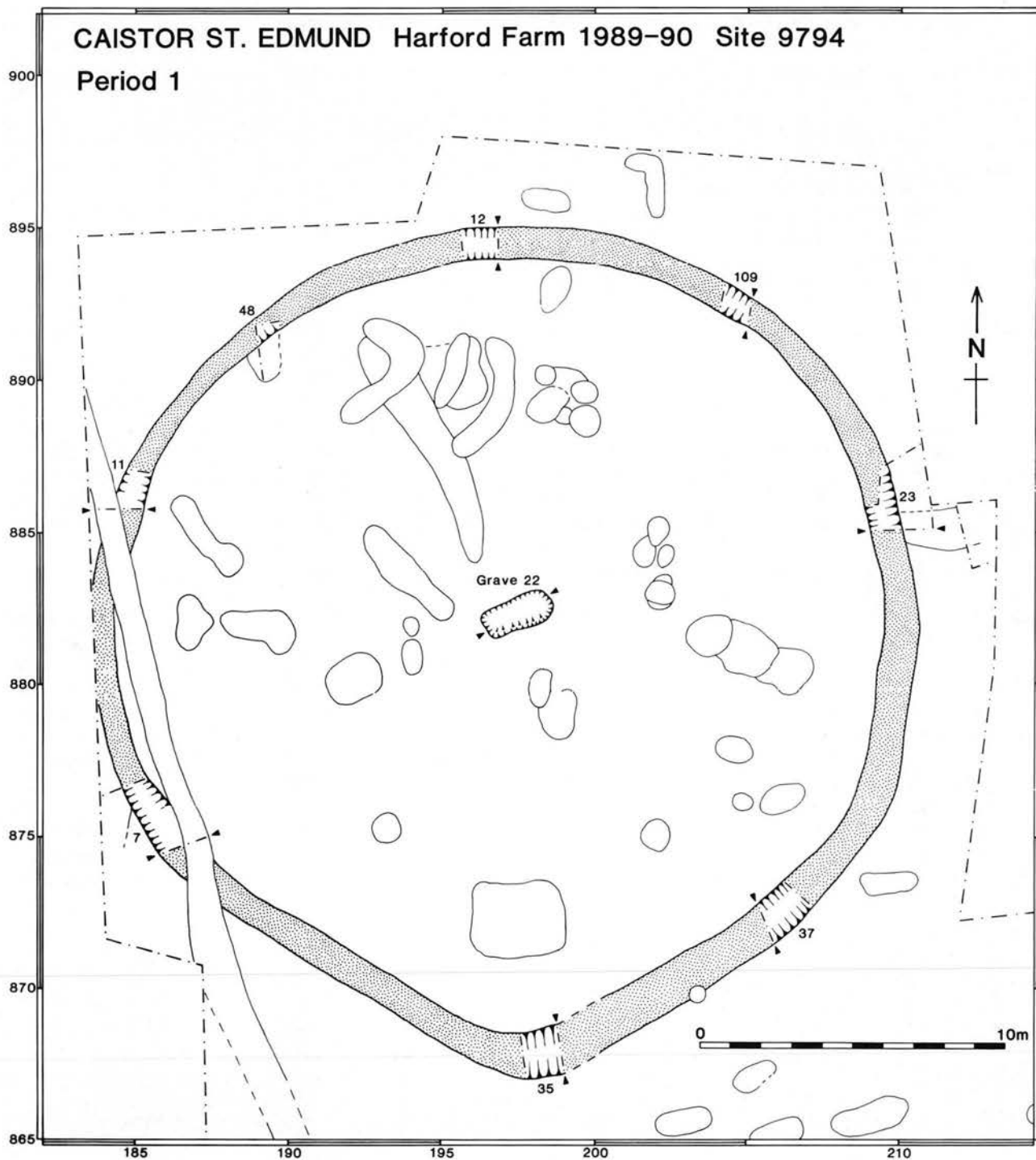


Figure 47 Plan of ring-ditch 112. Scale 1:200

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794
Period 1

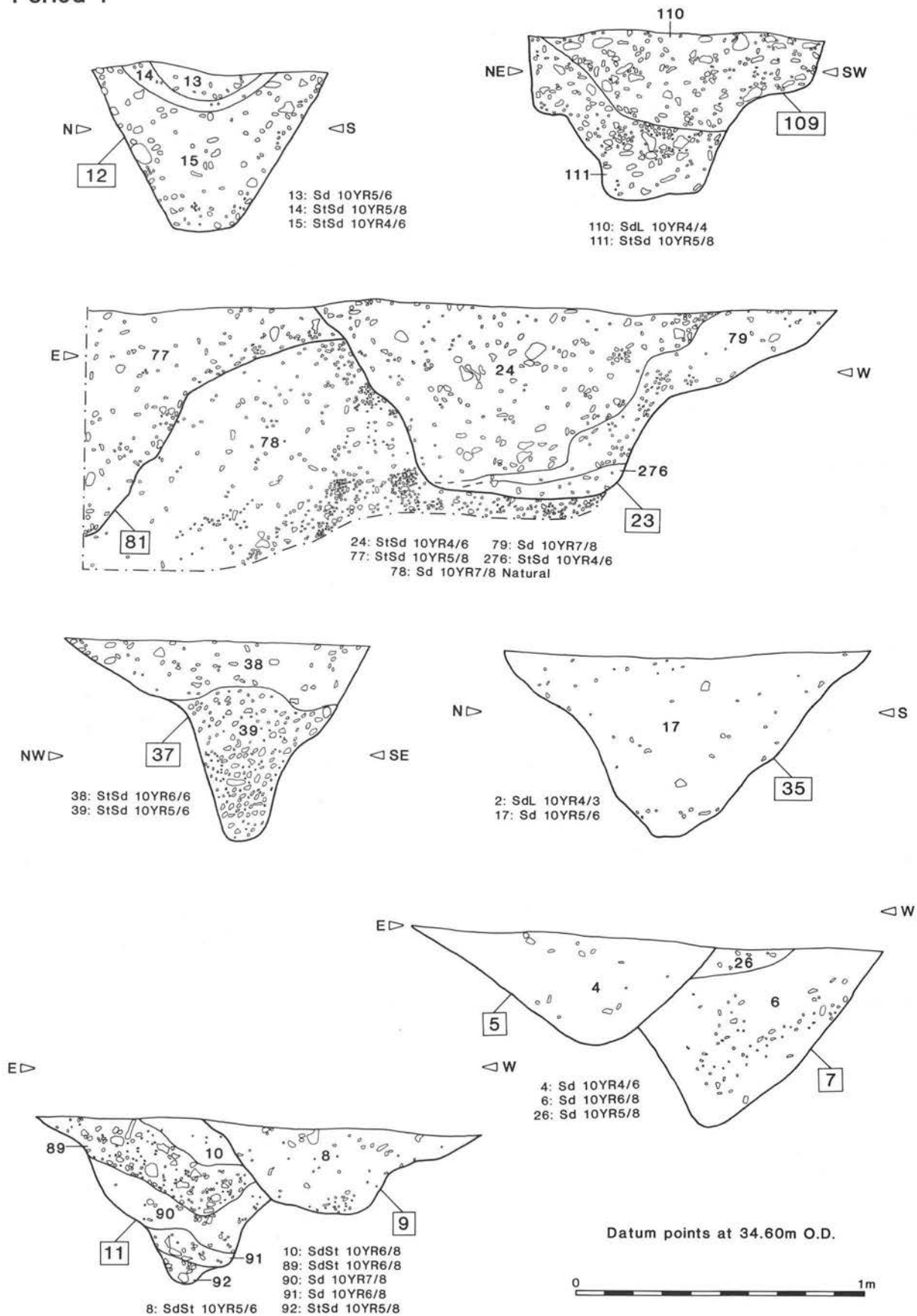


Figure 48 Sections through ring-ditch 112. Scale 1:20

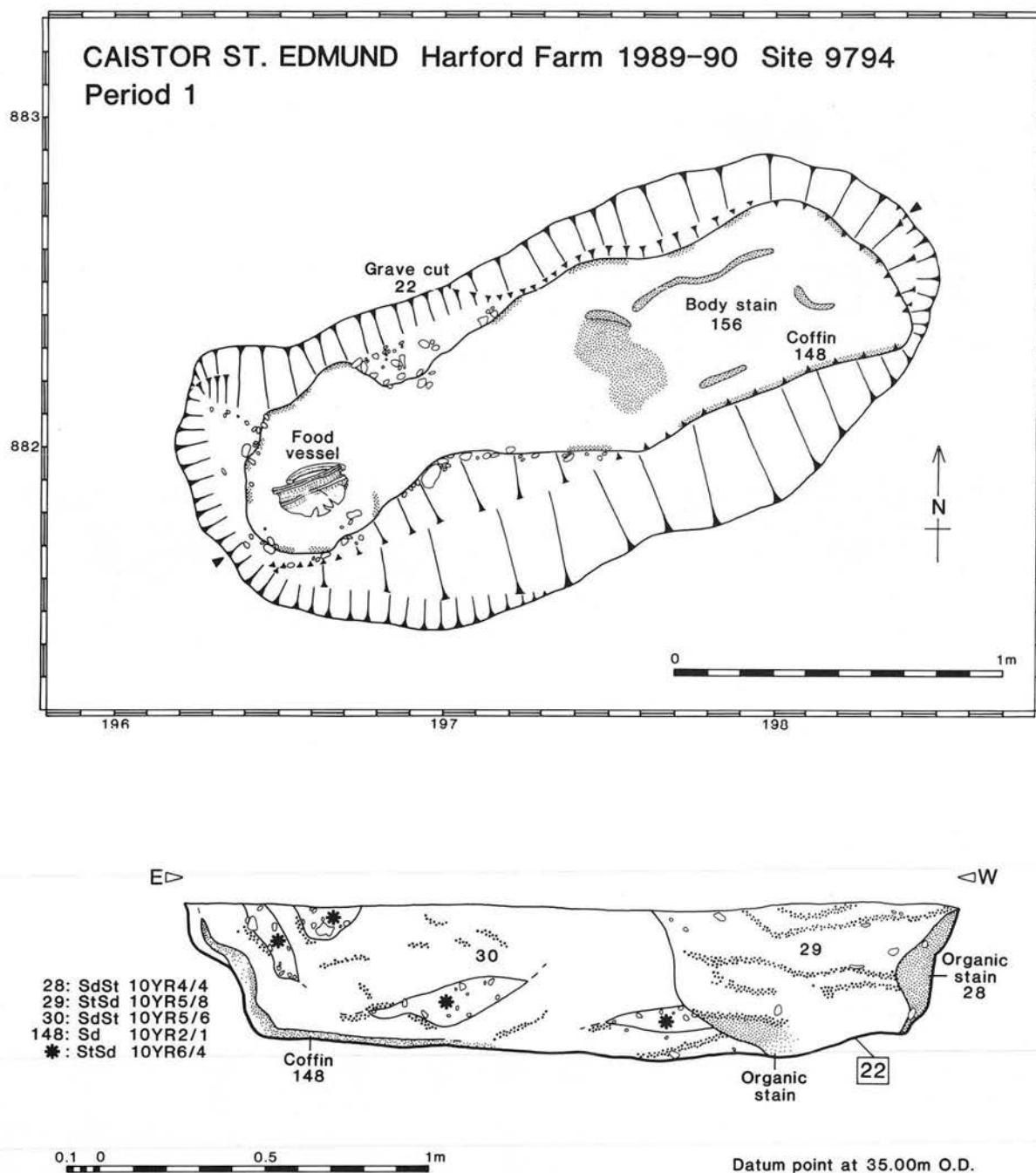


Figure 49 Plan and section of grave 22. Scale 1:20



Plate XVII Grave 22 looking west, showing Food Vessel P16 *in situ*. Scale =2m. (FLU 16, Sarah Bates)

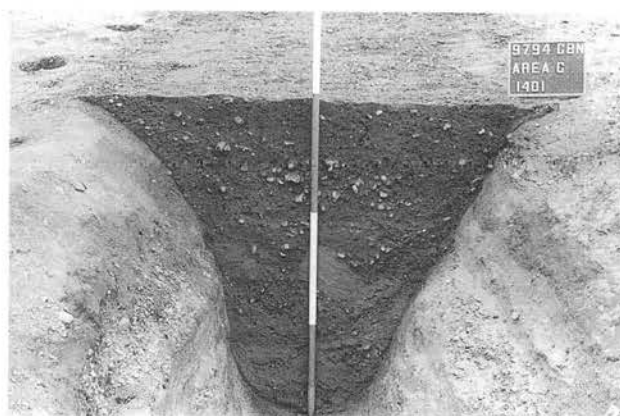


Plate XIX North-east facing section through ring-ditch 1022 (seg. 1401). Scale =2m. (FKM 19, Trevor Ashwin)



Plate XVIII Ring-ditch 1022 after excavation, looking south-east. Scales =2m. (FLW 5, Trevor Ashwin)

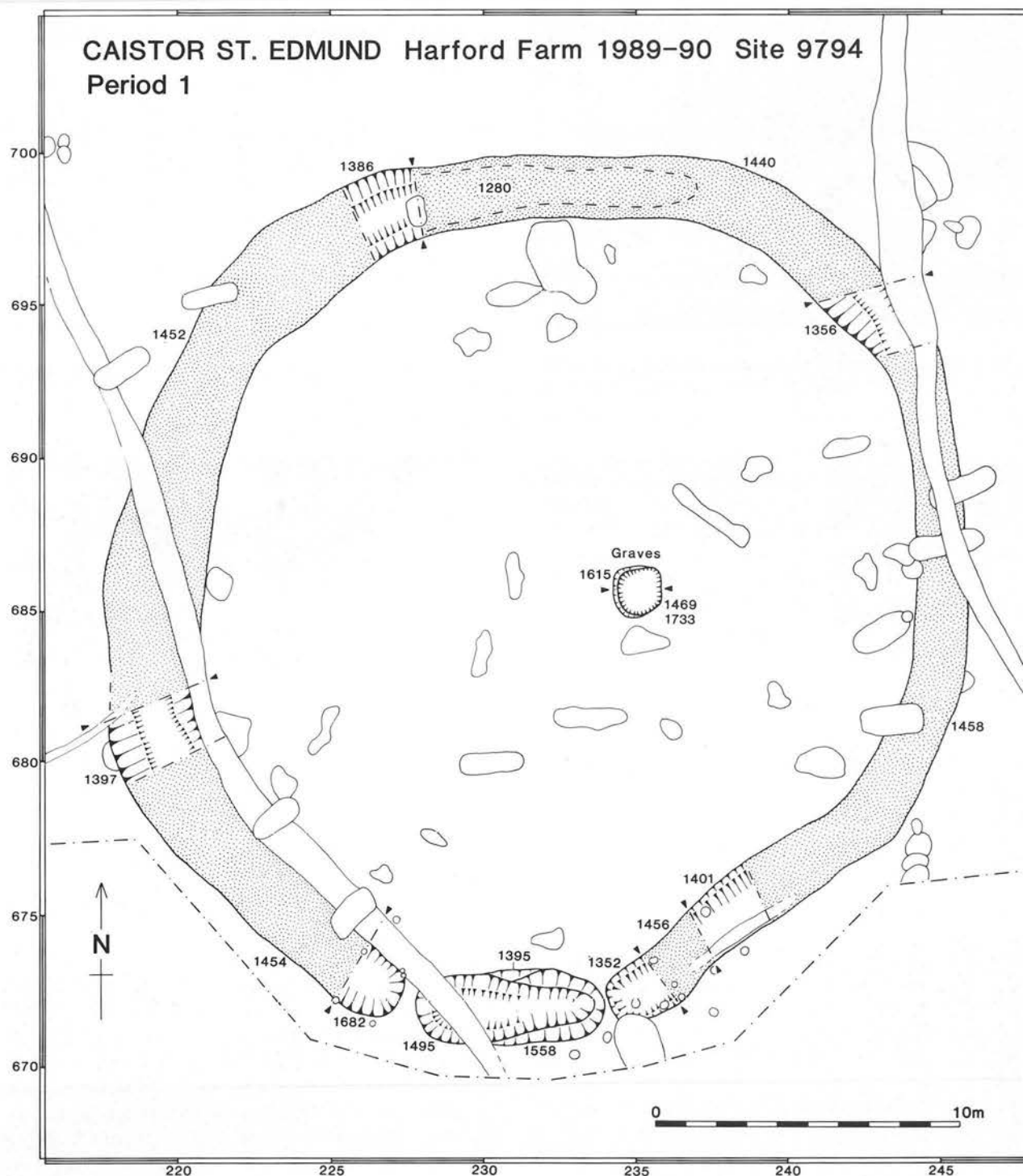


Figure 50 Plan of ring-ditch 1022. Scale 1:200

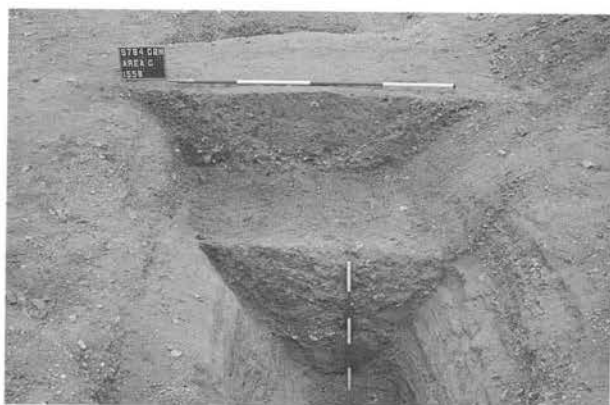


Plate XX West-facing section through pits 1395, 1495 and 1558. Scale = 2m. (9794 CBN 386, Andy Crowson)

The wood remains were sampled but could not be identified as to species. A flattened but complete bipartite Food Vessel (Fig.73, P16) lay on its side close to the likely position of the head, its mouth pointing north. There were no other finds. A radiocarbon determination of 2560–2040 cal. BC (GU-5191; 3840 ± 70 BP) was obtained from oak charcoal from the coffin base.

Ring-ditch 1022

(Pls XVIII–XXI; Figs 50–55)

This deep penannular ring-ditch had once encircled a round barrow raised upon the summit of the Harford Farm site. In common with some of the other ring-ditches it was slightly polygonal in plan, being in fact an irregular octagon with rounded corners. The ditch was interrupted on its south side by a causeway 6.5m wide. This space was occupied by three large intercutting pits whose function was uncertain.

The ring-ditch and associated structures

(Pls XVIII–XX; Figs 50–53)

The ditch as excavated was substantial, surviving to a depth of up to 1.7m below the stripped surface; before plough truncation it would have been considerably deeper. Everywhere it was very steep-sided. The lower part of the ditch had infilled very rapidly, the primary deposits being clean sands and gravels indicating silting and collapse of the sides. The narrower parts of the feature (e.g. segment 1401: Pl.XIX) seemed to have been filled largely by these processes. In the broader parts of the ditch these redeposited natural fills were sealed by a series of stony deposits representing a less rapid build-up of material. In some sections (e.g. 1397, 1356) prominent stony deposits which had entered the ditch from its inside edge may have represented the weathering and collapse of the encircled barrow mound. In the northern part of the circuit the latest fill 1280 contained abundant charcoal and burnt flint. This was very prominent in plan before the ring-ditch was excavated, but proved when sectioned to be only 0.2m deep. It might have represented debris from an agricultural fire or similar event which occurred at a medieval or later date.

Nearly the entire width of the causeway interrupting the southern part of the ring ditch was occupied by intercutting linear pits 1395, 1495 and 1558 (Pl.XX; Figs 51 and 53). These features appeared at first to be a detached segment of the main ring-ditch some 6m long,

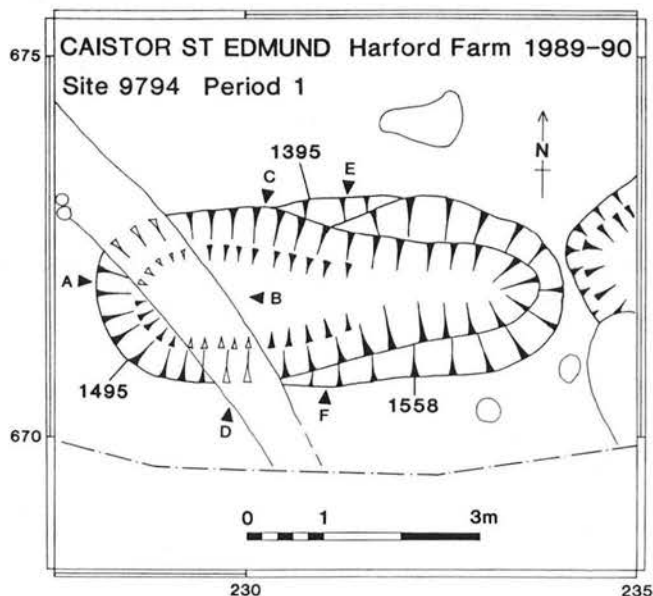


Figure 51 Plan of pits 1395, 1495 and 1558. Scale 1:20

but excavation revealed a more complex sequence of three intercutting features. The uniformity of the gravelly lower fills of the pits made these deposits very difficult to excavate in sequence, and the bases of cuts could only be seen clearly in section. Thus the collapse of a crucial part of the main longitudinal section through the feature before it could be recorded in full was a serious loss. In spite of this, sufficient evidence was recovered to suggest a two-phased sequence of events.

The primary pit 1395 had been largely destroyed at its east and west ends by the two later pits 1495 and 1558; enough survived, however, to suggest that it was ditch-like in form and slightly curvilinear. Its depth was comparable with that of the adjacent ring-ditch termini 1360 and 1682. It seemed that the pit had been deliberately backfilled shortly after it had been cut, using material thrown in from its northern side. This was suggested by the manner in which the lower deposits 1490, 1567, 1586 and 1587 had all accumulated thickly against the southern rather than the northern edge of the cut, a very different sequence to that always found in the barrow ditches, where silting and erosion caused a rapid build-up of primary siting deposits against both sides of the feature.

An elongated feature of similar depth, pit 1558, had been superimposed upon pit 1395's eastern terminus. The east end of this cut shared roughly the extent and steep profile of the earlier pit's edge in the natural gravel but its west side (cut into 1395's fills) was elongated and ramp-like, making the feature somewhat 'pear-shaped' in plan. This pit was post-dated in turn by a similarly-shaped pit, 1495, which had been cut in identical fashion into the western terminus of pit 1395. The west end of this feature again shared the primary pit's depth and sheer edges while its eastern side was much more gently sloping. It had silted up naturally rather than being backfilled, its thick stony secondary fill 1440 spreading across the entire width of the feature and accumulating against both its north and south sides.

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794
Area C Ring-ditch 1022

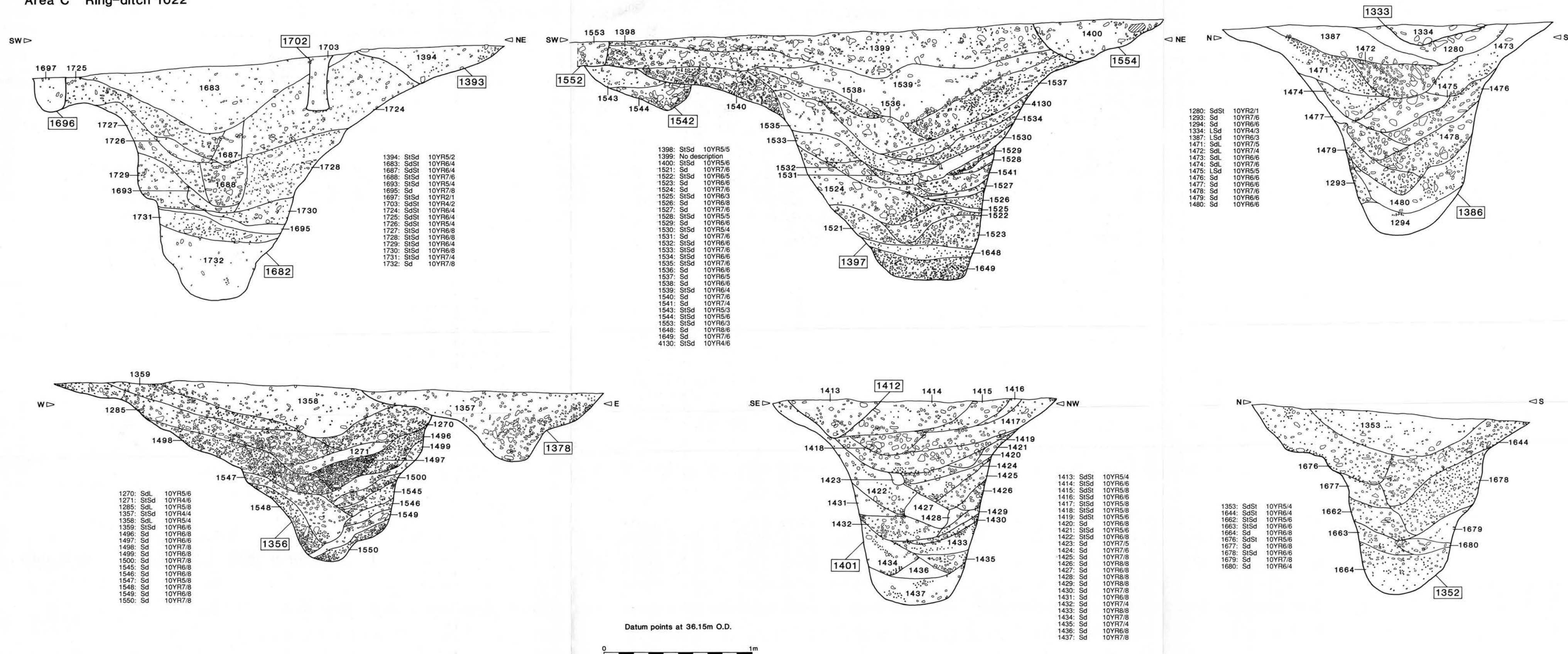
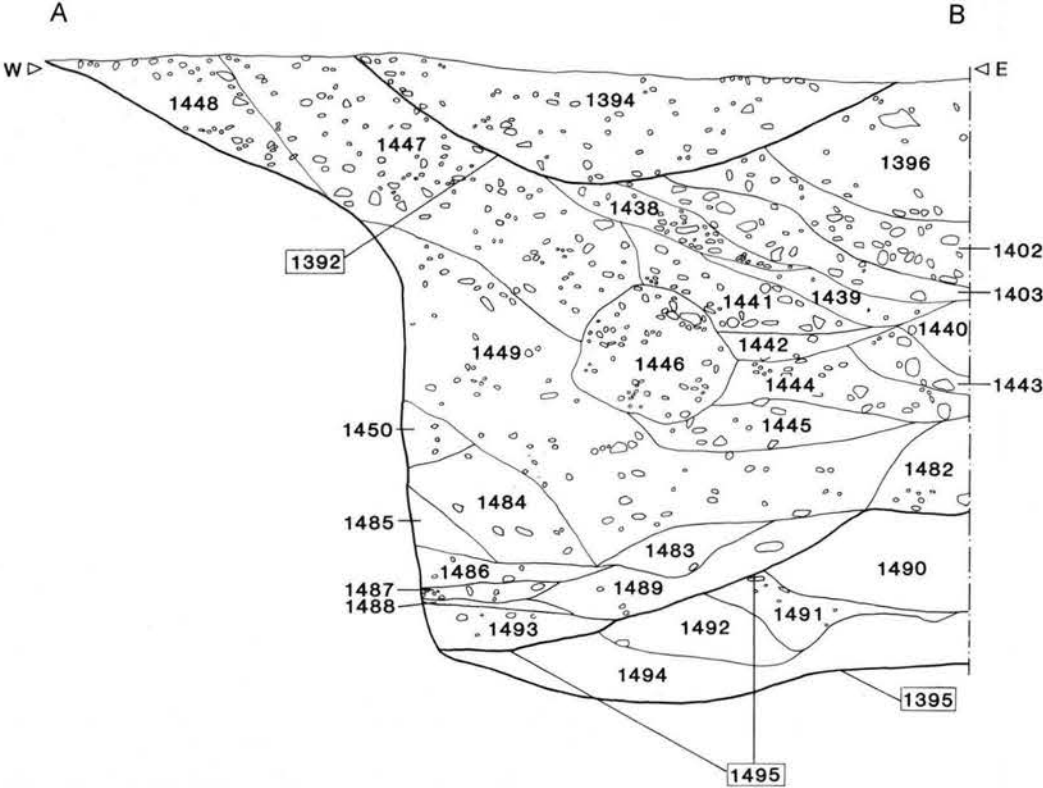
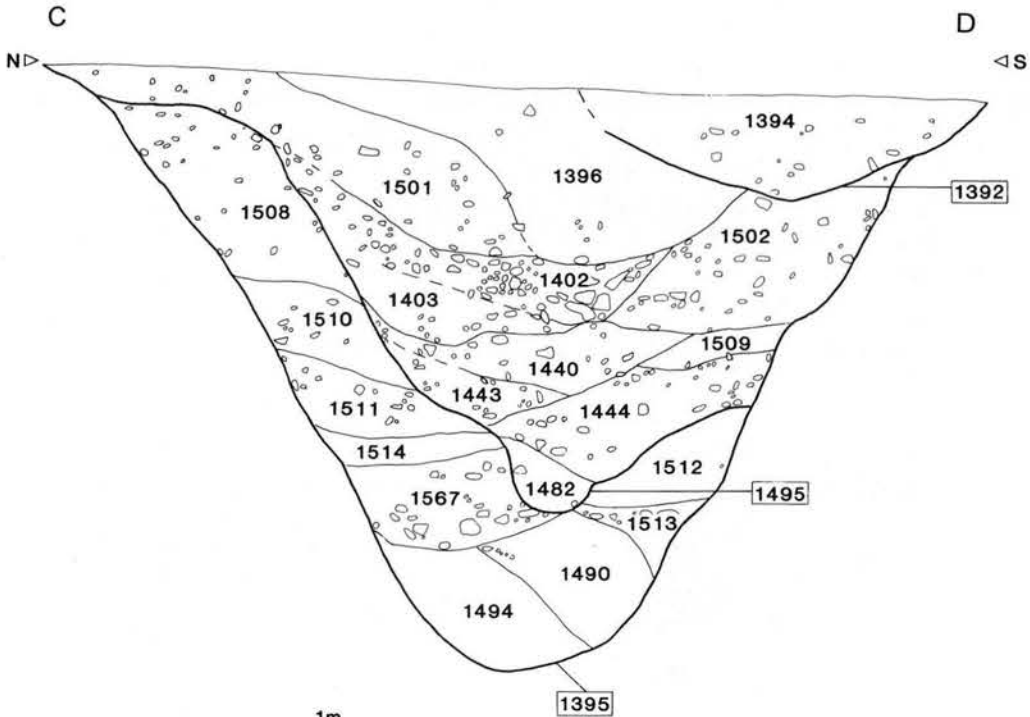


Figure 52 Sections through ring-ditch 1022. Scale 1:20



1394: StSd	10YR5/2	1484: Sd	10YR6/8
1396: SdSt	10YR6/6	1485: Sd	10YR8/6
1402: StSd	10YR6/6	1486: Sd	10YR7/8
1403: StSd	10YR6/6	1487: StSd	10YR7/4
1438: StSd	10YR5/8	1488: StSd	10YR7/6
1439: StSd	10YR6/4	1489: StSd	10YR6/6
1440: StSd	10YR6/6	1490: Sd	10YR8/6
1441: StSd	10YR6/4	1491: Sd	10YR7/6
1442: StSd	10YR6/4	1492: Sd	10YR7/4
1443: SdSt	10YR6/4	1493: Sd	10YR8/4
1444: StSd	10YR6/6	1494: Sd	10YR8/6
1445: SdSt	10YR5/6	1501: StSd	10YR6/4
1446: SdSt	10YR6/6	1502: StSd	10YR6/6
1447: StSd	10YR6/4	1508: StSd	10YR6/6
1448: StSd	10YR6/8	1509: StSd	10YR7/6
1449: SdSt	10YR7/6	1510: StSd	10YR7/6
1450: Sd	10YR7/8	1511: StSd	10YR6/4
1481: Sd	10YR7/8	1512: Sd	10YR7/8
1482: Sd	10YR7/6	1513: Sd	10YR8/6
1483: Sd	10YR6/6	1514: Sd	10YR7/8
		1564: StSd	10YR6/6
		1565: SdSt	10YR6/4
		1566: StSd	10YR7/8
		1567: StSd	10YR6/6
		1568: Sd	10YR7/8
		1582: StSd	10YR6/4
		1583: Sd	10YR7/8
		1586: Sd	10YR7/6
		1587: StSd	10YR7/8
		1590: StSd	10YR6/6
		1591: Sd	10YR7/8



Datum points set at 36m OD

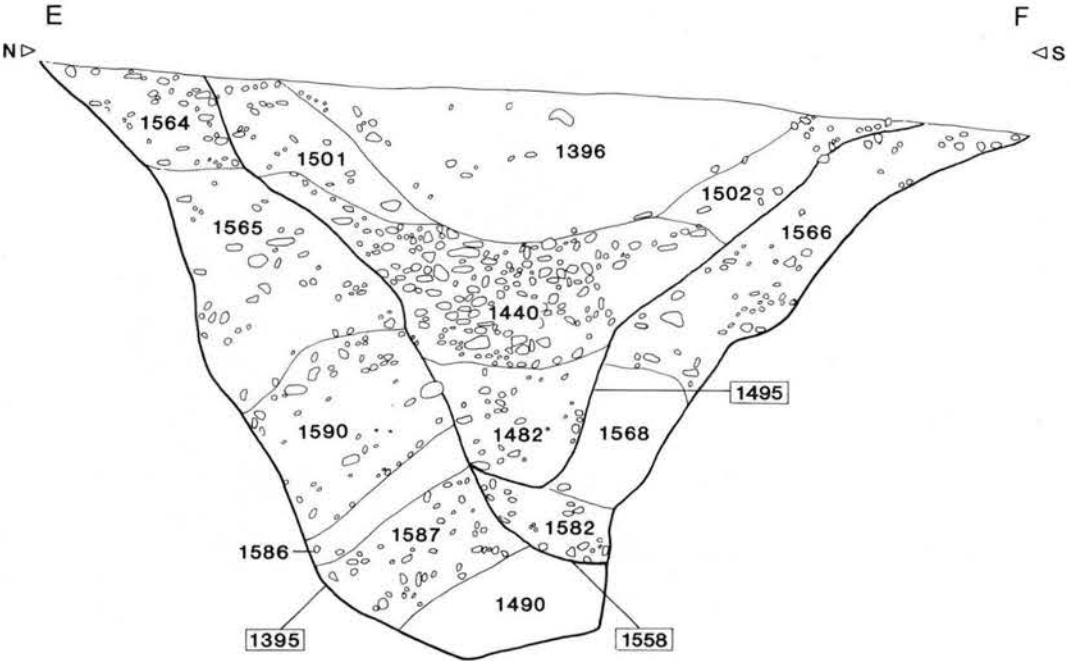


Figure 53 Sections through pits 1395, 1495 and 1558. Scale 1:20

This unusual complex of features defies interpretation. At the time of excavation it was suggested that the three pits represented the construction and subsequent removal of a major timber structure framing an 'entrance' causeway across the barrow ditch. In the terms of this reconstruction the primary linear pit 1395 should be viewed as a 'bedding-trench', cut to receive a substantial upright timber at each end; each of these timbers would have been supported on one side by undisturbed natural gravel and then packed in position by the immediate backfilling of the rest of the feature. The pits subsequently cut into each end of the feature might have been excavated in order to remove both of these 'posts', a task which would have been facilitated by their ramped profiles. It must be emphasised, however, that there is no conclusive evidence to support this suggested sequence of events or to permit a detailed reconstruction, and the pits could well have been excavated for other purposes entirely.

The deep ring-ditch would have produced sufficient upcast to erect a substantial mound. No trace of this earthwork survived. An indication of its scale, however, was provided by the distribution of the surviving Period 4 Anglo-Saxon graves in the area. These were grouped around the east and west sides of the barrow and in its infilled ditch, but only one was found more than 1.5m within the ring-ditch's inside edge (Fig.105). In contrast to its neighbours it had been almost entirely truncated, showing that unlike them it had been cut into an upstanding earthwork. The mound had probably been separated from the inside edge of the ditch by a narrow berm, maybe up to 2m wide. This was demonstrated by the row of four Anglo-Saxon graves which survived to depths of 0.3m or more immediately inside the south-eastern part of the ring-ditch's circuit (Fig.105), and by the surprising lack of clear evidence in the main sections recorded across the ring-ditch for the slumping or collapse of a mound (Fig.52).

The graves

(Pl.XXI; Figs 54 and 55)

The three intercutting central features, at least two of them inhumation graves, were actually sited 2m to the east of the ring-ditch's true centre.

Only the westernmost part of the primary feature, *grave 1615*, survived for study. Almost its entire volume had been removed by the much deeper *grave 1469* which had been superimposed upon it. No finds or body stain material were seen in the fairly small quantity of fill which survived. It is possible that this represented a primary inhumation, subsequently cut away by the deeper *grave shaft 1469*. However too little of the feature survives for there to be any certainty, although its apparently steep-sided and flat-based profile offers some support for this view.

Grave 1469 was a sub-circular *grave shaft* excavated to a depth of 2m below the stripped surface. No finds, skeletal remains or body stain were seen, but at a depth of 1.6m below the stripped surface a concave layer of charcoal (1670) 10mm thick was revealed. This formed the upper surface of a monoxylous tree-trunk coffin or bier, fashioned from a single oak timber. A charcoal sample taken from this material produced a radiocarbon date of 3260–2040 cal. BC (GU-1589; 4060±200 BP). A concave layer of charcoal-rich soil (1738) found 0.2m–0.25m below this represented the underside of the coffin.



Plate XXI *Grave 1469*, showing upper surface of tree-trunk ?coffin, looking south. Scale =0.3m. (FKP 36, Trevor Ashwin)

The inhumation had been sealed by uniform yellow sand deposit 1621, some 0.3m thick, but this layer had been covered in turn by a whole series of stony fills, apparently resulting from weathering and collapse of the *grave sides*. These coarse deposits naturally were thickest close to the edges of the feature, leaving a central depression which was filled by a very fine sandy silt layer 1470. This layer contained a certain amount of charcoal, especially close to its lower interfaces, but is probably best interpreted as representing gradual silting.

Grave 1733 had been superimposed centrally upon *grave 1469* but was much shallower, surviving to a depth of only 0.4m below the stripped surface. Perhaps this inhumation had been placed in the *grave-shaft* below when the latter feature had almost completely silted up. Alternatively it could have been a secondary burial which had been cut through the now-vanished barrow mound rather than being sealed by it. A nebulous body stain, 1573, was apparently the remains of a contracted inhumation laid on its right side. The head appeared to rest close to the south-western edge of the *grave*, but only in the leg area was the stain at all well defined. Lying next to the knees was recorded a small yet distinct 'stain' of lighter brown sand. This was interpreted as the remains of an organic object, maybe a bag of some kind, although microscopic analysis of soil from the deposit did not reveal any identifiable organic remains. The body stain did not lie directly upon the base of the *grave* itself, but was separated from it by primary fill 1908, a layer of yellowish brown sand 0.1m thick. Although this might possibly have indicated that the body had been placed on a bier or other structure, there was no positive structural or environmental evidence to support this theory.

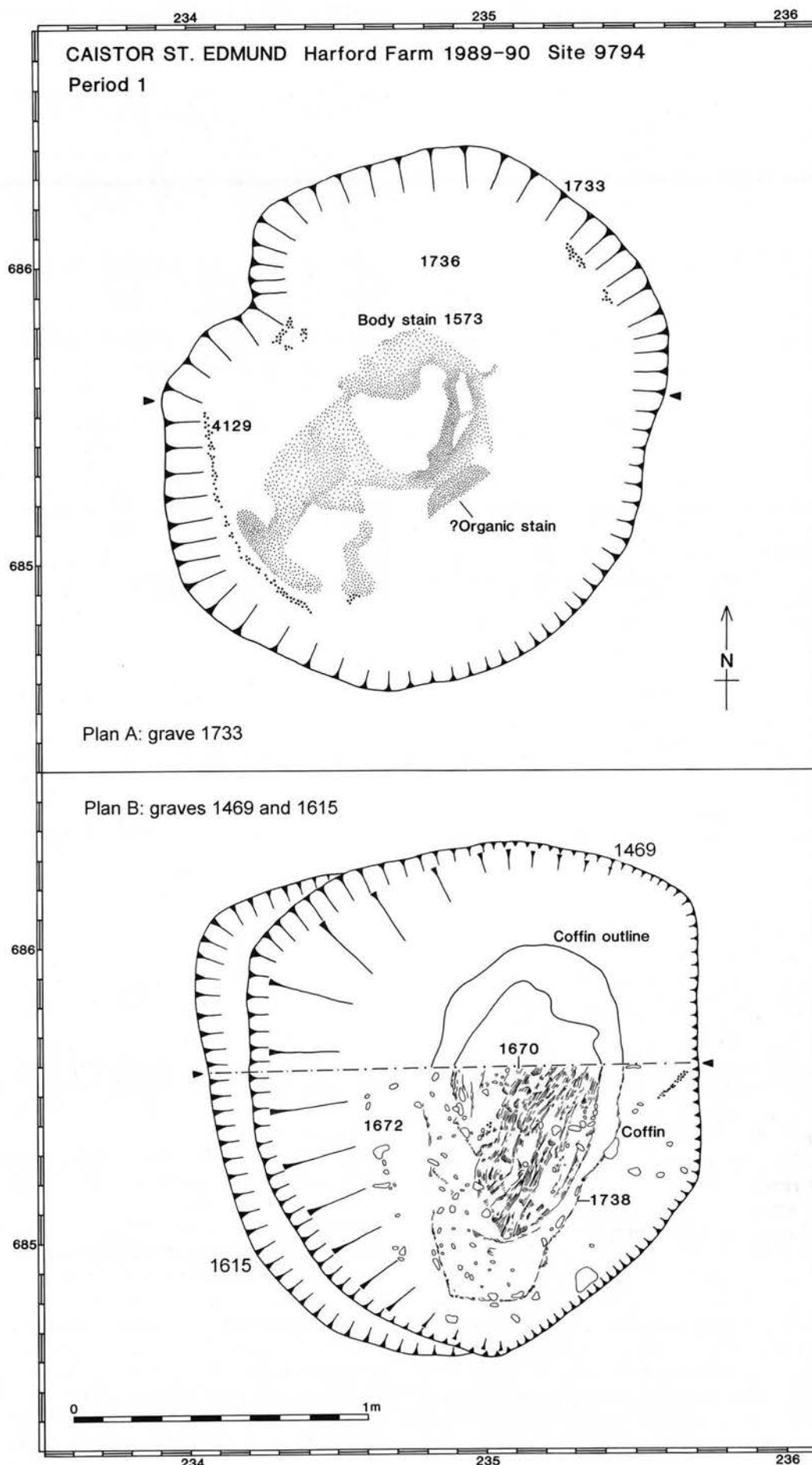


Figure 54 Plan of graves 1733, 1469 and 1615. Scale 1:20

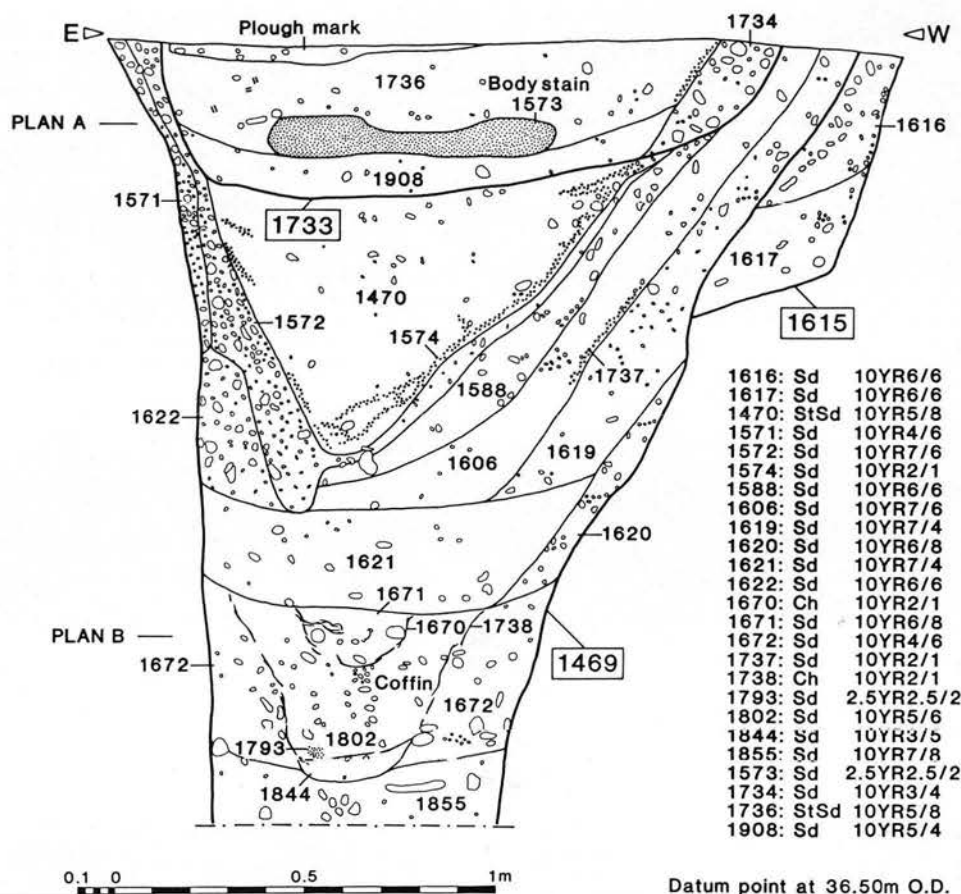


Figure 55 Section through graves 1469, 1615 and 1733. Scale 1:20
Plan levels refer to Fig. 54

Ring-ditches 1321 and 1322

(Pls XXII-XXVII; Figs 56-61)

This monument, a classic example of a disc barrow, dominated the south-eastern part of the excavated area. Although completely flattened by ploughing, it had once featured an external bank and a small central mound. In the central area was excavated an intriguing series of burials, while an outlying urned cremation might have represented all that remained of a series of secondary burial deposits.

The ring-ditches

(Pls XXII-XXV; Figs 56-58)

Outer ring-ditch 1321 (Pls XXII-XXIII; Figs 56 and 57) was roughly octagonal. Its external diameter was 44m. It had been eroded heavily, and this truncation may have had the effect of magnifying the many variations in its depth and width seen in Figs 56 and 57. One segment only — 4083 in the southern side of the ring — showed signs of cleaning or re-cutting to most of its original depth, but this

was observable only in section and could not be seen anywhere else in the ditch's circuit. Much stony material had weathered into the ditch from its outside edge, indicating the former presence of a bank or rampart sited on the outside edge of the ditch. It had infilled completely by the time it was cut by a number of Period 2 features; these included post-holes forming part of putative fence 1903, and a substantial ovate pit 1873 which cut the eastern part of its circuit.

Shallower ring-ditch 1322 (Pls XXII, XXIV, XXV; Figs 56, 58) lay at the centre of the barrow and was 9m in diameter. It survived to a depth of 0.4m, but would certainly have been considerably deeper before plough erosion. The deposits filling the ditch were mostly sterile sandy gravels, but in each segment was seen a thin layer of very dark, stone-free soil which had clearly weathered into the ditch from its inside edge. Thus, although no trace of any of the barrow's positive features survived, it was likely that the inner ring-ditch had encircled a mound that contained a significant component of topsoil or turf.



Plate XXII Ring-ditches 1321, 1322 after excavation, looking south-east. Period 2 ring-ditch 1912 at lower right.
Scales =2m. (FKY 16, Trevor Ashwin)

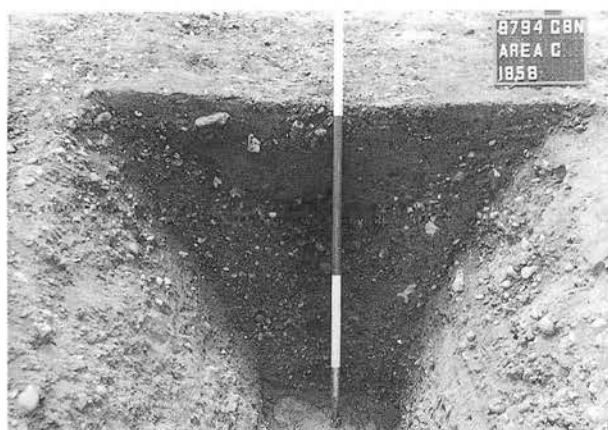


Plate XXIII North-facing section through ring-ditch 1321 (seg. 1858). Scale =2m. (FKT 30, Andy Crowson)



Plate XXIV East-facing section through ring-ditch 1322 (seg. 1739). Scale =1m. (FKS 8, Trevor Ashwin)

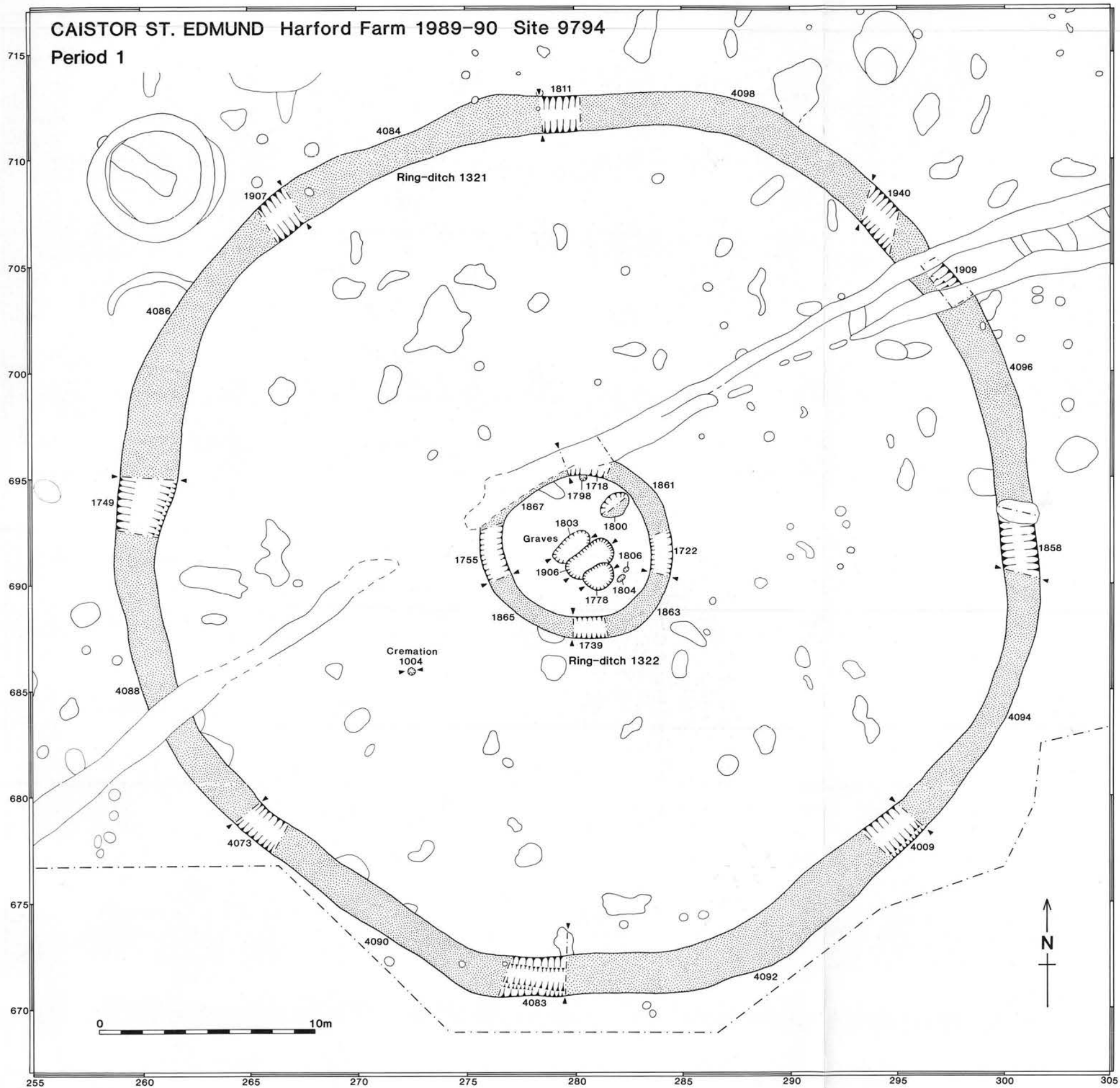


Figure 56 Plan of ring-ditches 1321 and 1322. Scale 1:200

Period 1

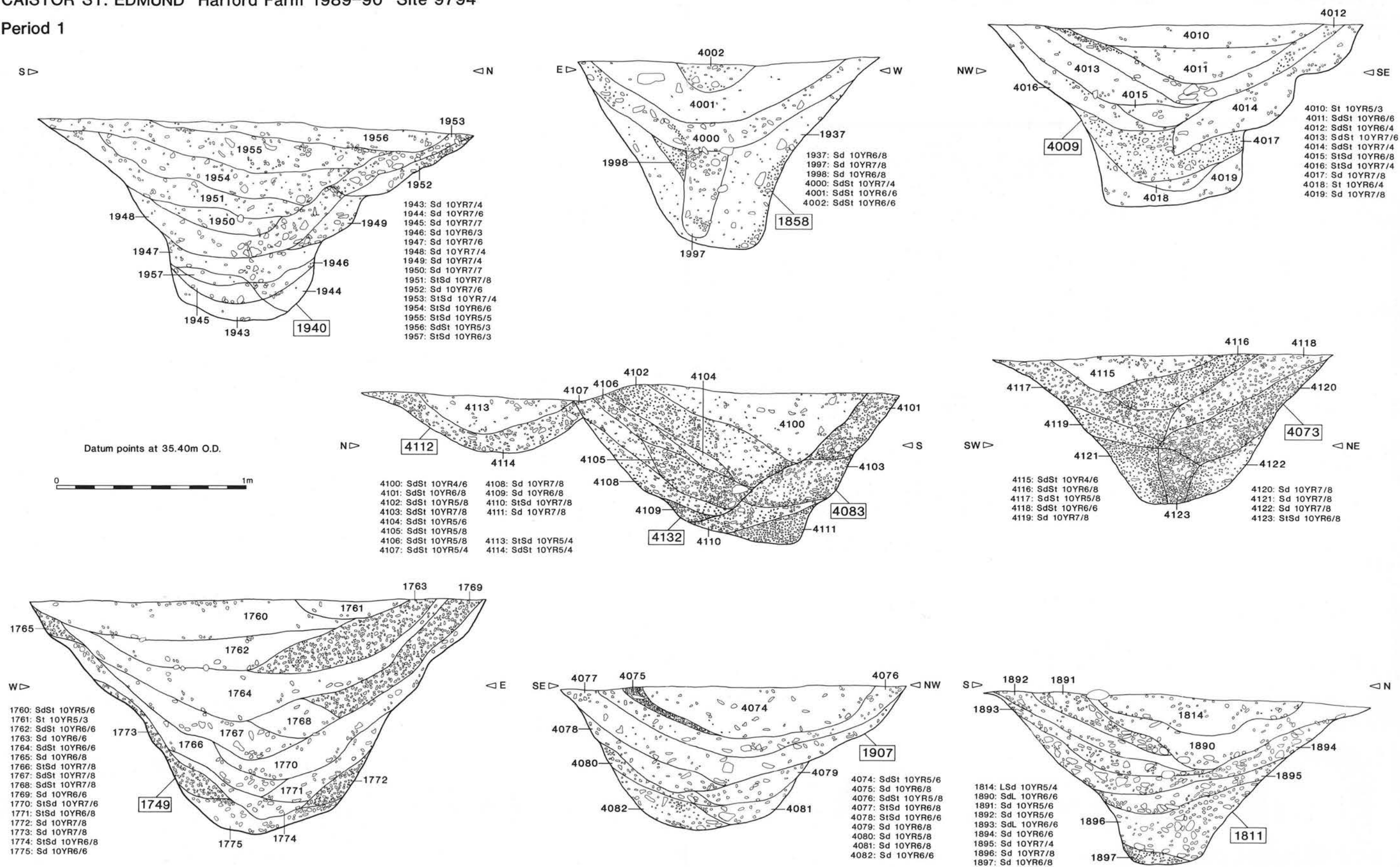


Figure 57 Sections through ring-ditch 1321. Scale 1:20

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Period 1

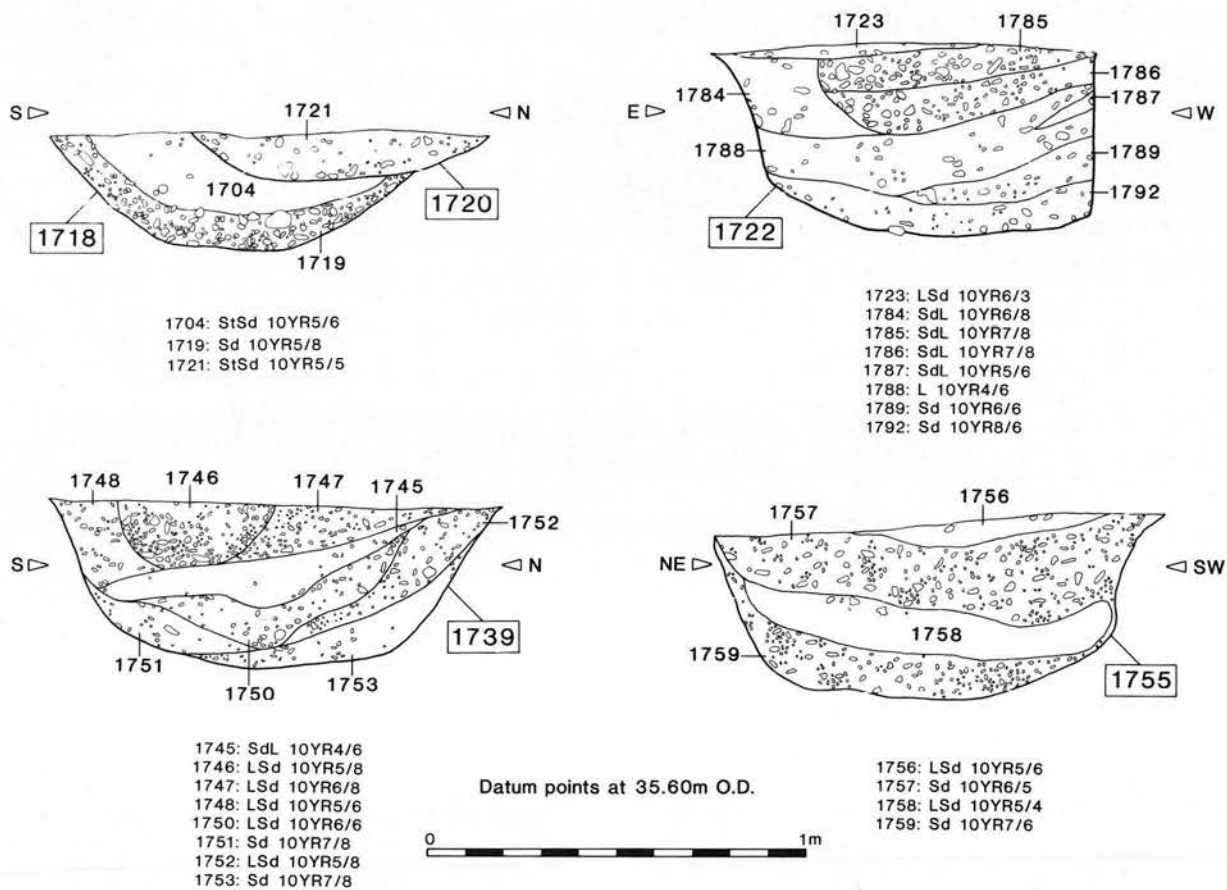


Figure 58 Sections through ring-ditch 1322. Scale 1:20

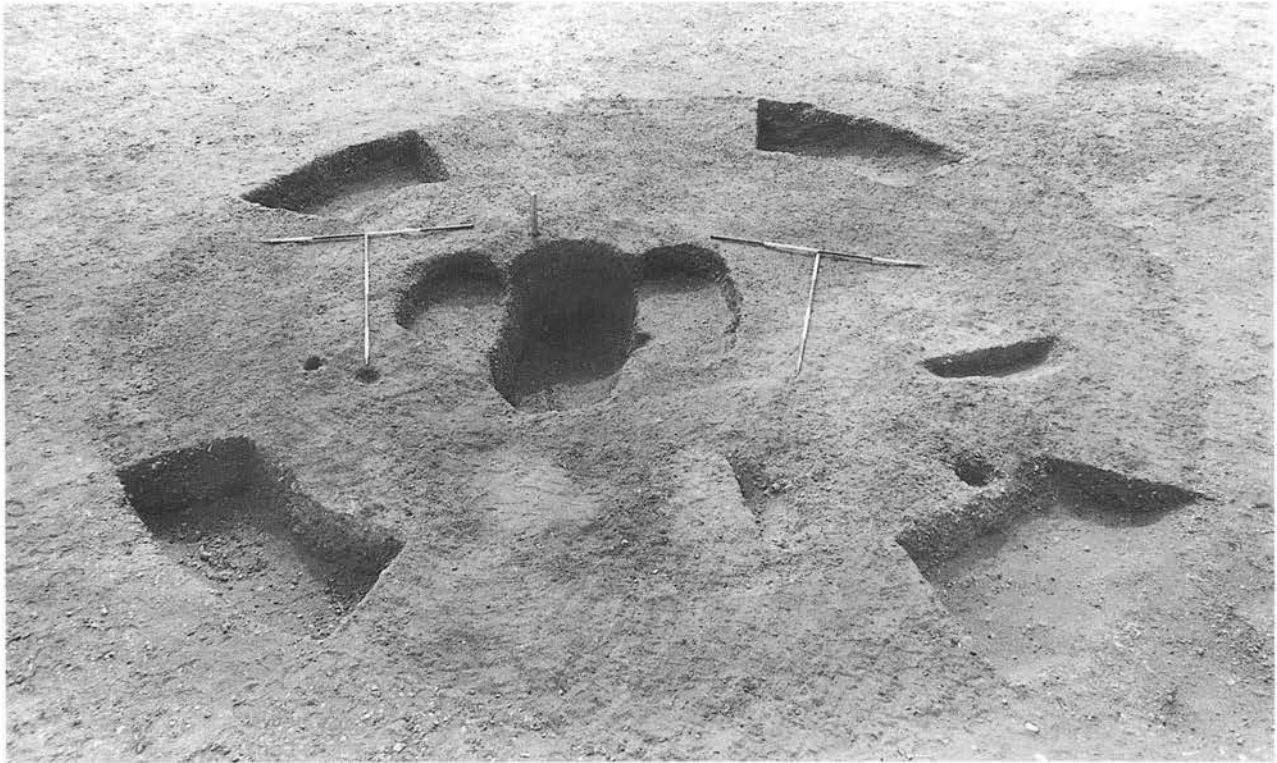


Plate XXV Ring-ditch 1322, encircling graves 1778, 1906 and 1883, looking west. Scales =2m.
(FKY 28, Trevor Ashwin)



Plate XXVI Grave 1906, showing coffin and body stain, looking south-west. Scale =1m. (FLW 23, Trevor Ashwin)



Plate XXVII Grave 1906, north-west facing section through coffin. Scale =0.3m. (FKX 13, Trevor Ashwin)

The graves

(Pls XXV–XXVII; Figs 59–61)

Three inhumation graves lay within the central area, all of them sharing a common north-east to south-west orientation.

Stratigraphically the earliest of these was *grave 1803* (Figs 59 and 60), situated at the barrow's exact centre. Most of its southern edge had been cut away by the later grave pit 1906, which shared its alignment but overlapped with it slightly. Body stain 1876 apparently represented a contracted inhumation with its head to the west, but it was unclear on which side the body had been laid. In discoloured sand close to the head were found eight jet, amber and faience beads (Fig.72), probably representing elements of a composite bracelet with a diameter of 4–5cm. Gaps between some of the recorded beads might have been filled by others in materials such as bone, wood

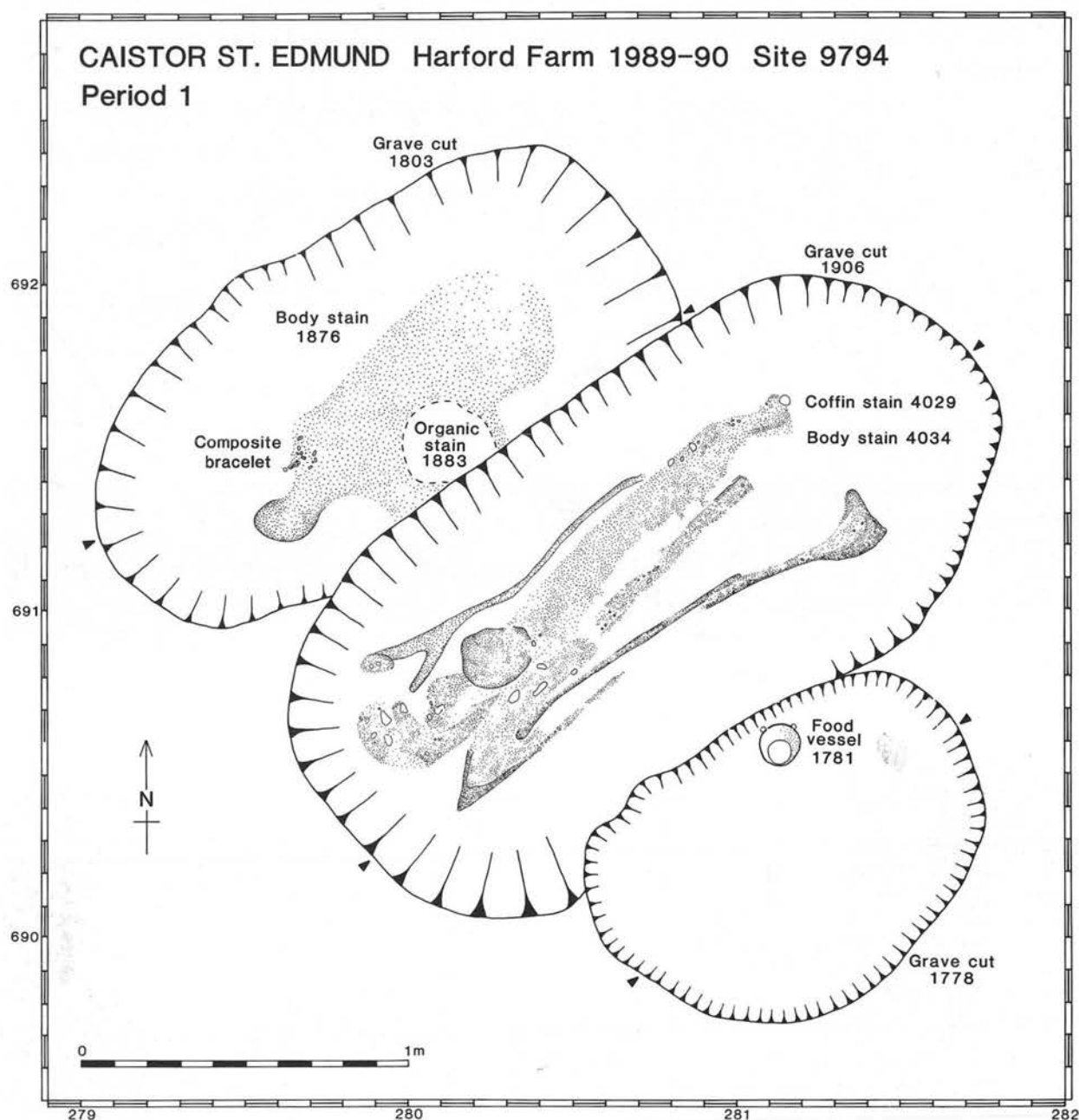


Figure 59 Plan of graves 1778, 1803 and 1906. Scale 1:20

or shell which had decayed completely; this is purely speculative, however, and it is equally possible that the gaps result from post-depositional shifting. Found along with the bracelet was a small bronze strip (Fig.72.10). This was fragmentary and in poor condition, but a little mineralised wood adhered to it in places and the object may once have formed a binding around part of a small rectangular object such as a box. Overlying the southern part of the body was a patch of rather lighter organic stain material 2.5cm in diameter. This was assigned the context number 1883 and might be the remnant of a bag or other organic item forming part of the burial deposit.

Grave 1906 (Pls XXVI-XXVII, Figs 59 and 60) was the most substantial of the features within ring-ditch 1322. On the base of the grave was found a mass of very dark stain material representing an unaccompanied inhumation within a plank coffin. Coffin and body proved hard to

distinguish from each other, but the head at least of body stain 4034 was clearly seen. The sides of the coffin had become rather curved and distorted during the process of decomposition but were still well defined, and it was seen that the better-preserved south-eastern side of the coffin was constructed of three planks each 0.6m-0.8m long. The plank-stains were 2-3cm thick, and overlapped considerably. Although square in plan, the head end of the coffin was sharply 'raked' in profile like the prow of a boat. This was seen to good advantage in section. Thus the coffin resembled a small punt-like boat or sledge, 1.6m long and up to 0.4m deep. The inhumation it contained was probably laid in a contracted position, but the rather nebulous stain provided no further information.

The majority of the grave had been filled by one backfill deposit, the coarse sand 4030. This layer contained many small inclusions of finer, loamier material

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Period 1

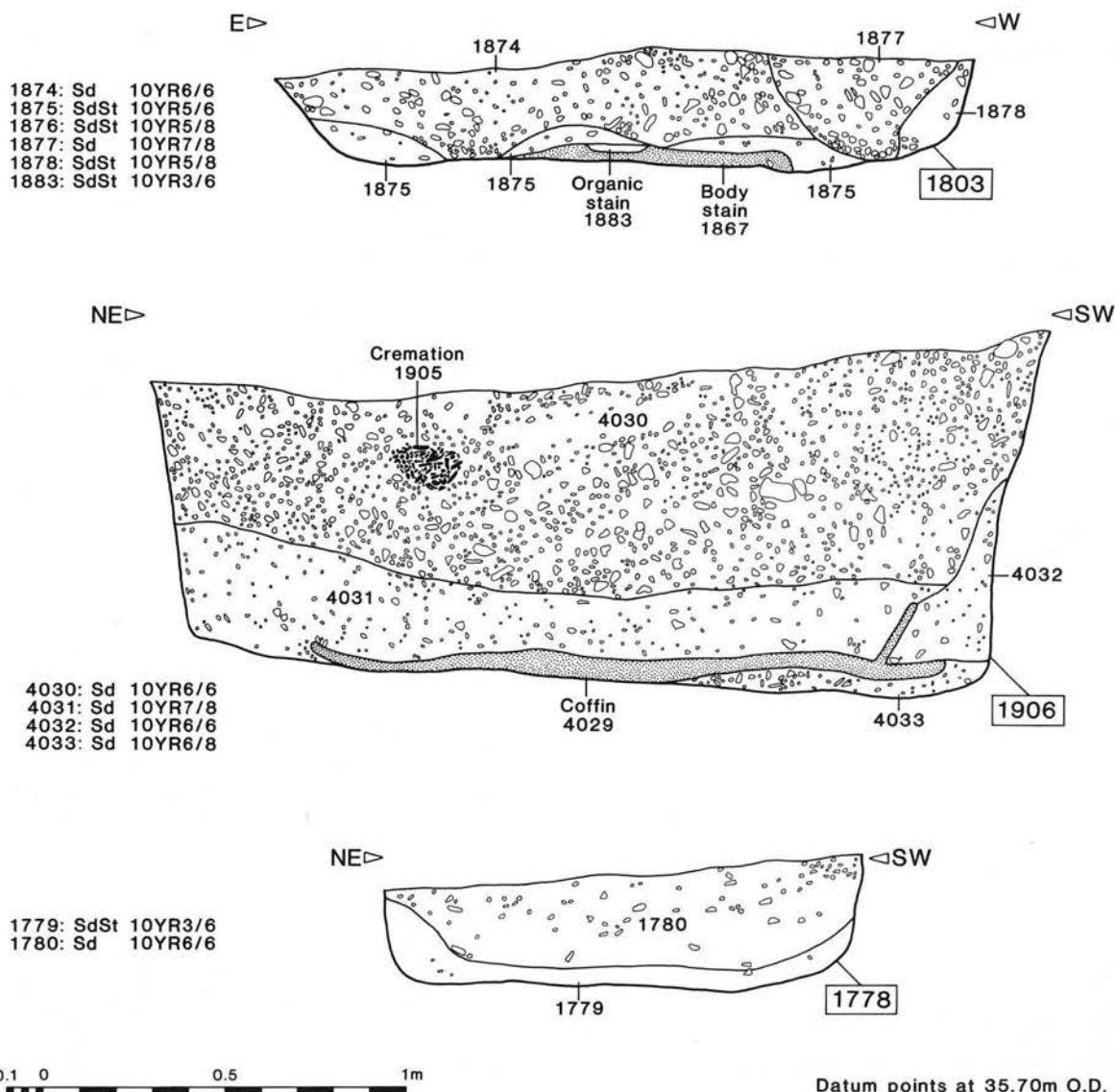
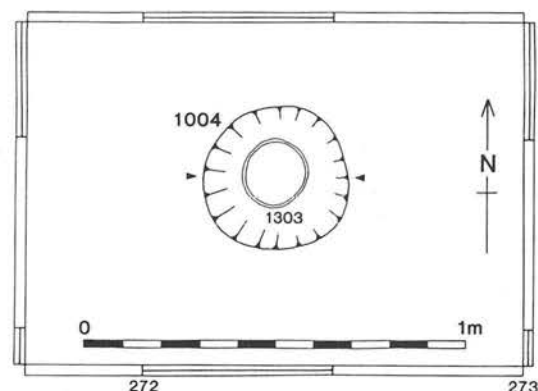


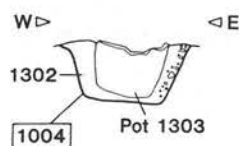
Figure 60 Sections of graves 1778, 1803 and 1906. Scale 1:20

which probably represented inclusions of topsoil or turf. It also contained substantial un-urned *cremation* 1905, probably of an adult male aged c. 35-50 years, which was encountered in the north-eastern part of the grave some 0.2m below the stripped surface. It is likely that the cremation had been deposited *during* the backfilling of the grave, since there was no evidence of any intrusive cut to contain it. The cremation deposit was apparently unaffected by animal action or other disturbance; indeed

very little soil was admixed with the (often large) bone inclusions. The deposit measured c. 0.4m by 0.3m in plan, but was thinner and more diffuse close to its south-east edge. This suggested that it had been thrown in from the south-eastern side of the grave while deposit 4030 was being shovelled or pushed in. The cremation was accompanied by a small fragment of copper alloy, probably the head of a pin or small rivet.



Datum point at 35.90m O.D.



1302: SdSt 10YR3/3

Figure 61 Plan and south-facing section of cremation 1004. Scale 1:20

Ovate *grave* 1778 (Figs 59 and 60) was the latest of the three inhumation pits within ring ditch 1322. Its north-west side had been cut into the edge of *grave* 1906, but the two features overlapped only very slightly. No body stain was detected, despite diligent searching. The feature was interpreted as a *grave* on account of its position, its orientation and its flat-bottomed profile. A lugged Food Vessel-like pot (Fig.73, P17) was found inverted on the base of the feature close to its northern edge. This was probably an accessory vessel to a contracted inhumation whose exact position could not be detected.

The remains of a solitary urned cremation was found in the south-west part of the area between ring-ditches 1321 and 1322. The flat-bottomed, steep-sided *cremation pit* 1004 (Figs 56, 61) survived to a depth of only 0.15m. Most of its volume was filled by truncated urn 1303 (Fig.73, P18) which stood on the base of the cut. This vessel was probably a straight-sided bucket-type urn. It was poorly-fired and in very fragile condition. A layer of charcoal, 1301, occupied the lowest part of the pot and contained a small amount of cremated bone representing an infant. The upper part of the vessel had been cut away by ploughing.

Ring-ditch 2015

(Pls XXVIII, XXIX; Figs 62-64)

A penannular ring ditch situated in the southern part of the site immediately west-south west of ring-ditch 1022. Some eighty percent of its extent was exposed, the southernmost part of the ditch's circuit lying beyond the excavation area agreed with the landowner. It probably surrounded a ploughed-out barrow. However very little can now be said about its construction or use, since no clear evidence survived either for burials or upstanding earthworks.



Plate XXVIII Ring-ditch 2015 after excavation, looking south-east. Scales =2m. (FKY 3, Trevor Ashwin)

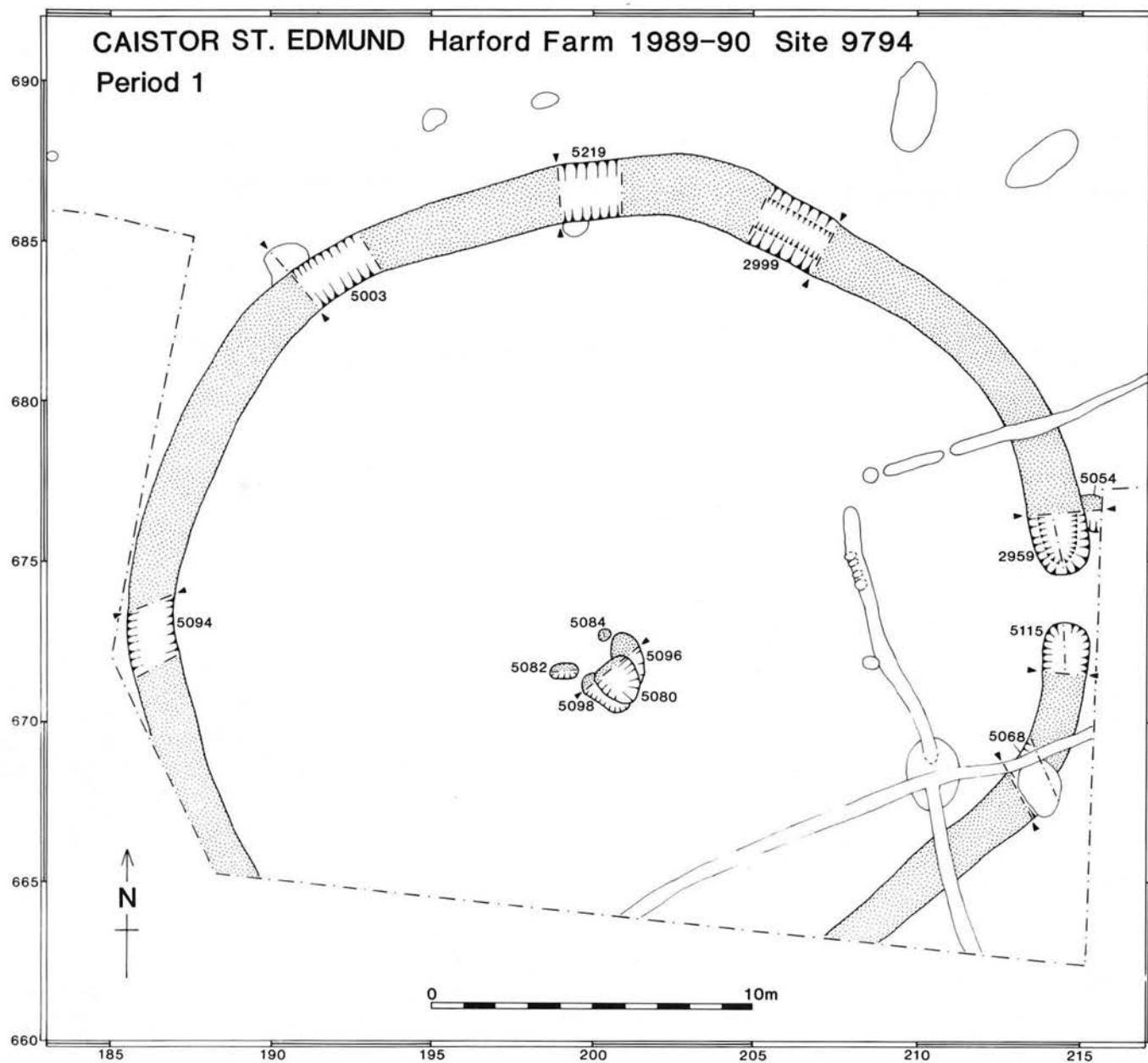


Figure 62 Plan of ring-ditch 2015. Scale 1:200

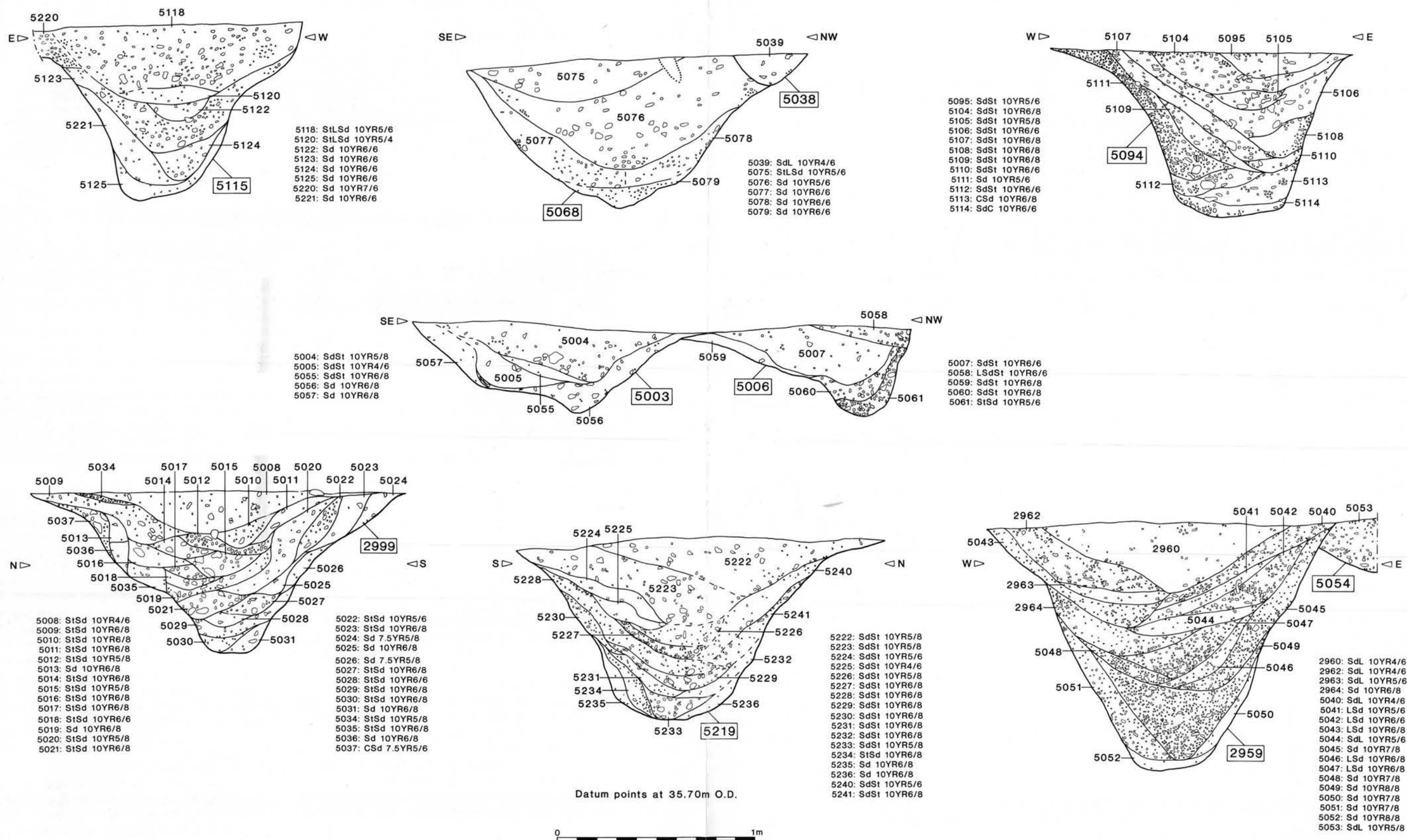


Figure 63 Sections through ring-ditch 2015. Scale 1:20

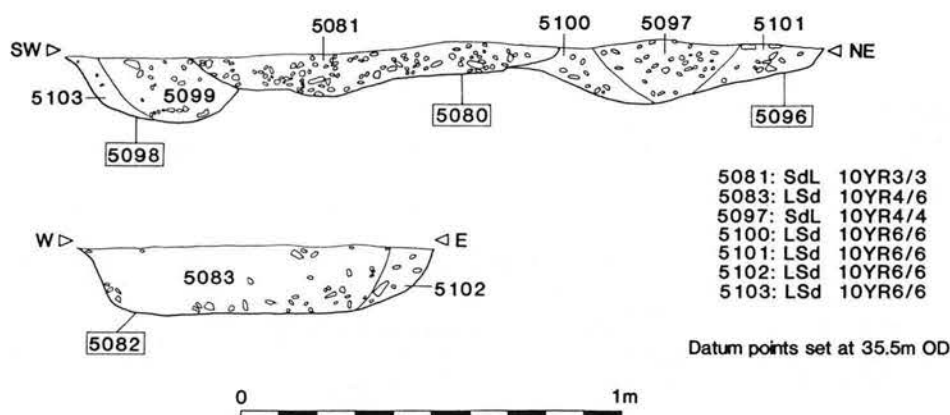


Figure 64. Sections through pits 5080, 5086 and 5098. Scale 1:20



Plate XXIX North-facing section through ring-ditch 2015 (terminus seg. 5115). Scale = 1m. (FLV 26, Sarah Bates)

The ring-ditch

(Plates XXVIII-XXIX; Figs 62 and 63)

This had an internal diameter of 28m and was slightly polygonal in plan, the visible part being composed of six flattened sides rather than describing an even circle. Its eastern face was broken by a causeway 1.5m wide.

No evidence was found in the filling sequence for the presence of an adjacent bank or mound which had weathered into the ditch, as soil appeared to have entered the ditch from both sides in roughly equal quantities. Indeed there was no clear evidence to show whether or not a mound ever existed here. The manner in which the shallow Period 5 gullies 2064, 2968 and 2970 (Fig.106) crossed the south-eastern part of the enclosed area untruncated showed that they had not been cut into mound material. However, these intrusive features did not extend into the innermost part of the area, making it possible that they respected a small central barrow mound of some kind.

Other features

(Figs 62 and 64)

In the centre of the area enclosed by the ring-ditch lay a group of five ephemeral pit-like features, none of them surviving to a depth of more than 0.2m. In the absence of

dating evidence these features were assigned to Period 1 purely on the basis of their isolated central location within the ring-ditch. Two somewhat irregular pits, 5096 and 5098, had been dug side-by-side. After they had been backfilled, these features had been cut centrally by a similar elongated pit, 5080. To the immediate north and north-west of this group respectively were excavated the remains of two smaller features, round pit 5084 and east-west oriented linear cut 5082. The fills of all of these pits were mostly very stony and quite dark in colour, with a loamy consistency. None contained any finds. When viewed in plan, these pits appeared likely candidates for central graves within 2015, but there was insufficient evidence to be certain of this. No body stains could be identified.

Ring-ditches 2100 and 2310

(Pl.XXX; Figs 65-69)

Approximately four-fifths of the area of this triple-concentric monument was available for examination. The northernmost part of the outer ring-ditch lay below the modern Markshall Farm Road and its associated hedgebanks. However a watching-brief on the removal of this road immediately prior to the Bypass's construction allowed the northernmost part of ring-ditch 2100's circuit to be recorded in plan. The feature as a whole resembled a flattened barrow of some kind, and was identical in outer dimensions to the disc barrow excavated immediately to the south-east. However problems of interpretation were posed by the absence of surviving graves and uncertainty in reconstructing its upstanding earthwork and structural features.

The ring-ditches

(Pl.XXX; Figs 65-67)

Penannular ring-ditch 2100 had an internal diameter of 44m. Unlike its somewhat polygonal neighbours it was circular in plan. Within it lay the more ephemeral Period 1 ring-ditch 2310 and its associated post-hole ring 2800. A causeway c.2m wide interrupted the southern part of the ditch. The ditch had infilled rapidly at first due to weathering of its steep gravel sides. This episode was followed by a more gradual accumulation of darker finer sands. Prominent tips of stony material apparently

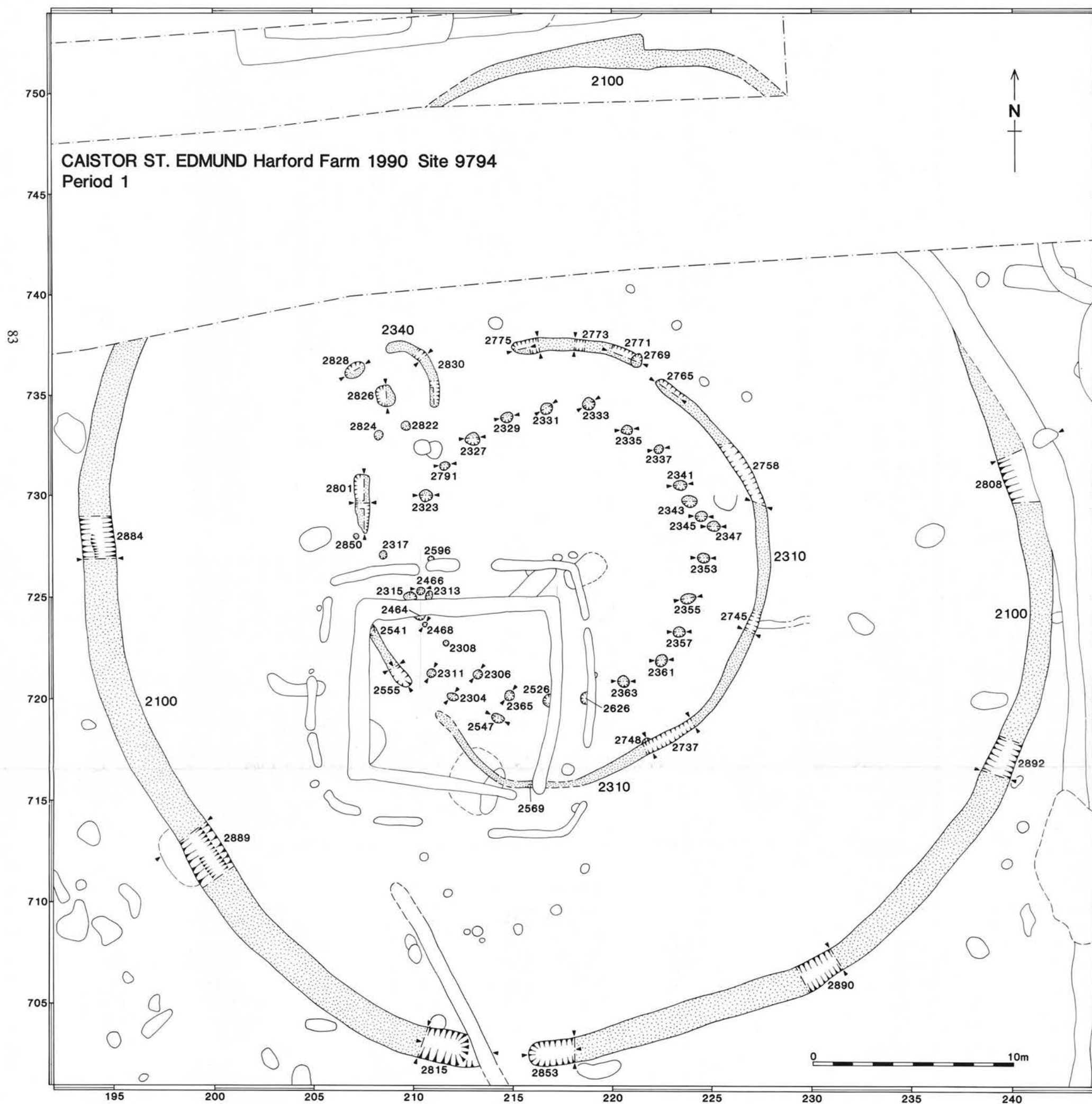


Figure 65 Plan of ring-ditches 2100, 2310. Scale 1:200

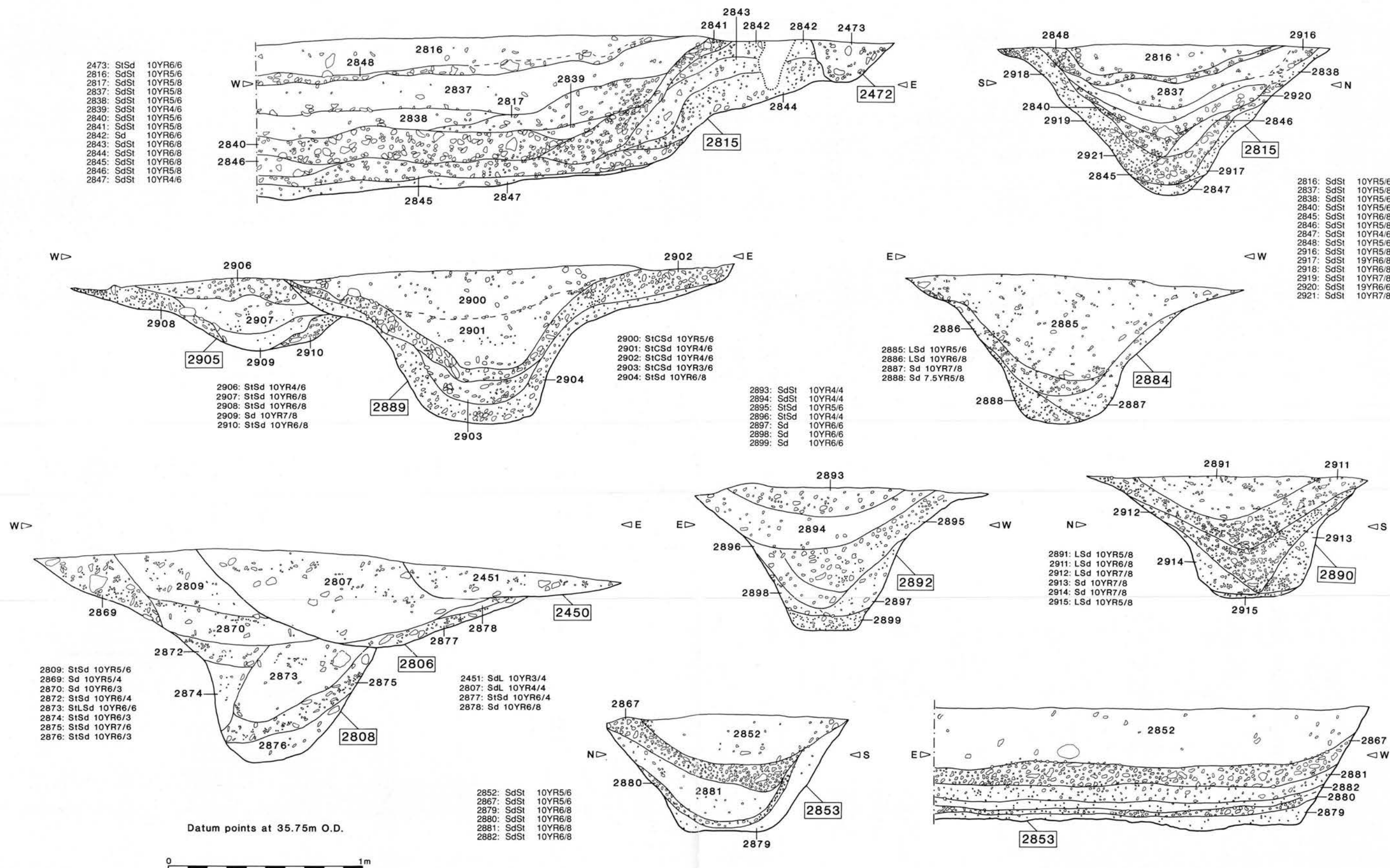


Figure 66 Sections through ring-ditch 2100. Scale 1:20

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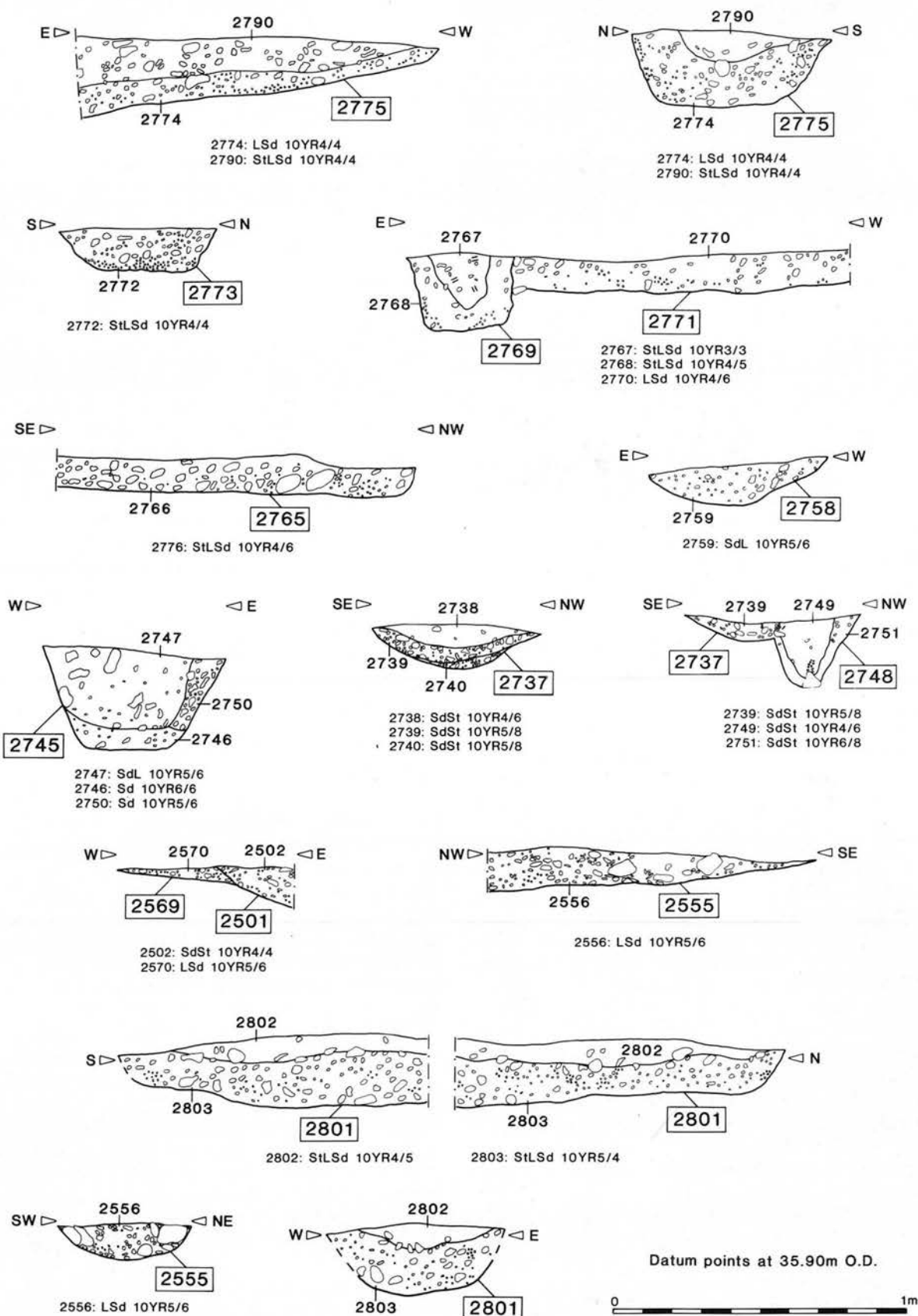


Figure 67 Sections through ring-ditch 2310. Scale 1:20



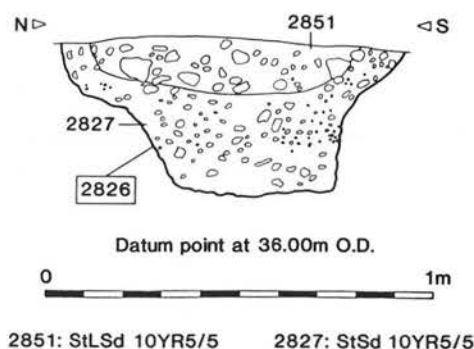
Plate XXX South-west-facing section through ring-ditch 2100 (seg. 2892). Scale = 1m. (FKS 7, Sarah Bates)

deposited in the ditch from beyond its outside edge showed that it had once been encircled by a concentric bank. There were very few finds of any period, but several sherds from a single fragmentary small Beaker were found in the upper fill of segment 2890.

Inner ring-ditch 2310 measured 20m in diameter. It appeared heavily truncated and was everywhere very shallow, particularly in its southern part where it was slight enough to be damaged by the initial hand cleaning of the area. The ring divided naturally into two distinct 'halves'. The south-eastern half of its circuit was continuous: although rather ill-defined in places, its course could still be traced without interruption. By contrast, the north-western half of the ring was divided into three unequal segments, separated by causeways of varying width. The western butt-end of segment 2771 in the north-east part of the ring contained a post-hole, 2769. It was unclear whether this feature had been cut into the infilled ring-ditch or was the ghost of a timber which had been deliberately 'packed' in position by the fills of ring-ditch segment 2771. Similar post-holes were not seen in the feature's other termini.

Possible ring-gully 2340 was situated in the centre of a 9m-wide causeway in the north-western part of 2310's circuit. Its careful siting in the middle of this opening, lying midway in the discontinuous half of the inner ring-ditch, made clear that these two elements of the monument were probably constructed at the same time (Fig. 67). Only fragmentary evidence for this feature survived. Neither appearance nor function could clearly be discerned, but it was probably subcircular with an external diameter of up to 5m. The north-eastern part of its circuit was represented by shallow gully 2830, elsewhere its presence was indicated only by the meagre remains of features 2822 and 2824 and elongated pit 2828. These were all interpreted as the deepest parts of a ring-gully which was otherwise wholly truncated. A small rectangular pit, 2826 (Fig.68), lay at its centre.

Gully 2830 was very ephemeral, with a surviving depth of only 0.1m. Its southern end was shallow and ill-defined in profile, making it quite possible that this 'terminal' was the result of truncation rather than representing a real hiatus in the feature. The central pit 2826 was slightly deeper than the other cuts but contained similarly sterile fills, which were often hard to distinguish from the mixed coarse natural into which it had been cut. Its flat base made it possible that it was in fact a grave



2851: StLSd 10YR5/5 2827: StSd 10YR5/5

Figure 68 Sections through ?grave 2826. Scale 1:20

situated centrally within the ring, although no finds or traces of a stain were found to support this interpretation.

A ring of thirty-two post-holes, 15m in diameter, lay concentrically within the inner ring-ditch 2310 and was designated as structure 2800. The post-holes forming the northern and southern parts of the circuit were quite regularly spaced, usually occurring c. 1.5m apart, but some irregularity and clustering of features occurred in the eastern and westernmost parts of the ring. A gap of c. 3m in the western side may have been the result of differential truncation rather than represented a true hiatus in the circuit. In the south-western part of the ring, three further post-holes (2311, 2304 and 2547) lay 1.2-1.5m outside the main circuit: two of these post-holes flanked one of the causeways in the adjacent ring-ditch 2310 — rather in the manner of an entrance structure of some kind — making it likely that structure 2800 was contemporary with the encircling feature. (The structure as a whole is clearly visible on Plate XXXV).

Most of the post-holes were round, and contained the impressions of posts which varied in width between 0.2m and 0.3m (Fig.69). A few of the post-pipes appeared slanted and may have represented the bases of posts that were inclined slightly inwards towards the centre of the ring, but this was only pronounced in two features (post-holes 2355 and 2361). It is hard to discuss this phenomenon any further, as the east-west alignment of the section lines across the post-holes in the northern part of the ring would have made this pattern undetectable here.

The only possible grave within the monument was the small pit 2826 (referred to above); it is quite possible, however, that other shallow grave cuts had been swept away by ploughing.

These ring-ditches and their associated structural evidence all add up to the most intriguing of the large ring-ditch monuments at Harford Farm. Unfortunately the degree of damage by the plough makes it impossible to reconstruct its appearance with any real confidence. The range of possible interpretations is wide, and is considered fully in the Discussion which concludes this chapter of the report (p.134). Despite its hengiform appearance, the monument's situation as part of a barrow cemetery and its identical overall size to the nearby disc barrow to the south-east make a funerary function most likely, and it is proposed that it was in fact a barrow featuring a timber structure of some kind.

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794

Period 1

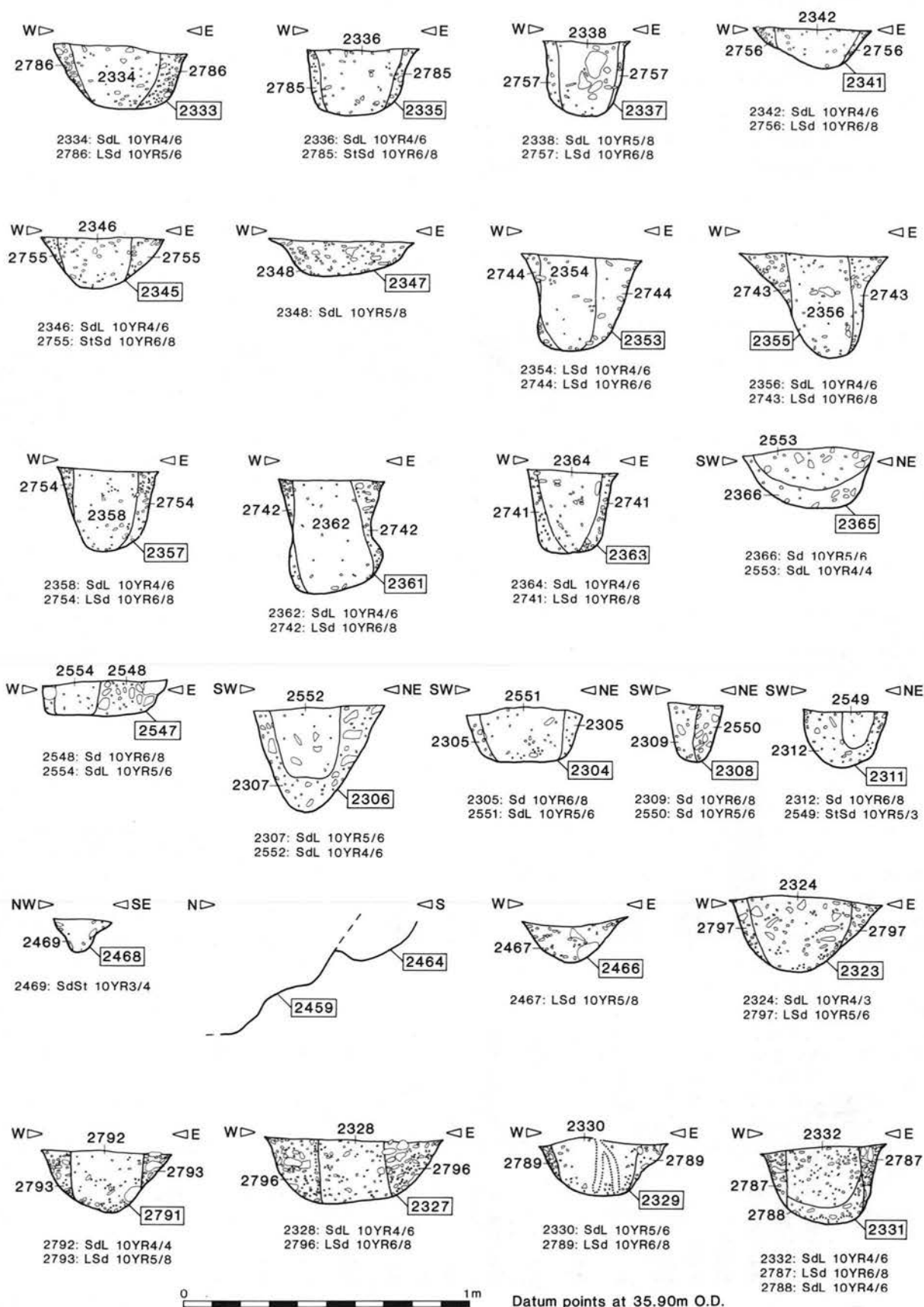


Figure 69 Sections through post circle 2800. Scale 1:20

Artefacts

Struck flint

by Stephen Kemp

(Figs 70 and 71)

Introduction

A total of 477 items of struck flint were found during the Harford Farm excavations. As was the case at Bixley Sites 6099 and 9585 no significant undisturbed or stratified groups of flint were found; most flints were isolated finds. A full report on the assemblage is held with the project archive.

Lithic material

(Fig.70)

Blades and flakes dominated the collection. Analysis of the flint colour showed that, although grey and grey-brown raw material predominated, most of the flint used was readily available within the natural gravels in the area. Finished tools included three adzes and three axes. One of the latter pieces was a roughout utilising a natural flake (F22) which had apparently been placed deliberately in the Period 4 Anglo-Saxon grave 2094. Six backed knives were found, the backing on these artefacts tending to be very rough and angular. Two of the five arrowheads found were barbed-and-tanged, although single examples of tanged (F14) and leaf-shaped (F15) arrowheads were found in the northern part of the site in the vicinity of ring-ditch 112. A simple obliquely-blunted microlith (F12) was found in an unphased pit in the area of the northern Anglo-Saxon cemetery.

Catalogue of illustrated flints

(Fig.71)

- F12** Microlith; s.f. 251, context 311, fill of pit 310
- F13** Barbed-and-tanged arrowhead; s.f. 286, context 4041, fill of ring-ditch 1321 (exc. section 4042)
- F14** Tanged arrowhead; s.f. 93, context 166, fill of nat. feature 65
- F15** Leaf-shaped arrowhead; s.f. 99, context 86, fieldwalking
- F16** Fabricator; s.f. 100, context 24, fill of ring-ditch 22 (exc. section 23).
- F17** Side-end scraper; context 1002, ploughsoil
- F18** Borer/point; context 1, unstratified
- F19** Composite tool; context 2460, fill of ditch seg 2459
- F20** Knife, backed, edge damage; context 86, unstratified
- F21** Axe/adze; s.f. 289, context 1005, cleaning
- F22** Biface, roughout; context 2095, fill of Period 4 grave 2094
- F23** Biface; s.f. 98, context 202, fieldwalking

Discussion

Despite the obvious problems of context the flints were an interesting collection, forming a disturbed assemblage dating at least in part to the Late Neolithic period or the Early Bronze Age. Indications of such a date included the relatively high proportion of scrapers (although no thumb-nail types were found), the incidence of scrapers presumably made on natural flakes, and the presence of barbed-and-tanged arrowheads. However, the collection probably included earlier material, and the recovery of microlith F12 showed that a Mesolithic element was present as well.

In contrast with the Bixley sites the Harford Farm assemblage contained a higher proportion of finished artefacts, and there was less evidence for the manufacturing of tools on or near the site. While no micro-wear study was undertaken, a higher proportion of the blades and scrapers showed signs of use-wear.

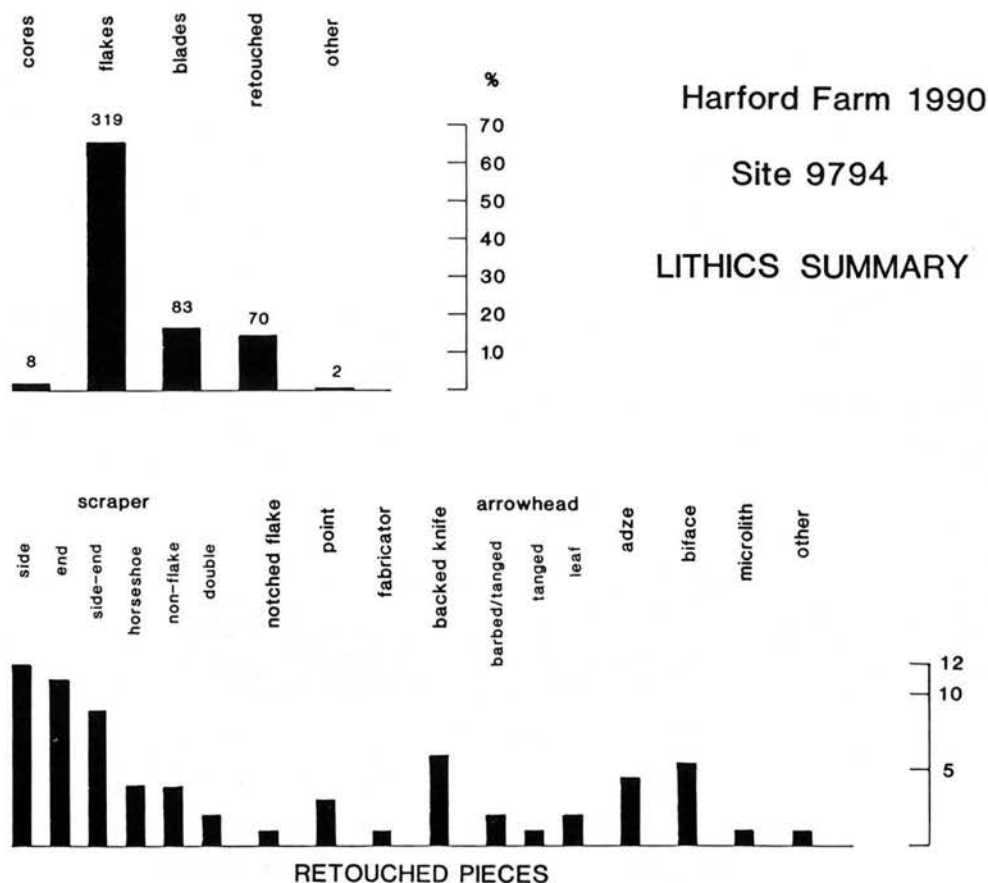


Figure 70 Lithics summary

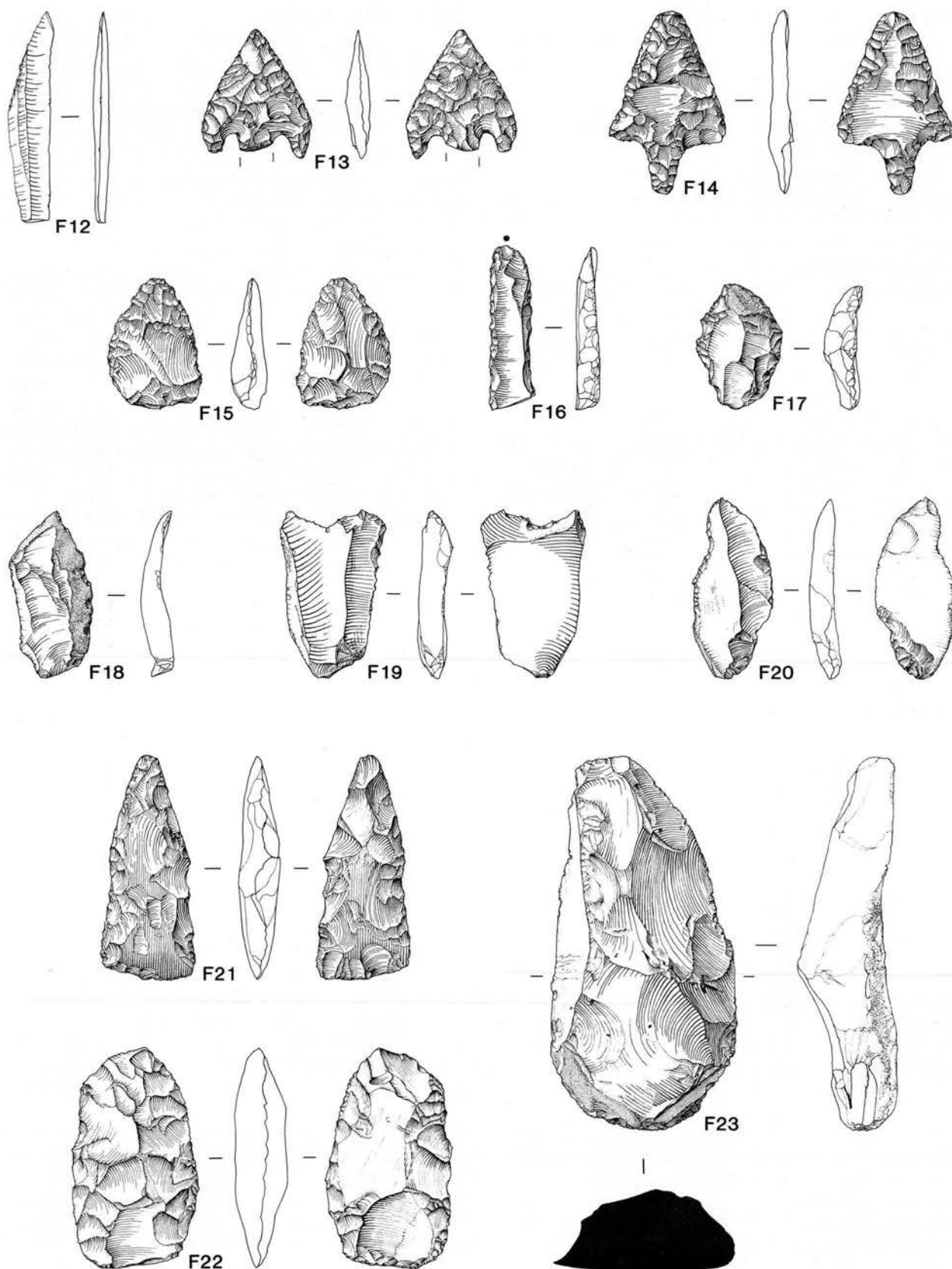


Figure 71 Lithic material F12-F23. Scale 1:1 (F12-F14), 1:2 (F15-F23)

It may be significant that whilst the main concentration of axe-thinning flakes occurred at Bixley Site 6099, the only finished bifaces from the two sites came in fact from Harford Farm.

The composite bracelet and objects of copper alloy from graves 1803 and 1906

by Helen M. Bamford and Trevor Ashwin
(Fig.72)

The composite bracelet from grave 1803

by Helen M. Bamford

Four jet beads, two amber beads and two segmented beads of faience were found in inhumation grave 1803, the primary burial lying at the centre of the large disc barrow. They seem to have represented a bracelet with a diameter of 40–50mm. Gaps between some of the beads may originally have been filled by others of bone, wood or shell which had decayed completely.

The five biconical and barrel-shaped beads are of a type used with spacer plates in multi-stranded crescent-shaped necklaces of jet, shale and amber as well as simpler forms of ornament. However the half-disc form of the remaining jet bead is very unusual, if not unique. The segmented faience beads are of the 'normal' type, Group 1a (Beck and Stone 1936, 205), as distinct from the Scottish variant.

Catalogue of illustrated beads

(Fig.72)

- 1 **Jet bead**, biconical, polished; s.f. 272, context 1875, fill of grave 1803. Longitudinally bored.
- 2 **Jet bead**, barrel-shaped, polished; s.f. 273, context 1875, fill of grave 1803. Longitudinally bored.
- 3 **Jet bead**, biconical, polished; s.f. 274, context 1875, fill of grave 1873. Longitudinally bored.
- 4 **Amber bead**, biconical; s.f. 275, context 1875, fill of grave 1803. Longitudinally bored.
- 5 **Amber bead**, barrel-shaped; s.f. 278, context 1875, fill of grave 1803. Longitudinally bored.
- 6 **Jet bead**, semi-discoidal, rectangular cross-section, polished; s.f. 279, context 1875, fill of grave 1803. Bored parallel to straight edge.
- 7 **Faience bead**, segmented, broken at one end. Two segments remaining. s.f. 277, context 1875, fill of grave 1803.
- 8 **Faience bead**, segmented, possibly broken at one end. Four segments. s.f. 280, context 1875, fill of grave 1803.
- 9 **Faience bead**, segmented, small fragments only. s.f. 276, context 1875, fill of grave 1803. Probably part of 7 (s.f. 277).

Discussion

The occurrence of jet ornaments in Bronze Age contexts is, of course, widespread in Britain. Some of the best examples of necklaces come from graves in Yorkshire, Derbyshire and Scotland (Bateman 1861; Greenwell 1877; Scott 1951, 60), where the rite was often inhumation. However, many of the burials accompanied by smaller groups of biconical, fusiform and barrel-shaped beads are cremations, and then the associated pottery is commonly of Collared Urn type (Longworth 1984, 73). Jet or shale beads associated with Food Vessels are normally of simpler disc form, except in Scotland and the border regions (Scott 1951, Simpson 1968).

Amber and faience beads have a contrasting distribution focussed strongly on Wiltshire and Dorset (Stone and Thomas 1956, fig.4; Gerloff 1975, 199, 205). Necklaces of similar ornaments which combine them, with or without beads of jet or jet-like substance, are one of the diagnostic components of the assemblages of grave furniture which define the 'Wessex' phenomenon (Pigott 1938, Gerloff 1975). The associated burials are most

commonly cremations, and inhumation graves containing faience beads are rare, Pigott (1938, 104, 105) listing only three recorded examples from Wessex. Associated pottery typically includes Collared and Biconical Urn, as well as the miniature vessels which are another diagnostic 'Wessex' trait, although at least one example of a cremation burial containing both a plain Food vessel and segmented faience beads has been noted from Dorset (Stone and Thomas 1956, 76).

In Wessex, amber and jet or shale beads are common to graves of both the Wilsford (Wessex I) and Aldbourne (Wessex II) series. However, segmented faience beads appear to be tied more specifically to the latter phase (Gerloff 1975, 205–7). On the evidence currently available they cannot be shown to have been in use in England before c. 1450 cal. BC (*ibid.*, 223–5, McKerrell 1972, Burgess 1980, 110). The presence of such beads in the bracelet under discussion may then provide an approximate *terminus post quem* for the deposit. 'Wessex' and 'Wessex'-related burials accompanied by necklaces and beads are, where the sex has been determined, almost always those of females (Gerloff 1975).

In East Anglia relatively few 'Wessex' graves containing beads have been recorded to date, and these tend to cluster towards the western side of the region (Lawson 1984, 153). The most impressive was that excavated at Little Cressingham, Norfolk (Lawson 1986a, 6–8), which belongs to the Wessex I phase. However more modest interments of Wessex II type include an urned cremation accompanied by a segmented bead and a quoit pendant of faience from Reffley Wood, near Kings Lynn (Leask *et al.* 1938, 318, Stone and Thomas 1956, 14), a cremation found with six segmented faience beads at Great Wilbraham, Cambridgeshire (Neville 1852) and a fragment of amber bead associated with sherds of a Collared Urn from a robbed ?inhumation grave at Gazeley, Suffolk (Petersen 1973, 29–31).

Three other burials from East Anglia are also relevant here, although they lack any positive association with the 'Wessex' phenomenon and perhaps are better compared with similar graves from Yorkshire. The first of these is a primary female inhumation in a barrow at Risby, Suffolk (Martin 1976) which was accompanied by a small Primary series collared vessel, a copper alloy awl and a multi-strand necklace of jet beads separated by spacer plates. Analysis of these beads showed the raw material to be from the Lower Jurassic deposits of north-east Yorkshire. The beads of the necklace were scattered over the body and four of them, clustered separately over one hand, led the excavator to wonder if there might have been a bracelet too. A second inhumation from another Suffolk barrow at Risby was associated with four biconical jet beads and a spacer plate of the same material (Vatcher and Vatcher 1976, 277): another secondary burial in this barrow was accompanied by a vase-type Food Vessel.

The third is the skeleton of a young woman found lying face down in the peat at Southery Fen, Norfolk (Lethbridge 1932, Healy and Housely 1992). Around the wrist of her outflung arm was a bracelet of eight biconical jet beads, and at her waist was a copper alloy awl. It may be worth noting in this connection that bracelets and ornaments of beads other than necklaces may have been more common in the Bronze Age than is at present demonstrable since the number of beads recorded in so many of the 'Wessex'-type graves is so small.

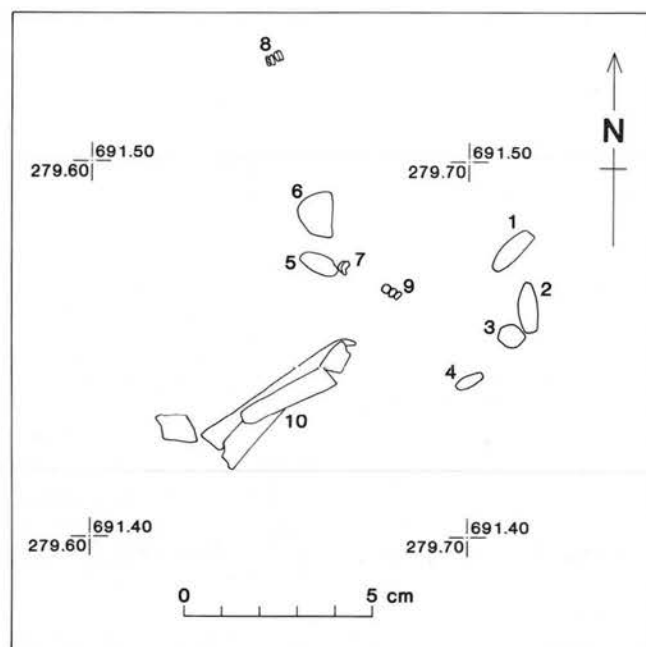
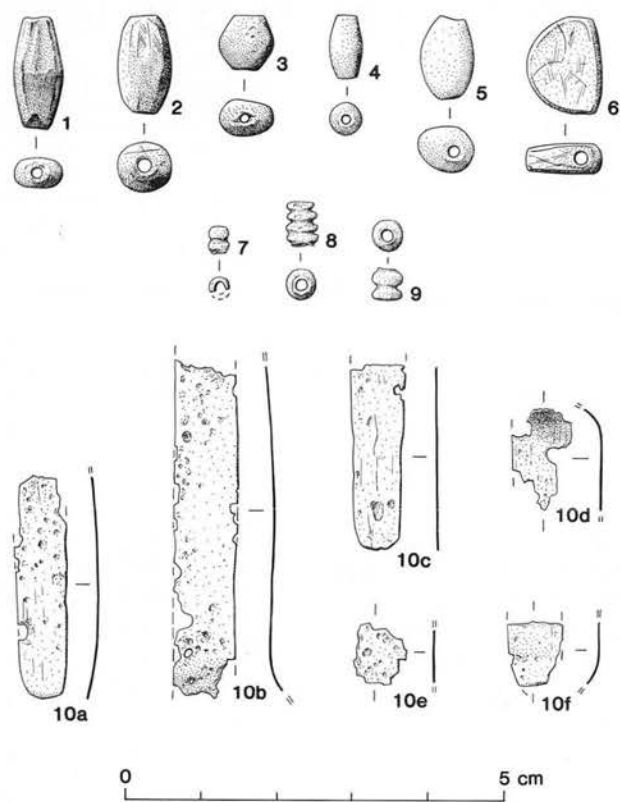


Figure 72 Composite bracelet and associated items from grave 1803. Objects scale 1:1, plan scale 1:2

Also of interest is the string of assorted beads of faience, lignite, shell and chalk from a barrow near Shrewton, Wiltshire, which is thought to have been used to secure a bag containing a cremation (Green and Rollo-Smith 1984, 310–11).

The copper alloy strips from grave 1803 by Helen M. Bamford

All the fragments appear to be from a single strip, bent smoothly in two places and tapering slightly towards either end. The most likely interpretation is that it formed some sort of binding or plain ornament on three sides of a small rectangular object, possibly a wooden box since possible fragments of mineralised wood were found with it. The edges of the strip were corroded and uneven in places, but there were at least three regular notches which might have taken rivets or nails.

There is a possible parallel for these items in two fragments of a somewhat broader strip or strips of copper alloy found in a Wessex II burial at Winterbourne Stoke Barrow G4 (Gerloff 1975, 101) in Wiltshire. These were thought to be part of the binding of a wooden box which contained the primary cremation.

Illustrated strips of copper alloy (Fig.72)

- 10a Flat strip, composed of two joining pieces. Rounded and slightly tapering at one end, curved and broken at the other. Part s.f. 271, context 1875, fill of grave 1803.
- 10b Flat strip, curved at one end. Both ends broken. Semi-circular notch in one edge. Part s.f. 271, context 1875, fill of grave 1803.
- 10c Flat strip, broken at one end, round and slightly tapering at the other. Semi-circular notch (poss. ?rivet/?nail hole) in one edge. Part s.f. 271, context 1875, fill of grave 1803.
- 10d Fragment, curved at one end. Semi-circular notch (poss. ?rivet/?nail hole) near one edge. Part s.f. 271, context 1875, fill of grave 1803.
- 10e Fragment, flat with broken edges. Part s.f. 271, context 1875, fill of grave 1803.
- 10f Fragment, flat, tapering at one end. A little ?mineralised wood adhering. Part s.f. 271, context 1875, fill of grave 1803.

Copper alloy ?pin from grave 1906 by Trevor Ashwin

?pin/?rivet; s.f.287. Context 1905, secondary cremation within backfill of inhumation grave 1906. Incomplete, head and proximal shaft only. Not illustrated. Slightly corroded. Head round and slightly domed. Total length 3.2mm; diameter of head 1.1mm, shaft 0.5mm. Found during fine sieving of deposit to extract cremated bone *etc.*

Cremation urns and accessory vessels by Helen M. Bamford (Fig.73)

General

Two complete pots, both Food Vessels, were found in inhumation graves in barrows at Harford Farm. Also found was the base of a larger pot, probably a Bucket-type urn, which contained a cremation deposit.

Catalogue of illustrated vessels (Fig.73)

- P16 Food Vessel;** s.f. 55, context 29, fill of grave 22. Bipartite vase with shoulder grooves interrupted by five unperforated shoulder stops; twisted-cord-impressed decoration on rim and upper body to below the shoulder and on internal rim bevel; essentially complete, one shoulder stop missing.
Fabric: Medium hard but friable; texture coarse, 'blocky', poorly levigated; inclusions — sparse angular grog 1.5mm–3.0mm, sparse crushed calcined flint 1.5mm–3.0mm, rarely up to 0.8mm, very sparse sub-angular and sub-rounded quartz 0.4mm–0.8mm.

- P17 Food Vessel;** s.f. 269, context 1781, fill of grave 1778. Vase with round shoulder bearing four applied, unperforated lugs; slightly concave base; comb-impressed decoration of short, randomly-applied horizontal and diagonal lines over upper part of body. Essentially complete, although base and rim are in crumbling condition.

Fabric: Medium soft, friable; texture coarse, contorted, poorly levigated, vesicular; inclusions — sparse sub-angular and sub-rounded quartz 0.3mm–0.6mm, possible vegetable filler represented by common plate-like and sub-angular voids 0.5mm–2.5mm, some containing a blackish residue.

- P18 ?Bucket-type Urn;** s.f. 219, context 1303, fill of cremation pit 1301. Undecorated base of urn; flat base, simple basal angle. Disintegrating.

Fabric: Soft, very friable; texture coarse, 'blocky'; structure shows imperfectly-bonded coil junctions; inclusion — frequent grog 0.5mm–8.0mm, mostly 1.0mm–2.5mm.

Discussion

Finds of Food Vessels from barrows, or indeed any other context, have been comparatively rare in Norfolk and East Anglia generally, and are chiefly from the west of the region (Lawson 1984, 150). Bipartite vases with shoulder stops are rarer still; the closest parallels for P16 are from north of the Wash and from Yorkshire in particular, where the type is familiar enough. Only one approximately similar example is recorded from Norfolk. This is a small vase, now in Norwich Castle Museum, from the multi-period Neolithic and Bronze Age burial site at Hill Close, Feltwell. From north-west Suffolk there is also a squat, highly-decorated vase, without a groove but with six perforated lugs on the shoulder, from Warren Hill, Mildenhall.

The other Food Vessel, P17, may be classed with a small group of miscellaneous vases of slack profile with lugs or handles set below the rim or on the shoulder. As Manby has noted (1986, 123) their distribution appears to be concentrated in Yorkshire and the East Midlands, though extending into Cambridgeshire and also into Northumberland (Gibson 1978; 28, 75, 117; nos 61 and 68). No other lugged Food Vessels have been recorded from east of the Fens, but there is a vase from Witton Heath Wood barrow, Norfolk (Site 6920), which in other respects, including comb-impressed decoration on the shoulder, bears some resemblance to P17 (Lawson 1983, 24–28). Another undecorated vessel of similar shape was found with a cremation in a barrow at Grimstone End, Suffolk (Brown *et al.* 1955). The profiles of P17 and the vase from Witton, combined with the technique used in their decoration, suggest a possible typological affinity with Beakers of East Anglian type (Clarke 1970, 146f). However this observation is not in itself likely to carry any chronological significance.

The cremation urn P18 is too incomplete to be categorised with any confidence, but its shape and fabric were both quite distinct from any of the other vessels from the Norwich Southern Bypass barrow sites. Judging from its basal angle and its coarse, soft fabric it was part of a plain bucket-shaped urn (*cf.* Lawson 1984, 142, fig.6). If this was so, it is probably distinctly later in date than the Food Vessels from the site.

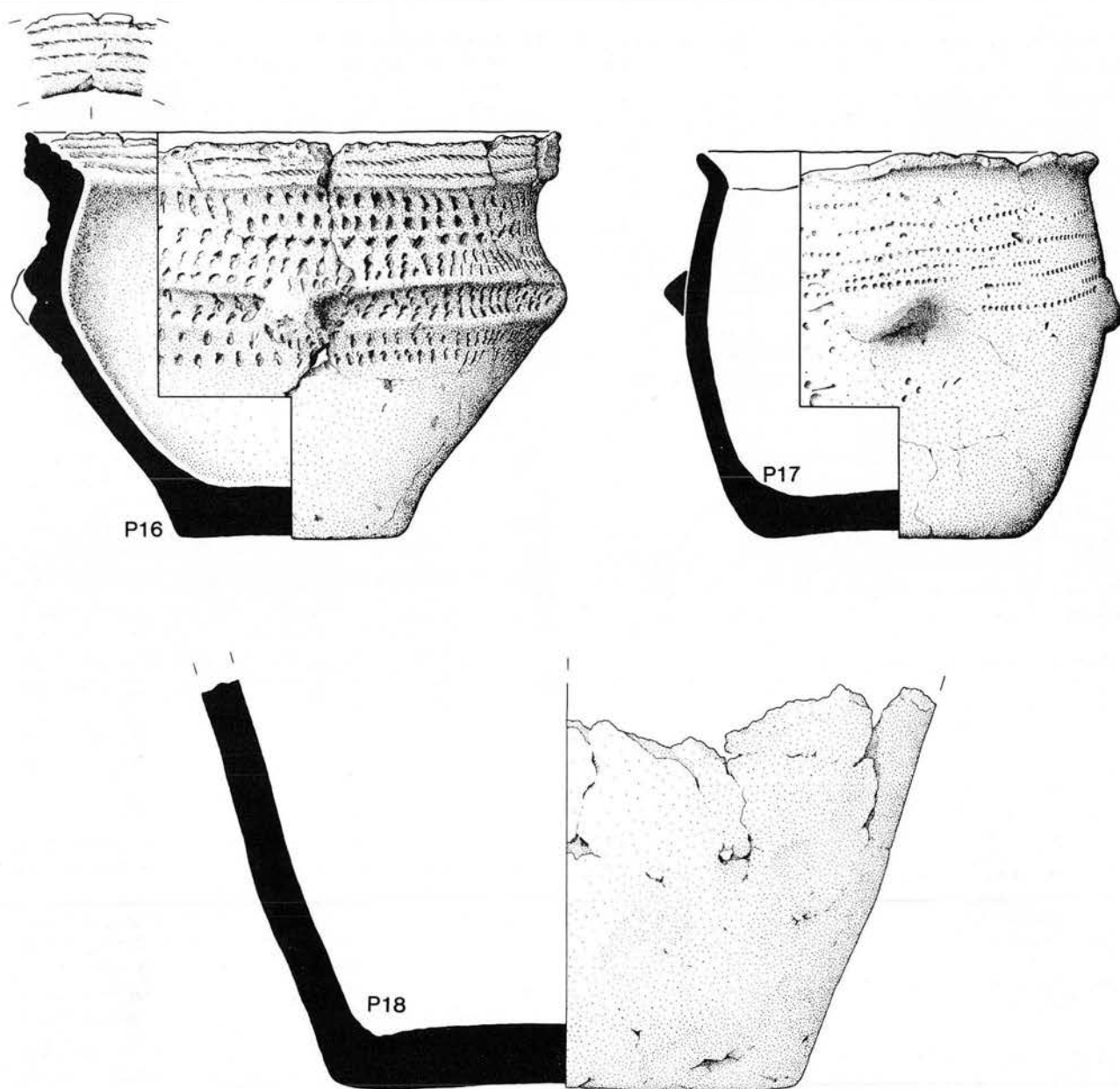


Figure 73 Accessory vessels and cremation urns P16–P18. Scale 1:2

Pottery
by Sarah Percival
(Fig.74)

General

Aside from the cremation urn and accessory vessels described by Bamford sixty-four sherds of Neolithic and Bronze Age pottery, weighing only 0.2kg, were recovered from eighteen contexts at Harford Farm. With the exception of seven 'indeterminate' pieces, all of these sherds were in Beaker-type fabrics.

Beaker

The Beaker sherds represented at least seven vessels, all of them fragmentary. Two (P20 and P24) were from straight-necked, upright Beakers bearing simple fingernail impressions. P21 was a bucket-shaped Beaker displaying deep fingertip rustication, the impressions paired to form a 'crowsfoot' motif. This is a common surface treatment, and parallels can be found at Spong Hill (Healy 1988, fig.84, P223) and Hockwold (Bamford 1982, fig.22, P63). A thin, upright rim sherd in a sandy fabric, P22, was decorated with geometric comb impressions. The sherd was too small to permit reconstruction of the vessel form, but it appeared to have a slight neck. A single sherd (P23) was decorated with an incised chevron motif. This Beaker resembled one illustrated by Bamford from Cottage Field, Wattisfield, Suffolk, (Bamford 1982, fig.40).

Catalogue of illustrated sherds
(Fig.74)

- P19** Beaker; context 202, unstratified. Hard. Common quartzite, some quartz.
P20 Beaker; s.f. 366, context 1704, fill of ring-ditch 1322 (exc. section 1718). Very hard. Common quartz, moderate grog, quartzite sparse.
P21 Beaker; context 1799, fill of post-hole 1798. Hard. Common quartz, moderate grog.
P22 Beaker; s.f. 104, context 2002, unstratified. Hard. Common quartz and quartzite, some mica.
P23 Beaker; s.f. 290, context 4000, fill of ring-ditch 1321 (exc. section 1858). Hard. Abundant quartz, common quartzite, some grog.

P24 Beaker; context 5003, fill of ring-ditch 2015 (exc. section 5002). Hard. Common quartz and quartzite, moderate mica. Some vacuoles.

Discussion

All the Beaker pottery seems to fall into Case's 'Late' category (Case 1977). The fingernail-impressed and fingertip-rusticated Beaker sherds are typical of the Beaker domestic assemblages from the region catalogued by Helen Bamford (1982). The date of this 'Late' Beaker phase has been suggested to fall between 2100–1800 cal. BC, although the British Museum's British Beakers radiocarbon dating programme casts doubt on the reliability of the established typological framework (Kinnes *et al.* 1991). The sherds are likely to be contemporary with the construction and use of the Harford Farm barrows to some extent at least.

The Beaker assemblage resembles the larger group from Valley Belt, Trowse in that 'later' Beaker forms predominate. This latter site (Chapter 4 this report) also featured fingertip-impressed and comb-impressed sherds. Any further meaningful comparison between the two assemblages is hindered by the fact that the Neolithic and Bronze Age corpus from Harford Farm is even smaller and more disturbed in context than that from Trowse. The sixty Beaker fragments from Harford Farm weigh a mere 0.22kg in total, alongside the c.1kg of Beaker material from Valley Belt, while most of them occurred in secondary contexts such as the fill of barrow ring-ditches. Even considering the fact that all overburden was stripped by machine, as well as the possibility of the wholesale removal of features by severe plough-truncation, it is hard to postulate that this detritus represents intensive settlement within the stripped area.

The general absence of other Neolithic and Bronze Age ceramic styles, another feature of the Valley Belt assemblage, is noteworthy for two reasons. Firstly it provides a further example of the type of ceramic 'exclusivity' studied by Cleal (Cleal 1984), in that other ceramic traditions of the era such as Grooved Ware are

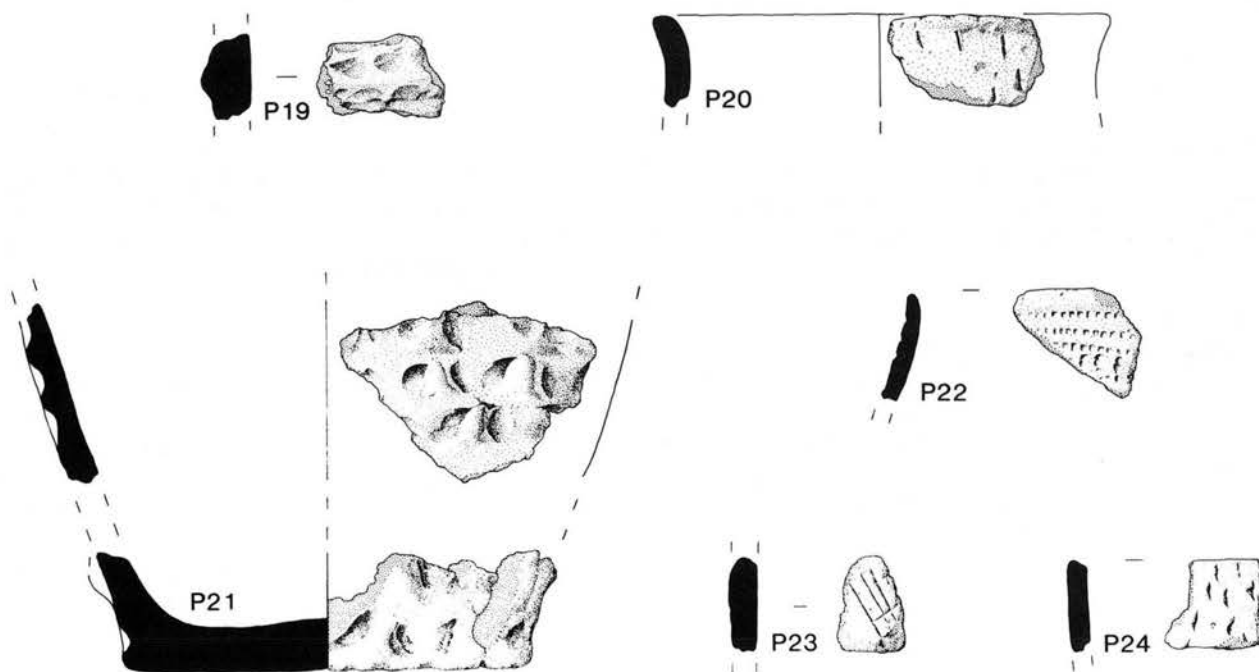


Figure 74 Beaker pottery P19–P24. Scale 1:2

conspicuous by their absence. Secondly, the absence of earlier Neolithic bowl pottery of — for example — Grimston or Mildenhall types of the fourth millennium cal. BC is interesting in itself. A feature containing sherds of plain bowl ceramic was recorded by the Norwich Southern Bypass watching brief a little to the north-east of the Harford Farm site (report in archive), but no such material was found on the site itself. Perhaps this is another example of the phenomenon noted by Healy (1988) whereby Beaker assemblages dominated by typologically 'Late' types seem less likely to occur on sites which show signs of previous occupation in the fourth millennium cal. BC, whereas Beaker groups featuring sherds of Case's 'Middle' pattern more frequently occur (as at Spong Hill) in site assemblages where earlier ceramic traditions are present.

V. Period 2

Introduction

(Fig.75)

Evidence of Iron Age settlement and agricultural activity was dispersed across much of the eastern half of the excavated area. Unfortunately the degree of plough-erosion has left a very incomplete set of data for understanding either the real nature of this activity or its date and chronology. No traces of Period 2 activity surfaces survived anywhere on the site, and it must be assumed that all features less than c. 0.2m deep have been removed without trace.

Four post-built roundhouses were identified; three were excavated, all of them lying in a north-to-south alignment which extended between the Period 1 barrows. It is possible that two of the excavated examples lay within the angles of a zig-zagging fenced boundary 1735, although this latter feature can only be identified tentatively. Eighteen Iron Age pits were excavated, all of them in the excavated area to the south of Markshall Farm Road. Three of these produced substantial assemblages of coarse pottery. It is likely that the group of pits in the immediate vicinity of roundhouse 5123 were associated with this structure's use; plant macrofossil remains suggest that this part of the site was once a focus for cereal-processing activity. Other features identified included a four-post structure, three small ring-gullies (possibly the remains of eaves-drip gullies encircling either small round structures or hay-ricks) and two other putative but unproven fence remnants in the south-eastern part of the site.

Post-hole structures

(Pls XXXI–XXXIII; Figs 75–83)

Three roundhouses were excavated. A fourth lay mostly concealed beyond the eastern limit of excavation; the western part of its circuit was recorded in plan, but it was left unexcavated. A single four-post structure, of a pattern common on sites of the first millennium cal. BC, was also found.

Structure 2762

(Fig.76)

A semi-circle of heavily truncated post-holes in the south part of the area enclosed by Period 1 ring-ditch 2100. Its south-eastern side was formed by a rather uneven arc of five post-holes. In contrast its south-western side appeared

straighter, running parallel with Period 2 ditch 1392 immediately to its west. The building stratigraphically pre-dated the Romano-British ceremonial structure immediately to the north, one of the post-holes being cut by Period 3 square gully 2283. It was assigned to Period 2 due to the presence of Iron Age pottery in post-holes 2292 and 2487 and because of the recovery from post-hole 2300 of a carbonised cereal assemblage similar to those from Period 2 roundhouse 5213 and its associated pits further to the east. Its function remains unknown. All of the post-holes were very heavily truncated, being shallower than 0.1m; on account of this they have not been illustrated in section in this report. In view of this degree of damage it is unsurprising that the building appeared fragmentary, and that no associated features were found.

Structure 1618

(Figs 77 and 78)

This was situated in the southernmost part of the excavated area between the Period 1 barrow ditches 1022 and 1321. Its southern edge lay beyond the limits of excavation. Eleven post-holes were identified, but more had certainly been removed by the Period 5 ditches 1281 and 1323; this latter feature was up to 1.8m wide, and cut the structure centrally. Post impressions were not usually visible in section when the post-holes were excavated. Only post-hole 1638, in the south-east side of the ring, produced Iron Age pottery in any quantity. There was no positive evidence for the structure's function.

Structure 3004

(Pl.XXXI; Figs 79 and 80)

A roundhouse 12m in diameter, excavated near-centrally in the stripped area immediately to the north of Markshall Farm Road. Although more substantial than 2762 described above, it was clear that all thirty-seven surviving post-holes were heavily truncated. Four relatively large post-holes formed a sub-rectangular 'porch' measuring 3m × 2m, which was appended to the south-east side of the ring. Immediately inside the east part of the structure were recorded four stake-holes (3167–3170) inclusive. While these very small features may have represented traces of internal structures or furniture; indeed it is possible that some were accidentally-excavated animal holes. Few post-pipes or packing deposits could be identified when the post-holes were sectioned, possibly because of their extreme shallowness. None produced pottery or other datable material, and no evidence for the building's function was found.

Structure 5213

(Pl.XXXII–Pl.XXXIII; Figs 81 and 82)

Approximately 9m in diameter, this building lay equidistant between the large Period 1 barrow ditches 2100 to the north-west and 1321 to the south-east. A sub-rectangular 'porch' was appended to its south-east side.

Post-impressions varying in width between 0.15m and 0.25m were visible in the fills of nine of the holes. No internal post-holes survived. The building was flanked on both its north-east and south-west sides by large Period 2 pits 1559 and 5126, the latter containing abundant Iron Age pottery. Small amounts of fragmented Iron Age pottery came from several of the post-holes, and post-hole 1578 in the western part of the ring produced two pyramidal loomweights (one of them illustrated; Fig.95).

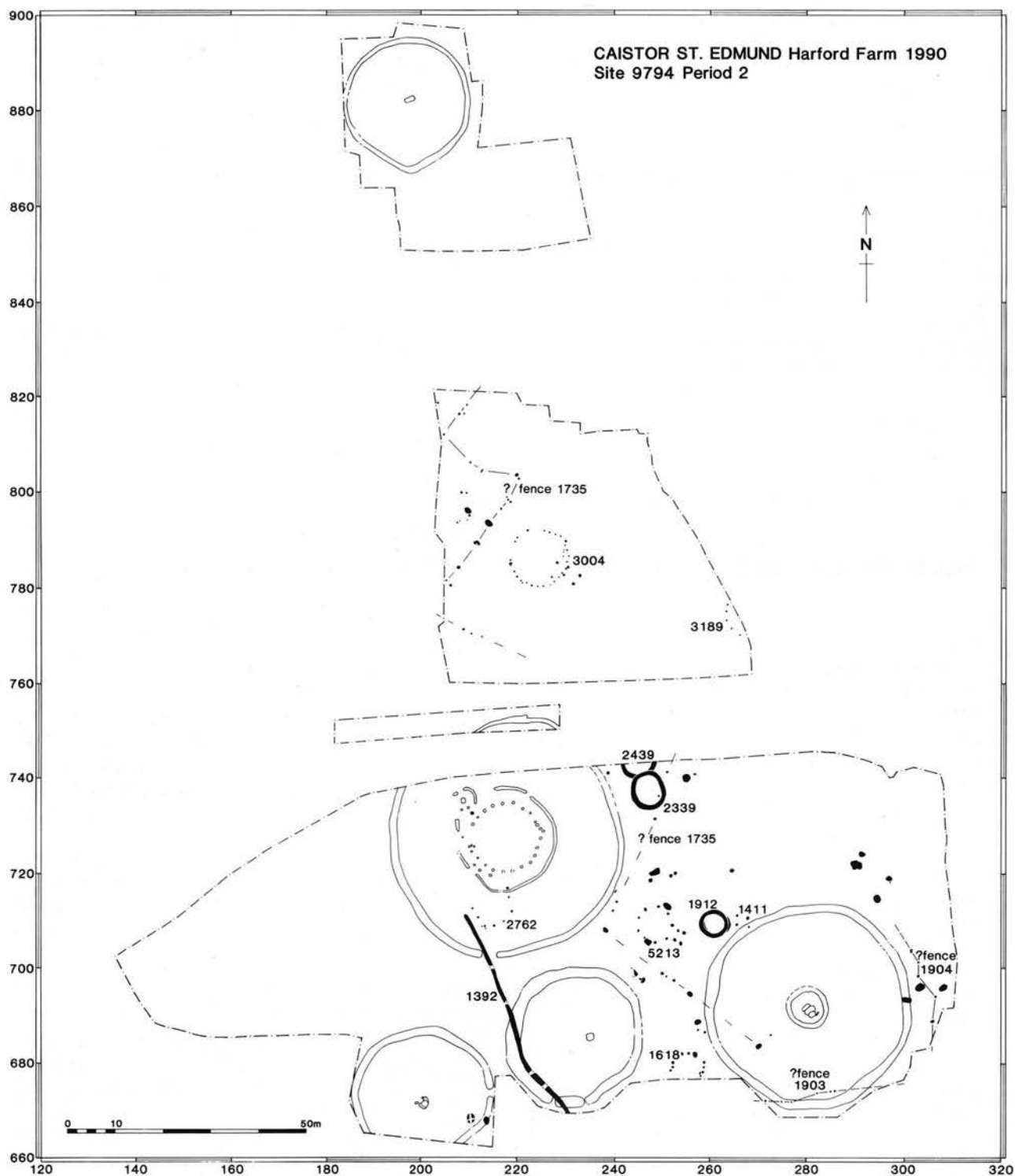


Figure 75 Period 2 phase plan. Scale 1:1250

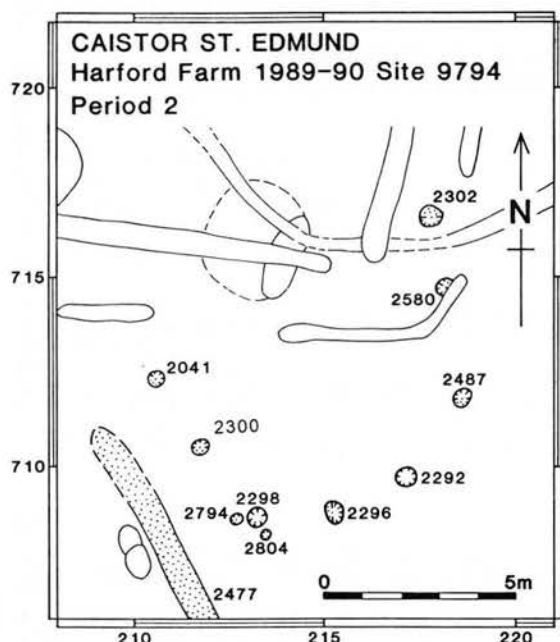


Figure 76 Plan of structure 2762. Scale 1:200

Several of the post-hole fills contained much visible charcoal. When sampled for botanical remains, deposits within ten of the post-holes produced carbonised cereal remains. These were predominantly emmer, spelt and hulled barley (Murphy, Chapter 9). A very short distance further to the east, the small ring-gully 1912 might possibly have surrounded a further round structure which had been completely eroded away.

Structure 3189

(Fig.75)

An arc of five post-holes was revealed approximately 30m to the south-east of roundhouse 3004. This represented the south-western side of a further roundhouse, which was probably of similar size to 3004 but lay mostly beyond the limit of the excavation. None of the post-holes was excavated.

Structure 1411

(Figs 81 and 83)

A four-post structure measuring c. 3m square, located immediately to the east of Period 2 ring-gully 1912. This building was very similar to several excavated at Valley Belt, Trowse (Chapter 5). Although none of its component features could be dated artefactually, it is a classic example of a type of structure very commonly found on Iron Age settlement sites and most commonly viewed as raised granaries (Ellison and Drewett 1971). Its south-east corner post-hole 1840 cut the fully-infilled barrow ring-ditch [1321]. Only south-west corner post-hole 1838 was more than 0.3m deep. No sign of post-impressions or *in situ* packing material could be discerned in any of the post-holes.

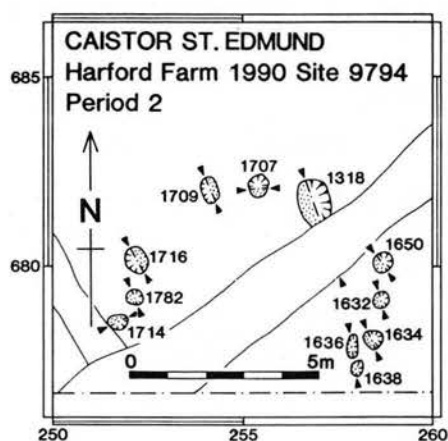


Figure 77 Plan of roundhouse 1618. Scale 1:200

Ring-gullies

(Figs 75, 81, 84-86)

Three small ring-gullies examined in the area to the south of Markshall Farm Road were all tentatively interpreted as eaves-drip gullies around ephemeral buildings or ricks.

Ring-ditch 1912

(Pl.XXXIV; Figs 81, 86)

A small round enclosure situated in between four-post structure 1411 to the east and Period 2 roundhouse 5213 a mere 3m to the west. When first revealed it appeared slightly ovate, the ditch itself seeming noticeably wider in the eastern and westernmost parts of its circuit. This was because after it had infilled the entire feature had been re-cut very slightly to the west of its original position, and thus the two superimposed ring-ditches overlapped in places. A small amount of Iron Age pottery came from the fills of segments 1901, 1913 and 1915, most of them slightly loamy deposits.

Ring-ditches 2339 and 2439

(Figs 84 and 85)

A pair of 'conjoined' ring-gullies, excavated immediately to the north-east of Period 1 barrow ring-ditch 2100. Gully 2339's northern edge intersected with the southern part of ring-gully 2439 and it seemed that the former had been cut after the latter had infilled. This relationship could be discerned in section only tenuously, but was clearly visible in plan before excavation began. The line of the putative Period 2 'fence' 1735 crossed the eastern part of the area enclosed by gully 2339, one of the fence's component post-holes lying within the area enclosed by the ring-ditch. Unfortunately there was no stratigraphic contact between the two to show which came first.

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794
Period 2

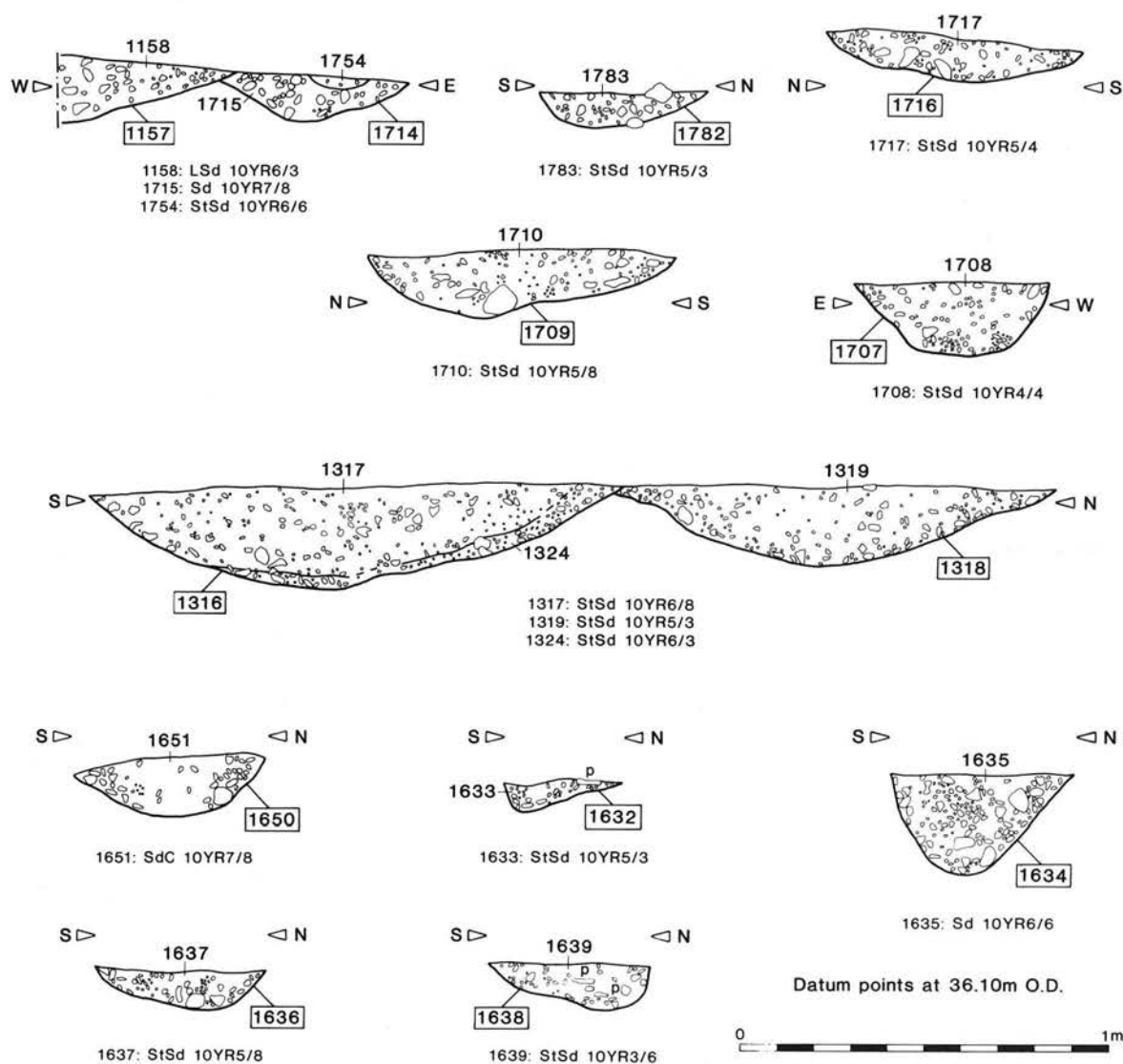


Figure 78 Sections through post-holes of roundhouse 1618. Scale 1:20

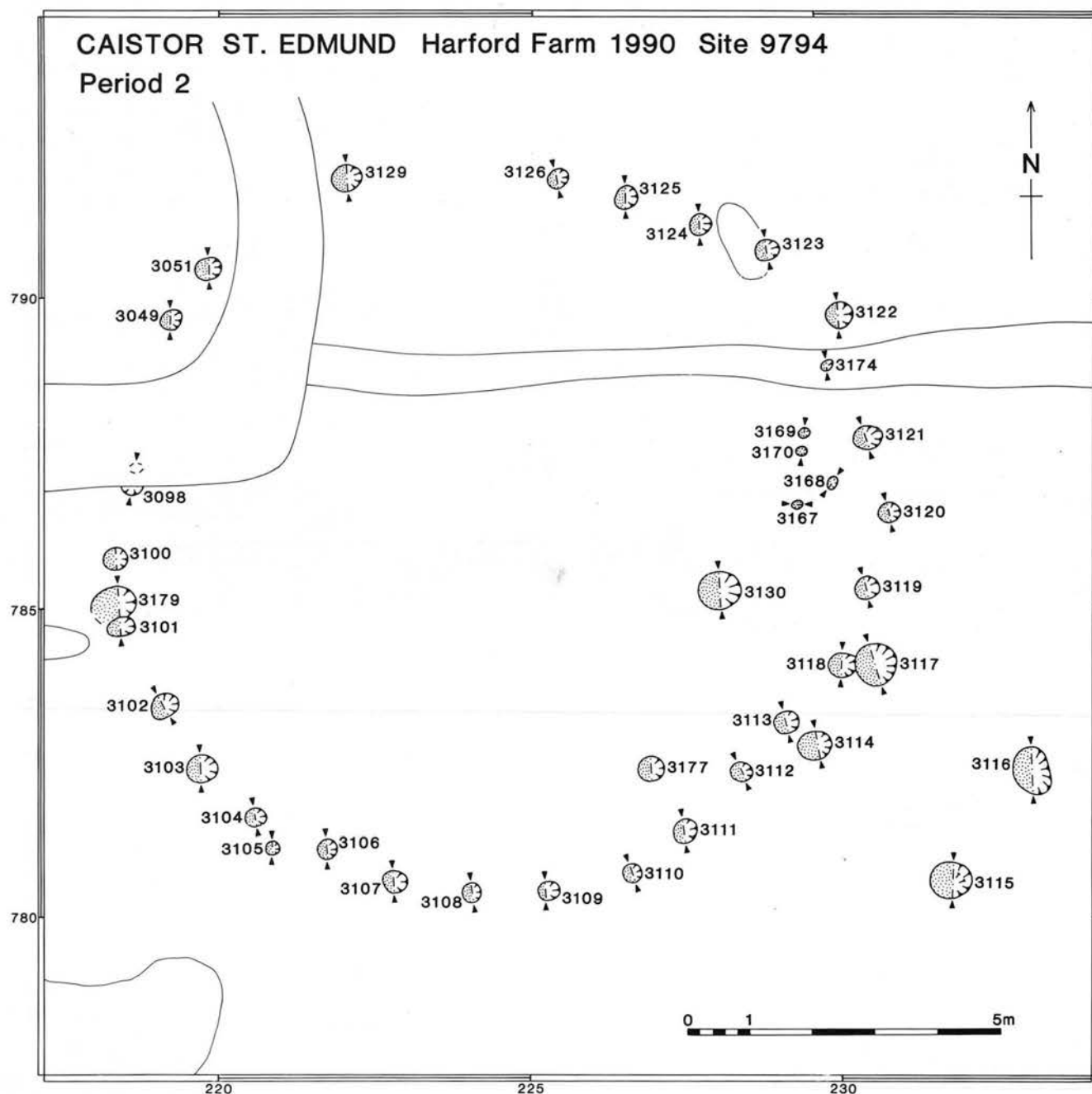


Figure 79 Plan of roundhouse 3004. Scale 1:100



Plate XXXI Roundhouse 3004 fully excavated, looking west. (9794 CBN 306, Thomas Gledhill)

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794
Period 2

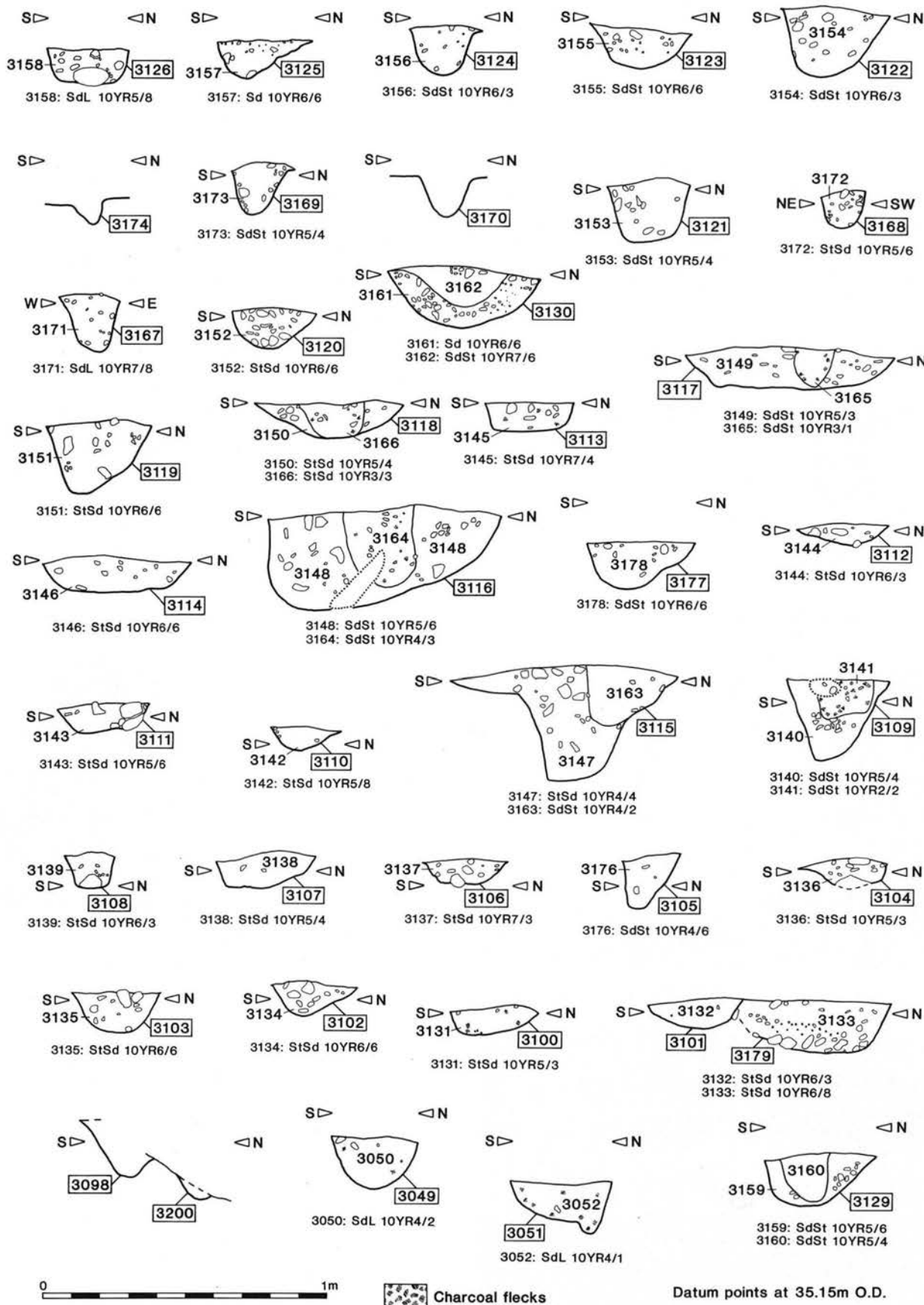


Figure 80 Sections through post-holes of roundhouse 3004. Scale 1:20

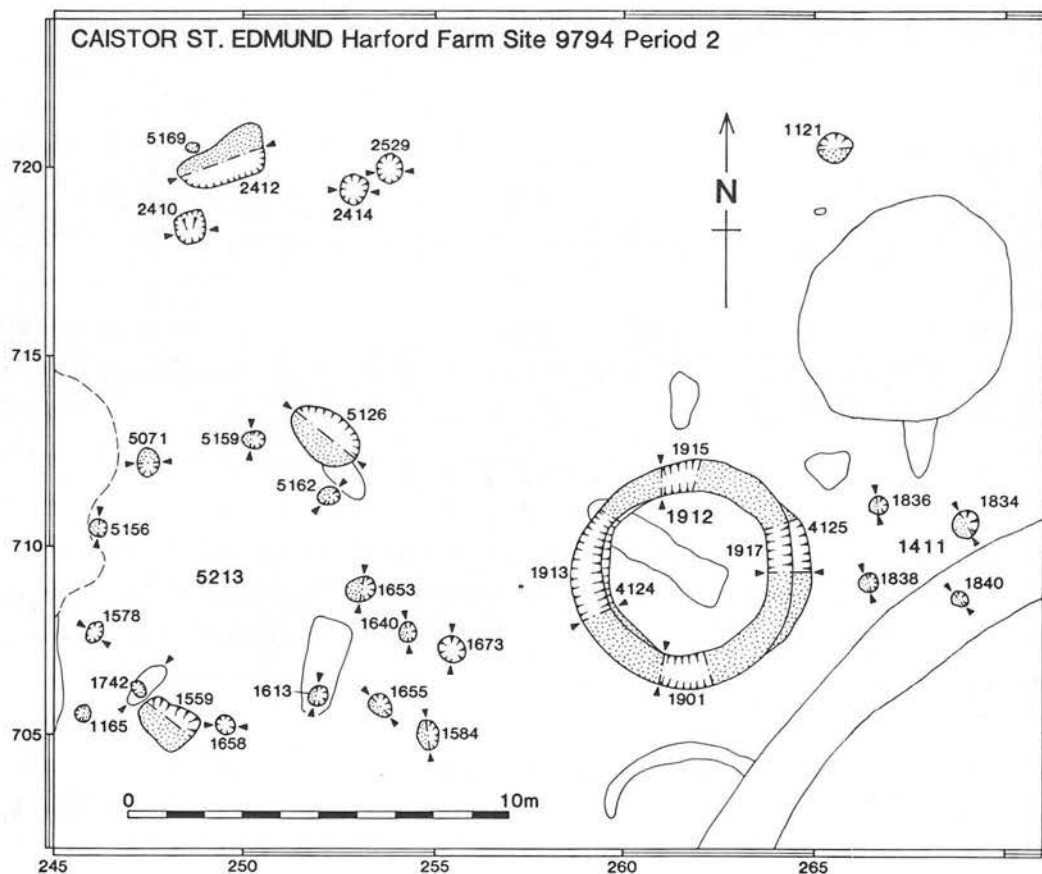


Figure 81 Plan of roundhouse 5213, four-post structure 1411, ring-ditch 1912 and adjacent pits. Scale 1:200



Plate XXXII Roundhouse 5213 fully excavated, looking south-west. Scales =2m. (FKY 26, Trevor Ashwin)

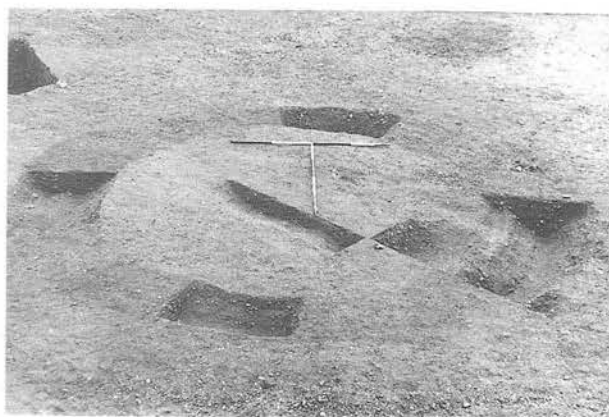


Plate XXXIV Ring-gully 1912 after excavation, looking south. Scales =2m. (FKY 13, Trevor Ashwin)



Plate XXXIII North-east facing section through pit 5126.

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794
Period 2

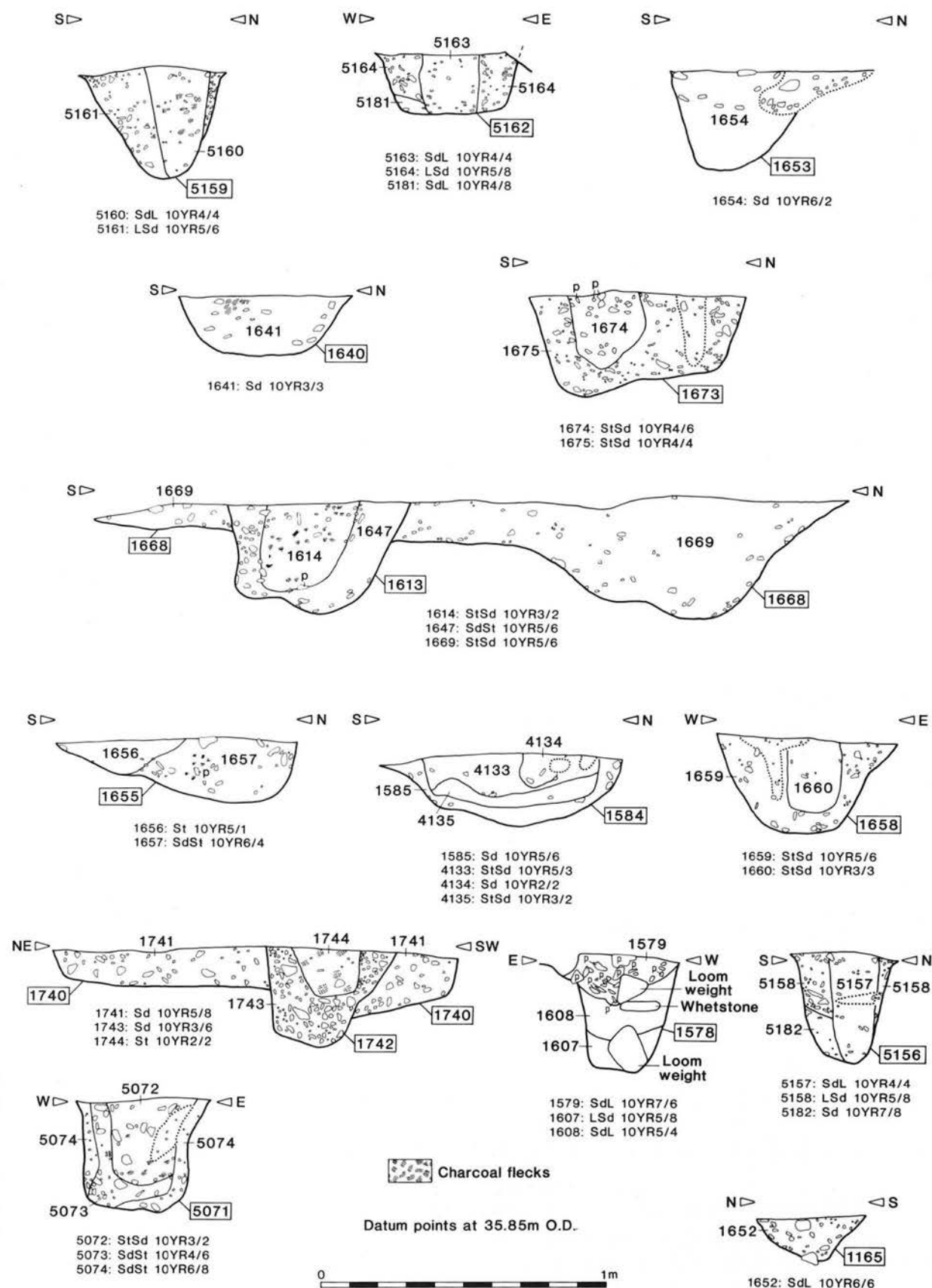


Figure 82 Sections through post-holes forming roundhouse 5213. Scale 1:20

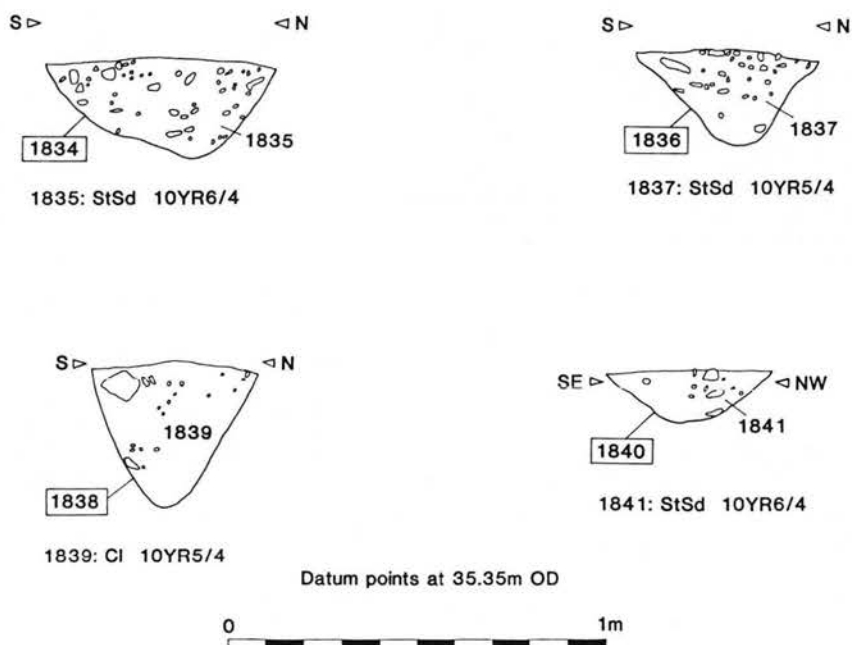


Figure 83 Sections through post-holes forming four-post structure 1411. Scale 1:20

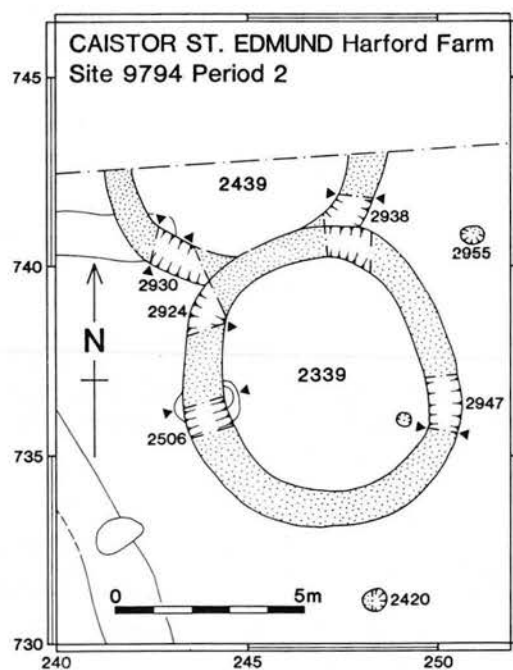


Figure 84 Plan of ring-ditches 2339 and 2439.
Scale 1:200

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794
Period 2

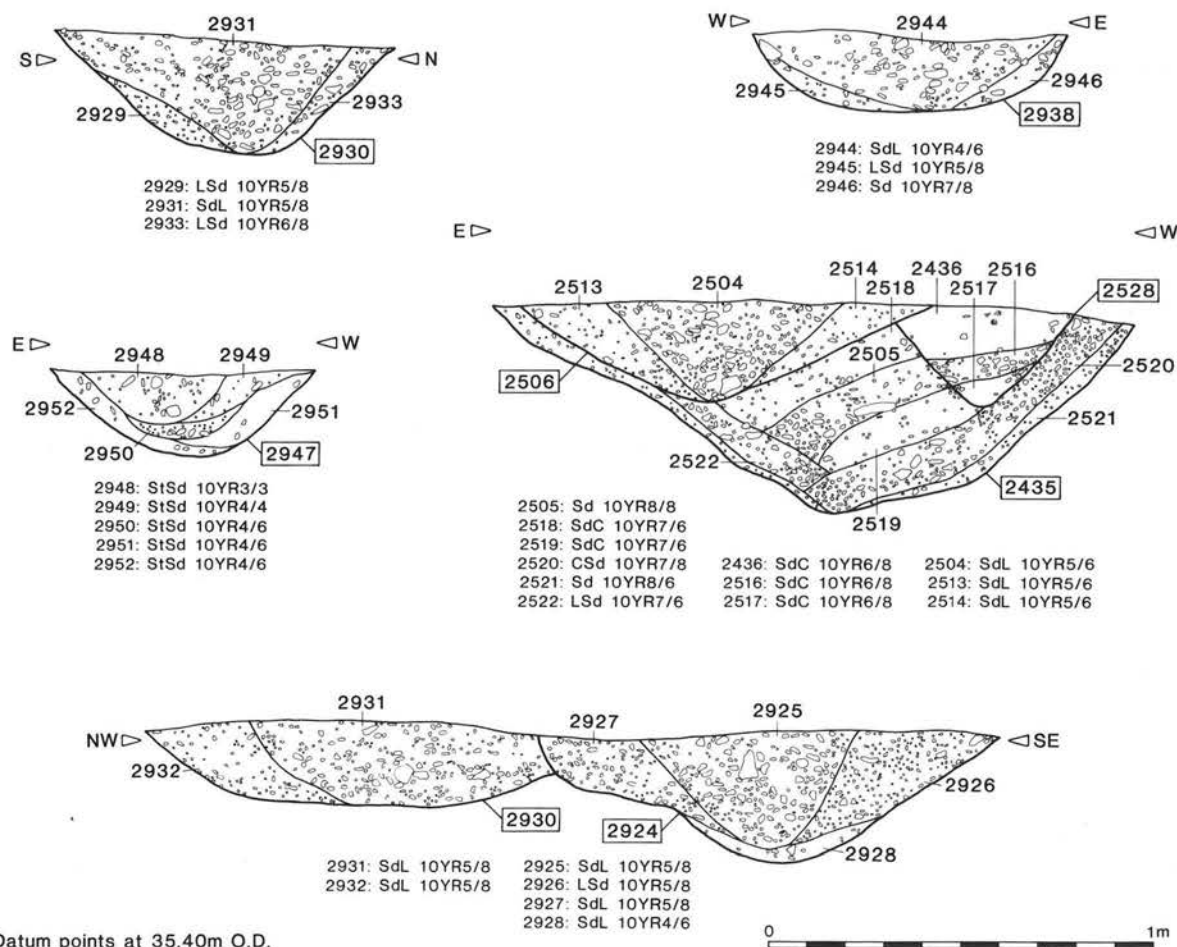


Figure 85 Sections through ring-ditches 2339 and 2439. Scale 1:20

Pits

(Figs 81, 87 and 88)

A total of eighteen pits excavated in the southern part of the site was assigned to Period 2. For the purposes of description they subdivide naturally into three groups.

Pits in the eastern part of the site (Fig.87)

This group comprised a total of seven pits, and it is likely that more lay beyond the eastern limit of the area.

Pits 1067, 1335, 1981 and 4131, the more northerly features in this group, were all much reduced by plough damage, pit 1335 being only 0.1m deep. This feature and pit 1067 probably owed their superficially irregular plan-form to the fact that they were merely eroded remnants of much deeper pits. All contained Iron Age type pottery, by far the largest quantity (seventy sherds weighing 1.05kg) coming from pit 1067. Their fills varied

in nature, those of pit 1335 being especially rich in charcoal inclusions of all sizes.

Approximately 30m further to the south lay three more pits, 1161, 1873 and 1938. The oblong pit 1873 had been superimposed across the width of the eastern part of Period 1 barrow ring-ditch 1321, cutting its fills to a depth of 0.75m. Pits 1161 and 1938 were shallower, presumably because they had been excavated into undisturbed natural sandy gravel rather than the softer fill of another feature. They had apparently been backfilled with layers of domestic or industrial refuse, containing quantities of Iron Age coarse pottery (including many large body sherds from 1873) and charcoal. The primary fills of pit 1161 were particularly charcoal-rich, and a red discoloration of the surrounding natural gravel suggested that some of this debris resulted from a fire lit within the pit itself.

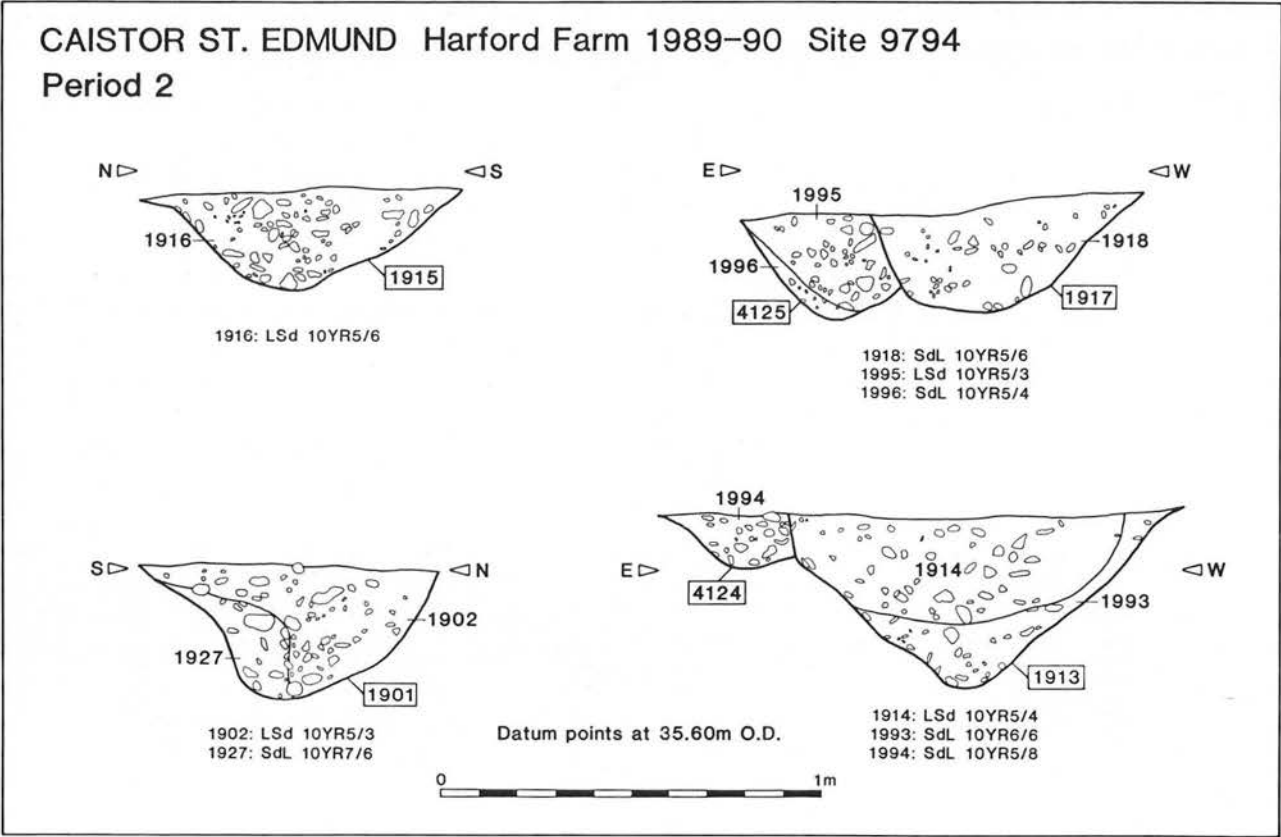


Figure 86 Sections through ring-ditch 1912. Scale 1:20

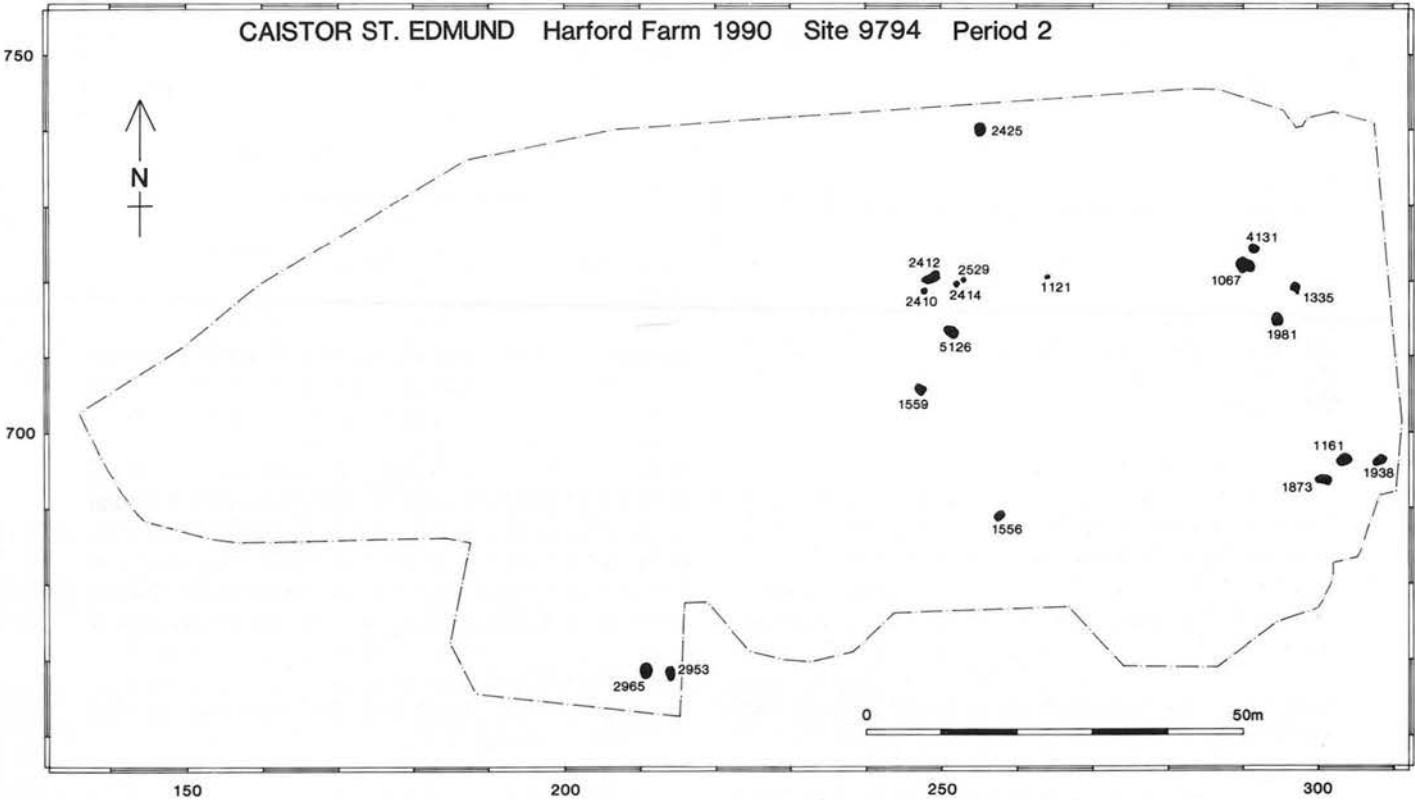


Figure 87 Plan showing location of Period 2 pits. Scale 1:1000

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794 Period 2

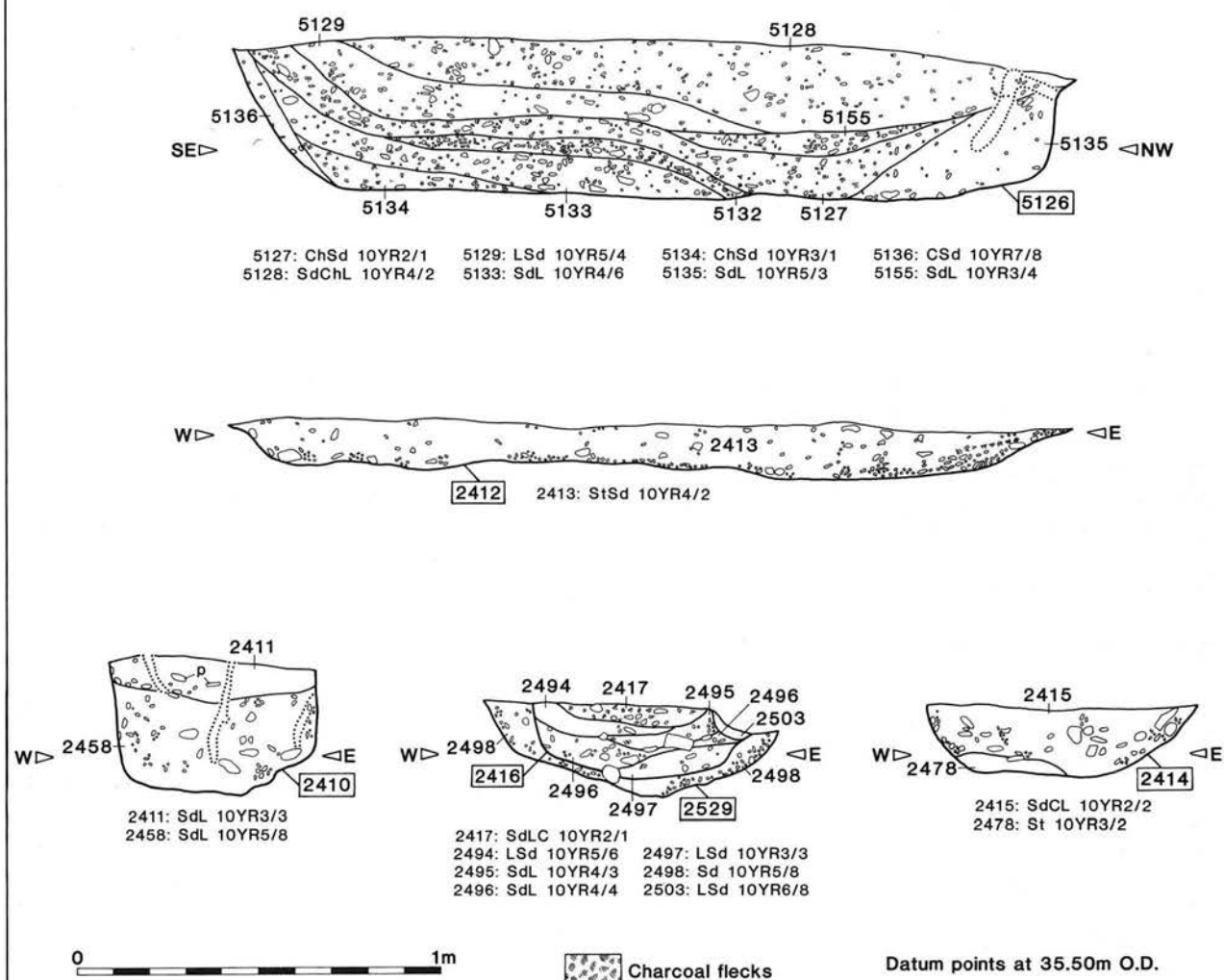


Figure 88 Sections through pits adjacent to roundhouse 5213. Scale 1:20

Pits in the central part of the site

(Figs 81, 87 and 88)

This group included nine pits, which varied considerably in form and dimensions.

Pits 1121, 2410, 2414 and 2529 were of uniformly small size. Situated in the area immediately north of the two Period 2 structures 1912 and 5213, they were the truncated bases of small, steep-side features up to 1m in diameter. Their predominantly dark fills probably represented domestic refuse. All contained Iron Age pottery, most abundantly in the westernmost cluster of features 2410, 2414 and 2529. Pit 2529 seemed to have been 're-cut' by the slightly smaller and shallower sub-rectangular pit 2416, which had been inserted into its centre and then backfilled with a series of thin layers rich in pottery and charcoal — perhaps its original excavator chose to take advantage of a slight depression left after the filling of 2529 in siting a new rubbish pit.

All of the remaining features were larger, measuring between 1.5m and 2.5 in width, and were ovate or sub-

rectangular in plan. Pits 1559 and 5126 lay immediately to the south-west and north-east respectively of post-built roundhouse 5213. The fills of the features differed greatly. Pits 1556, 1559 and 2412 contained hardly any finds, whereas pits 2425 and 5126 (Pl. XXXIII) were filled by refuse deposits featuring charcoal, burnt flint, flecks of burnt bone and Iron Age pottery. Pit 5126 was the most prolific in finds, yielding 1.57kg of pottery of which 0.9kg came from its upper fill 5127. It also produced a pyramidal fired clay loomweight similar to those found in post-hole 1578 of the adjacent roundhouse. Charcoal from the lower fill of this pit produced a radiocarbon date of 1940-1640 cal. BC (GU-5190; 3460±60 BP).

Of particular interest was the abundance of charred cereal remains produced by environmental sampling of these pits. This evidence, discussed in detail by Murphy in Chapter 9, suggests that grain-drying or similar agricultural processes were probably carried on in this vicinity.

Pits in the western part of the site
(Fig.87)

Pits 2953 and 2965 lay very close to the southern limit of excavation. Both had been superimposed upon the south-eastern area of the barrow defined by Period 1 ring-ditch 2015, pit 2965 cutting the infilled barrow ditch itself. Both were distinctively steep-sided and flat-bottomed, their fills being mostly dark sandy loams which probably represented domestic refuse. Charcoal, Iron Age pottery and burnt flint were all found, with burnt material being particularly notable in 2953.

Linear boundaries
(Fig.75)

Ditch 1392
(Fig.75)

This ditch could be traced across the southern part of the site for a distance of nearly 50m, and extended southwards beyond the limit of the excavated area. It skirted closely the south-western side of the round barrow defined by ring-ditch 1022, and had apparently been cut after this deep Period 1 feature had silted up completely. Further to the north it passed *through* the causeway in the southern part of Period 1 barrow ditch 2100's circuit, cutting the western ring-ditch terminal 2815 peripherally. The ditch could be traced in plan for approximately 8m further to the north-west before it faded. It is possible that it once extended further north but had been completely truncated beyond site grid 711N. Most of its depth had probably been removed by ploughing, and little excavation was carried out.

?Fence 1735
(Fig.75)

Unrecognised during the excavation itself, the existence of this zig-zagging north-south feature was only proposed during post-excavation analysis. As study progressed, a possible spatial relationship was observed between it and the two Period 2 roundhouses 3004 and 5213, both of which lay within similar angles in its suggested alignment.

The very existence of this 'fence' is far from certain, and cannot be treated as a matter of undisputed fact. Most of the constituent features were heavily eroded and therefore very shallow, while there are many conspicuous gaps in the proposed alignment (*e.g.* in the area between the Period 1 barrow ditches 1321 and 2100) which can

only be explained by invoking differential plough-truncation. Nearly all of the constituent features themselves fall into one of two well-defined categories, being either small, round post-holes (of a kind scarcely recorded elsewhere at Harford Farm except as part of post-built structures) or else distinctive elongated cuts measuring *c.* 1.5 × 0.7m; seven features contained Iron Age coarse pottery.

Roundhouses 3004 and 5213 both appeared 'enclosed' on their western sides by angles in the putative fence, the north-west to south-east lengths of which also shared the alignment of their south-east facing 'porches' (Fig.75). Immediately to the north-west of roundhouse 3004, a possible rectangular structure extending north-westwards from the line of the 'fence' was sited upon the roundhouse's main north-west to south-east axis. Measuring *c.* 5m × 4.5m, the feature forming its hypothetical eastern corner could well have been destroyed by the excavation of the Period 3 enclosure 3002 (Fig.97).

Immediately to the east of the Period 1 barrow ring-ditch 2100 the projected line of the 'fence' crossed the Period 2 ?eaves-drip ring-gully 2339, but no stratigraphic relationship between the two phenomena could be recorded.

?Fences 1903 and 1904
(Fig.75)

Two other alignments of post-holes, 1903 and 1904, conceivably represent the southern and eastern sides respectively of a fragmentary enclosure occupying the south-easternmost part of the site. Both are ephemeral; as in the case of ?fence 1705, they are best viewed in a speculative light.

Two constituent post-holes of ?fence 1903 cut the completely-infilled Period 1 barrow ditch 1321. Only a 15m length of the alignment could be examined within the limits of excavation. Individual post-holes contained Iron Age pottery, one producing several large sherds. ?Fence 1904's post-holes were wider-spaced. It may have continued southwards beyond the limits of excavation. The rather sinuous alignment of the surviving post-holes suggested episodes of repair and redefinition. There was no evidence to show whether this land boundary — if indeed it ever really existed — was either earlier or later than the large Period 2 pits 1161 and 1938, which it passed between.

Artefacts

Pottery

by Sarah Percival

(Figs 89–93)

Introduction

A total of 1643 sherds of Iron Age pottery, weighing 9.785kg, were retrieved from 146 deposits at Harford Farm.

Fabrics

The Iron Age sherds were divided into ten fabric groups (Fig.90). The alphanumeric codes listed here refer to the comprehensive Norwich Southern Bypass fabric catalogue held in the archive pottery report, where all pottery fabrics are described in full.

IA1, coarse. Common quartz, moderate flint.

IA2, medium coarse, sandy, micaceous. Moderate/common flint.

IA3, medium coarse, dense, micaceous. Moderate/common quartz, occasional black ?organic inclusions.

IA4, medium coarse, sandy. Common quartz and mica, sparse flint.

IA5, medium coarse. Common quartz and quartzite, occasional flint.

IA6, medium coarse, dense, micaceous. Moderate/common quartz, occasional flint and black ?organic inclusions.

IA8, fine, dense, sandy, micaceous. Common quartz, occasional flint.

IA9, fine, dense. Moderate/common quartz, occasional flint and grog.

IA10, fine, dense, micaceous. Common quartz, occasional flint.

IA12, fine, sandy, micaceous. Moderate quartz, occasional black ?organic inclusions.

For the purposes of analysis and discussion all fabrics were categorised either as 'coarse' or as 'fine' wares, a division based on inclusion size and on texture. 'Coarse' wares generally contained ill-sorted inclusions of 0.5mm or larger and had a more open texture. The 'fine' wares contained inclusions of less than 0.5mm and had a denser texture. The surface of the fine wares tended to be harder and smoother, and they were generally better fired than the coarse wares.

Coarse wares represented 86% of the total assemblage (1410 sherds). 'Fine' wares comprised only c. 15% of the Iron Age sherds from Site 9794, yet these fabrics were distributed throughout the assemblage and occur in small quantities in nearly all of the ceramic groups chosen for detailed study. These sherds were well-made, well-fired and sandy, and some were burnished. They represent jar forms and bowls with rounded rims and slightly shouldered profiles. Jars with flattened rims are not found in these 'fine' fabrics.

Forms

A limited number of forms were noted within the assemblage as a whole. The dominant forms were jars, representing 60% (forty-seven) of the seventy-eight rim sherds. The remaining thirty-one rim sherds were from bowl forms. The minimum number of vessels represented by the entire assemblage was ninety-five. Rim forms were predominantly rounded. Flattened rims were restricted to jar forms, although 62% of the jars had rounded rims. The bowls had rounded rim forms only. The jar forms were mostly found in coarse fabrics whilst the bowls had a greater proportion of fine wares. The table below shows sherd quantity and weight for jar and bowl rim forms. It is notable that 95% of the flattened-rim jars occurred in coarse fabrics.

The Iron Age pottery was all handmade. A number of coil fractures gave insights into the method of construction. The complete lack of wheel-made vessels

with 's'-shaped profiles or wheel-turned feet suggested that the pottery did not date from the later pre-Roman Iron Age (first century cal. BC).

Decoration and surface treatment

The decorative styles employed also suggest that the pottery dates to the Middle Iron Age. Five of the sherds exhibit the use of fingertip-impressed decoration, always on the rim area. Fingertip decoration on the rim and shoulders occur commonly on vessels from West Harling (Clark and Fell 1953) and Trowse (Chapter 5). 18% of the coarse fabric sherds feature roughened or slightly fingered surfaces. The fine fabrics often have wiped, smoothed or wet-hand wiped exteriors. Wet-hand wiping produces a smooth, even surface which has the appearance of burnishing, but which tends to flake off under adverse post-deposition conditions. 6% of the fine sherds displayed burnishing, but the majority were finished by wiping. All of these types of surface treatment appear in the Iron Age assemblages from Thetford Fison Way (Gregory 1991) and Trowse (Chapter 5).

A common form of surface treatment displayed on the vessels from Harford Farm is deliberate scratching or scoring. This seems to occur all over the body of vessels, although as there are few complete profiles which survive it is impossible to be certain. The scoring was probably created by the potter using grass or twigs to rusticate the surface of the vessel whilst the clay was wet. This treatment may have been both decorative and functional, allowing the pot to be gripped more easily. Scoring is also found on sherds from Trowse.

Two body sherds from Harford Farm have applied cordons. Sherd P28 is slightly angular in profile, and the position of the cordon emphasises this. Angular vessels with applied cordons are found quite commonly in the classic West Harling assemblage (Clark and Fell 1953), but the cordons are usually decorated with fingertip impressions. P28's cordon bears a resemblance to the applied cordons found on bucket um forms of the 'Late Bronze Age' such as those from Grimes Graves. These are again usually decorated with slashes or fingertip-impressed. The Harford Farm assemblage shares some common stylistic traits with the pottery from Trowse. However less than 2% of the sherds from Harford Farm have impressed decoration and none have incised decoration, while c. 40% of the Trowse sherds feature these treatments.

One rim (P27) was pierced. Piercing is often considered a characteristic of earlier 'Bronze Age' pottery, but since P27's fabric is compatible with the other Iron Age fabrics from the site it can be assumed that this phenomenon was long-lived. A single angular body sherd with simple, upright rim was found at Harford Farm. This sherd (P31) has obvious parallels amongst the 'situla' type jars from Harling.

42% of the Iron Age sherds occurred residually in contexts of non-Iron Age date. The fact that such a proportion of the assemblage occurred in clearly secondary contexts impeded any detailed analysis of the deposition of the assemblage as a whole. In an attempt to overcome this, ceramic assemblages from a selected series of Period 2 features were collated for comparison in a series of five ceramic groups (identified as A–F on Fig.91) for more detailed study. Included in these groups were all of the largest (*i.e.* over 500g mass) feature assemblages of

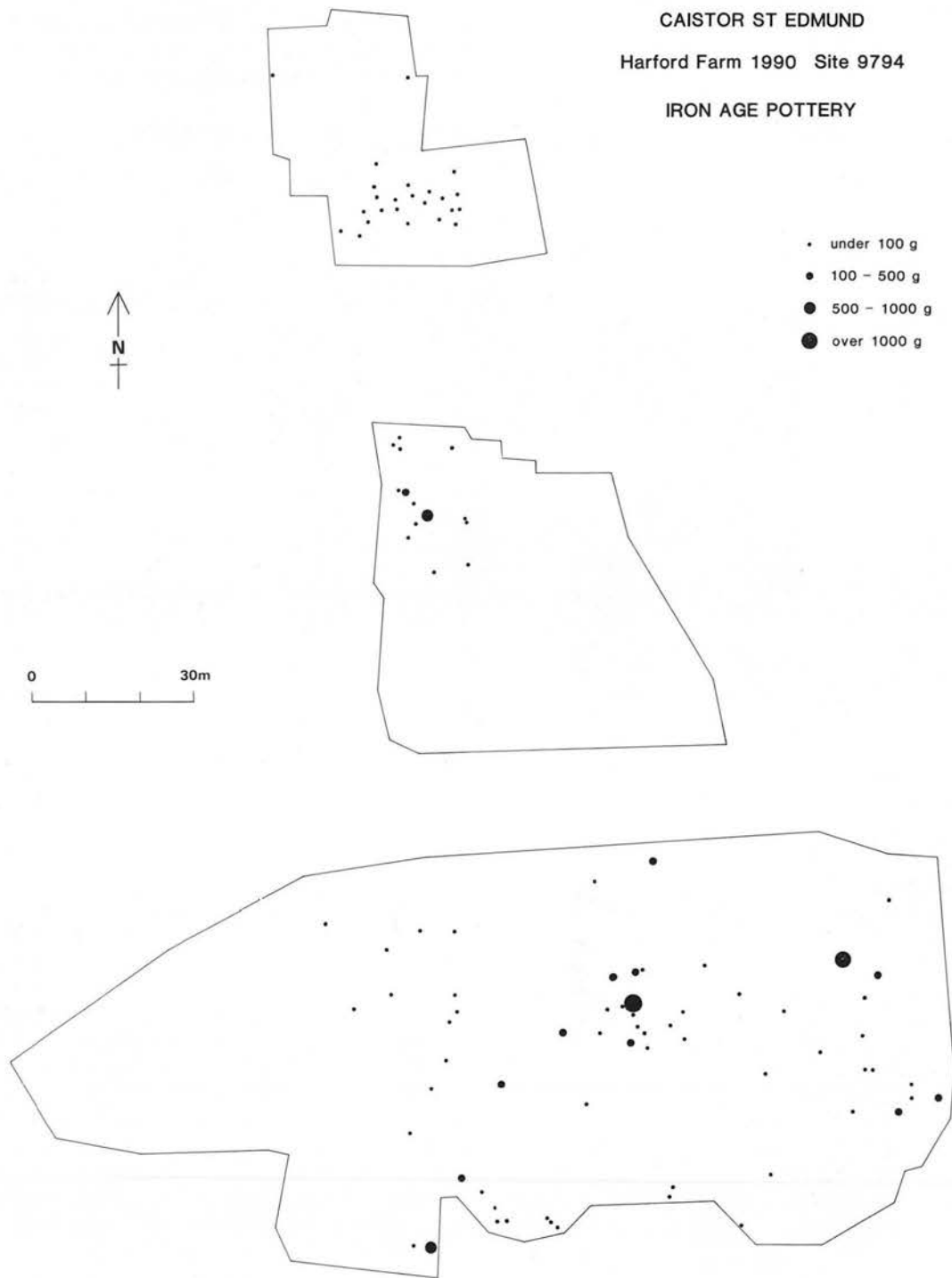


Figure 89 Distribution of Iron Age pottery from excavated features. Scale 1:1250

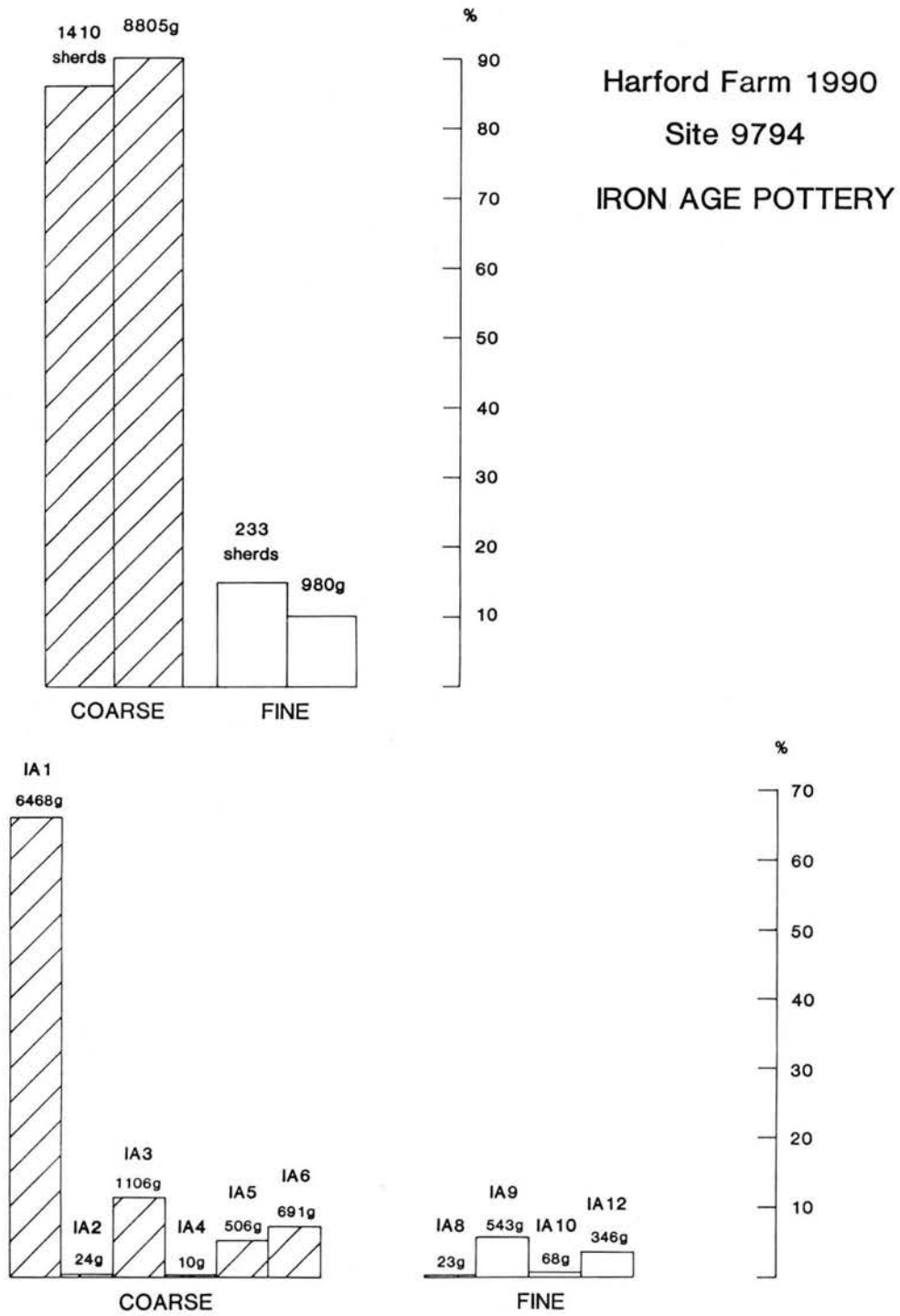


Figure 90 Iron Age pottery fabrics

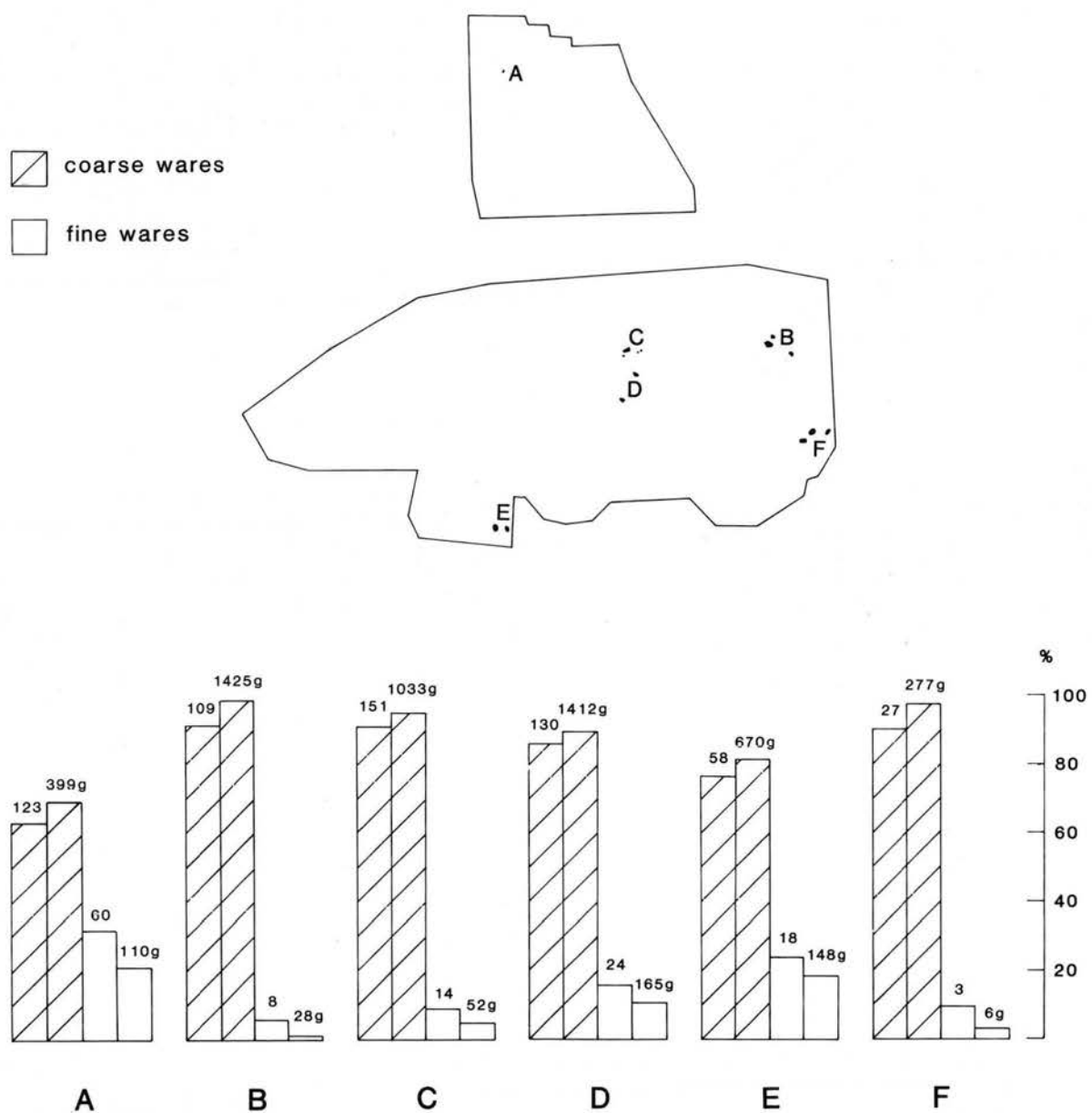


Figure 91 Coarse and fine ceramic fabrics from selected Period 2 feature groups

Iron Age pottery, while the material studied formed a sample of apparently undisturbed feature collections from all parts of the site. The results of this analysis are set out in full in the archive report. Fig.91 illustrates the homogeneity in the balance of 'coarse' and 'fine' wares seen throughout the assemblage: only in group A (post-hole 3045) did 'fine' wares comprise over 35% of total sherds.

Catalogue of illustrated sherds

(Figs 92, 93)

- P25 Context 2, fieldwalking. Fabric IA5
- P26 Context 3, cleaning. Fabric IPH15
- P27 Context 3, cleaning. Fabric IA5
- P28 Context 1006, fill of grave 1020. Fabric IA1
- P29 Context 1017, unstratified. Fabric IA1
- P30 Context 1068, fill of pit 1067. Fabric IA1
- P31 Context 1068, fill of pit 1067. Fabric IA3
- P32 Context 1068, fill of pit 1067. Fabric IA1
- P33 Context 1068, fill of pit 1067. Fabric IA3
- P34 Context 1162, fill of pit 1161. Fabric IA1
- P35 Context 1641, fill of post-hole 1640. Fabric IA1
- P36 Context 1885, fill of pit 1884. Fabric IA1
- P37 Context 1885, fill of pit 1884. Fabric IA1
- P38 Context 1930, fill of pit 1928. Fabric IA3
- P39 Context 2411, fill of pit 2410. Fabric IA1
- P40 Context 2415, fill of pit 2414. Fabric IA1
- P41 Context 2415, fill of pit 2414. Fabric IA1
- P42 Context 2415, fill of pit 2414. Fabric IA1
- P43 Context 2922, fill of pit 2425. Fabric IA1
- P44 Context 2922, fill of pit 2425. Fabric IA1
- P45 Context 5001, fill of pit 2953. Fabric IA1
- P46 Contexts 2954/5002 (cross-context join), fills of pit 2953. Fabric IA1
- P47 Context 5002, fill of pit 2953. Fabric IA1
- P48 Context 5127, fill of pit 5126. Fabric IA1
- P49 Context 5128, fill of pit 5126. Fabric IA2
- P50 Context 5128, fill of pit 5126. Fabric IA1

Discussion

No exact date can be proposed for this assemblage. There are several reasons for this, both general to the study of Iron Age pottery in Norfolk and specific to the site itself. A problem common to all Iron Age pottery studies within Norfolk is the lack of reference material which can be used as a dating aid. No sites with both reliable stratigraphy and large quantities of pottery have been excavated in this part of East Anglia using modern archaeological techniques. At Harford Farm, poor feature-preservation and massive levels of residuality inevitably limited the scope of analysis. Although the excavator has identified two tentative 'phases' of Period 2 activity on spatial grounds it is not known how they relate to each other chronologically, and this possible distinction has not been considered in the ceramic analysis.

The only radiocarbon date from a Period 2 ceramic context at Harford Farm (taken from a deposit within the pottery-laden pit 5126) is a questionable one, centred in the mid second millennium cal. BC and probably deriving from intrusive charcoal, so the assemblage's possible date may only be discussed in typological terms. Comparison with the larger Iron Age assemblage from Valley Belt, Trowse (Chapter 5 this report), which might well date at least in part to the Early Iron Age (seventh–fifth centuries cal. BC) on the grounds of form and surface-treatment,

raises some interesting points of variation, and the two groups seem fairly distinct in character.

The general absence of the classic Early Iron Age situlate, shouldered jar forms, relatively common at Valley Belt (e.g. P118–P120), should be noted. Divergence in surface-treatment styles between the two sites can also be seen. Fingertip-impressed decoration at Harford Farm occurred exclusively on rims and was not found on any body sherds. This surface treatment was however seen at Valley Belt, where it is found on the shoulders of jars, and from the Early Iron Age material at Harling (Clark and Fell 1953), where it is common for fingertip impressions to occur in multiple rows on the body of the vessel. This might be a useful chronological indicator, and it has been suggested that as the use of fingertip-impressed decoration declined it became increasingly restricted to rims. It has been proposed that this change in style may have occurred from the beginning of the fourth century cal. BC (Jackson 1975). Perhaps this transition may be seen in the material from Harford Farm.

Scoring or scratching of the surface of vessels has been identified by other researchers as a characteristic of Middle Iron Age pottery (Gibson and Woods 1990). At Twywell, Northamptonshire, a similar type of decoration was noted on sherds in another assemblage which contained none of the supposedly 'Early Iron Age' angular shouldered vessels, although some fingertip-decorated sherds were present (Jackson 1975). It is suggested here that this scored surface treatment could have been current as early as the fourth or fifth centuries cal. BC. Broadly speaking the scored sherds from our own site are similar to those from Twywell, but the impressions tend to be less deep and regular. One rim-sherd from Harford Farm (P35) displays both a fingertip-impressed rim and scoring on the surface of the body.

The fact that the small percentage of 'fine' sherds was distributed in small quantities throughout the assemblage in all parts of the site (Fig.91), rather than being confined to specific features or areas, is of interest. Gregory, in his analysis of the Middle-Late Iron Age pottery from Spong Hill, Norfolk, suggested that the sandy-tempered 'fineware' component in this assemblage increased over time (Gregory 1995). However the 'coarseware'/'fineware' dichotomy should not necessarily be seen as a chronological indicator in itself. Rather it might reflect the differing functions of the vessels themselves, with the coarse, flinty fabrics being intended for cooking due to their better capacity for expansion and contraction when exposed to heat.

Taken together, the lack of fingertip-decoration, the presence of surface scoring and the rounded (as opposed to carinated) forms of the vessels all suggest — on the basis of our limited present knowledge — that the Harford Farm Iron Age pottery is later than that from Valley Belt Trowse but pre-dates later pre-Roman Iron Age assemblages such as those from Fison Way, Thetford (Gregory 1991) and Spong Hill, Elmham (Gregory 1995). The date of the assemblage could well lie between the fourth and second centuries cal. BC.

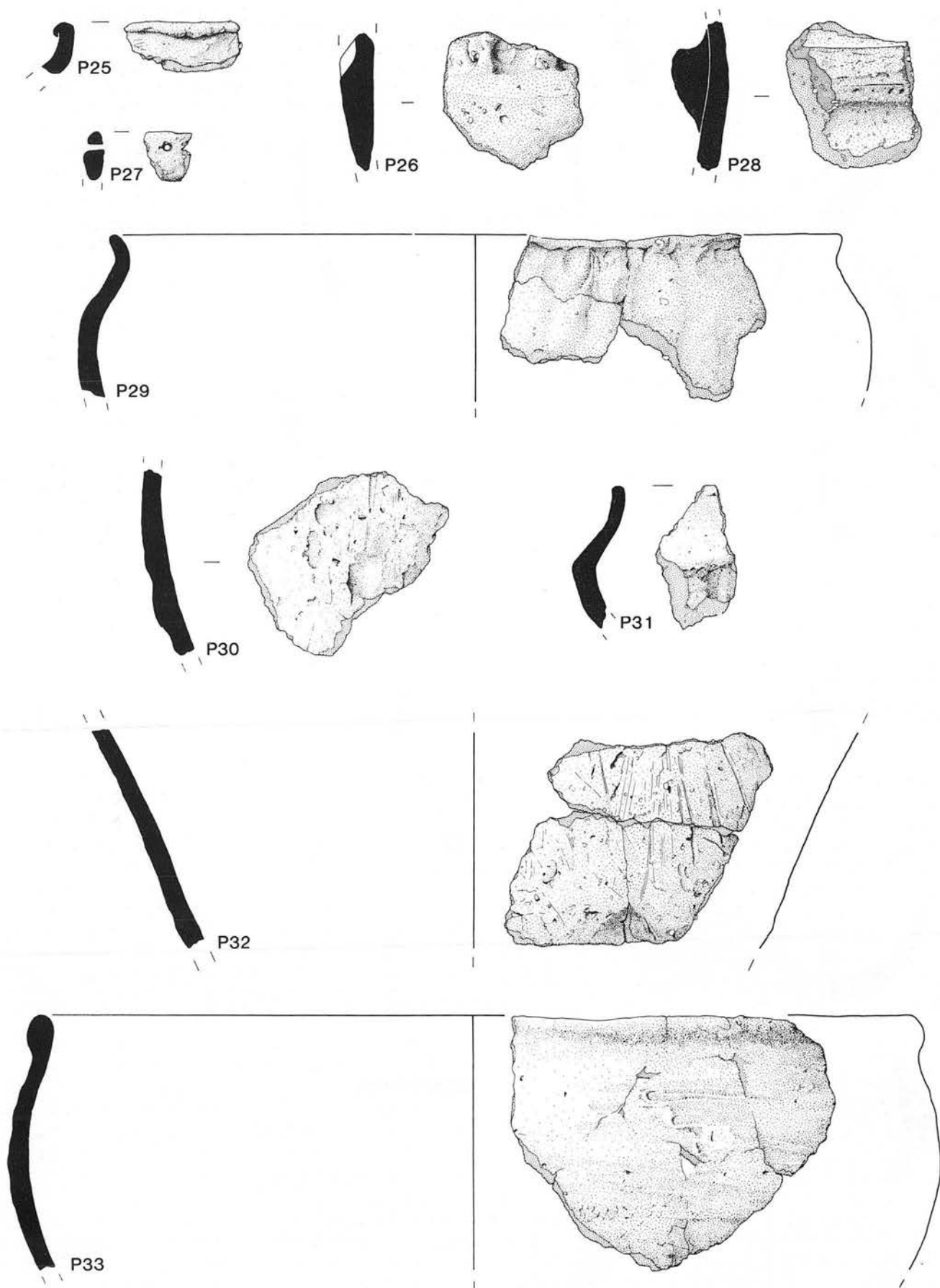


Figure 92 Iron Age pottery P25–P33. Scale 1:2

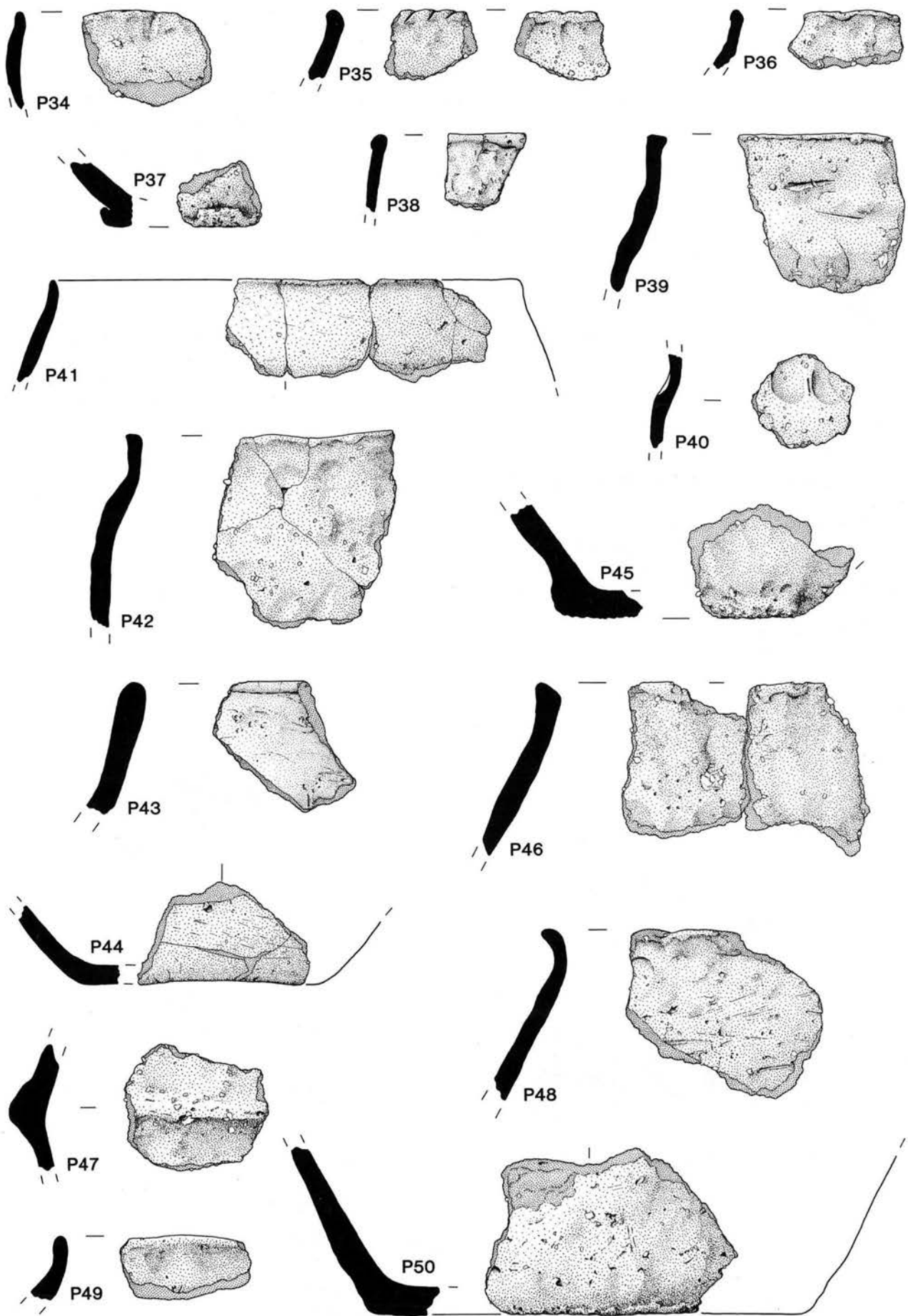


Figure 93 Iron Age pottery P34-P50. Scale 1:2

Objects of fired clay

by Sarah Percival

(Figs 94 and 95)

Period 2 contexts produced five ceramic objects other than pottery sherds. These comprised a spindle whorl and four loomweights.

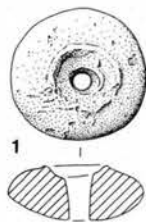


Figure 94 Objects of fired clay (spindle whorl). Scale 1:2

Spindle whorl (Fig.94)

1 Spindle whorl; s.f. 242, context 2458, fill of pit 2410. Weight 15g.

A single ceramic spindle whorl was found in pit 2410. It displayed an irregular biconical profile; it had been pierced from the top while wet, and a slight lip raised around the perforation. Its fabric was fine and sandy, with vacuoles suggesting that an organic or mineral inclusion had been removed during firing or after deposition. Similar objects have been found in East Anglia at Thetford Fison Way (Gregory 1991, fig.132) and Mucking, Essex (Jones and Bond 1988, fig.26).

Loomweights (Fig.95)

1 Loomweight; s.f. 284, context 5127, fill of pit 5126. Weight 1.42kg.

Two complete loomweights, one of them very fragmented, were found in post-hole 1578, part of the roundhouse 5213. A further whole loomweight (illustrated) was found in the large pit 5126, and fragments of a fourth came from smaller pit 2410 nearby. All were of similar truncated-pyramid form, with a single perforation near the

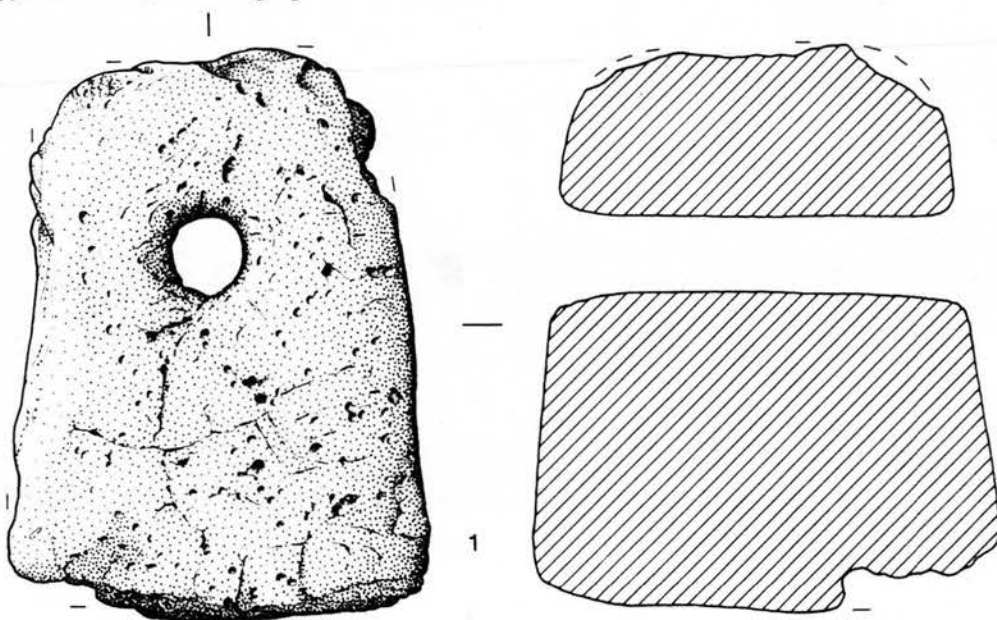


Figure 95 Objects of fired clay (loomweight). Scale 1:2

apex. Their ceramic fabrics were soft and poorly-fired, with occasional large flint inclusions.

Pyramidal loomweights such as these appear to be a long-lived object type, their use continuing through the first millennium cal. BC into the Roman era. However the contrast between the illustrated example and the slightly more cylindrical ceramic loomweight from Valley Belt, Trowse (Chapter 5 this volume, Fig.143) should be noted; it is possible that the latter example occurred in a somewhat earlier context.

Objects of stone

by Sarah Percival

(Fig.96)

1 Whetstone; s.f. 263, context 1608, fill of post-hole 1578 in roundhouse 5213. In hard gritstone, with all surfaces smooth and bearing occasional striations.

Stratified along with two fragmentary yet complete pyramidal ceramic loomweights (not illustrated) very similar to that illustrated in Fig.95.

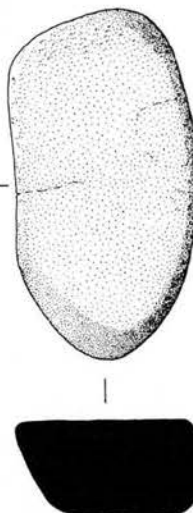


Figure 96 Objects of stone (whetstone). Scale 1:2



Plate XXXV Aerial view of southern excavated area, showing square enclosure 2043/2283 superimposed upon Period 1 ring-gully 2310 and associated post-hole structure.
(TG2204/AKW/GCV2, 12 July 1990, Derek A. Edwards)

VI. Period 3

Introduction

(Fig.97)

Virtually the only Period 3 features found on the site were a series of six square-ditched enclosures of modest size. These were arrayed in a north-south line which ran for a distance of c. 100m across the centre of the excavated area. The southernmost example, 2043, was surrounded by the shallow foundations of a post-in-trench wall or fence, but no other features which were obviously associated with the enclosures or their use were found.

The careful orientation and linear distribution of the enclosures, along with the near-total absence of contemporary artefacts or associated features, point to a ceremonial function of some kind. They may be ploughed-out examples of a relatively little-known type of square funerary monument, of Caesarian or early Roman date. The comparative evidence to support this interpretation is summarised on p. 138-9.

Because of constraints of time it was decided to focus excavation on the two best-preserved enclosures, 2043 and 3002. The two northernmost features, 3183 and 3231, were sectioned only summarily, while the intercutting rectangles 3240 and 2341 remained undug.

Square-ditched enclosure 2043

(Pls XXXV, XXXVI; Figs 98-100)

The southernmost enclosure, 2043, had been superimposed upon the area of the large Period 1 barrow surrounded by ring-ditch 2100. The depth of the ditch itself was uneven, due to erosion, but was greatest in its north-western part. Elsewhere it was much shallower, especially in the south-east corner of the enclosure where it appeared interrupted. This gap was more probably caused by erosion rather than representing any kind of 'causeway'.

The ditch's coarse lower fills had tipped into the ditch from its 'inside' edge, showing that a bank or mound once ran concentrically within it. Generally these fills were sealed by a homogenous and stone-free sandy soil, representing a period of more gradual silting. Finds were very infrequent, but a coin of Gallienus was found in the fill of segment 2350, in the south-western corner of the enclosure.

The ditched enclosure was surrounded by a segmental palisade trench 2283. An aisle-like space or berm between 1.2m and 1.7m wide separated it from the outer edge of ditch 2043. While it was not symmetrical in its layout, each of its four sides featured an 'entrance'-like gap varying in width between 1.5m and 3.5m. At an early stage of excavation it became clear that its fill contained the impressions of a series of upright posts which varied in diameter between 0.2m and 0.3m. Often they were close-set. The impressions proved very difficult to define in plan in the uppermost part of the gully fill, so a longitudinal section were recorded along its entire length: this proved a rapid and very effective means of identifying all these features.

The lower fills of the post-impressions were stony and similar to the surrounding gully fills, possibly due to gully fill material trickling or slumping into voids forming at the bases of the posts as they rotted. In some parts of the gully (e.g. segments 2533 and 2618 on its eastern side) post-holes could not be identified at all.

Square-ditched enclosure 3002

(Pl. XXXVII; Figs 101 and 102)

This enclosure was situated in the area excavated immediately to the north of Markshall Farm Road. Much of the ditch had been infilled by layers of stony material which originated from beyond the 'inside' edge of the ditch. These layers showed that the ditch had originally encircled an inner earthwork which no longer survived. This was a small bank or 'rampart'-like structure rather than a mound, a fact shown by the profile of the later Period 5 ditch 107 where it cut through the centre of the enclosure. This latter feature was very shallow or absent entirely where it passed within the inside edge of the enclosure ditch, suggesting that it had been cut into a now-truncated obstruction c. 3 m wide and maybe 1m high. The upper fills sealing this weathering episode were everywhere very fine in consistency, and represented a more gradual build-up of silt and humic material.

The ditch fills were virtually devoid of finds. Of the very small amounts of pottery recovered most was residual Iron Age material, although three sherds of Romano-British coarse ware came from the upper fill of segment 3024.

Square-ditched enclosures 3183, 3231

(Fig.101)

Square-ditched enclosure 3183

This, the most northerly of these features examined at Harford Farm, lay only 4m to the north of 3002 but was much slighter in dimensions and consequently less well-preserved. Its east side had apparently been superimposed upon the west side of much smaller square enclosure 3231. Nowhere was the ditch seen to be more than 0.3m deep, and the feature as a whole was too badly eroded to justify further comment. A gap was apparent in the south-eastern corner of the enclosure. 'Terminals' 3223 and 3229 were shallow and (particularly the latter) rather amorphous, and this phenomenon was probably caused by differential truncation rather than representing a real hiatus in the ditch. No dating evidence was retrieved.

Square-ditched enclosure 3231

A very small feature, measuring only 4.5m square. Its west side had been removed by the east side of its later neighbour, enclosure 3183 described above. Only two segments were dug, one of them in its north-west corner to prove its relationship with 3183. Although the ditch was continuous, it was clear that it had been nearly entirely eroded away.

Square-ditched enclosures 3240, 3241

(Fig.97)

This pair of conjoined ditches was not fully revealed by the NAU excavation, remaining partly hidden beneath Markshall Farm Road, and was not excavated.

It seems that the western part of the primary enclosure 3241 had been destroyed when the smaller rectangular feature 3240 was superimposed upon it. A narrow band of stony soil was observed in plan in the unexcavated fill of both ditches. This must have represented the weathering of internal banks, similar to that attested in the case of nearby enclosure 3002. This proved that the earlier ditch 3241 had been allowed to infill naturally before the excavation of 3242, rather than being deliberately backfilled. The variability seen in the width of each ditch was probably due to differential truncation.

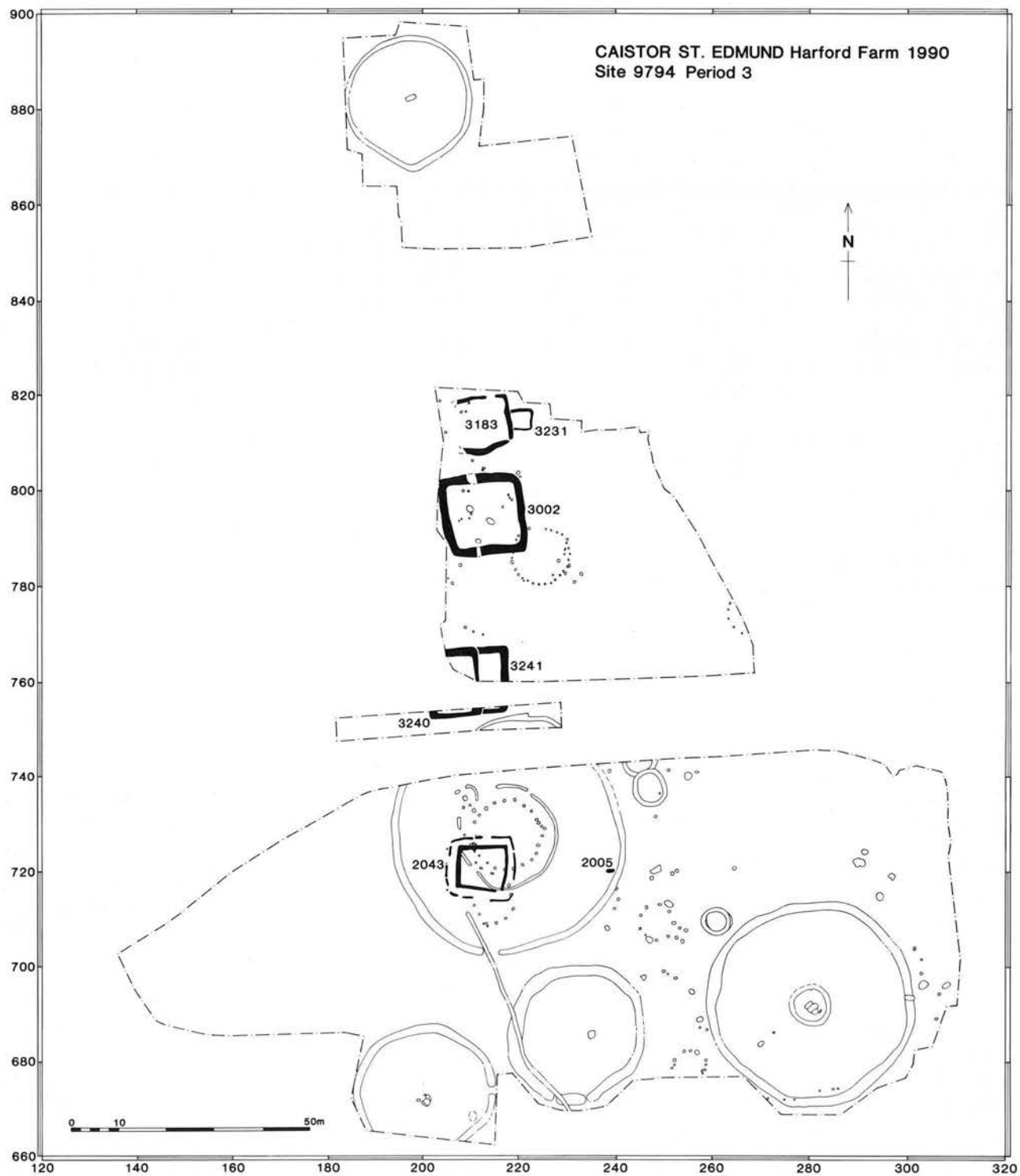


Figure 97 Period 3 phase plan. Scale 1:1250



Plate XXXVI North-facing section through square gully 2283 (seg. 2664), showing post-impressions in fill.
Scale = 1m. (FKN 4, Sarah Bates)

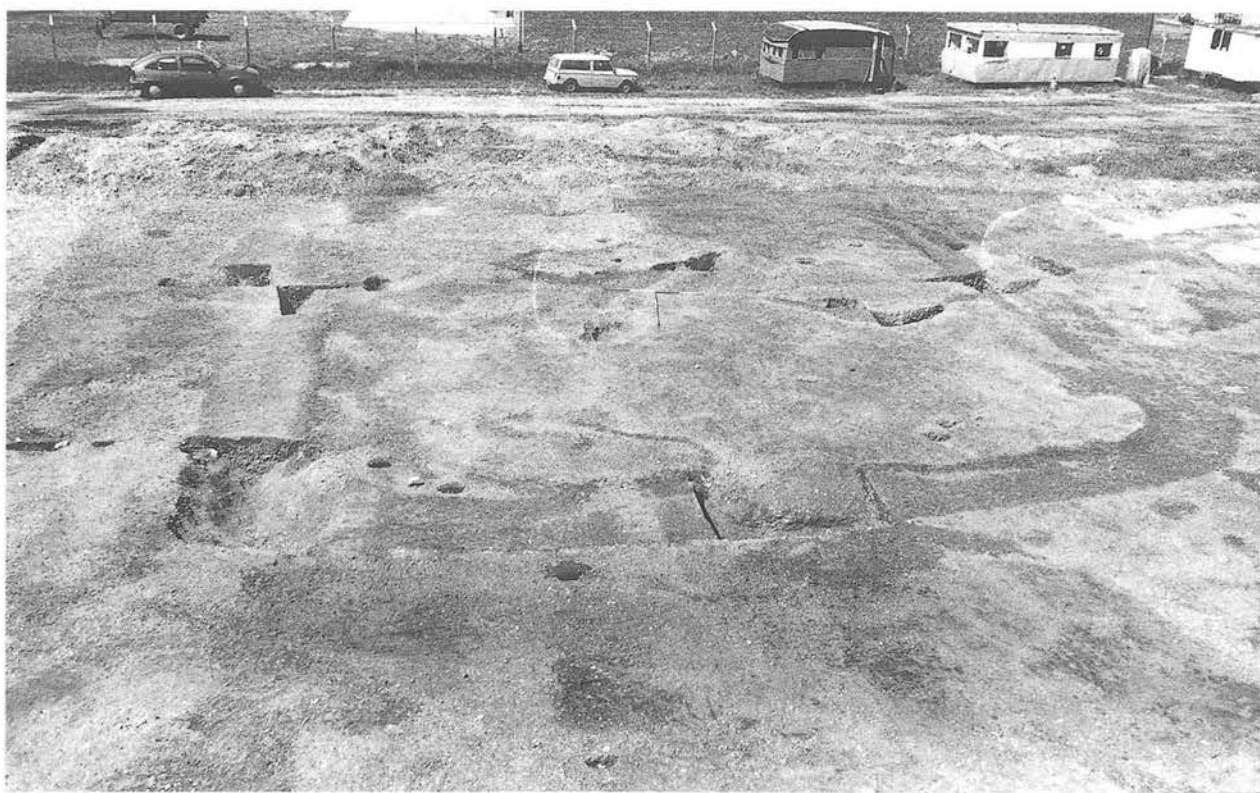


Plate XXXVII Square enclosure 3002 after excavation, looking west.
Scales = 2m. (FKH 20, Thomas Gledhill)

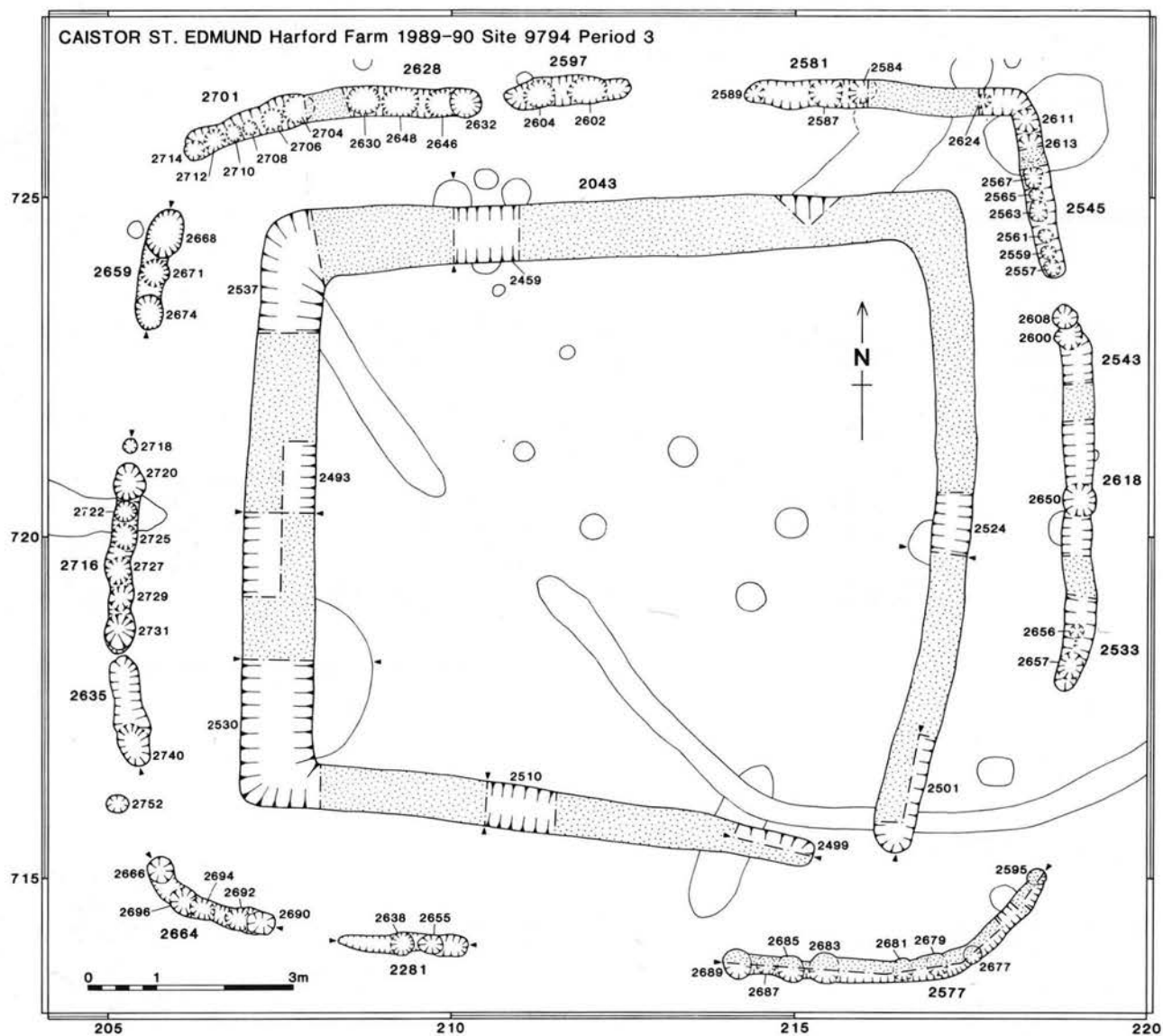


Figure 98 Plan of square-ditched enclosure 2043 and surrounding gully 2283. Scale 1:100

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794
Period 3

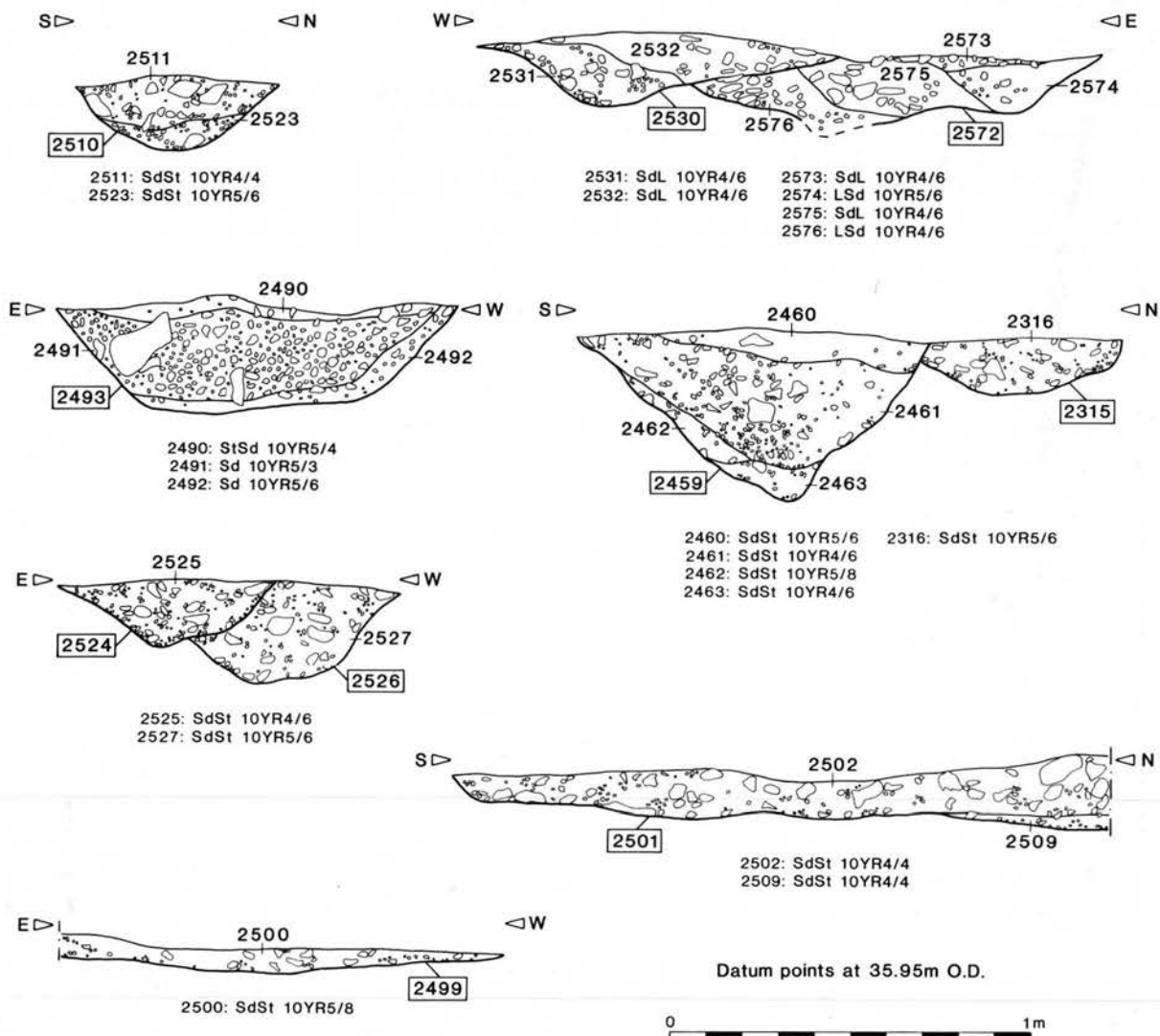


Figure 99 Sections through square-ditched enclosure 2043. Scale 1:20

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794 Period 3

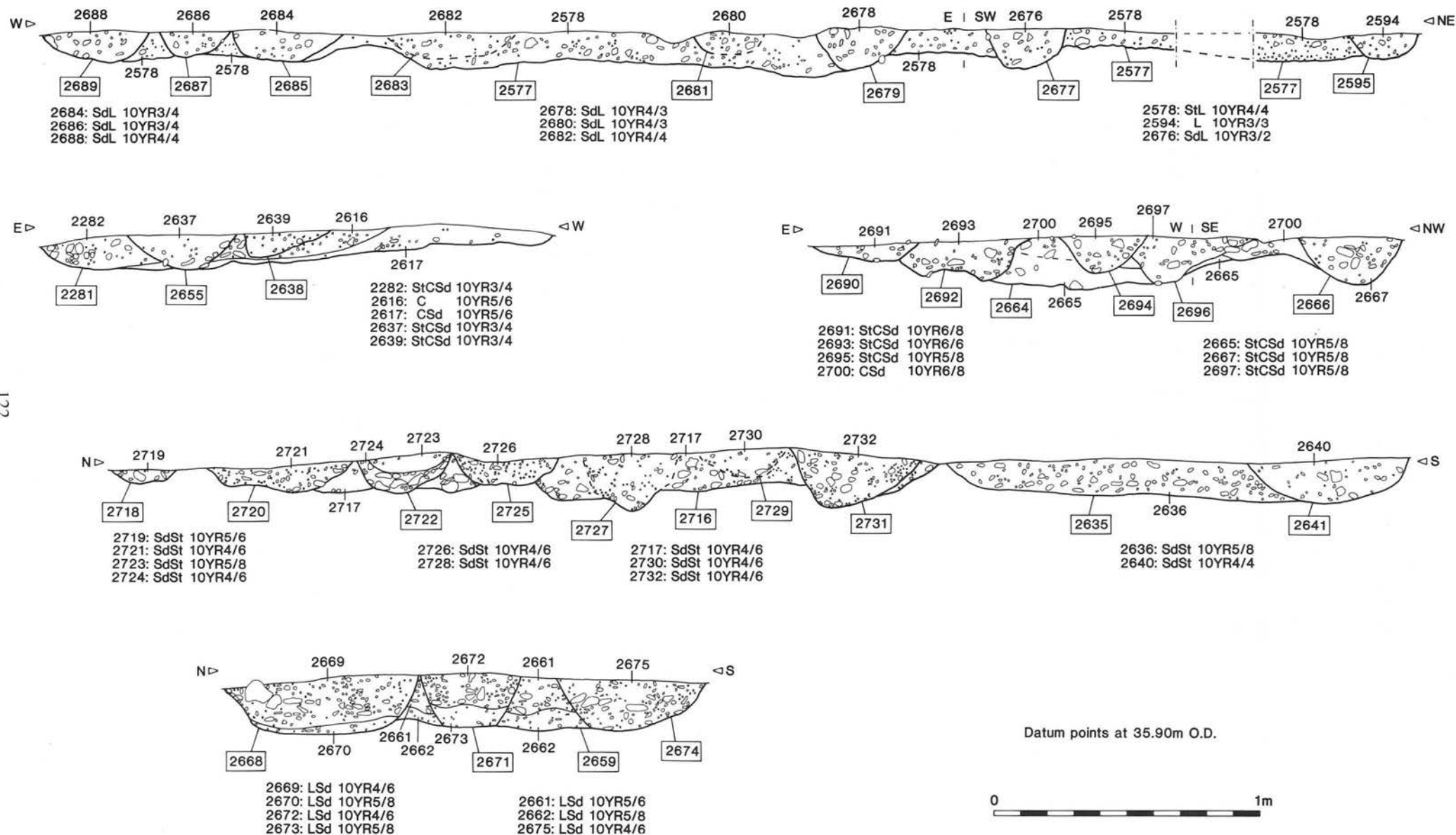


Figure 100 Sections through square gully 2283. Scale 1:20

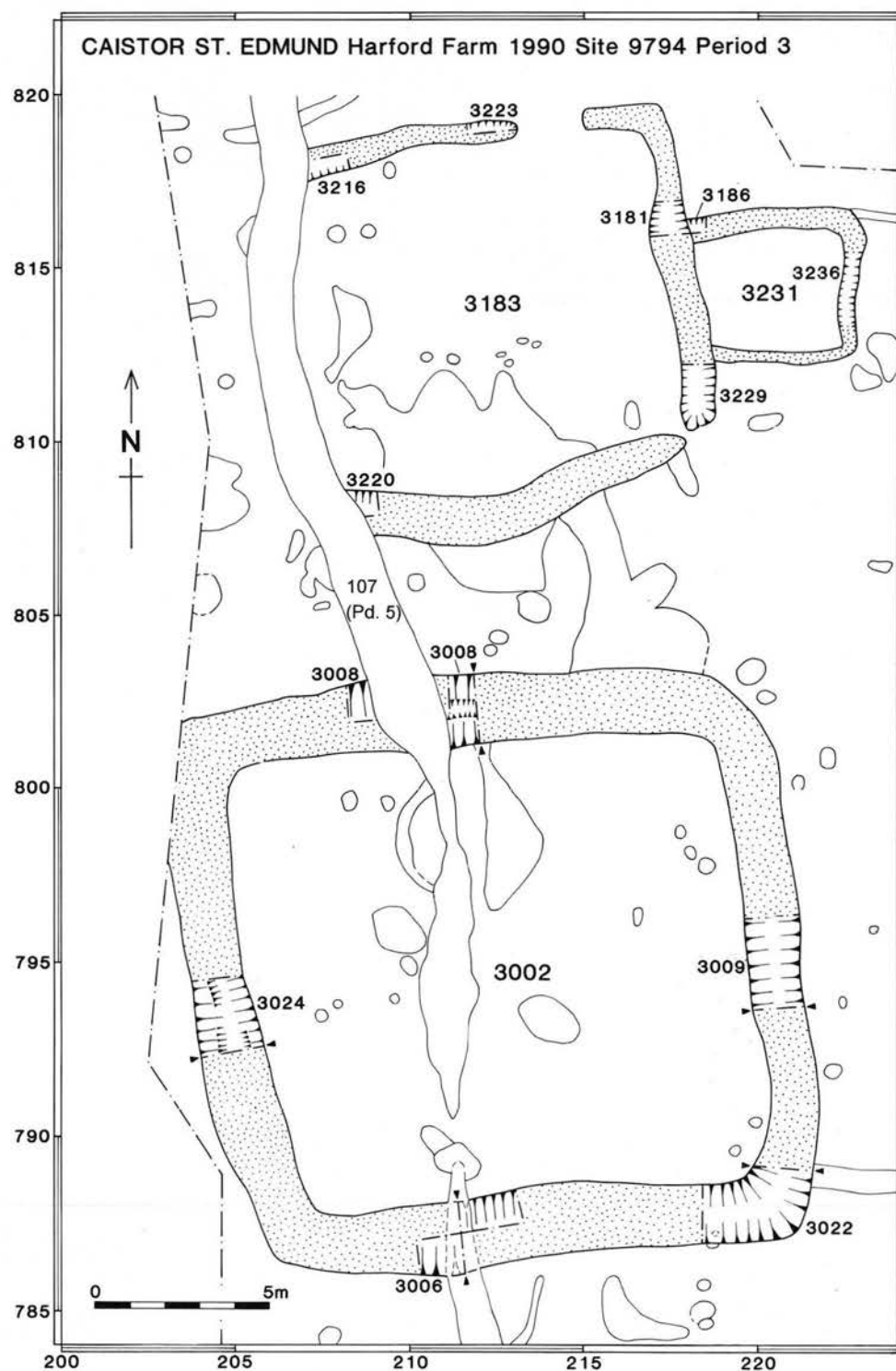


Figure 101 Plan of square-ditched enclosures 3002, 3183 and 3231. Scale 1:100

CAISTOR ST. EDMUND Harford Farm 1989-90 Site 9794
Period 3

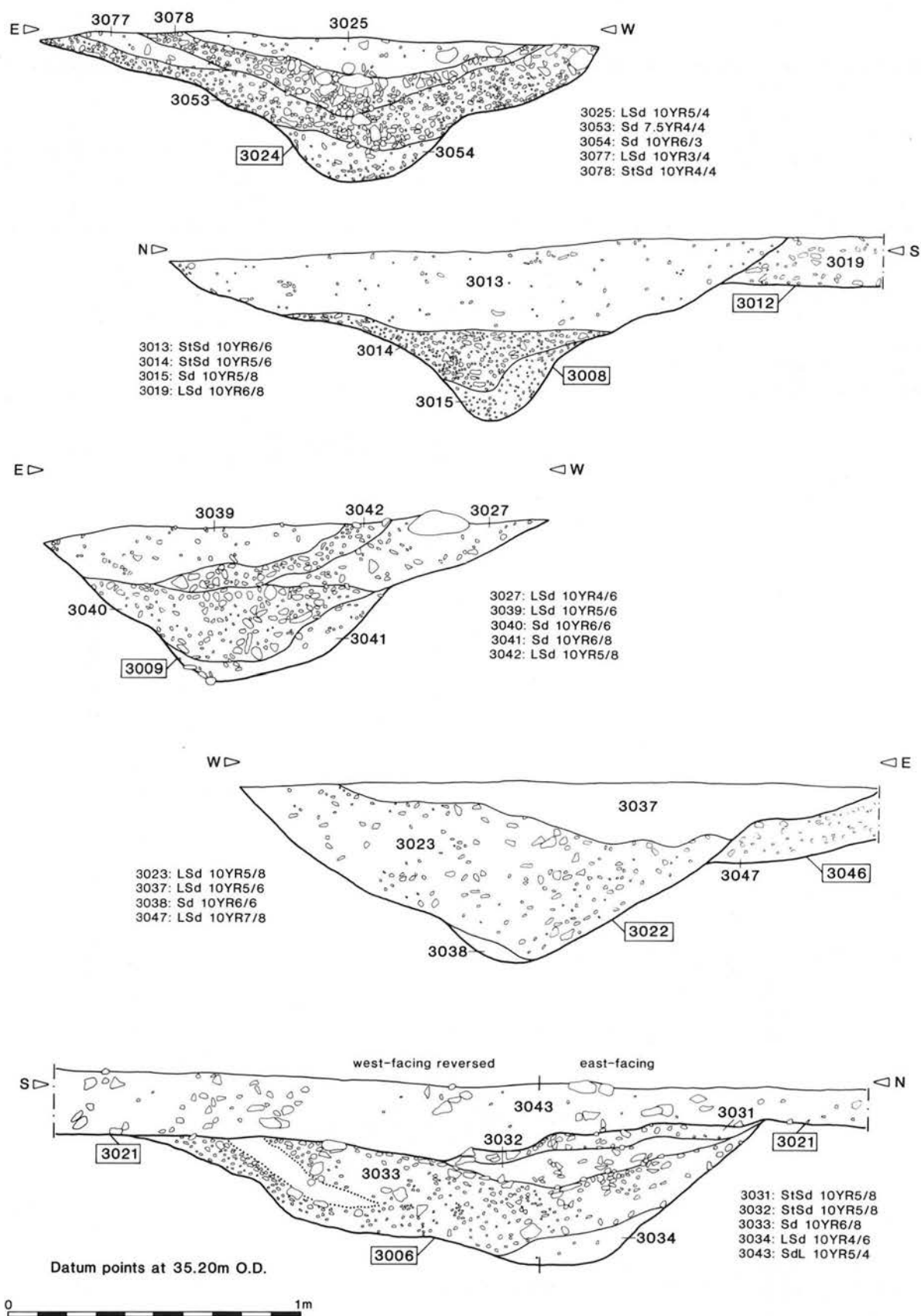


Figure 102 Sections through square-ditched enclosure 3002. Scale 1:20

Pit 2005

(Figs 103 and 104)

An elongated feature, this had been almost entirely removed by ploughing and erosion and survived to a depth of only 0.05m (not illustrated in section). It was situated due east of the southernmost square-ditched enclosure 2043, and lay immediately within Period 1 barrow ring-ditch 2100 in the south-eastern part of its circuit. Covering the central area of its base was 2037, an ephemeral 'raft'-like structure of twiggy wood, loosely interwoven. This might have been burnt *in situ*, an interpretation supported by the heat-scorching apparent in primary fill 2036 and in the natural sands and gravels into which the feature was cut.

The feature can be dated to the early-mid first century AD by the 'Colchester' brooch found in deposit 2006: this artefact was disturbed during machine-stripping rather than being found under controlled conditions. Also found was a small copper alloy bead (not illus.). Some small fragments of cremated bone were recovered during the machine disturbance of the feature, making it likely that it was the base of a plough-removed cremation.

Artefacts

The site at Harford Farm was almost devoid of Romano-British metal objects. In addition to the items listed here was found a small copper-alloy cosmetic pestle of centre-loop type (not illus., s.f.46: unstratified). These items are most common in south-east England, and the majority of examples from dated contexts appear to date to the first or second century AD (Jackson 1985).

Coins

identified by David Gurney

Six Roman coins were found, four of them from unstratified contexts. They are listed here in small-find number order.

- 1 Trajan, *dupondius*; s.f. 24, context 85, fieldwalking/detecting. Reverse illegible. 98–117 AD.
- 2 House of Constantine, *GLORIA EXERCITUS*, possibly irregular; s.f. 27, context 85, fieldwalking/detecting. 330–346 AD.
- 3 Unidentifiable *sestertius*; s.f. 37, context 1001, unstratified. Reverse illegible. Probably first century AD.
- 4 Unidentifiable *as*; s.f. 53, context 1001, unstratified. Reverse illegible. Probably first century AD.
- 5 Gallienus, *antoninianus*; s.f. 256, context 2532, fill of ditch 2043 (exc. section 2531). Reverse illegible. 260–268 AD.
- 6 Commodus, *sestertius*, [IMP II COS II PP] S C; s.f. 257, context 1400, fill ditch 1392 (exc. section 1554). AD 179.

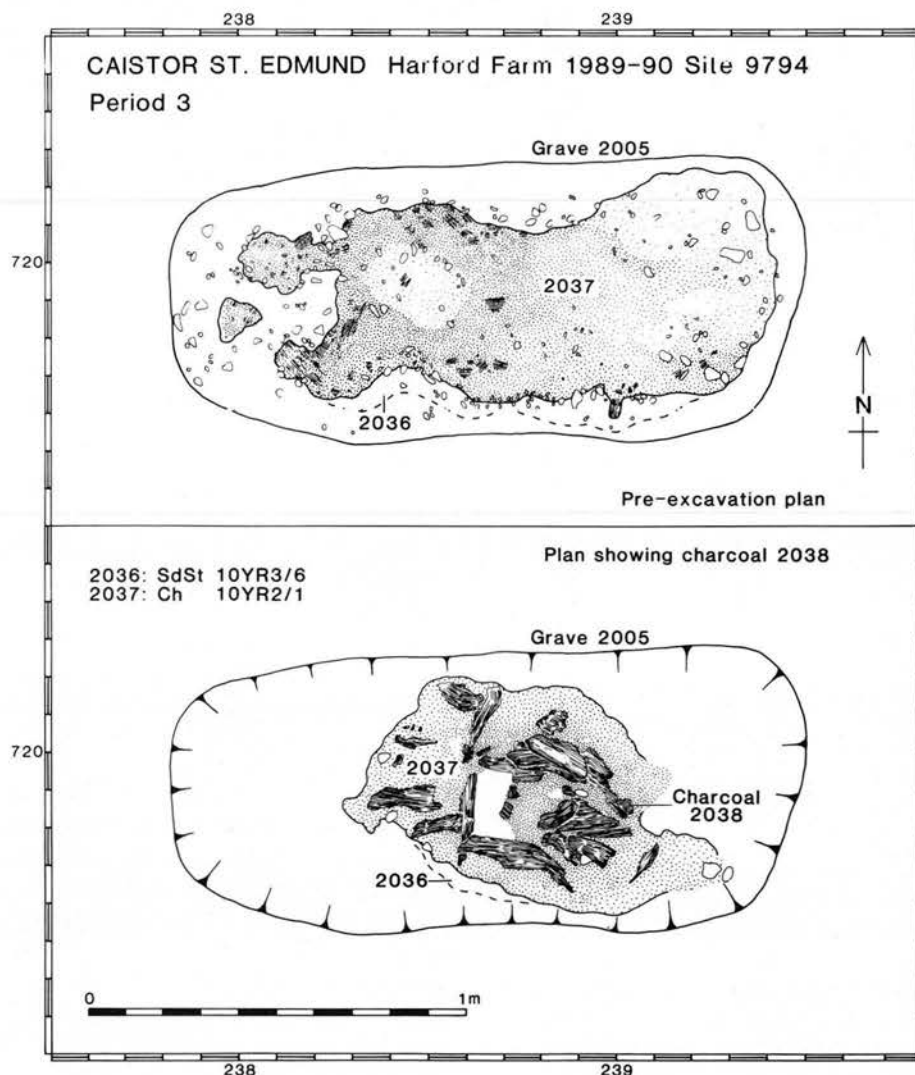


Figure 103 Plans of cremation pit 2005. Scale 1:20

Objects of Copper Alloy

by David Gurney
(Fig.104)

- 1 **Brooch**; s.f. 103, context 2006, fill of cremation pit 2005. 'Colchester'-type. Pin missing, only stubs of spring and hook survive. One short undecorated wing remains. Likely date c. 10–60 AD.

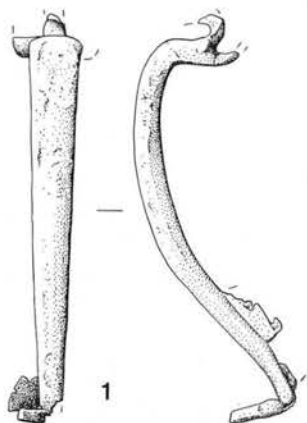


Figure 104 Objects of copper alloy: brooch. Scale 1:1

Pottery

by Sarah Percival

Thirty-three sherds of Roman pottery weighing 0.267kg were found. These sherds, catalogued in the archive report, were all Grey Wares and Sandy Coarse Wares. Only two diagnostic sherds were recovered, both from jars.

The sherds were recovered from eight contexts, only four of which were actually phased to Period 3. The small quantity of Romano-British material uncovered is perhaps surprising considering the site's close proximity to the Roman *civitas* capital *Venta Icenorum*.

VII. Period 4

Introduction

Early and Middle Saxon activity at Harford Farm was evidenced solely by the forty-six graves. These are catalogued and described in full in Part II of this report, which has been written largely by Kenneth Penn (Penn 2000).

The Anglo-Saxon cemetery

(Pl.XXXVIII; Fig.105)

The Anglo-Saxon cemetery at Harford Farm consisted of two areas of inhumation burial, each apparently sited on or adjacent to one of the Period 1 barrows.

Thirty-one graves were situated in the area to the north of Markshall Farm Road in the area immediately to the south-east of the Period 1 barrow ring-ditch 112. The limits of this small group of graves were established on all sides, and the burials were seen to lie in several rows. Most of them were unaccompanied or produced only knives and buckles and could not be assigned to either sex. However three graves, identified as those of females on the basis of the grave-goods, contained gold and silver jewellery and other remarkable items. Two *sceattas* from the fill of grave 181 indicated a date of c. 700 AD for these graves.

Another fifteen graves lay 200m further to the south. This group of burials was apparently centred on another

Period 1 barrow. The majority of the graves were clustered immediately to east and west of the barrow ring-ditch 1022. It is likely that this group of burials was only partially examined. This was because there was clear evidence that graves which had been cut into the former barrow mound had been removed by the plough, while it was also quite possible that further inhumations remained beyond the southern limit of excavation. Most burials were accompanied only by knives and buckles, but one had a Roman intaglio pendant and was accompanied by silver jewellery and other items contained in a possible bag.

There was no evidence either for boundary features or structures associated with the graves. Only one feature at Harford Farm which was not a grave was assigned to Period 4: this was a solitary post-hole amidst the northern group of graves which was interpreted as a possible grave-marker.

VIII. Period 5

Introduction

Medieval and more recent activity at the Harford Farm site was represented only by various linear boundaries, both ditches and fencelines. The only exceptions to this were two very recent-looking 'features' thought to be remnants of Wake's abortive excavations of 1938. Because these features were not directly relevant to the main research aims, only a very small proportion of their lengths was excavated. None of them could be dated closely.

Linear boundaries

(Fig.106)

Ditch 107

(Fig.106)

This field ditch could be traced across the entire north-south extent of the Harford farm site, a distance of 230m. Although quite sinuous in places its basic alignment lay approximately north-north-west to south-south-east. The ditch was sectioned in places to prove its relationship to other features but otherwise was excavated minimally. It could not be dated artefactually, the small amount of pottery from its fills being mostly residual Iron Age coarse ware. However it was seen to cut two Period 4 graves, 1268 and 1272, in the southern part of the site. Thus it must have formed part of a series of landscape divisions which dated to a time when the Middle Saxon cemetery was no longer respected, and on this basis the ditch was assigned to Period 5.

Due to ploughing the ditch was everywhere shallow. Its depth and profile varied slightly, but the ditch was typically of 'u' section, with steep upper sides leading gradually down to a flat base. Most interesting was the manner in which ditch 107 skirted the areas enclosed by the Period 1 barrow-ditches 112, 1022 and 2100, adopting a sinuous course to do so. This showed that the barrows were still positive landscape features at the time when it was dug. Furthermore the ditch had apparently been cut through the centre of the Period 3 square-ditched enclosure 3002 at a time when its inner bank was still upstanding.

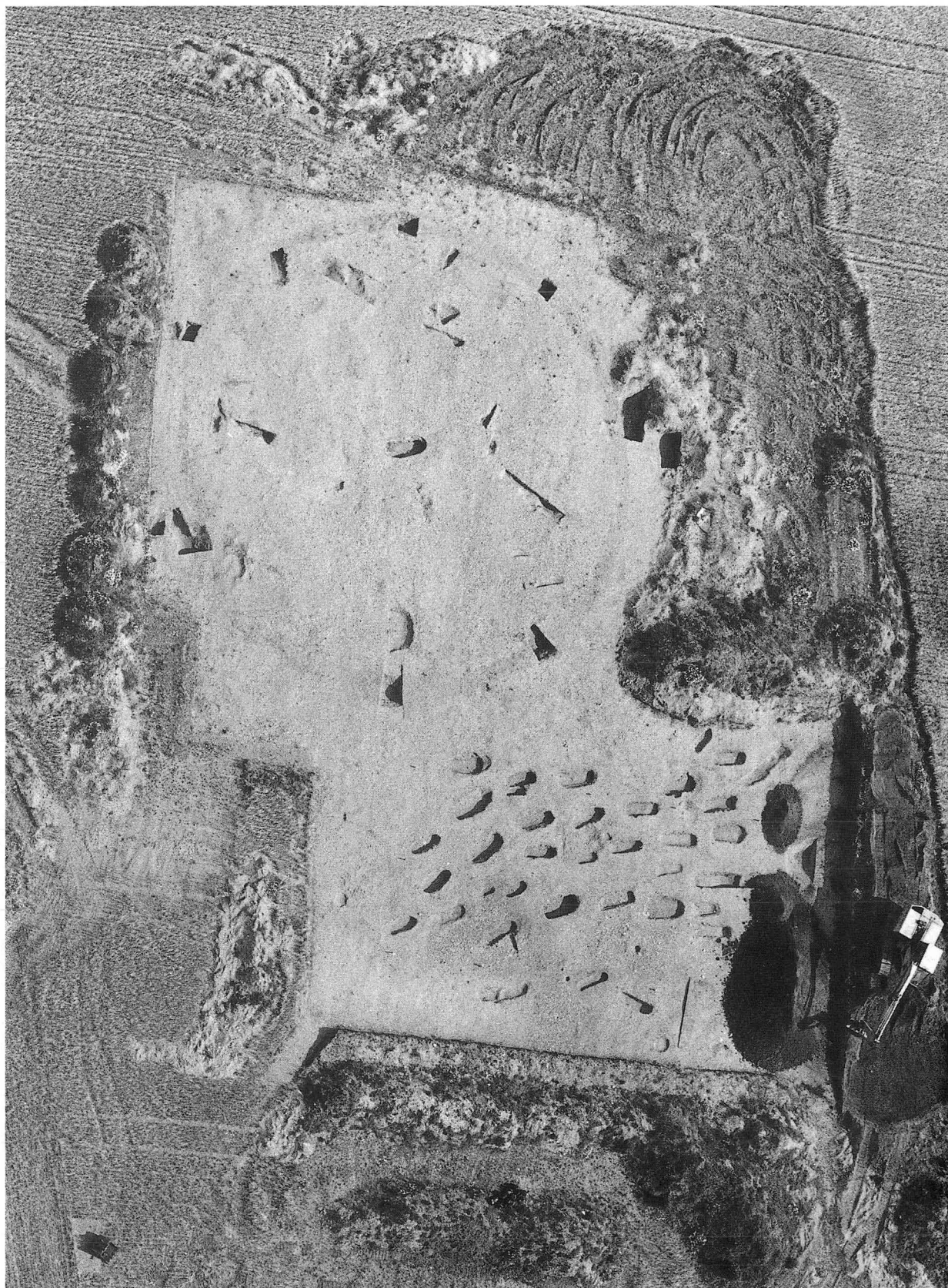


Plate XXXV/III Aerial view of group of Anglo-Saxon graves adjacent to Period 1 ring-ditch 112. (TG2204/ALA/GCV6, 12 July 1990, Derek A. Edwards)

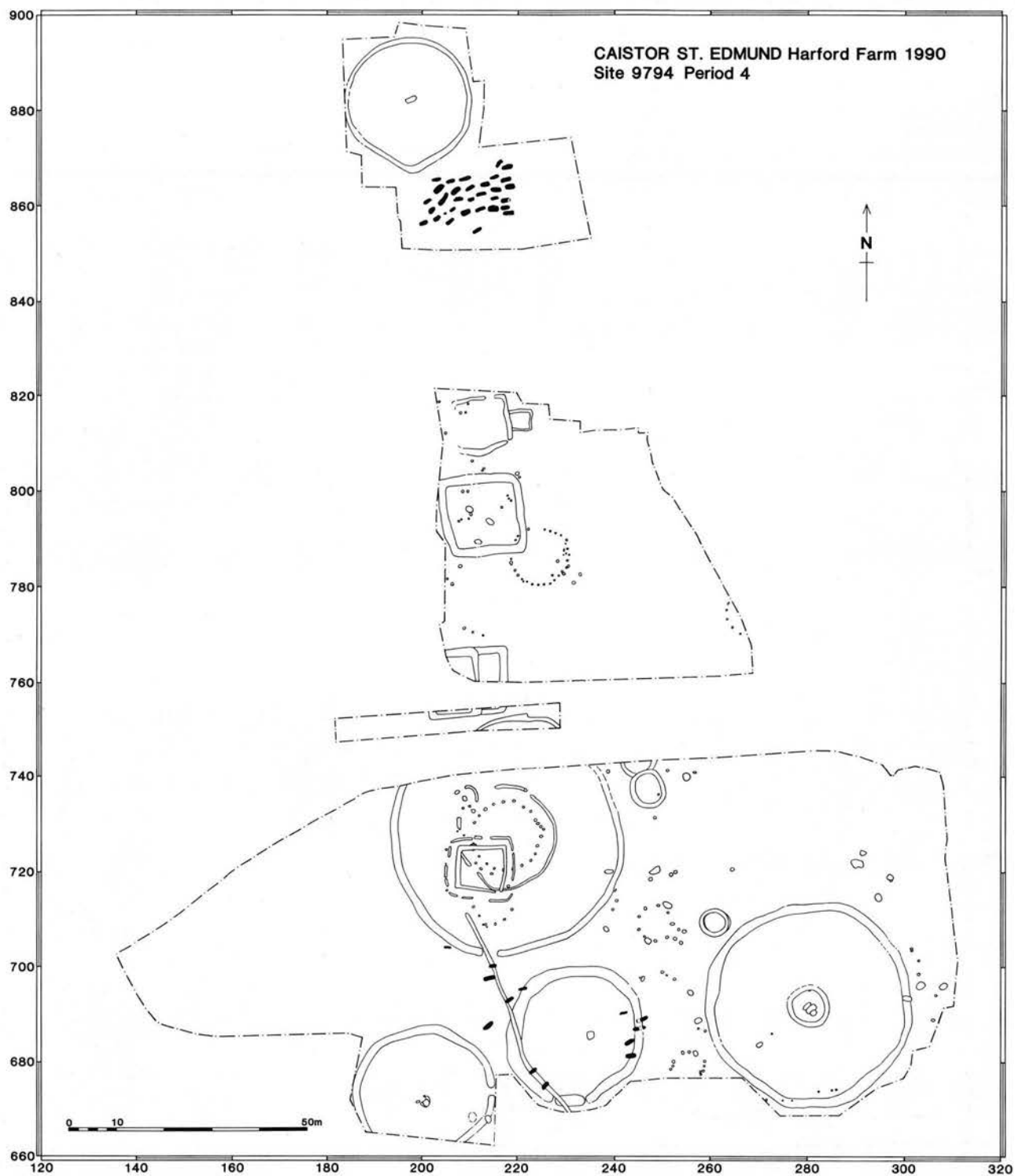


Figure 105 Period 4 phase plan. Scale 1:1250

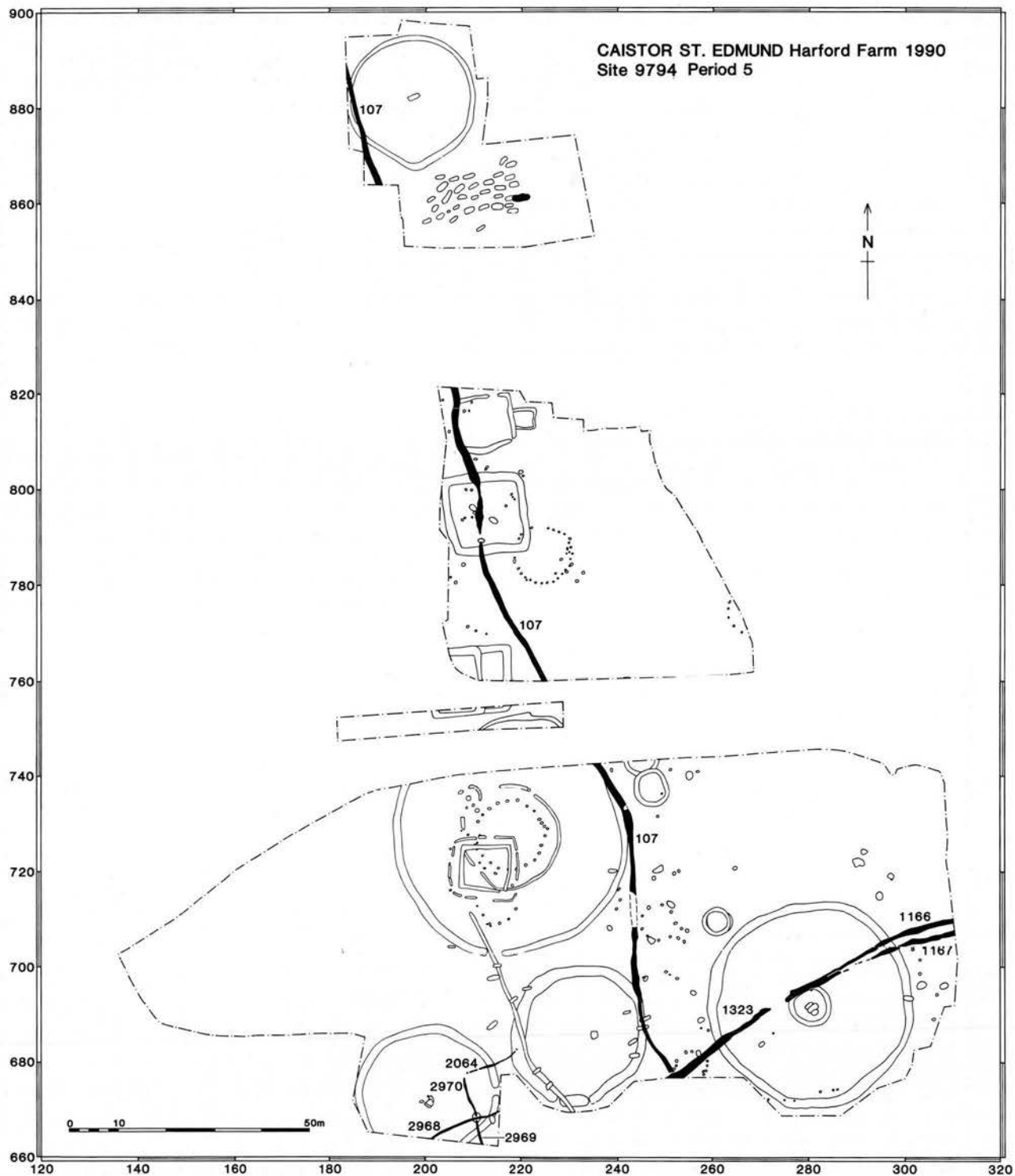


Figure 106 Period 5 phase plan. Scale 1:1250

Ditches 1323, 1166, 1167

(Fig.106)

These shallow ditches formed parts of a north-east to south-west aligned ditched boundary feature. Ditch 1323 cut north-south oriented Period 5 ditch 107 close to the southern limit of the excavated area, showing that this landscape division — although not closely datable — had occurred after ditch 107 had entirely silted up.

Separate context numbers were assigned to ditches 1323 and 1166 because they were not physically continuous with each other. However it seems likely that the gap between them was purely the result of differential truncation, which had removed some 4m of the ditch's line in the area to the south-west of ring-ditch 1322. The ditches crossed the south-eastern corner of the excavated area, bisecting the area of the Period 1 disc barrow enclosed by ring-ditch 1321 and cutting the north-western side of the barrow's inner ring-ditch 1322 tangentially. To the north-east of this point ditch 1166 had been truncated along its southern edge by the similar ditch 1167, which was probably a re-cut. This ran roughly parallel with the earlier ditch, but tended to diverge southwards from this alignment with greater distance towards the east.

Gullies 2064, 2968, 2969, 2970

(Fig.106)

A series of shallow gullies was examined in the south-western part of the excavated area, in the area of Period 1 ring-ditch 2015. The features were all aligned north-north-west to south-south-east or east-north-east to west-south-west, forming a reticulated pattern. Their relatively recent date was made clear by the presence of animal bone and other dark, dense sandy material, probably representing replaced body tissue, in the fill of truncated post-hole 5069.

Some of the few segments excavated — notably 5116 in gully 2064, 2979 in gully 2970 and 5065 in gully 2968 — contained closely spaced post-impressions in their fills, which were identified and recorded in longitudinal section. This suggested the gullies had been cut to receive the upright timbers for palisade-like fences, delimiting a series of small rectangular enclosures which extended further to the south and east beyond the site baulk. At its eastern end, gully 2064 was seen to cut the outside edge and outer fills of Period 1 barrow ring-ditch 1022, but could not be traced across the entire width of the ditch to its inside edge, nor into the area the ring-ditch enclosed. Perhaps the gully had here been cut into spread or weathered barrow mound material and had been lost when this earthwork was levelled by the plough.

IX. Unphased

Introduction

When the site analysis and phasing process was concluded, a variety of features of human origin could not be assigned to any of the five chronological Periods laid down in Chapter 3 of this report. All such contexts were regarded *en bloc* as 'unphased'.

Most of these features justify no further discussion in a synthetic report such as this, being individual post-holes or pits which could not be dated either by using artefacts or in relation to other features of known Period. In the eastern part of the site, and particularly in the area enclosed by Period 1 barrow ditch 1321, some of the small post-

and stake-hole-like features categorised as 'Unphased' may in fact have been small natural inclusions or animal holes.

Linear boundaries

(Fig.107)

Ditches 3048, 6002

(Fig.107)

These east-west aligned ditches were both shallow and were only excavated minimally. Ditch 3048 lay in the excavated area to the north of Markshall Farm Road. Its western extent was not seen, since it had been cut away by the southern side of Period 3 square-ditched enclosure 3002. To the east it extended beyond the limit of excavation. Excavation showed that it was nearly completely truncated by the plough. Ditch 6002, lying 35m further south, shared its orientation. At its western end it had been similarly cut away by the south side of Period 3 square-ditched enclosure 3041. To the east end it seemed to terminate but this may have been due to machine truncation, as this area had been stripped heavily and without archaeological supervision. Ditch 3048 could be assigned either to Period 2 or to Period 3 on stratigraphic grounds, since it had cut through the northern part of the Period 2 roundhouse 3004 while being truncated in turn by Period 3 square-ditched enclosure 3002. However it was regarded as 'unphased' because it was otherwise undatable within such a broad span.

It should be noted that ditches 3048 and 6002 not only shared a common east-to-west alignment but also held identical spatial relationships to the Period 3 ceremonial enclosures, each being cut away by the southern side of one of these square features. In view of this coincidence, it is possible that the two ditches represented the remains of a series of land boundaries which had somehow affected the siting of the Period 3 features. Unfortunately further discussion is precluded by the very poor preservation of the ditches, and the likelihood that plough damage had removed further examples.

X. Discussion

Period 1

(Figs 108 and 109)

General

The severity of the plough-damage suffered by the Harford Farm hilltop left only a sample of the deepest features to be excavated by the NAU team in 1990. However at this site it was possible to open a whole series of crop-mark ring-ditch monuments simultaneously, on a scale unprecedented in East Anglian archaeology. This has been most important, at least partly because it allows some discussion of the landscape which separated the previously-known features as well as of the 'monuments' themselves.

Before the barrows

Virtually nothing can be said about human land-use at Harford Farm before the hilltop assumed its funerary importance in the later third millennium cal. BC. It is possible that this negative evidence was in fact the result of massive plough erosion, which could have stripped away the remains of ephemeral structures. However the

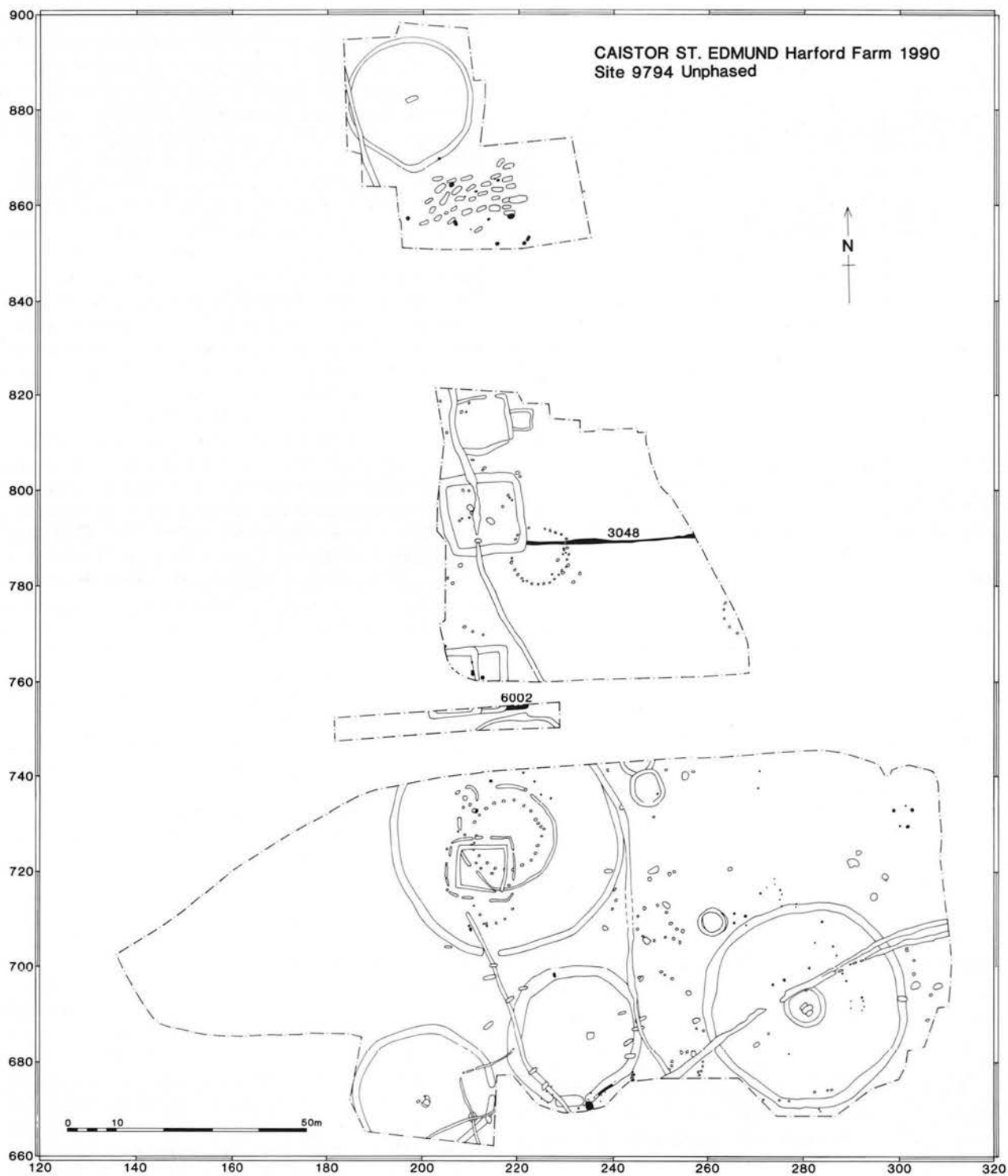


Figure 107 Plan of unphased features. Scale 1:1250

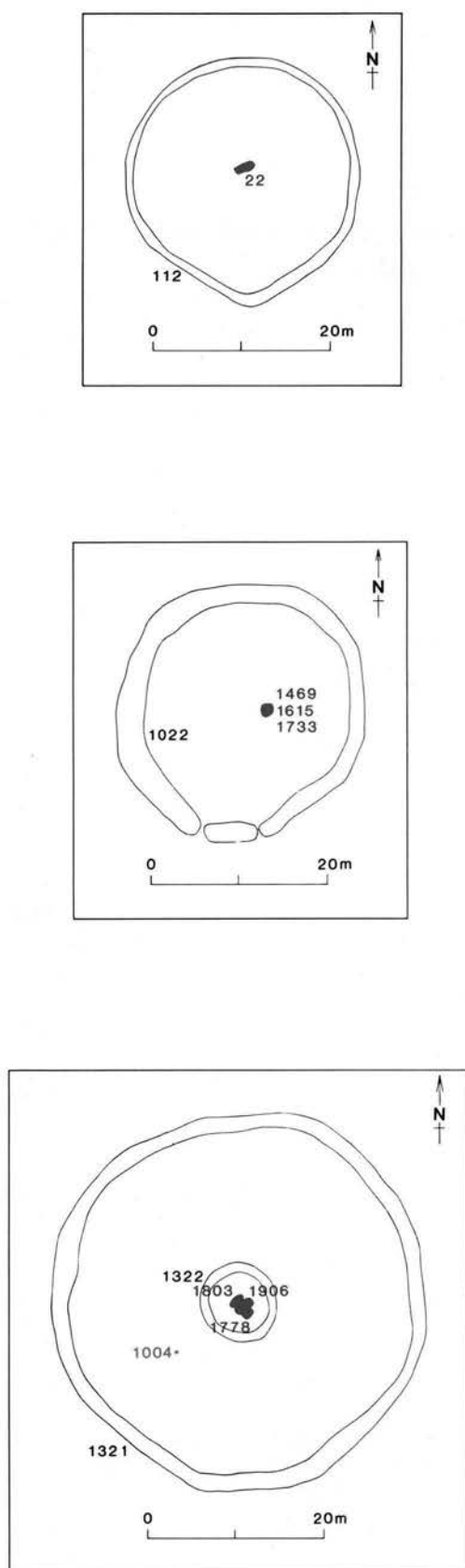


Figure 108 Interpretative plans of ring-ditches 107, 1022, 1321/1322. Inhumations shown in brown, cremations in red

near-total absence of such evidence over such a large area — seen in the scarcity not only of cut features but also flint tools and other finds — points to any such occupation of the site being neither dense nor continuous. Although one barrow ditch apparently cut a solitary post-hole containing sherds of rusticated Beaker, nowhere was there seen such clear signs of pre-barrow domestic activity as those identified by Lawson during the excavation of a flattened barrow nearby at Bowthorpe (Site 11431; Lawson 1986b, 45).

The barrow cemetery

This section of the report will summarise the available evidence for the construction and use of each monument. Wherever possible, more general consideration of the barrows in the context of the whole Arminghall group will be confined to Chapter 9, which seeks to place them in a broader geographical and academic perspective.

Three of the five Period 1 ring-ditches at Harford Farm, 112, 1022 and 1321, obviously represented now-levelled round barrows. Although no trace of upstanding structure remained, each of these ring-ditch monuments encircled burials and displayed at least circumstantial evidence for some kind of mound. While it is thought likely that ring-ditches 2015 and 2100 represented further round barrows interpretation here is more difficult, particularly in the case of the latter monument.

Ring-ditch 112, the northernmost of the five, had once encompassed a bell barrow of relatively modest proportions. Sited upon the northern summit of the Harford Farm site, it sealed a Food Vessel-accompanied inhumation which was probably the primary interment.

Ring-ditch 1022, some 150m further to the south, mirrored the situation of the northernmost barrow by being raised upon Harford Farm's other summit. This ring-ditch was broken in its southern part by a causeway 6.5m wide. Although this cannot be proved, this opening could have been 'framed' on either side by a large timber upright, maybe forming part of an imposing entrance structure to the barrow. Although there were no stratigraphic relationships to prove this, it is conceivable that such a 'gateway' formed an entrance to the barrow's inner area before the mound had been raised over the central graves. The upright timbers were probably removed rather than being allowed to rot *in situ*: perhaps this occurred when the monument was re-modelled by the construction of the large mound. The ring-ditch once encompassed a substantial 'bowl' barrow mound, maybe featuring a narrow berm separating its outer limit from the inside edge of the ditch.

The central deposits provided a striking example of the repeated use of the same grave for burial (*cf.* Shrewton barrow 5k: Green and Rollo-Smith 1984, 275–9). No trace of mound material survived, but the fact that all three interments were so accurately superimposed makes it clear that the construction of the mound occurred some time after the barrow's initial use for burial. It seems that primary grave 1615 was all but destroyed by the sinking of deeper shaft grave 1469. This latter feature was of exceptional interest for its splendid oak tree-trunk coffin and for its unusual filling sequence. Like grave 21 at Bixley Site 9585 (p.27) it had not been deliberately backfilled in one episode, lending weight to the suspicion that exposure of the deceased played a part in some of the

mortuary practises carried on at these barrows. The siting of the much shallower tertiary grave 1733 in the centre of this shaft once it had fully infilled suggested that the earlier grave had been marked in some way, although no evidence for a post or similar object could be found.

In the south-eastern part of the site, the disc barrow surrounded by *ring-ditch* 1321 was a fine example of a monument type relatively little represented in Norfolk. Dr Eric Puddy's drawing of the Wellingham Heath disc barrow (Site 3696; Lawson *et al.* 1981, 103) before its destruction during World War II perhaps gives us some idea of our barrow's appearance before its small central mound and outer concentric bank were ploughed flat, probably in quite recent times.

The series of three inhumation graves in the central area lay side-by-side rather than being directly superimposed upon each other. In the absence of any *in situ* mound material it was impossible to tell whether they had been sealed by the mound's construction or cut through it, but their stratigraphic sequence was easily discerned. The composite bracelet in primary grave 1803 joins a very select group of 'Wessex'-type artefacts known from Norfolk. However, perhaps it should equally be viewed alongside jet and faience objects from graves in north-east England and Scotland, since in southern England and Wessex such ornaments usually accompanied cremated rather than inhumed burials. Also noteworthy was the fact that the lugged Food Vessel in grave 1778 lay stratigraphically *above* rather than below these jewellery items. If Bamford (following McKerrell 1972) is right in assigning a tentative *terminus post quem* of c. 1450 cal. BC to the deposition of segmental faience beads in Britain, then this vessel provides important evidence for the longevity of such Food Vessel-like ceramic forms in the region.

The remains of the solitary urned cremation 1004 constitute important evidence for 'secondary' use of the area of this barrow for cremation burial. It was in fact the only such deposit found at Harford Farm, and the manner in which it had been almost totally removed by the plough showed that it may well have been the only survivor of many such features.

Difficulties in interpreting *ring-ditch* 2015 in the south-eastern part of the site have already been discussed. Its location within the cemetery and its similar size in plan to neighbouring barrow *ring-ditch* 1022 both lent support to a funerary interpretation, but convincing graves and firm evidence for upstanding earthworks were both lacking. It may represent the remains of a barrow which had — like that excavated at Sweet Briar Road, Norwich (Site 366; Bown 1986) — been stripped of burials as well as mound material by erosion. Period 2 pits and Period 5 gullies, of no great depth, both extended across the south-eastern part of the area encircled by the *ring-ditch*. These remains imply that this area at least had never been mounded-up, otherwise these later features would have been cut into the mound and swept away when it was ploughed down. It is suggested that any earthwork was of small size and confined to the centre of the ring, which was not crossed by the Period 5 fence gullies and may indeed have been respected by them. This would have made the monument a bermed bell barrow, of broadly similar type to that surrounded by *ring-ditch* 112.

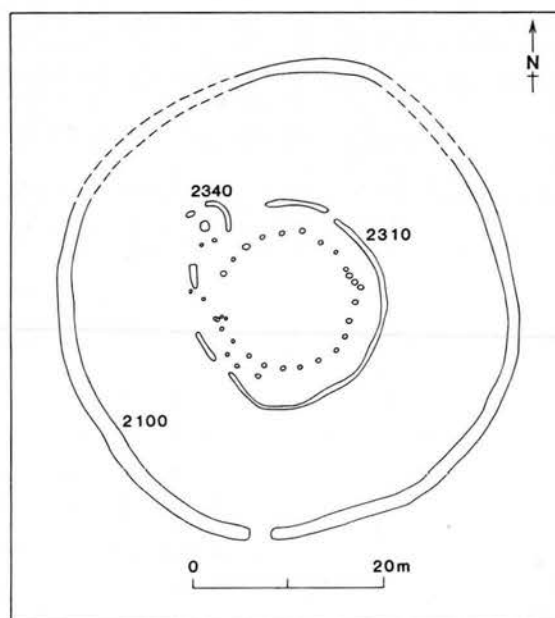
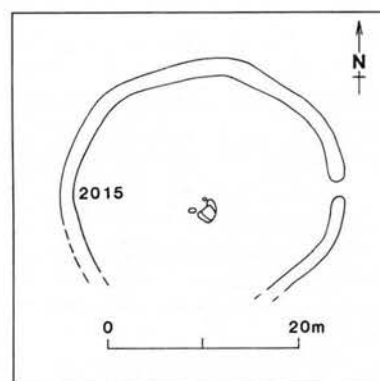


Figure 109 Interpretative plans of *ring-ditches* 2015, 2100.

Of all of these features, the composite set of ringworks encircled by *ring-ditch 2100* is the one which begs the most questions. Unfortunately the degree of damage by the plough makes it hard to reconstruct its appearance with confidence, and while there was evidence for an outer bank to ring-ditch 2100, it proved hard to tell whether or not there was a 'barrow mound'. Furthermore, while the data suggested that the various elements of the inner area were integral to each other and of 'one build' it was impossible to tell if the outer ring-ditch 2100 was contemporary with the inner ring and its associated features, or if it represented a later expansion of the monument.

Perhaps the complex was actually a small henge monument rather than a barrow. The near-total absence of possible graves, the central post-hole ring and the penannular plan of the outer ring-ditch could all be invoked to support this idea. Such a monument would have an intriguing parallel in the plan of the (very much larger) henge excavated at Maxey, Cambs. (Pryor and French 1985, 66–8): here the inner ring-ditch was also interrupted by a small circular structure, in that case an oval barrow. Although the small ring-gully 2340 at Harford Farm cannot be interpreted categorically as a small barrow, this is at least a possibility.

Alternatively the whole double-concentric feature might in fact represent another barrow, from which all traces of central burials as well as earthworks had been removed by erosion. In view of its location within a barrow cemetery and its near-identical area in plan to the adjacent disc barrow immediately to the south-east, this is the conclusion favoured by the writer. It is possible that the monument was simply another disc barrow and that the post-hole ring 2800 had been erected as a revetment for a steep-sided gravel mound. A structure of this kind was recorded in the barrow excavated by Donaldson at Barnack, Lincs (Donaldson 1977). However, the coincidence — already discussed — of an 'entrance'-like group of ancillary post-holes with one of the causeways across the adjacent inner ring-ditch in the south-west part of its circuit argues against this, and suggests that the posts constituted a free-standing structure in their own right. Another obstacle to the 'disc barrow' interpretation was the manner in which the relatively slight features of the Period 3 square ritual structure extended into the area of this putative mound without being truncated (Fig. 98). This suggests that the centre of the barrow was probably not mounded at all, unless a pre-existing earthwork here was levelled before the laying out of the later square feature.

In conclusion, it seems most likely that the central area of the 'barrow' contained a free-standing timber structure rather than a mound. Further, it is conceivable that round ?structure 2340 was in fact a very small 'satellite' barrow in the north-western side of the inner area, probably forming an integral part of this complex of features rather than being a later appendage. Such a monument would be quite unique among the excavated barrows of Norfolk and more akin to the 'palisade barrows' of the Low Countries (Glasbergen 1954) featuring henge-like timber superstructures; in terms of structural typology the present monument, with its single ring of posts, may once have been comparable with Glasbergen's Type 5. Similar — although not identical — phenomena can be found closer to home, however, in the case of two barrows excavated in southern Lincolnshire. At Tallington Site 16 the second phase of the large barrow featured four concentric rings of

stakes surrounding the central grave (Simpson 1976), while Phase 1 of the large barrow excavated in 1991 by French at Deeping St Nicholas comprised an infant burial encircled by eight concentric rings of stakes (French 1994).

It is significant that the exposure of such a large area around and between the barrows themselves failed to produce any other features, of any kind whatever, which could have been contemporary with their construction and use. While it is true that erosion might have worn away evidence for ephemeral structures, the total absence of 'flat graves' is striking. It is quite possible that cremation deposits between the barrows would have been ploughed out entirely, but the total absence of inhumation pits is another matter and surely reflects a genuine dearth of such features. This is an important issue, which will be considered further in Chapter 9.

Also remarkable was the artefactual 'clean-ness' of the Period 1 monuments and their environs. It is undeniable that no actual activity surface could possibly have survived the site's plough-denudation. However, the uniform sterility of the excavated deposits and the near-total absence of artefacts, especially pottery, suggested that little or no domestic activity was carried on within the barrow cemetery during the period of its funerary use, or indeed for some time afterwards.

Chronology and radiocarbon dating

The scarcity of organic material of all kinds from the Harford Farm barrows permitted only two relevant radiocarbon determinations, listed in Appendix 1, to be made. This shortage of dating evidence was made worse by the general dearth of pottery and other finds. Despite this undeniable weakness in the excavation data, some attempt must be to discern a sequence in the evolution of this barrow group.

It is suggested that the two disc-type monuments which were excavated (and the third to the south-east of the site which was not dug) post-dated the smaller round barrows. Charcoal from the central burials within the two hilltop-sited ring-ditches, 112 and 1022, produced the only radiocarbon dates. Although they suggested that these two barrows may have been used for burial during the period c. 2500–2100 cal. BC they are both single measurements which should be regarded with some caution, especially GU-5189 with its wide standard deviation range. Despite these reservations, however, it seems most plausible to view these two barrows sited on Harford Farm's two natural eminences as representing a phase of burial activity which pre-dated the construction of the disc barrow and its hengiform neighbour. The disc barrow is unlikely to have been used for burial before c. 1450 cal. BC due to the presence of segmental faience beads in primary grave 1803. The 'palisade barrow' surrounded by ring-ditch 2100 produced no datable material whatever. These two barrows' broad similarities in overall plan, and the fact that ring-ditch 2100's outer diameter was identical to that of the adjacent disc barrow, suggested that the two monuments originated at a roughly similar date, but the evidence does not permit this tenuous sequence to be elaborated any further.

The single plough-damaged 'satellite' cremation found in the disc barrow was contained by an urn thought likely to date to c. 1200 cal. BC or a little later. Thus it is quite possible that the area of the barrows was in use as a cremation cemetery after the construction of the barrows themselves had ceased.

Period 2

(Figs 75, 110 and 111)

General

Some centuries after the barrow cemetery fell into disuse the Harford Farm site was re-occupied by communities using pottery of Middle Iron Age type. The length of this episode is unclear, nor can it be dated securely due to the absence of unequivocal artefactual or scientific evidence. The only radiocarbon determination obtained from a Period 2 feature (taken from charcoal within an apparently-undisturbed deposit rich in Iron Age pottery) lay in the mid-second millennium cal. BC. However the ceramics and loomweights discussed in this chapter by Sarah Percival made it clear that the Period 2 structures and land divisions at Harford Farm were of Middle Iron Age date, probably somewhat post-dating Norfolk's well-known 'type-site' at Micklemoor Hill, West Harling, Norfolk (Clark and Fell 1953). It is likely that the occupation dated to the middle or later centuries of the first millennium cal. BC.

The excavation scheme was designed to maximise information-recovery from the crop-mark monuments of other Periods, and allowed only an arbitrary piece of this intriguing landscape to be looked at by the NAU team. The discovery of Iron Age settlement here was a matter of happy chance, and neither its overall size nor its shape in plan could be ascertained. It seems to have been unenclosed by a ditch or other major earthwork feature. Probably the northern and western limits of the settlement

lay within the area of excavation, but its extent to the south and east remains unclear.

It is conceivable that the zig-zagging ?fence 1735 is associated with at least two of the four roundhouses. Unfortunately many of the pits and other Period 2 features can neither be fitted into this proposed structural/enclosure layout nor dated in relation to it. It is likely that the round 'eaves-drip' gullies, presumably dug around hay-ricks or around ephemeral buildings destroyed by the plough, represented another distinct 'phase' in the site's use, and might (as already discussed) have been either earlier or later. The lack of physical contact between features and the inadequacy of the pottery sample makes it impossible to establish a sequence. It is possible that the three ring-gullies lay centrally within another, now fragmentary, large enclosure (Fig.110). This would have been bounded to the west by ditch 1392, and to south and east by fragmentary fences 1903 and 1904 respectively. It must be stressed, however, that this 'reconstruction' is both a speculative and a tenuous one.

Iron Age settlement and the barrows

The Period 1 barrows clearly remained a looming presence in the landscape at the time of this occupation. By this date some of the barrow ring-ditches had infilled completely, and occasional pits and post-holes were found in the hypothetical 'berm' areas of the disc and bell barrows. Despite this, the buildings and fences in the southern part of the site appeared mostly confined to a narrow north-south corridor between the large ring-ditch

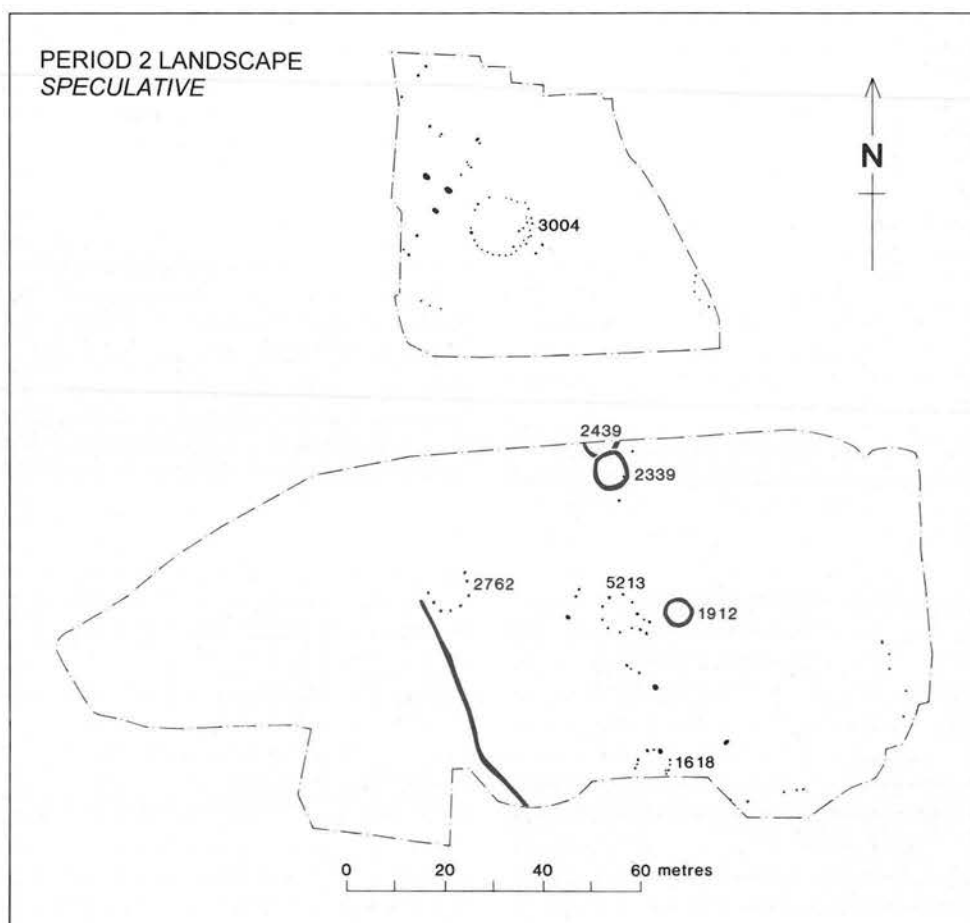


Figure 110 Speculative interpretative plan of Period 2 landscape divisions. Features contemporary with ?fence 1735 in black, features contemporary with ring-ditches 1912, 2339 etc. in brown

monuments, and the area of the settlement excavated in 1990 must be visualised as lying around and between the upstanding banks and mounds of the barrows (Fig.75).

What significance the users of these structures might have attached to the funerary monuments of a former age can only be conjectured. Although Clare (1986, 1987) and Bradley (1993b) have both drawn attention to the potential value of evaluating how henges and other ceremonial sites were used in subsequent eras, these studies have largely focussed upon the continuity to be seen in overtly 'ritual' or funerary practises. It appears that the relation of Iron Age settlement to earlier monumental sites has yet to be addressed as a topic of research in itself. Within the immediate area of the Tas-Yare confluence Iron Age sherds have been found in secondary contexts at the Arminghall Henge (Clark 1936, figs 6-8) and the Eaton Heath barrows (Healy 1986, 55). However it seems that, prior to the Norwich Southern Bypass Project, barrow excavations in Norfolk had yet to retrieve such unequivocal evidence for later prehistoric occupation as that at Harford Farm. Although settlement of the first millennium BC has been recorded elsewhere as existing cheek-by-jowl with earlier barrows (e.g. West Heslerton, North Yorks; Powlesland 1986, fig.49), such juxtapositions are not often seen during excavation. Perhaps a national *résumé* of this type of evidence would be of value to Iron Age studies.

The post-hole structures

The four Harford Farm roundhouses form important additions to the corpus of such structures from northern East Anglia, being broadly similar to those recorded from West Harling, Norfolk (Clark and Fell 1953, figs 3-7) and Barham, Suffolk (Martin 1993, fig.15). There was no evidence to show whether the Harford Farm buildings were used as human habitations, or fulfilled other functions. However it is likely that the area of roundhouse 5213 was at some time (Murphy, Chapter 9) a focus for the storage and processing of cereals. The group of pits lying around it and to its north were probably contemporaneous with this activity too, on account of the quantities of carbonised grain retrieved from them also. The presence of discarded loomweights in the area of this building indicates that textile working was practised in the community.

An excellent brief introduction to later prehistoric timber architecture may be found in chapter 5 of Audouze and Büchenschütz 1991. When considering the lifespan of post-hole structures, it is not uncommon for archaeologists to base their estimates upon a consideration of the diameter of the upright posts and the speed at which they would have rotted in the soil (e.g. Redgate Hill, Hunstanton; Healy, Cleal and Kinnes 1993, 72). While such considerations are important, experimental work at Pimperne Down, Dorset (Reynolds 1995) has shown that it may be possible to underestimate the useful life of a roundhouse on the basis of such calculations alone. A crucial factor sometimes overlooked here may be the fact that individual post-holes sometimes have a much shorter life than the superstructure which they support. While the earthfast base of a timber post would certainly rot rapidly in acid soils such as those at Harford Farm, the filling of the resultant voids (accidentally or deliberately) with soil and rubbish could lead quite rapidly to a situation where the bases of the posts rested *above* ground

level, the roundhouse being held upright by the evenly-distributed weight of its superstructure.

Invoking this process of post-hole infilling and stabilisation, recorded by Reynolds during experimental work at Pimperne, has two important implications for our study. First of all, it can help not only to account for the presence of pottery and other artefacts in the component post-holes, but also to link them plausibly with the building's actual use. In the case of roundhouse 5213, this could be important in suggesting that the cereal-parching attested by the carbonised grain retrieved from many of the post-holes was actually carried on during the structure's lifetime, perhaps very close by. While some cultural material could well have entered voids in the post-pipes through sweeping of the floor, it is also possible that large items such as the loomweights in post-hole 1578 could have been inserted deliberately to support the base of a part-decayed post-socket. Secondly, the fact that roundhouses do not necessarily depend upon their earthfast posts for structural integrity beyond the first twenty-five years or so of their existence raises the possibility that they could in fact have remained viable structures for a great many decades.

South-east facing entrance or threshold structures attached to roundhouses such as those at Harford Farm are commonplace during the first millennium cal. BC. Important recent research on material throughout the UK has focussed upon artefact distribution and other information to show that the orientation and aspect of structures may have been of the greatest importance in dictating patterns of use within (Fitzpatrick 1991, Hill 1993, Parker-Pearson 1996). This line of enquiry has led to some important observations being made concerning several excavated sites. These include the apparent care with which so many structures and enclosures were oriented south-eastwards towards the sunrise (although it should be noted at least one excavated prehistoric roundhouse from Norfolk, at Redgate Hill, Hunstanton, has a *reverse*, north-westerly orientation: Healy, Cleal and Kinnes 1993, fig.9). Furthermore some closely-studied examples display, from the perspective of one standing inside and facing the entrance structure, signs of an axial 'left/right' division of space, with larger numbers of artefacts occurring in the 'right'/south-western half of the building. A classic example of such a dichotomy can be seen in the case of a large roundhouse at Dunston Park, Thatcham, Berks (Fitzpatrick 1994, fig.4). The observation of patterning such as this has led to suggestions that in many roundhouses a '(left) sleeping/(right) living and eating' division may be observed.

To what extent can such models be applied to the Harford Farm roundhouses? Focussing on the only two fully-excavated examples from the site the northernmost, 3002, produced virtually no artefacts whatever. In the case of roundhouse 5213 the evidence is equivocal (Fig.111). The two post-holes producing relatively large quantities of pottery, 1658 and 1613, both lay on the 'right'/south-west side of the building, as did post-hole 1578 which contained two ceramic loomweights. However caution must be exercised because the two 'flanking' pits to north-east and south-west, which may well have been integral parts of the structure itself, reversed this trend. The 'left'-hand example 5126 was rich in artefacts, containing charcoal, a fired clay loomweight and over 1.5kg of Iron

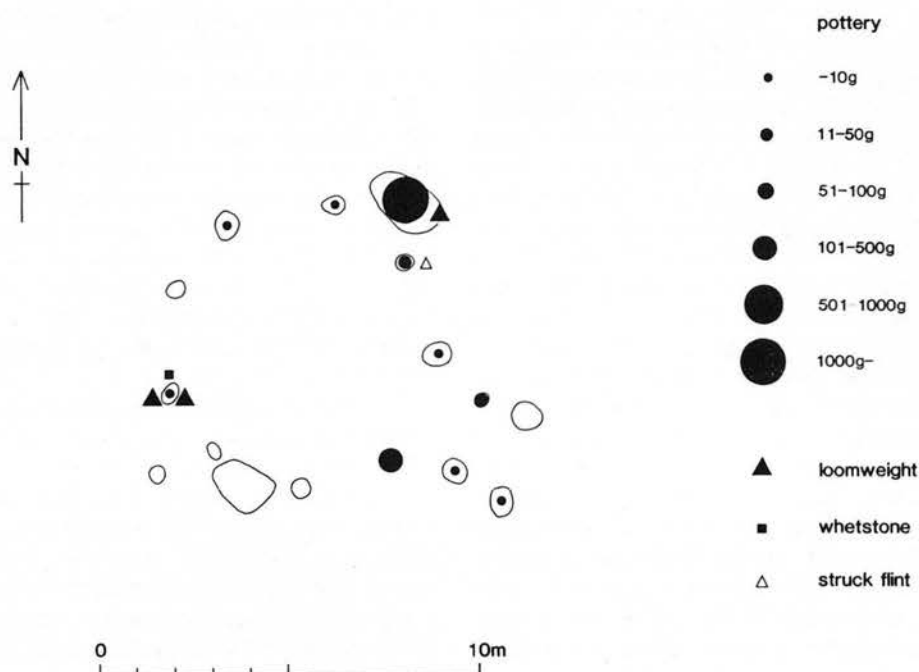


Figure 111 Distribution of artefacts in area of roundhouse 5213

Age pottery, while its 'right'-hand counterpart 1559 was devoid of finds.

Structure 1411 was the only example of a four-post structure excavated at Harford Farm. Although it seems to have stood alone on this site, numerous very similar examples have been excavated recently in Norfolk at Valley Belt, Trowse (Chapter 5) and at Park Farm, Wymondham (Ashwin 1996b). Although the Trowse evidence (where some of the four-posters may have been integral with fenced boundaries) is slightly more problematic, these 'buildings' are most commonly viewed as raised-floor storage structures for grain or other perishable goods. The possibility that 1411 did fulfil such a role may be strengthened by the absence of deep, silo-like storage pits from the Harford Farm landscape.

The enclosures

Within Norfolk, the putative fenced enclosures may be compared with those from Valley Belt, Trowse (Chapter 5 this volume) and Redgate Hill, Hunstanton (Healy, Cleal and Kinnes 1993, 70-77). While those from Valley Belt are most likely to be Iron Age the dating of the Hunstanton fencelines is less clear-cut, with a mid-third to late second millennium date more a matter of probability than certainty. The Harford Farm fences could well have separated individual plots and prevented sheep and cattle from straying. It is unfortunate that the acidity of the subsoil here has destroyed all traces of animal bone, removing all traces of the animal husbandry contemporary with the Period 2 occupation.

The presence of the possible rectangular 'entrance' structure immediately to the north-west of roundhouse 3002 is of especial interest when considering the fact that some at least of the four-post structures at Valley Belt had similar relationships to fences and gullies. Returning to Redgate Hill, Hunstanton, it is possible that two or more

of the post-hole structures were also integral with the already-cited fenced enclosure there (Healy, Cleal and Kinnes 1993, fig.9). Perhaps 'entrance' structures in fenced enclosures would have been useful for coralling and restraining small groups of sheep or cattle while animals were being moved.

Period 3 (Fig.97)

General

Despite heavy plough-erosion the six square enclosures were strongly characterised, and their original appearance can be reconstructed with some confidence. However they have proved difficult to date and to interpret. It is suggested here that they were funerary monuments, of a little-known type which would benefit from academic research on a scale beyond the remit of the Norwich Southern Bypass Project. The following paragraphs will consider the problems of the enclosures' date, summarise the common features which they display, look at comparative evidence from a small number of other sites, and consider their possible function.

The near-total absence of Romano-British features and finds from Harford Farm was striking, given both the proximity of *Venta Icenorum* and the size of the examined area. This negative evidence becomes starker when it is considered that even the square enclosures can to some extent only be dated to the period by analogy because of the extraordinary dearth of artefacts from the site. Perhaps the presence of the still-upstanding Period 1 barrows and the lightness and acidity of the soil both, in their different ways, made the area uncongenial for occupation or intensive use of other kinds during the period. If the hilltop was open heathland or rough pasture at this time, it would have provided an appropriately spacious environment for

the careful laying out of these ritual structures on their polar axis.

The dating evidence for the Period 3 features at Harford Farm leaves a great deal to be desired, and should be approached here from the level of first principles. In stratigraphic terms the square-ditched enclosures clearly post-dated both the Period 1 barrows and — more importantly — the Period 2 occupation of the site, since the south-east corner of enclosure 3002 had disturbed the post-holes of Period 2 roundhouse 3004. The similarity in plan of the southernmost example 2043/2283 to a Romano-Celtic temple, and the retrieval of a single coin of the third century AD from one of its fills — the only stratified Roman coin found at Harford Farm — both suggested a broadly Romano-British date. Before discussion continues, it must be conceded that such an assessment of date rests upon the writer's assessment of the balance of probabilities. An *earlier* Iron Age date for the complex certainly may not be ruled out. The possibility of a *later* Roman or Anglo-Saxon date for the complex is also a real one. Recent investigations by Blair into Pagan Saxon shrines and their origins (Blair 1995) have drawn together several examples of small square enclosures of broadly similar scale to those at Harford Farm. Many of these features are as devoid of dating evidence as our own. While some examples of likely Roman date are noted by Blair others are demonstrably Anglo-Saxon, including those excavated at Slonk Hill, Sussex (Hartridge 1978) and at Yeavering, Northumberland (Hope-Taylor 1977). None of the Harford Farm enclosures actually surrounded Anglo-Saxon graves, nor did any stratigraphic contact between graves and enclosures occur.

Leaving aside the problem of date, Blair's paper also identifies and catalogues another fascinating and relevant issue: the apparent frequency with which these square enclosures are superimposed upon round barrows of earlier date. Certainly the situation of enclosure 2043/2283 upon the central area of the Period 1 barrow at Harford Farm appears to make it but one example of a wider national phenomenon, known from cropmarks in the Upper Thames Valley and elsewhere and from excavations at Haddenham, Cambs and other sites. It is possible that the Harford Farm enclosure is another exemplar of a tradition in the ritual and funerary re-use of earlier prehistoric monuments, observable in many different parts of the country and deserving of further study in its own right.

The square-ditched enclosures

(Fig.112)

No Norfolk parallels for the Harford Farm enclosures have been recorded to date, either from excavation or by air photography, with the exception of the two square enclosures dug by the Norwich Southern Bypass team at Valley Belt, Trowse later in 1990 (Chapter 5). These are published in Chapter 5 of this volume. Although only examined summarily, these enclosures shared the distinguishing characteristics of those at Harford Farm: elevated situation, polar alignment, inner banks, and absence both of associated features and dating evidence!

The builders of the enclosures had set them out in a north-to-south line, the three southernmost examples lying 20m–25m apart from each other. It has already been noted how in all cases, apart from the northernmost ploughed-out examples 3183 and 3231, there was good

evidence that the enclosure ditch had once surrounded an inner bank. In the case of enclosure 3002 this was probably only c. 2m wide and of quite modest height. The post-in-trench wall or fence surrounding enclosure 2043 was the only one of its kind in the group. It is conceivable that other enclosures in the series were once encircled by similar 'aisles' now destroyed by erosion. On reflection, however, this seems unlikely, if only because not a single component post-hole or beam-slot for such a feature was found elsewhere. This composite southernmost enclosure, therefore, was probably different in appearance from its neighbours, although it cannot actually be proved whether outer 'wall' 2283 was part of the monument's original plan or was a later addition.

Comparisons with the square barrows of the Iron Age 'Arras Culture' in the East Riding of Yorkshire (Stead 1979, Stead 1991) are inevitable — indeed such an interpretation was mooted in the Norwich Southern Bypass Project Research Design many years before the 1990 excavation. Did the square-ditched features actually represented the remains of such barrows from which all traces of burial had been eroded away by the plough? A glance at the cover photograph of Stead's 1991 monograph will illustrate the Norfolk features' uncanny superficial kinship to the 'Arras' monuments. Several factors hinder a direct comparison, however. These include the lack of positive evidence for central mounds, the absence of the prominent central grave-shafts characteristic of the East Riding barrows, and the lack of attested examples of such barrows from England south of the River Humber (Whimster 1981, 126). Not necessarily significant in such a topographically different part of the country, but nonetheless worthy of note, is the fact that the Caistor and Trowse monuments were sited on hilltops while the square barrows of the Yorkshire Wolds occurred typically in large valley-bottom cemeteries (Stead 1991).

Similar enclosures to those at Harford Farm have been excavated at Maxey (Cambs), and published by Pryor and French (1985). Here a series of small square-ditched enclosures of Iron Age date was found in the vicinity of an earlier prehistoric henge monument. They had once enclosed central mounds or earthworks of some other kind, but they were devoid of finds and datable material. The excavators were inclined to view them as 'Arras'-style barrows, although they contained no extant graves and posed similar interpretative problems to the Harford Farm structures. Despite the dearth of *excavated* evidence, however, a number of other very similar groups of square enclosures have been identified by aerial surveillance, particularly in the East Midlands and Essex. These add up to form a little-known but distinctive group of sites which are characterised and discussed in Whimster 1981 (123–128, figs 47–8). The group of enclosures at Harford Farm seems almost indistinguishable in size, spacing and linear distribution from 'lines' of square-ditched features seen from the air at Greatford, Lincs. and Hemingford Grey, Cambs.

Whimster points to the excavation of a line of small square enclosures featuring central cremations at Mucking, and to the presence of square ditches around many of the burials from the large Gallo-Belgic cemetery at King Harry Lane, Verulamium (Stead 1969). It may be that these problematic features represent a 'new' (in insular terms) type of square barrow which appeared in Britain during the first century cal. BC, at about the same

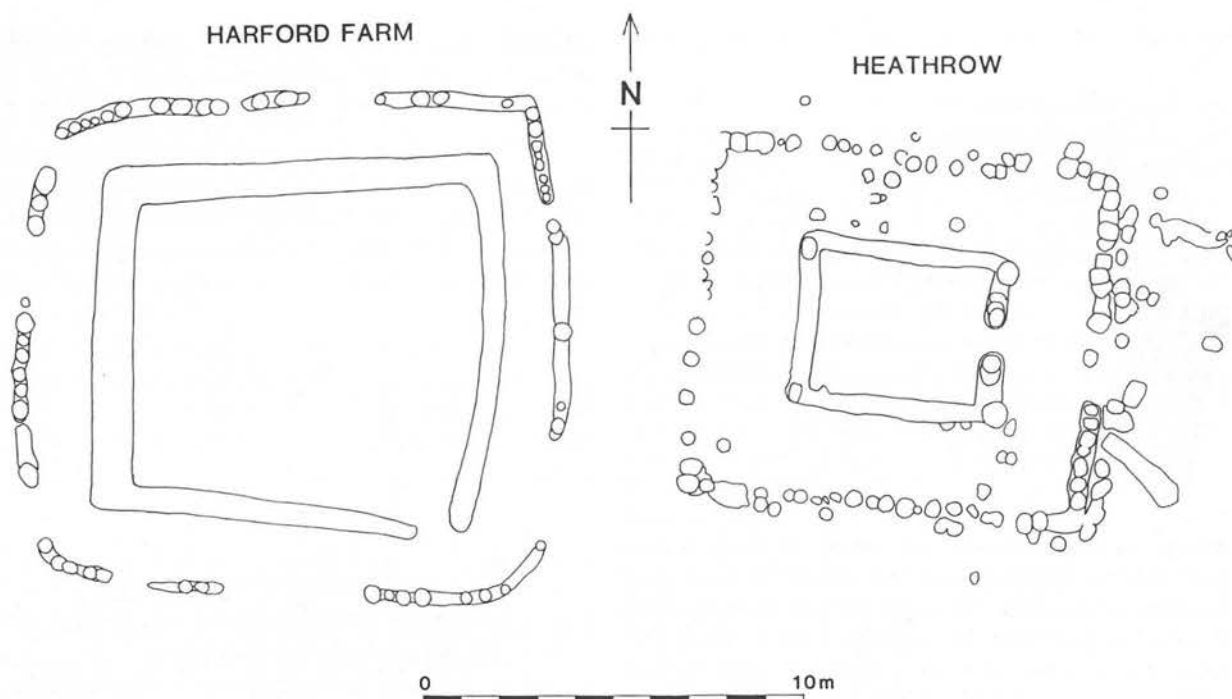


Figure 112 Comparative plan: square-ditched enclosure 2043 and Heathrow shrine (after Grimes and Close-Brooks 1993). Scale 1:200

time as the various burial practises of the 'La Tene III' type. In this context it is conceivable that their form was influenced by the square barrow tradition of northern France rather than the 'Arras' practise of East Yorkshire.

On the basis of the present slender knowledge it is probably most constructive to view the Harford Farm square enclosures as examples of such small square barrows, in which miniature 'ramparts' enclosed shallow central cremation deposits long since removed by the plough. These monuments might well date to the hundred years following c. 50 cal. BC. This interpretation is strengthened by the nearby presence of pit 2005 with its cremated bone and brooch dating to the early first century AD. Although mostly ploughed away, with the loss of virtually all the bone, this feature demonstrates clearly that cremation burials were in fact taking place at Harford Farm at about this time, and it is possible that 2005 was merely the sole survivor of many. Seen in total, these excavated results are of broader importance on three grounds.

Firstly, even in their plough-damaged and part-excavated state, they constitute further excavated examples of the putative barrow class first characterised by Whimster, and provide an interim model for the interpretation of similar crop-mark complexes elsewhere. Although no central burials survived, their ritual or funerary nature could be surmised, and, while no earthworks survived *in situ*, their former appearance as upstanding monuments could be reconstructed with a certain amount of confidence. Secondly, it has been indicated that the southern double-concentric enclosure provides another example of the already-discussed 'squared circle' phenomenon in the ceremonial or funerary re-use of barrows and other ringworks catalogued by Blair (Blair 1995). Thirdly, this southernmost enclosure 2043 with its 'temple'-like plan resembles the temple or shrine excavated at Heathrow Airport in 1944 (Grimes 1961,

recently published definitively in Grimes and Close-Brooks 1993), which is also likely to date from the post-Caesarian period.

The celebrated Heathrow building differs from the Harford Farm structure in being rather smaller in size. It also featured a central square gully which was interpreted as a trench for a timber sill, rather than an open ditch feature surrounding an inner bank, yet the outer 'colonnade' excavated by Grimes resembles that at Harford Farm (Fig.112; Grimes and Close-Brooks 1993, fig.10). The publishers of the Heathrow temple envisage the building to have been roofed, the outer 'colonnade' forming a lean-to structure abutting a rigid central *cella*. Such a reconstruction cannot be advanced so easily for the Harford Farm 'shrine' due to the absence of any trace of structural features in the inner area, and it seems more plausible to present it as a ditched enclosure open to the air but surrounded by a screen-like timber fence.

Black (1986) considers the range of cemetery structures known from Iron Age and Roman contexts in Britain and their possible functions. Harford Farm may have provided another valuable example of a very early 'Romano-Celtic temple' to set alongside the much-cited Heathrow shrine and the intriguing but very small double-concentric structure from Lancing Down, Sussex (Bedwin 1981). The enclosure's possible context — as a funerary monument forming an integral part of a group of other funerary monuments — makes it possible that it was some kind of mausoleum. As such it would be a fascinating precursor of the more substantial mortuary temples discussed by Black (Black 1986, figs 1-3) from Hemel Hempstead, Harpenden and many other sites which date to the later Roman period.

Period 4

The Anglo-Saxon cemetery

The Harford Farm cemetery is fully discussed and placed in its geographic and historical context by Kenneth Penn in the companion volume to this report (Penn 2000).

All indications are that Harford Farm remained unoccupied throughout the 600 years or more which separated the use of the Period 3 square barrow cemetery and the re-use of the site for burial around the year 700 AD. It is possible that the site selected for the Anglo-Saxon cemetery had been heath or grazing land rather than under cultivation. It is clear that the Period 1 round barrows were still significant upstanding features at this date which to some extent governed the location of the Period 4 burials.

Both groups of graves had been sited close to barrows. The northern concentration lay on flat land immediately to the south of the very prominently-sited northern barrow. The more southerly of the two had obviously been superimposed upon the large barrow mound once encircled by ring-ditch 1022, with a consequent loss of graves when the mound was levelled by the plough. That this had occurred was shown by the absence of inhumations from the central area of the barrow save for one very eroded example; the small scraps of iron present in the upper fill of Period 1 grave shaft 1469 may have been detritus left by the plough-destruction of further inhumations. Such metallic 'fall-out' from plough-truncated Anglo-Saxon graves has been noted elsewhere, notably at Oxborough, Norfolk (Penn 1999) where the ploughing of a Bronze Age barrow which once contained Saxon burials left evidence of a similar kind.

No traces were found at Harford Farm of any Period 4 activity other than the deposition of the forty-six

inhumations, and any fencing or ancillary buildings connected with the cemetery must have been too ephemeral to survive the ravages of subsequent agriculture.

Period 5

The date of the various landscape divisions represented by the few Period 5 ditches is unknown. Perhaps some of them were hedgebank ditches forming part of earlier enclosure layouts. They tended to skirt the structures of the Period 1 barrows, showing that although all of the ring-ditches had by now infilled the upstanding earthworks endured. The course of the east-west aligned ditch 1323 demonstrated that the central mound of the disc barrow in the south-east part of the excavated area, which was probably never a very tall feature, still stood. Elsewhere on the site, the north-south ditch 107 became briefly narrower and shallower where it cut the eastern side of barrow ring-ditch 1022. This suggested that by the time this boundary ditch was dug the large mound of this barrow had spread somewhat at its edges.

Apart from this small number of fairly insubstantial boundary ditches the Harford Farm site was virtually clean of features or artefacts post-dating the Anglo-Saxon cemeteries. Perhaps the most useful piece of information concerning the site in relatively recent centuries is the name of the field to the south of Markshall Farm Road, 'Markshall Old Heath'. Although the area was enclosed by the time of Faden's map of Norfolk at the beginning of the nineteenth century it seems most likely that the hilltop was open and unsettled during the medieval period, and probably remained open heathland until quite recent centuries.

5. Excavations at Valley Belt, Trowse (Site 9589), 1990

by Trevor Ashwin and Sarah Bates

I. Summary

Large-scale area excavation, in advance of gravel extraction for use during the construction of the Norwich Southern Bypass, revealed evidence for at least two discrete episodes of prehistoric occupation. The first of these probably dated to the later third millennium BC and was associated with Beaker pottery. The second is likely to have dated to the early to mid first millennium BC and was evidenced by pits, ditched enclosures and quantities of Iron Age pottery. Little evidence was discerned for subsequent human activity. However two square-ditched ceremonial features, possibly of later Iron Age date were recorded, along with a Romano-British iron-smelting furnace. A crop-mark ring-ditch, interpreted before excavation as a ploughed-out round barrow, was shown to be of recent date.

II. The Site

Location and discovery

(Pl.XXXIX; Figs 2, 113)

The excavated area was situated atop a gravel hillock, one of a series forming the eastern edge of the Yare-Tas valley at this point. The area was for the most part a gently undulating plateau, varying in elevation between 24.5m and 26m OD and with its summit lying in the eastern part. The westernmost one-third of the field dropped away steeply towards the confluence of the rivers Yare and Tas, while on its southern edge the land sloped precipitously into the valley of a small stream flowing eastwards towards the Yare. This steep slope and the damp, low-lying ground at its foot was occupied by the covert known as Valley Belt, from which the site takes its name. The projected line of the Norwich Southern Bypass crossed the eastern edge of the field.

Topographically the location was very similar to the site of the three Bixley ring-ditches (Fig.2), only c. 800m further to the south-west, which had been dug by the NAU as the first stage of the Norwich Southern Bypass Project (Chapter 3). Site 9589 had long been under intensive cultivation as part of Crown Point Estate (Colmans of Norwich), and no upstanding earthworks or other positive features have ever been recorded there. However air photography, by J.K. St Joseph during 1956–7 and subsequently by Derek Edwards in 1973–4, revealed a number of crop-marks. These features were recorded and plotted onto the crop-mark overlay maps held by the Norfolk Sites and Monuments Record. In the centre of the field a strong crop-mark was identified as that of a large double-concentric ring-ditch. It was thought that this might represent a further flattened example of an Arminghall group barrow. Less distinct signs of three smaller 'ring-ditches' were observed lying a little to its south, while a rectilinear crop-mark in the southern part of

the field was interpreted as part of a square enclosure of unknown date.

Excavation became necessary when the whole extent of the field was threatened by gravel extraction connected with the construction of the bypass. Unfortunately, due to a series of misunderstandings, NAU was not informed that planning consent to undertake this work had been granted until topsoil had been removed from the site in early August 1990. When this misunderstanding came to light, work on the pit ceased until arrangements had been made between the developers and NAU for safeguarding the archaeology.

Previous research

Fieldwalking by Andrew Lawson, then Field Officer with the NAU, and Derek Woollestone in 1979–80 produced some 160 flint items of general Neolithic type, including several scrapers and some long blades. Three sherds of coarse, flint-gritted pottery were also found in the field.

The Excavation Research Design

The site was visited during initial stripping by Trevor Ashwin and Jayne Bown of the NAU. At this time many archaeological features were visible, including the large ring-ditch already known from air-photographic evidence. However much of the western part of the field, which sloped steeply towards the River Yare, was covered by subsoils and colluvium of recent formation. Part of this area was mechanically re-stripped, under Trevor Ashwin's supervision, to see whether any archaeological features lay below. None were seen with the exception of a north-to-south aligned ditch already known from air photographs. A sample section proved that this was of post-medieval date.

As a result of this work it was decided to release the westernmost, steeply-sloping, part of the field to the contractors so that gravel extraction could begin immediately. An agreement with the developers allowed for the excavation of the whole of the rest of the field by the NAU between October and Christmas 1990. This was to be done in five discrete areas, each of which was to be released for immediate quarrying when excavation and recording was complete.

Before work began, it was thought likely that the crop-mark ring-ditches and rectangular enclosure would be the main features of archaeological interest. Detailed excavation of these features to ascertain their date and possible function was envisaged, and the stage-release of the various areas of the site for quarrying was designed to ensure that the NAU would have access to the area of the circular 'barrow' crop-marks for the duration of the dig. The potential that might be offered by features lying between the crop-marks was also noted, since archaeological opportunities to study land-use in the areas around and between prehistoric barrows arise so rarely.



Plate XXXIX Aerial view of the site under excavation, looking north-west.
The City of Norwich is clearly visible in the background.
(TG2406/AX/GFR3, 10 October 1990, Derek A. Edwards)

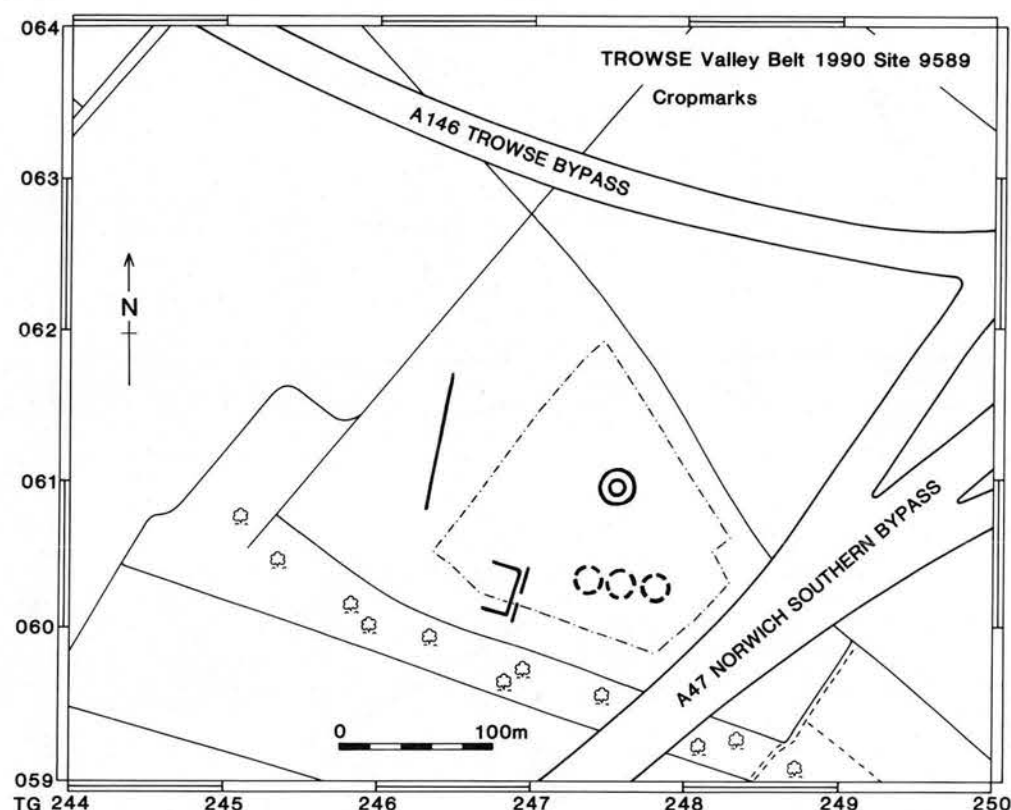


Figure 113 Site location plan, showing trenches and crop-marks. Scale 1:5000

The excavation

(Pl.XLII; Fig.114)

The excavation was undertaken by a team of eight NAU archaeologists. The northern and western parts of the site were examined in October and early November 1990 and were then handed over to the developers for gravel extraction while the rest of the area was excavated. The large size of the site precluded manual cleaning of the whole area in such a short time, so all remnants of subsoil were stripped using a large hydraulic excavator. This closely-supervised process was very successful in identifying subsoil features.

At an early stage of the work it became clear that the archaeological remains were rather different to those which had been anticipated. The circular crop-marks which had initially drawn attention to the site were seen to be modern, despite their resemblance to prehistoric barrows. This was made clear by the very recent material produced from their fills and by the presence of other modern features nearby; it was soon appreciated that they represented the remains of a World War 2 searchlight or anti-aircraft gun station. However, cleaning of the site also produced much unanticipated material, including many pits and post-holes of prehistoric date. During the preliminary week of the work a small number of these were excavated in the northernmost part of the site. Some of them produced large quantities of prehistoric pottery, including splendid feature-assemblages of comb-impressed Beaker and Iron Age pottery. This showed that the Trowse hilltop had been occupied at various times during the prehistoric period.

These finds caused great anticipation within the excavation team. No extensive site producing quantities of Beaker from apparently domestic contexts had been

excavated under modern conditions in Norfolk, with the exception of a small number of features excavated by the NAU in advance of gravel extraction at Salter's Lane Longham (Site 13025, Ashwin 1998), while the regional Early Iron Age 'type-site' of Micklemoor Hill, West Harling (Clark and Fell 1953) remained the only published example of an extensively-excavated Iron Age settlement site from the county. It was decided to excavate as many of the features of likely prehistoric date as possible during the eleven weeks available for the work, in the hope that subsequent post-excavation analysis would elucidate the prehistoric sequence at the site.

Post-excavation analysis

From the outset of post-excavation analysis severe difficulties were encountered in phasing the numerous pits and post-holes excavated at Valley Belt, and this despite the presence of abundant potential dating evidence in the form of pottery of Iron Age (17.5kg) and Beaker (1kg) types. By the time of its conclusion, a great many features and deposits could not be assigned with confidence to any of the Periods 1-5.

All cut features which were identified and excavated are shown on Fig.114; also included are natural features, most of them round solution hole shafts of the type encountered at Bixley (Chapter 3). It was clear at the time of excavation that many of the ditches and other linear features could be assigned to Period 2, due to the discovery of a small number of assemblages of Iron Age pottery in primary contexts. However the dating of small isolated features was a more difficult matter. Some pits and post-holes could be phased on the basis of informative and clearly undisturbed assemblages of pottery and other finds, and all of these are summarily described in this

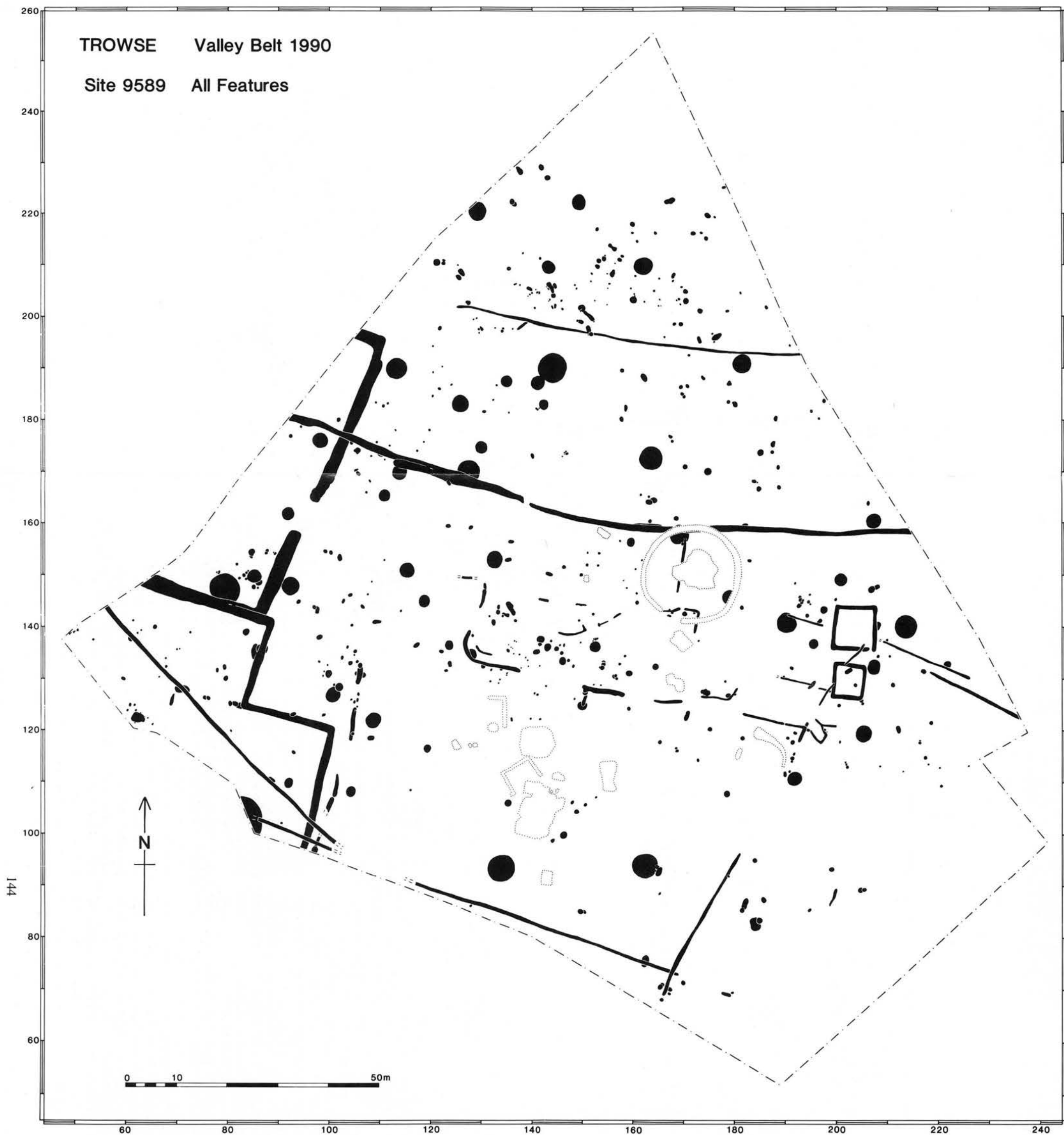


Figure 114 Plan showing all features. Scale 1:750

report. The majority of features, however, either contained no artefacts at all or produced only very small numbers of abraded sherds. Phasing was further impeded by plough-truncation, which often made it difficult to compare the form and dimensions of the pits and post-holes, and by the general absence of stratigraphic relationships between features on this dispersed site. High levels of artefact residuality and contamination were also noted. This could be seen in the admixture in some contexts of Beaker and Iron Age ceramics, the occurrence of Beaker pottery in features demonstrably of Period 2 date (in fact the largest single context-assemblage of Beaker came from a slot excavated through the segmental Period 2 ditch 761) and finally in the widespread occurrence of cultural material in natural (Period 0) deposits, in particular the fill of solution holes.

In view of these difficulties, the authors (TA and SB) reluctantly concluded that no attempt could be made at phasing *all* contexts at Valley Belt. The project Research Archive contains summary data on the features which remained unphased. In reading the following report it should be borne in mind that only those isolated features which can be assigned to Periods 1, 2 and 3 on unequivocal artefactual or spatial grounds have been phased as such.

III. Period 1

Introduction

The problems involved in phasing the prehistoric features at Valley Belt can be seen clearly when Fig. 115 (Period 1 features) and Fig. 121 (distribution of features containing Neolithic and Bronze Age pottery) are compared. Despite a spread of Beaker sherds and other material, only a very small number of cut features could be assigned without question to Period 1. However it is likely that some at least of the numerous truncated pits and post-holes on the site which could not be phased on artefactual or spatial grounds dated in fact to this Period too.

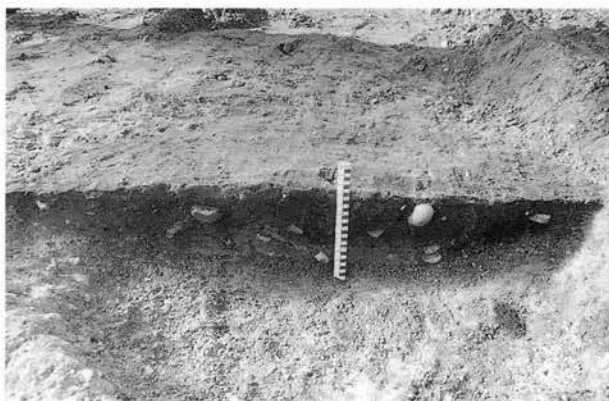


Plate XL North-east-facing section through pit 209.
Scale = 0.3m. (FMC 5, Trevor Ashwin)

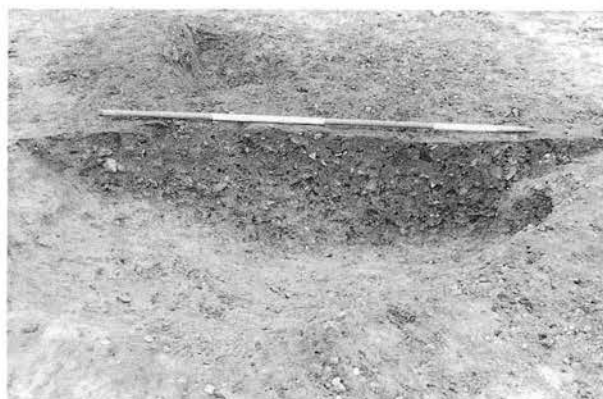


Plate XLI West-facing section through pit 1132.
Scale = 2m. (FME 32, Sarah Bates)

Pits in the northern part of the site

(Pl.XL; Figs 115 and 116)

Very close to the western edge of the excavation lay a distinctive group of three small pits. Two of them, 209 and 211, contained dark charcoal-rich fills and large numbers of comb-decorated Beaker sherds (Fig. 124; P67-P71). These were generally unabraded and relatively large in size. The original purpose for which the pits were dug was not known, but they appear to have been used for rubbish disposal. Environmental sampling produced an assemblage of fragments of charred cereal and hazelnut shell. It is possible that this group had once included further pits which lay in the area to the west which had been destroyed by quarrying.

Approximately 60m to the south-east of these features was excavated another small pit which clearly dated to Period 1 too. While this feature, 1192, contained only a small amount of Beaker-type pottery, some of these (Fig. 125; P77 and P78) were quite large and showed little sign of abrasion.

Pits in the southern part of the site

(Pl.XLI; Figs 115 and 117)

The only other features demonstrably of Neolithic or Bronze Age date were two large intercutting pits, 1134 and 1157, found in the south-western part of the site. Both had been backfilled with sandy deposits; the deeper of the two pits, 1134, produced approximately 7kg of worked flint despite being only half-excavated. A single sherd of Beaker pottery was also found.

The pits' original function could not be discerned, but pit 1134 seemed to have been backfilled with rubbish which included debris from a nearby knapping area. Flakes and core fragments predominated, with only six of the 408 pieces from the feature being finished implements. Unfortunately erosion of the surrounding part of the site had removed all traces of the location or extent of this activity.

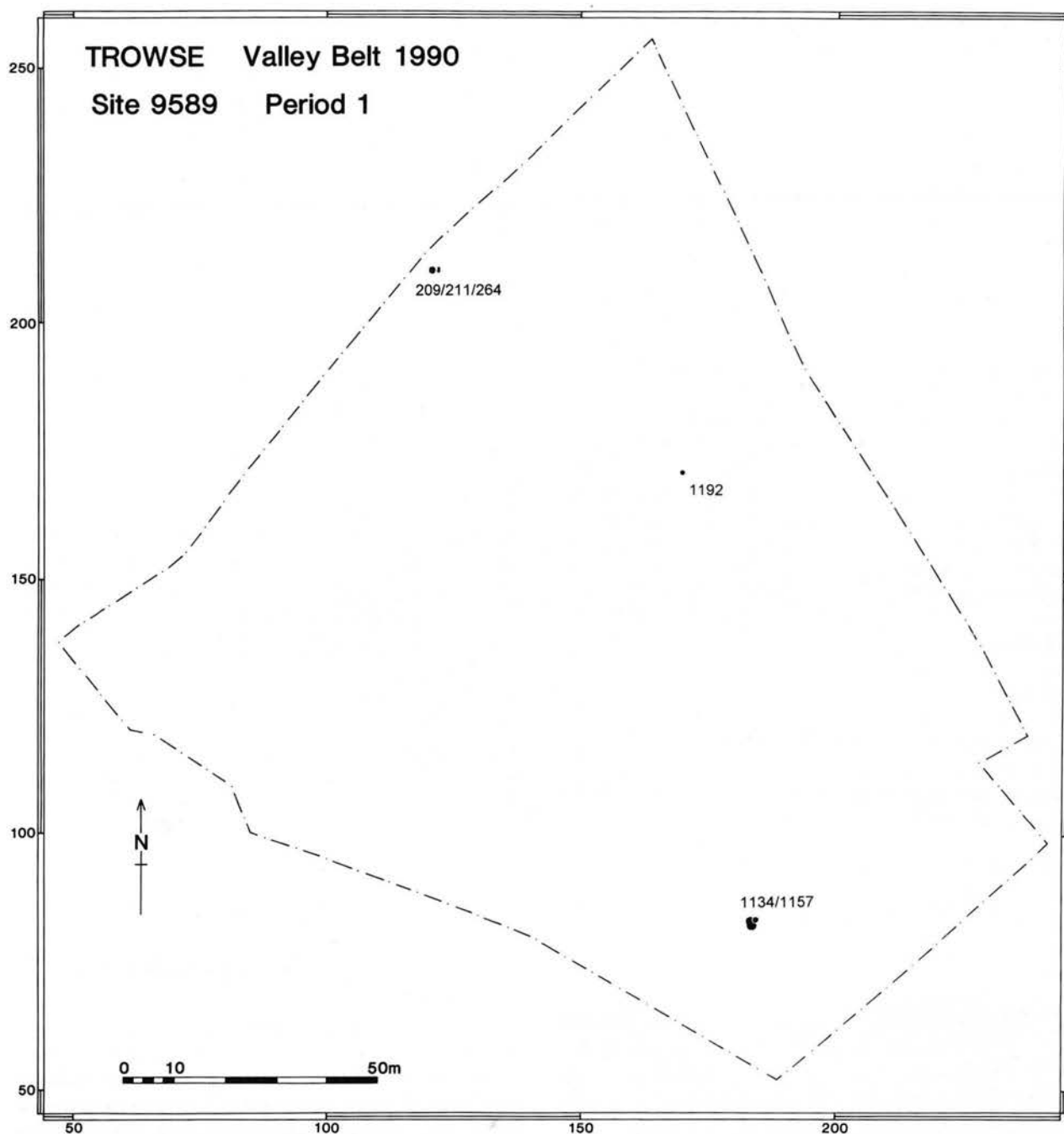


Figure 115 Period 1 phase plan. Scale 1:1250

TROWSE Valley Belt 1990 Site 9589 Period 1

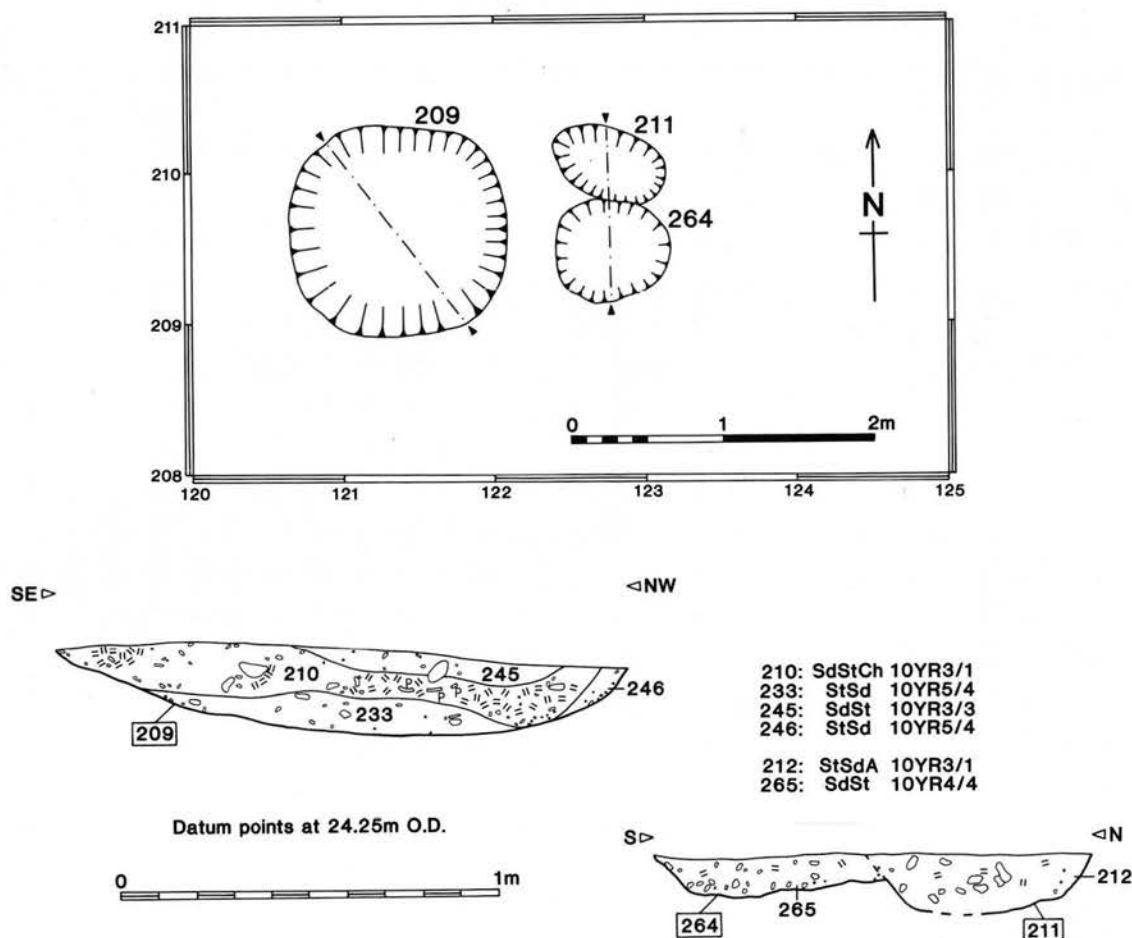


Figure 116 Plans and sections of pits 209, 211 and 264. Plans scale 1:50, sections scale 1:20

Artefacts

Struck Flint
by Peter Robins
(Figs 118–120)

General

A total of 1286 lithic artefacts were recorded, all but six of which were of flint. Raw material for the flint artefacts consisted mainly of nodules or cobbles with a thick cortex. The presence of shatter pieces, split cores, distorted flakes and incipient breaks indicates that much of the raw material was frost-damaged and unreliable. It could have derived from the gravels underlying the site. There was little evidence for the use of any but hard-hammer techniques.

The widespread occurrence of artefacts over the whole site and the apparently very high levels of residuality gave little basis for detailed analysis of individual feature or group assemblages, and many of the artefacts can only be treated as isolated finds. The likely scale of lithic residuality is highlighted by (for instance) the presence of two diagnostically Neolithic transverse arrowheads (including illustrated piece F25) in the fill of Iron Age pit 1275. However, two assemblages from features unquestionably of Period 1 date deserve description here. In addition a few

isolated artefacts will be described since they have diagnostic value.

Pit 1134

Almost one third of the total lithic artefacts recovered from the excavated area came from pit 1134. This was almost certainly a relatively undisturbed assemblage from a working site from which most finished items had been removed. The cores and fragments well illustrated the problems encountered in working the available flint. Several exhibit incipient or actual breaks in the working face due to frost damage, while others had been worked to the stage where natural voids in the raw material prevented further use.

Although generally irregular in their residual shape, most of the cores were single- or double-platform types designed for the production of long narrow flakes. Of the three scrapers in the assemblage two were very large thin examples (e.g. F33), in contrast to the general form of scrapers from the rest of the area. Two serrated-edged tools were incomplete narrow flakes with a small area of cortex at the distal end (e.g. F29), the teeth showing considerable wear although no signs of cereal polish. A large pointed retouched flake, with a planar platform derived from a patinated surface, refitted a large multi-platform core of pale grey flint.

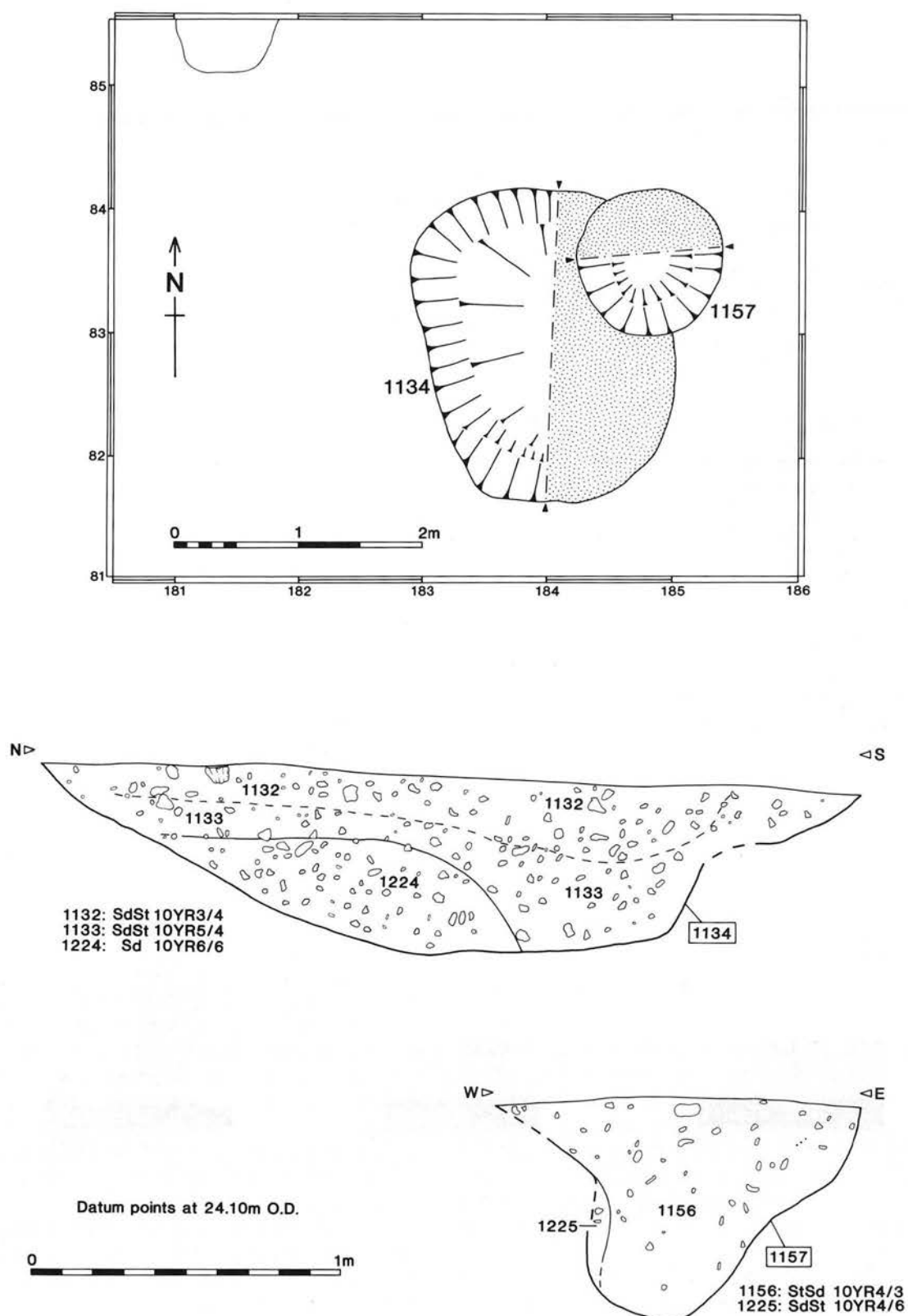
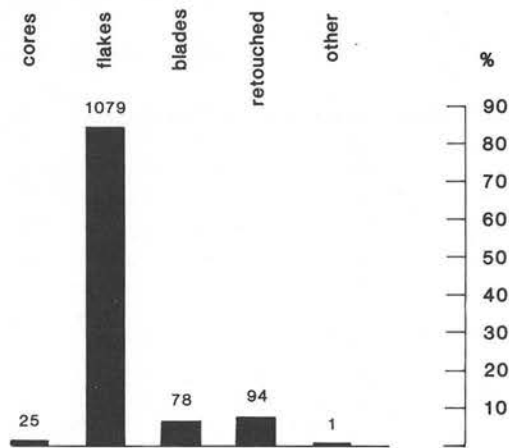
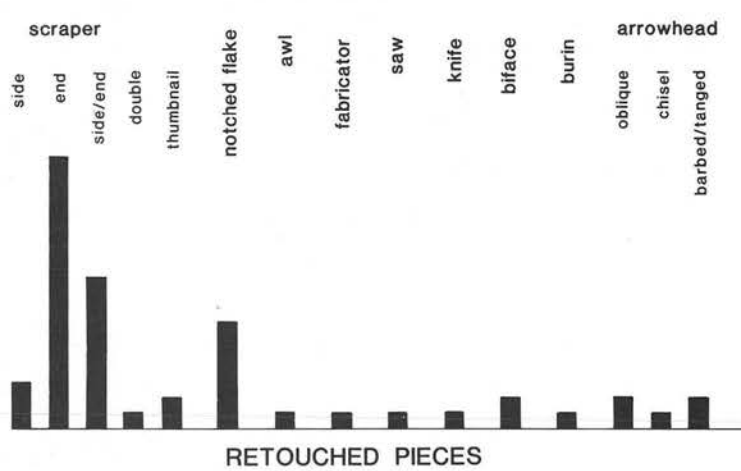


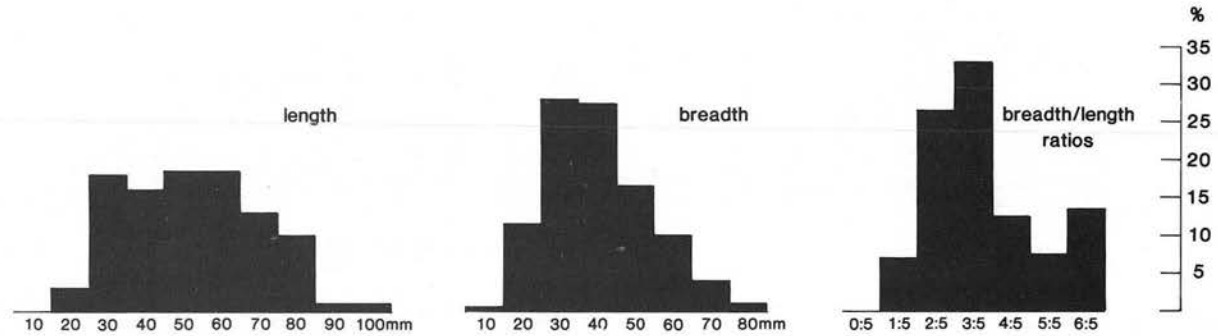
Figure 117 Plans and sections of pits 1134 and 1157. Plans scale 1:50, sections scale 1:20



Trowse 1990
Site 9589
LITHICS SUMMARY



RETOUCHED PIECES



Pit 1134: dimensions of flakes and blades

Figure 118 Lithics summary

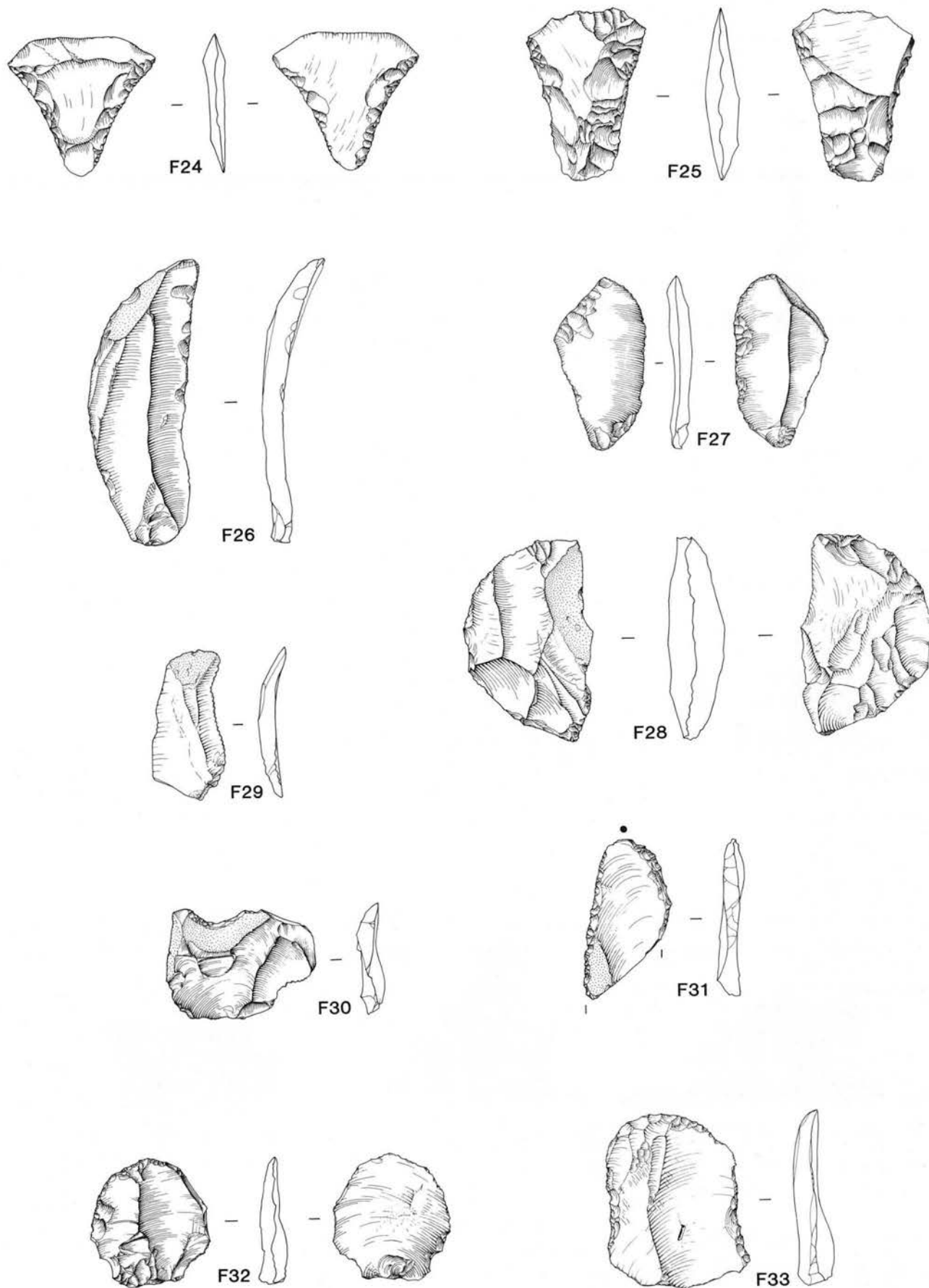


Figure 119 Lithic material, F24-F33. Scale 1:2

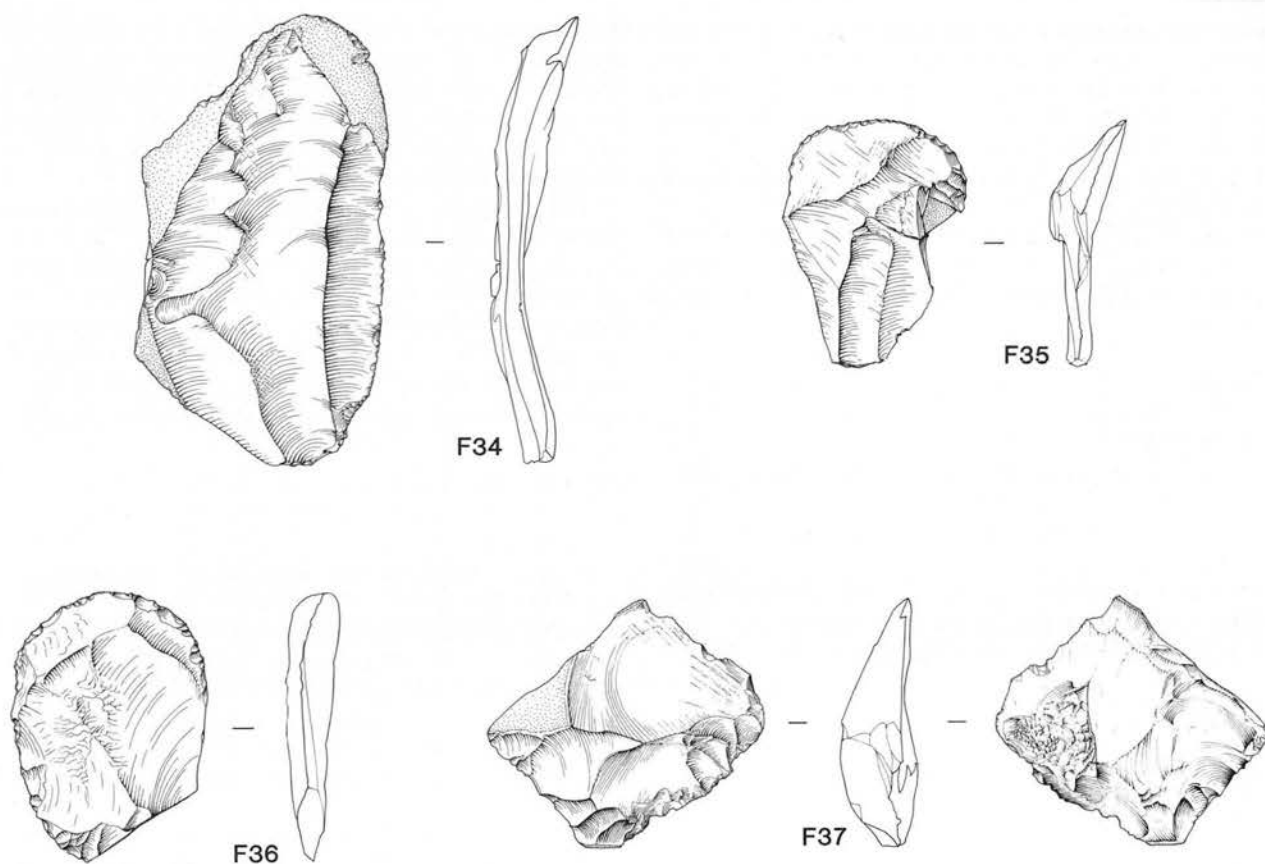


Figure 120 Lithic material, F34-F37. Scale 1:2

All complete flakes and blades from this assemblage were subjected to metrical analysis, and Fig. 118 displays the results in histograms of length, breadth and breadth-to-length ratio. Smith (1965), Wainwright and Longworth (1971) and Wainwright (1972; 1979) have considered that a distinction may be drawn between earlier and later Neolithic flake production by comparing the pattern of breadth/length ratios, with earlier assemblages containing a higher proportion of long narrow flakes. The breadth/length ratio histogram from this feature assemblage, while admittedly based upon a relatively small number of flakes (184), is inconclusive in form, not falling easily into either an 'early' or 'late' pattern.

Pit 209

This feature, which lay close to the western edge of the excavated area, contained eighty-seven flints in association with much Beaker pottery. Although the fills contained evidence of burning only one flint had suffered heat damage. The implements comprised twelve scrapers, one notched piece, eight other retouched pieces and a small bifacially-worked adze blade (F37) which had been discoloured by heat. Although no refits could be identified several flakes were clearly derived from a single nodule, with a characteristic cortex and a naturally fractured plane which had been used as a striking platform.

Adze blade F37 had been bifacially worked at one end to form a curved cutting edge. The twelve scrapers, all prepared on primary or secondary flakes, were relatively small (27mm-50mm in length) and variable in character, with one or more lengths of steep retouch. Three were

end-scrapers on natural flakes, while the rest displayed various combinations of end and lateral retouch. Notched piece F30 had its worked edge on a cortical area of a side-struck flake. Two flake knives (F26, F27) bore extensive edge damage.

Catalogue of illustrated flints

(Figs 119 and 120)

- F24 Arrowhead; s.f. 211, context 1229, fill of pit 1226
- F25 Arrowhead; s.f. 226, context 1276, fill of pit 1275
- F26 Knife; s.f. 245, context 210, fill of pit 209
- F27 Knife; s.f. 247, context 210, fill of pit 209
- F28 Knife; s.f. 219, context 1229, fill of pit 1226
- F29 Serrated blade; s.f. 185, context 1132, fill of pit 1134
- F30 Notched flake; s.f. 237, context 210, fill of pit 209
- F31 Scraper; s.f. 293, context 970, fill of solution hole 969
- F32 Scraper; s.f. 297, context 1082, fill of pit 1081
- F33 Scraper; s.f. 186, context 1132, fill of pit 1134
- F34 Scraper; s.f. 298, context 1132, fill of pit 1134
- F35 Scraper; s.f. 315, context 1156, fill of pit 1157
- F36 Scraper; s.f. 225, context 1276, fill of pit 1275
- F37 Adze; s.f. 249, context 210, fill of pit 209

Discussion

An overall view of the collection of flint artefacts from the site leads to the conclusion that most of the diagnostic artefacts were Neolithic. The absence of leaf-shaped arrowheads, and of any ground or polished axes or axe fragments, together with the presence of oblique and chisel-ended arrowheads (Green 1970), suggests that most of them date to the later third or early second millennium cal. BC.

The Period 2 Iron Age features clearly contained quantities of residual Neolithic and Bronze Age material, both pottery and flint. However this does not exclude the

possibility that some of the *non*-diagnostic flintwork and debitage considered here was contemporary with the accompanying Iron Age pottery. Certainly in the case of Period 2 pit 1226 the presence of a lunate knife with a refitting flake showed that some contemporary flint working was probably taking place. It is possible that a detailed analysis of the levels of abrasion of the flints from contexts of Period 2 date might allow some separation of contemporary and derived material, and a fuller recognition of the existence of an Iron Age flint-working tradition at this site.

Pottery

by Sarah Percival

(Figs 121–125)

164 sherds of Neolithic and Bronze Age pottery weighing 1.16kg were retrieved from thirty contexts at Valley Belt.

Only two features producing pottery in any quantity, the Beaker pits 209 and 211, could be securely attributed to Period 1. The majority of earlier prehistoric sherds were either found in natural features or redeposited in later features which had been disturbed by agricultural activity.

Earlier Neolithic pottery

Plain bowl pottery: two sherds from a rim of Neolithic plain bowl (P51) were found in pit 7, a shallow feature which also contained Iron Age pottery. The rim was simple and upright with a flattened top. The fabric was hard and well-fired, and contained flint but no grog.

Mildenhall Ware: Mildenhall Ware, the East Anglian regional style of the southern Neolithic decorated bowl tradition, was first defined by Smith (1954). The tradition was represented at Trowse by P52, a 'T'-section rim which was decorated with cord-impressed maggots along the top of the rim and on the outer surface of the vessel. The fabric was hard and well-fired, and contained fine quartz sand and angular flint grits. The walls of the vessel were fairly thin.

The Neolithic bowl sherds found at Trowse seem to be good representatives of their type in East Anglia. The hard-fired sand and flint-tempered fabrics account for the well preserved and unabraded condition of the sherds. This is characteristic of such Neolithic material, which has been found to survive well compared to the softer Early Bronze Age fabrics (Healy 1991b).

The plain bowl rim P51 does not appear to belong to the Grimston tradition; although it is undecorated and of a simple form, it lacks the characteristic everted or thickened rim (Gibson and Woods 1990). The Neolithic bowl tradition survived relatively unchanged for a long period of time, spanning the period c. 4000–2900 cal. BC (Healy 1991b). Mildenhall sherd P52 was similar to material from Spong Hill, Elmham (Healy 1988, fig.75), where a large assemblage of Mildenhall Ware was found. Within the region Mildenhall Ware has also been found at Hurst Fen, Mildenhall, Suffolk (Longworth 1960) and Orsett, Essex (Kinnes 1978). The tradition appears to have been very long-lived, becoming established during the fourth millennium cal. BC and continuing for over a thousand years.

Peterborough Ware

The Later Neolithic impressed ware tradition is represented at Trowse only by a single sherd of Mortlake Ware (P53), in a sandy, flint-tempered fabric which was

hard and well-fired. The decoration consists of impressed cord maggots. The sherd appears to be from the thickened neck of a bowl, which may be considered a cavetto zone. It was found in pit 1192, a feature which also contained other Late Neolithic/Early Bronze Age sherds as well as Beaker and Iron Age material.

P53 has strong parallels with the Mortlake Ware from Spong Hill, Norfolk (Healy 1988, fig.79). The sherd exhibits multiple twisted cord 'maggot' impressions and a plain cavetto zone, both of which are characteristic of the Mortlake style (Smith 1954). Mortlake style ware is considered to have developed from decorated bowl styles in the early to mid third millennium cal. BC and to have continued in use well into the second millennium cal. BC.

Grooved Ware

Single sherds of Grooved Ware were found at Trowse in contexts 121 and 1458, the fills of a pit and a gully respectively. Both features were heavily truncated by plough damage and also contained Iron Age pottery. P56 contained grog and flint temper, and was decorated with deep incised scores running up the body of the vessel. The fabric was hard and well-fired. The sherd appears to be from the base of a flat-bottomed vessel. P54 was less substantial, and was decorated with shallower scores in a chevron motif. The fabric contained flint and quartz sand temper.

P56 lacks diagnostic features and therefore cannot be attributed to either the Clacton or Durrington Walls substyles as defined by Wainwright and Longworth (1971), although the incised vertical lines may be point to the later. P54 may tentatively be assigned to the Clacton substyle, which characteristically features multiple chevron decoration. A contemporary assemblage from Norfolk excavated at Redgate Hill, Hunstanton (Healy, Cleal and Kinnes 1993) contained many pieces similar to the Trowse sherds.

Beaker

148 sherds of Beaker weighing 1.05kg were retrieved from twenty-nine contexts at Valley Belt. All but five of the excavated feature assemblages were of five sherds or less.

Only four Beaker-producing deposits were contained by features which could be phased to Period 1 with certainty. Most were from pits and post-holes of uncertain date and some were obviously residual in features of Iron Age/Period 2 date. Beaker sherds occurred, for example, in the fills of Period 2 pits 7 and 1356, while the largest collection from a single feature (seventy-four sherds, albeit many of them very fragmentary indeed) came from the fill of the Iron Age gully 761.

The Beaker from Trowse seems typical of pottery from Beaker domestic sites in East Anglia. The fabrics were quartz sand- and flint-gritted, with the occasional use of grog. The sherds were mostly light in colour, well-fired and fairly hard. Surface treatments varied, but most were smoothed both inside and outside. Two sherds (one of them illustrated as P73) were decorated with die-stamped motifs. A bird bone or twig may have been used to produce the marks, which are triangular in shape. The sherds resemble a vessel found at Fengate, Cambridgeshire (Bamford 1982, fig.37).

Fingernail impressions are a common decorative motif used on Beaker pottery and were found on two sherds from Trowse, P65 and P72. The fingernail impressions are

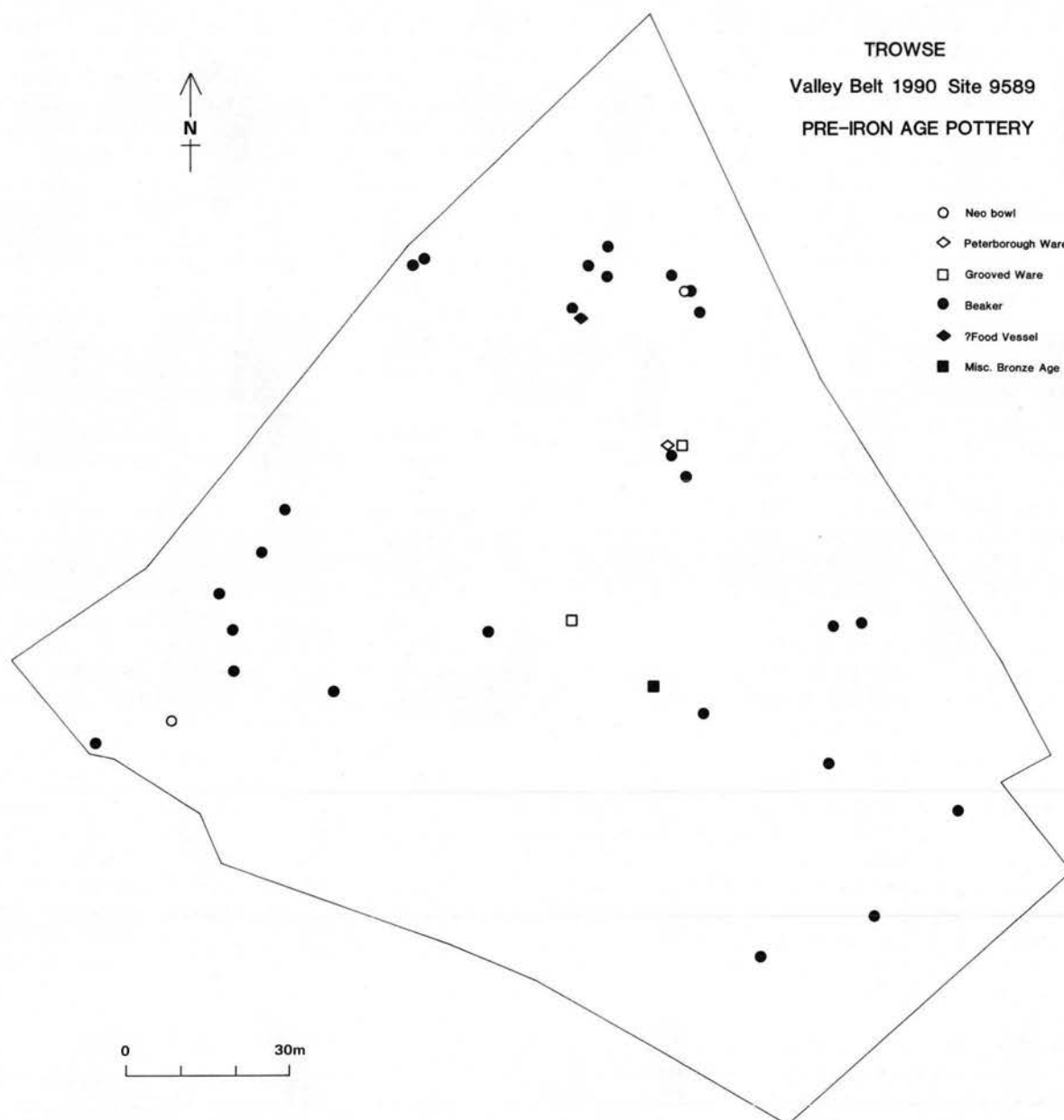


Figure 121 Distribution of features containing Neolithic and Bronze Age pottery. Scale 1:1250

paired on P72 to form a crows-foot motif. Paired fingertips were used to pull the clay away from the surface of the vessel when the clay was wet to produce a raised cordon effect on P79 and P66. This form of decoration is quite common in Norfolk (*e.g.* Edington, Norfolk: Bamford 1982). Fingertip-impressed sherd P78 was unusual within the Beaker assemblage as it contained large flint and quartz inclusions and was generally much coarser than the rest of the sherds. It appeared to have been part of a large Beaker storage jar.

Comb impressions occurred on several sherds. P80 was decorated with a combination of comb strokes and distinctive half-moon shaped impressions which appear to have been made using a scallop shell. The ladder motif and half-moons are distinctive to East Anglia, and were also found at Hockwold Site 93 (Bamford 1982, fig.93). Incised decoration is also to be found, P82 featuring 'boxes' of incised lines running around the body of a vessel which appeared to be cylindrical with an everted rim.

Only two pits contained undisturbed deposits of Beaker. These were the neighbouring features 209 and 211 close to the north-western limit of the site, where the presence of large and undisturbed sherds suggested fresh deposition. In *pit 209*, twelve sherds were found representing four vessels. Three of these, represented by P67–70, were comb-impressed Beakers of Clarke's Late Southern type (Clarke 1970). P70 represented an intricately decorated vessel, with a geometric comb-impressed design which appears to cover the entire body of the vessel. The rim was rounded but slightly flattened, and the decoration ran up to the rim but did not cover it. P67 was slightly abraded and in a similar fabric. The vessel from which the sherds came displayed a slight curve which may represent a rounded shoulder. P69 was too abraded to show any obvious motif, but was probably from a vessel with a curving belly. P68 was a decorated body sherd from a heavy Beaker storage jar in a coarse, flinty fabric. *Pit 211* produced three Beaker sherds representing two vessels.

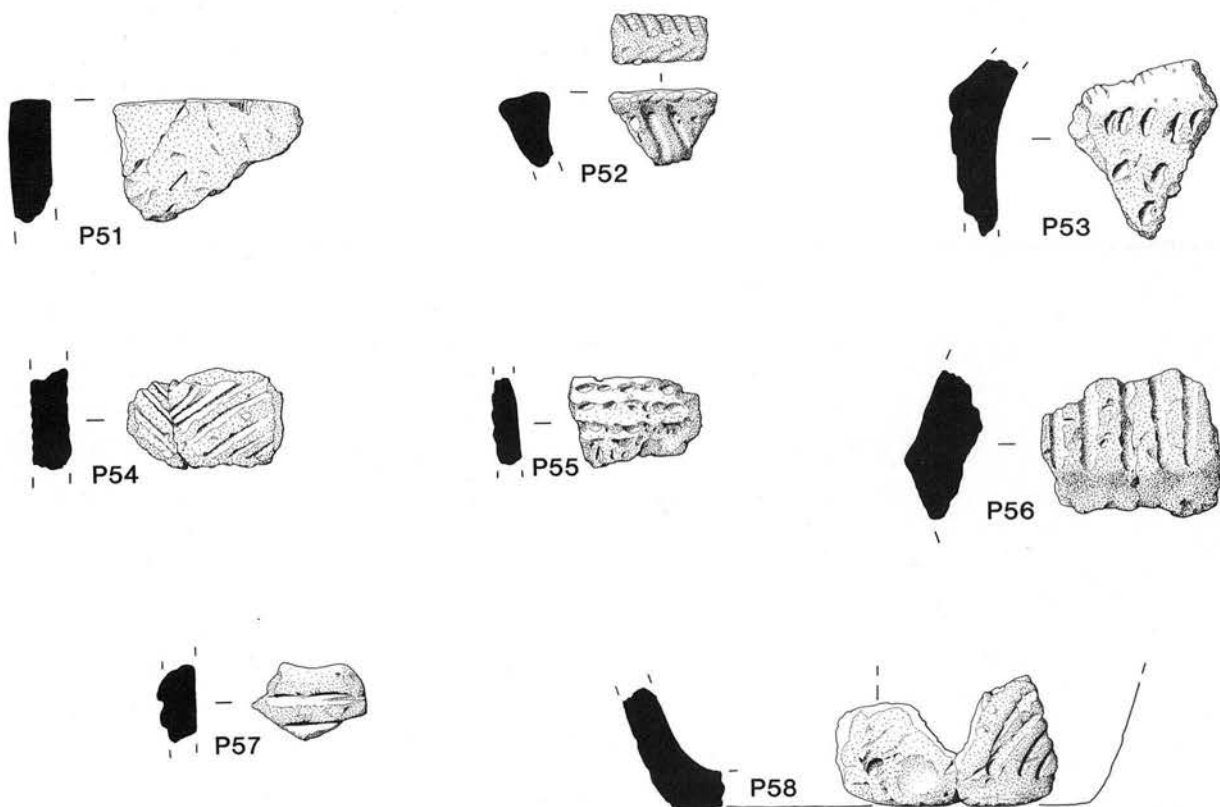


Figure 122 Neolithic pottery P51-P58. Scale 1:2

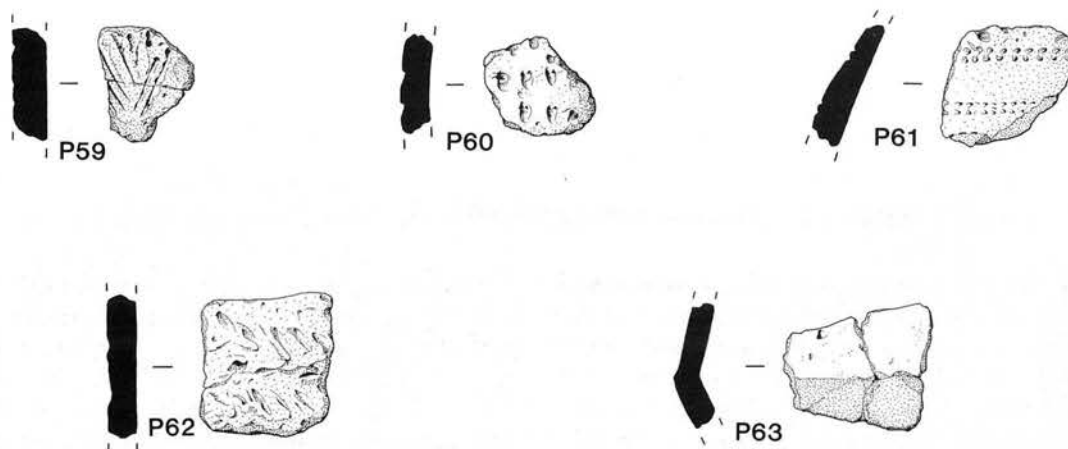


Figure 123 Intermediate Neolithic/Bronze Age pottery P59-P63. Scale 1:2

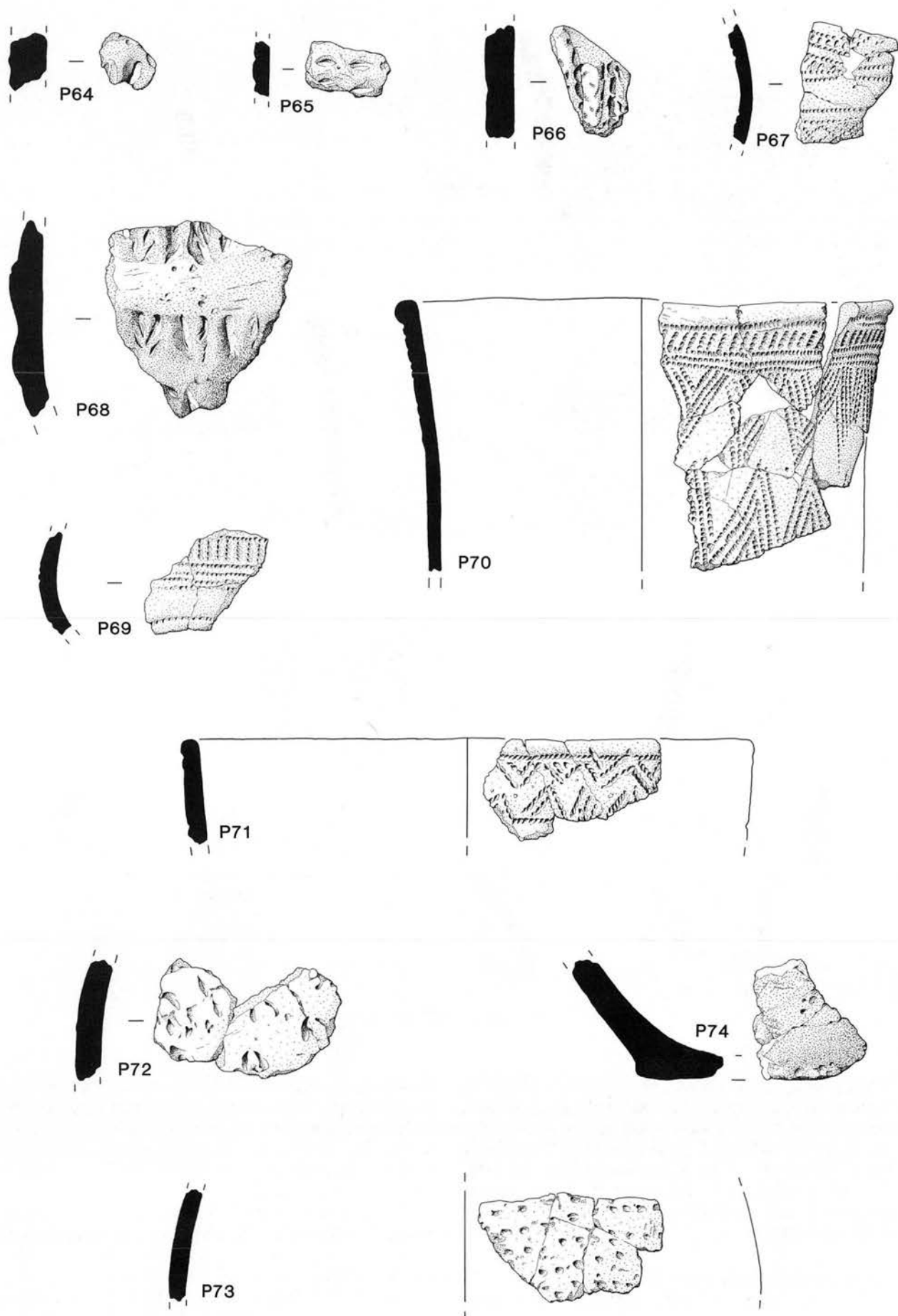


Figure 124 Beaker pottery P64–P74. Scale 1:2

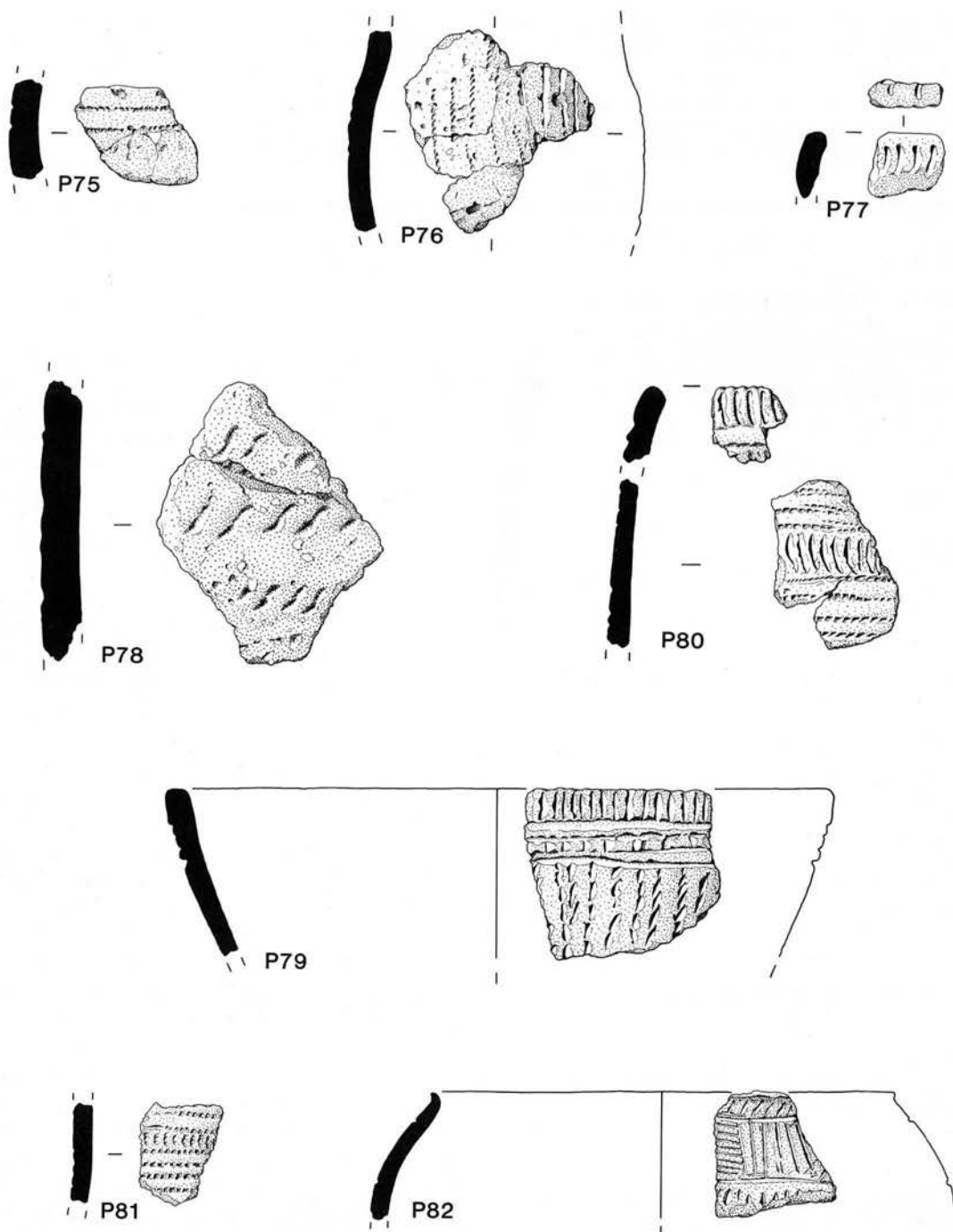


Figure 125 Beaker pottery P75-P82. Scale 1:2

Three joining rim sherds and decorated body sherd P71 came from a comb-impressed Beaker with an upright neck and slight shoulder. Its neck was decorated with rows of zig-zag comb impressions contained within a wide band, but it is not known if the body of the vessel was decorated. Another sherd of similar fabric was too fragmentary to assign to a vessel type but was decorated with geometric comb impressions.

Indeterminate Neolithic/Early Bronze Age pottery
P55 was found in pit 1192, along with sherd P61 discussed below and Mortlake sherd P53. The fabric was thin, hard-fired and flint-gritted. Decoration consisted of thick cord impressions in parallel lines running around the body of the vessel. The dense hard fabric suggested that it

belongs to the Neolithic. P58 represented the base of a flat-bottomed vessel of hard, flint-gritted material. The sherd is decorated with incised scores running diagonally up the side of the vessel. The fabric is consistent with a Late Neolithic date; it is possible that P58 was the base of a Grooved Ware vessel.

P61 was made of soft, fine flint- and sand-tempered fabric. The decoration was distinctive, consisting of bands of bird-bone impressions running around the body of the vessel. This sherd might have been of Bronze Age date, perhaps part of a Food Vessel. P55 and P58 were of indeterminate character and may have been of similar date to, or possibly somewhat later than, the Grooved Ware described above. P61 cannot be classified.

A number of sherds have fabrics which do not accord well with the Neolithic or Beaker fabric types identified at Trowse. These sherds were generally fragmented and abraded, and could be regarded as 'Late Early Bronze Age' on the strength of their decoration and fabric. P57 was of fine quartz-gritted fabric and was decorated with shallow incisions in a chevron motif. P60 was decorated with stabbed bird bone impressions.

Catalogue of illustrated sherds: Neolithic pottery
(Fig. 122)

- P51 Neolithic bowl;** context 8, fill of pit 7. Hard. Moderate quartz, sparse flint, some sand.
P52 Mildenhall Ware; s.f. 115, context 723, fill of post-hole 722. Very hard. Flint common, quartz sand common.
P53 Mortlake Ware; s.f. 162, context 1194 fill of pit 1192. Very hard. Flint common.
P54 Grooved Ware; s.f. 30, context 121, fill of pit 120. Hard. Moderate grog, sparse flint.
P55 ?Grooved Ware; s.f. 164, context 1194, fill of pit 1192. Hard. Sparse flint.
P56 Grooved Ware; s.f. 191, context 1458, fill of exc. section 1457 (gully 1471). Hard, moderate grog.
P57 Late Neolithic; s.f. 23, context 121, fill of pit 120. Hard. Abundant grog, common quartz.
P58 Late Neolithic; s.f. 31, context 121, fill of pit 120. Hard. Abundant grog, common quartz.

Catalogue of illustrated sherds: indeterminate Neolithic/Bronze Age pottery
(Fig. 123)

- P59 Early Bronze Age;** s.f. 14, context 8, fill of pit 7. Hard. Common calcined flint, moderate quartz, sparse flint.
P60 Early Bronze Age; s.f. 28, context 203, fill of gully 202. Hard. Common quartz, moderate flint sparse ?haematite.
P61 Indeterminate Late Neolithic/Early Bronze Age; s.f. 144, context 1194, fill of pit 1192. Soft. Common grog, sparse quartz.
P62 Early Bronze Age; s.f. 154, context 1428, fill of pit 1427. Soft. Common grog, sparse quartz.
P63 Early Bronze Age; context 1851, fill of pit 1848. Hard. Common grog, sparse quartz.

Catalogue of illustrated sherds: Beaker
(Figs 124 and 125)

- P64 Beaker;** s.f. 1, context 47, fill of pit 46. Hard. Moderate/common quartz, moderate grog.
P65 Beaker; s.f. 11, context 161, fill of pit 158. Hard. Common grog, moderate quartz and (?grog) vacuoles.
P66 Beaker; context 192, fill of post-hole 191. Hard. Common grog, moderate quartz and (?grog) vacuoles.
P67 Beaker; s.f. 56, context 210, fill of pit 209. Hard. Common quartz, moderate calcined flint, sparse grog.
P68 Beaker; s.f. 37, context 210, fill of pit 209. Hard. Common quartz and calcined flint, moderate grog.
P69 Beaker; s.f. 42, context 210, fill of pit 209. Hard. Abundant clear quartz, common calcined flint, moderate grog.
P70 Beaker; s.f. 39, context 210, fill of pit 209. Hard. Abundant clear quartz, common calcined flint, moderate grog.
P71 Beaker; context 212, fill of pit 211. Hard. Abundant calcined flint.
P72 Beaker; s.f. 118, context 629, fill of gully 628. Hard. Common grog, moderate quartz and (?grog) vacuoles.
P73 Beaker; s.f. 102, context 674, fill of gully 628. Soft. Moderate grog.
P74 Beaker; context 675, fill of gully 628. Hard. Common grog, sparse flint.
P75 Beaker; s.f. 120, context 675, fill of gully 628. Hard. Common grog, moderate calcined flint.
P76 Beaker; context 675, fill of gully 628. Hard. Common flint, sparse grog.

- P77 Beaker;** s.f. 145, context 1194, fill of pit 1192. Hard. Common flint, sparse grog.
P78 ?Beaker; s.f. 143, context 1194, fill of pit 1192. Very hard. Common flint.
P79 Beaker; s.f. 155, context 1209, fill of pit 1208. Very hard. Abundant quartz, sparse flint.
P80 Beaker; s.f. 156, context 1209, fill of pit 1208. Hard. Abundant quartz, common calcined flint, moderate grog.
P81 Beaker; s.f. 157, context 1209, fill of pit 1208. Hard. Abundant quartz, common calcined flint, moderate grog.
P82 ?Beaker; s.f. 156, context 1399, fill of pit 1356. Hard. Common flint, sparse grog.

Discussion

The small size of the collection of Neolithic pottery found at Trowse reflect both the heavily damaged condition of the site and the lack of opportunity to examine the overburden, which had all been machined away by the time the NAU became involved. In view of the manner in which a high proportion of pottery from Beaker living sites is often found unstratified (Healy 1995) this is a serious loss.

The Neolithic plain bowl and Grooved Ware sherds were all found singly in contexts which also contained sherds of Iron Age date. In general the Neolithic and Early Bronze Age material from the site could well cover an extensive period ranging in date from 4000 to 2000 cal. BC or later, but the predominant Beaker material dates from the latter part of this chronological bracket. Certainly the pottery offers no positive evidence for occupation here pre-dating c. 3000 cal. BC, in the almost complete absence of either plain or decorated earlier Neolithic bowls.

In studying the ceramic patterns of the 'Late Neolithic/Early Bronze Age' era (c. 3000–2100 cal. BC) Cleal (1984) and Healy (1988) have both noted the tendency for the three distinct potting traditions of the period — Peterborough Ware, Grooved Ware and Beaker — to be segregated from each other. This separation may take the form either of the complete dominance of a site assemblage by one or another of the styles or (as at Spong Hill) the occurrence of different ceramic types in different and separated parts of a site. Needless to say, the largely disturbed and unstratified nature of the Valley Belt collection precludes any detailed observations concerning deposition patterns with the features themselves (cf Healy 1988, 107), but nonetheless the ceramics from the site fit comfortably into our present knowledge of ceramic deposition traits in being almost exclusively of one tradition.

The Beaker sherds from Trowse are characterized by the use of fingertip and comb-impressed decoration in geometric designs. This suggests that they can be classified within Case's 'Late' Beaker phase (Case 1977), or the latter elements of Clarke's Southern series (Clarke 1970). The dominance of 'Late'-style beakers is typical of many domestic sites of the period in East Anglia, where the style seems to have become well-established during the latter part of the third millennium cal. BC.



Plate XLII Aerial view of western part of site under excavation. Period 2 ditched enclosures visible prominently.
(TG 2406/AZ/GFX10, 7 December 1990, Derek A. Edwards)



Plate XLIII Ditches 408, 414 under excavation, looking west. (FMA 6, Trevor Ashwin)

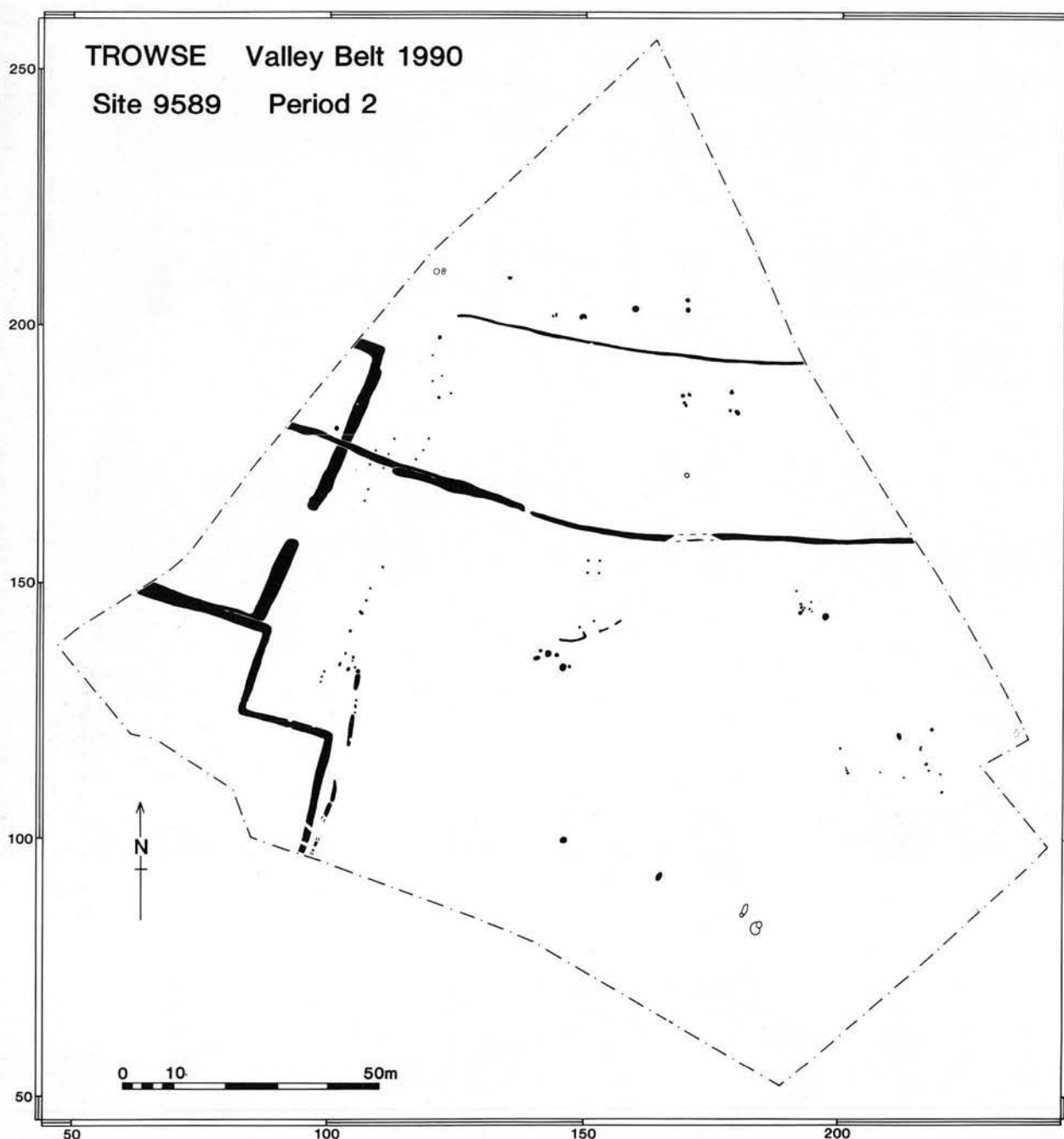


Figure 126 Period 2 phase plan. Scale 1:1250.
See Fig. 127 for context nos of main features

IV. Period 2

Introduction

Features and artefacts of Iron Age date were encountered across the whole of the excavated area, and included enclosure ditches, four-post structures and pits of varying dimensions. However the difficulties in phasing which have already been mentioned must not be forgotten; a large number of isolated features which remain 'unphased' may well in fact be of Period 2 date.

Linear boundaries

(Pls XLII, XLIV; Figs 126–128)

A series of ditches, some of them quite substantial, have been interpreted as a rectilinear system of land boundaries dividing up the northern and north-eastern parts of the site. The Iron Age date of several of them was made clear by

ceramic evidence, in particular by the quantities of pottery from the lower fills of enclosure ditch 406. Also thought to be of Period 2 date were fragments of two post 'fences' which lay parallel with ditch 406 and a short distance to its east. These shared the alignment of the enclosure ditch 406 immediately to the west.

The sequence of the various Period 2 boundaries could not be elucidated fully, but a stratigraphic sequence of at least three distinct episodes of land division could be detected. The earliest of these seemed to be represented by the rectilinear enclosure surrounded by ditch 406. It is assumed that most of this feature had been destroyed by the quarry, leaving only the easternmost part for examination. The line of the ditch was broken by a causeway c. 5m wide in its west face. Ditch 406 was the most substantial of all of these features, being over 1m deep in places, and had infilled by silting and natural settlement processes.

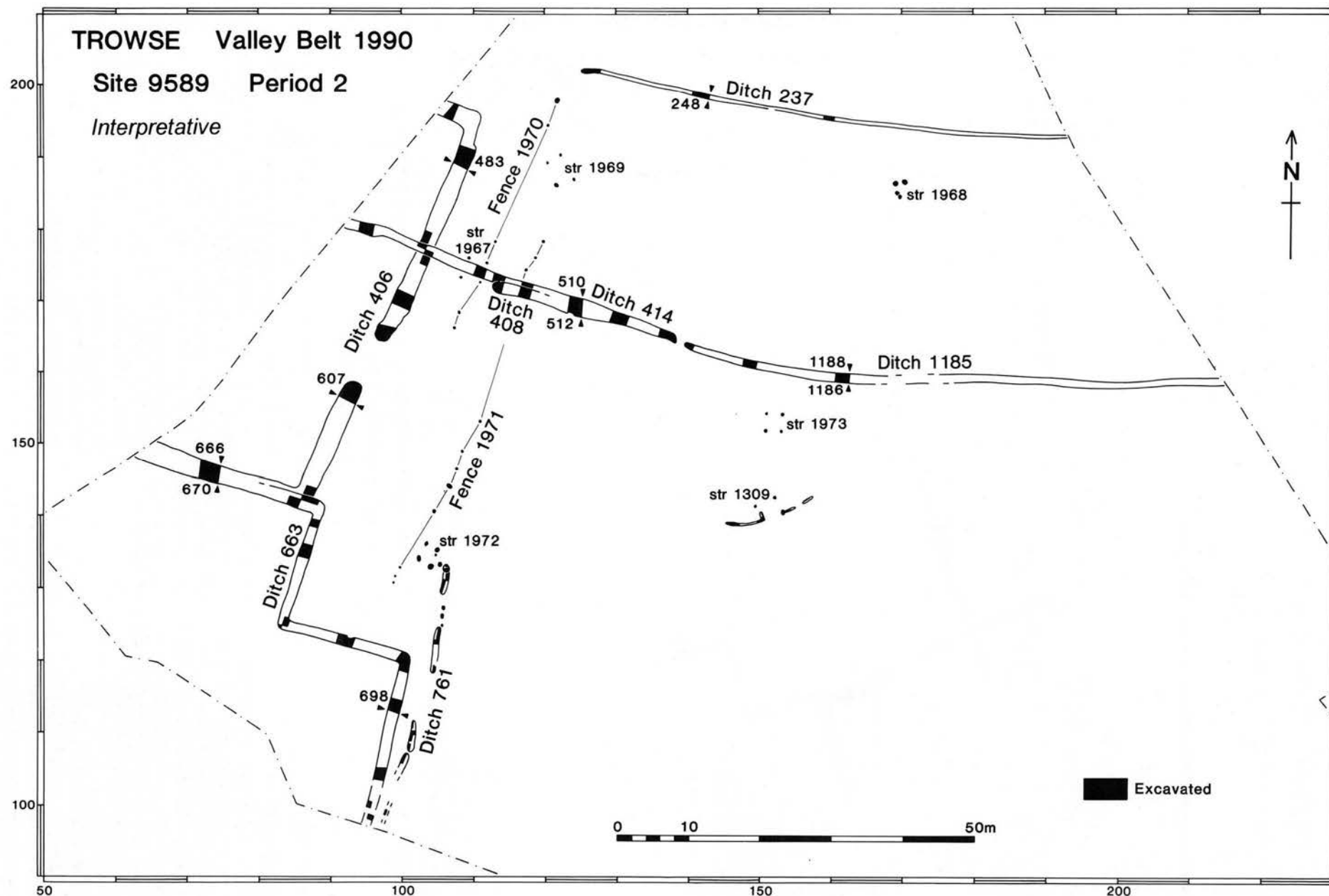


Figure 127 Plan of Period 2 ditches and fence-lines. Scale 1:700

TROWSE Valley Belt 1990 Site 9589 Period 2

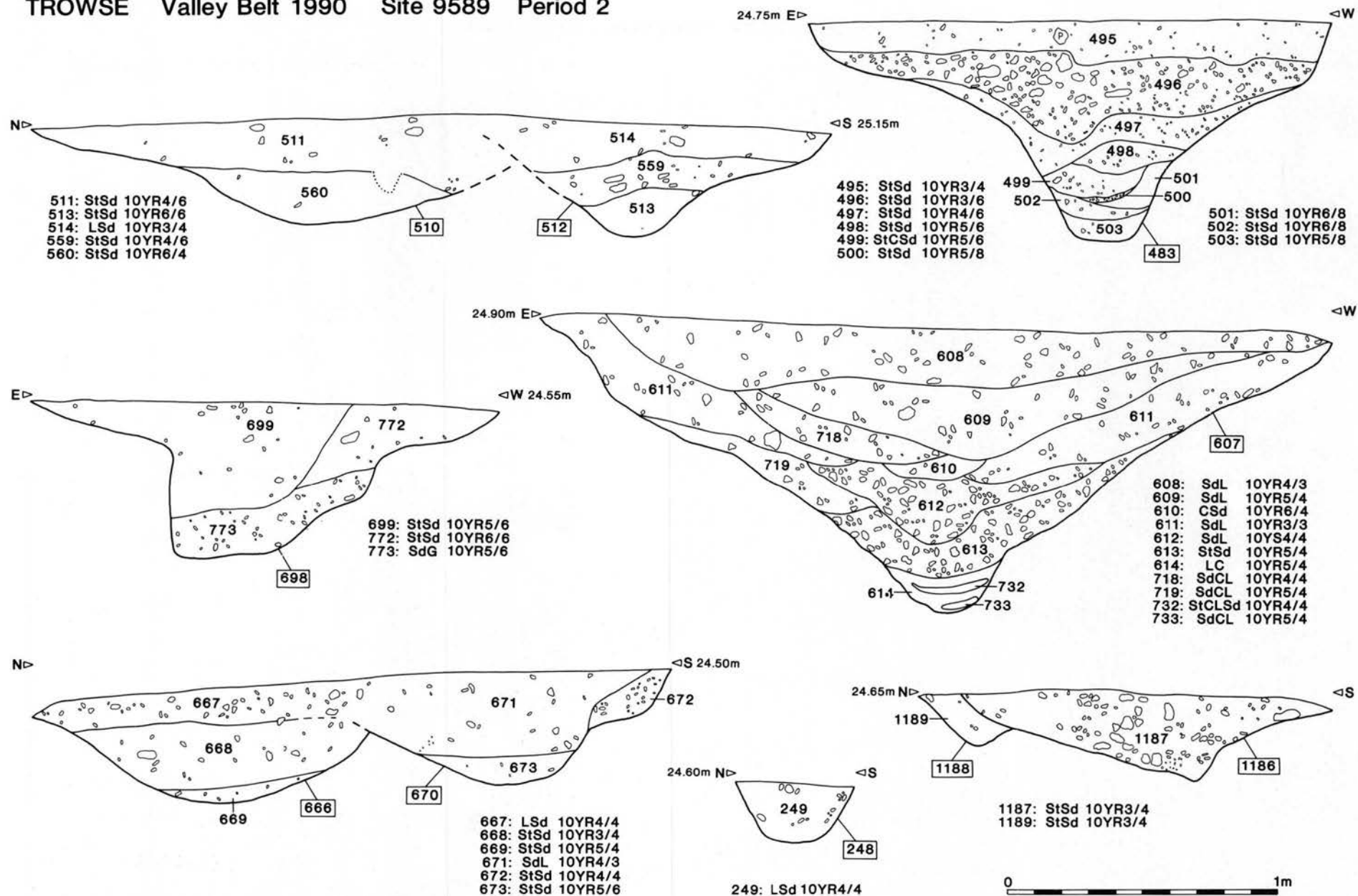


Figure 128 Period 2 ditch sections. Scale 1:20



Plate XLV Pit 68 looking east, showing mass of pottery under excavation. Scale = 0.3m.
(9589 TWN 17, Trevor Ashwin)

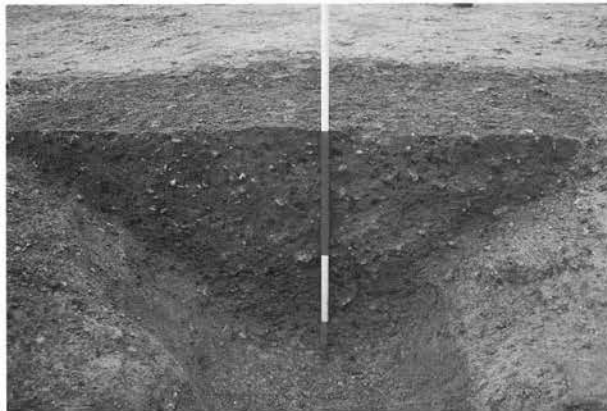


Plate XLIV North-facing section through ditch 406
(seg. 407. Scale = 2m. (9589 TWN 145, Trevor Ashwin)

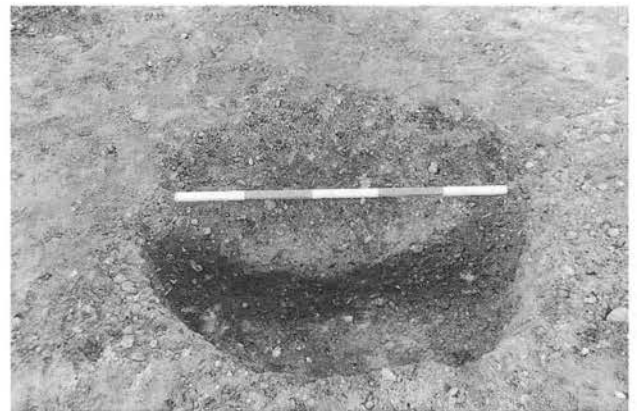


Plate XLVI South-west facing section through pit 1258.
Scale = 2m. (FMH 8, Trevor Ashwin)

After it had silted up it was succeeded by at least two more such land divisions. Its southern edge had been redefined by the cutting of slightly shallower ditch 663, a zig-zagging feature defining another enclosure which occupied the whole of the south-west part of the excavated area. The easternmost part of its line proved to be part of the 'rectangular enclosure' already known from air-photographic evidence (Fig. 113). The crop-mark plot by Derek Edwards showed that the southern part of the enclosure lay beyond the excavated area. Indeed it might have extended as far as the south edge of the modern field, where the land dropped away steeply into the present-day Valley Belt. A shallow interrupted gully, ditch 761, ran parallel with the eastern side of this enclosure c. 1m further east. The northernmost part of this feature, when excavated, produced quantities of Beaker pottery. These sherds (which included illustrated examples P72-75, Figs 124 and 125) almost certainly occurred residually in this context given the feature's clear spatial relationship with the network of later prehistoric land-divisions.

It is possible that an elongated rectilinear enclosure, aligned east-to-west, was superimposed upon primary enclosure 406's northern part. This putative enclosure was c. 35m wide, and may have extended across the whole east-to-west extent of the excavated area. Its southern edge was represented by a system of shallow ditches, including ditches 408, 414 and 1185, while its northern limit was marked by the smaller ditch 237. It was clear that these features had all been heavily truncated by recent agriculture. In spite of this damage the southern side of the enclosure, with its intercutting parallel ditches, displayed at least one episode of redefinition or reorganisation. This was demonstrated by the manner in which primary ditch 414, which extended beyond the western limit of the excavated area, had subsequently been re-cut along much of its length by the similar ditch 408.

The remains of two possible post-built ?fences 1970 and 1971 were reconstructed in the western part of the site. The lines of both of these features were intermittent, with one gap of 22m noted in the former alignment. This incompleteness may have been partly due to erosion, which had removed almost the entire depth of those post-holes which had survived for study. Two factors suggested a Period 2 date for these features; their shared alignment with the Iron Age enclosure ditch 406 immediately to the west, and the manner in which a single square four-post structure, of characteristically late prehistoric pattern, seemed to have been associated with each of them.

Post-hole structures

(Figs 126, 129-131)

Six four-post structures were identified. They were scattered over the central and northern parts of the site. Usually they measured 2.5m-3m square. Two examples, 1968 and 1972, appeared to possess 'fifth' post-holes sited asymmetrically a little to the south-east which might have constituted part of the structure too. The post-holes themselves were usually very shallow, due to the scale of plough-damage, and thus yielded very little information. Only structure 1968 featured well-defined 'post-pipes' in all of its constituent post-holes. These showed that the upright timbers of its superstructure had been c. 0.25m thick, and had probably rotted *in situ*.

No direct evidence either for the appearance or the original function of these four-post structures survived.

However it appeared that structures 1967 and 1972 were both associated with post-hole ?fences 1970 and 1971 respectively (Fig. 127). This phenomenon was also seen in the case of structure 1309, whose south side occupied a gap in a fragmentary gully-like feature. This raises the possibility that some of them functioned as entrance or gateway features of some kind.

Also recorded was a concentration of fourteen small features, mostly post-holes, in the easternmost part of the site (Fig. 126), one of which produced Iron Age sherds in quantity. All were very poorly preserved. It is possible that they were remnants of another post-built structure of some kind, but this is purely speculative. Any such structure would have been oriented east-west and been at least 20m long.

Pits

(Pls XLV, XLVI; Figs 126, 132-134)

Although it is likely that a large proportion of the small features found at Trowse dated to this period, few could be positively assigned to Period 2 with confidence due to the shortage of reliable dating evidence. The features discussed here could be 'dated' only by the size and quality of the assemblages of Iron Age pottery which they contained. The majority of them fell within one of three distinctive groups of cut features.

In the northern part of the site, three circular pits seemed to have been regularly spaced at intervals of c. 10m, on an east-west axis immediately north of Period 2 ditch 237 (Fig. 132). The westernmost of these, 68 (Pl. XLV), had the appearance of being 'lined' with a compact deposit of olive brown clay. This layer might have been intended to allow the pit to hold water or some other liquid used in a domestic or industrial process. Alternatively it might have been caused by the mixing and puddling of clay for potting. Whatever their initial purpose, the pits had apparently been used for rubbish disposal. Pit 68 contained 365 sherds of pottery. These were mostly unabraded, and comprised a mixture of coarse and burnished, highly decorated wares (Figs 138, 139; P89-P93). Another cluster of three probable rubbish pits, which also contained Iron Age-type pottery, was located 5-10m south of the ditch 237.

A group of steep-sided round pits lay in the central part of the site (Pl. XLVI; Fig. 133), immediately south-west of the four-post structure 1309 already discussed. Once again their primary function remained unknown, but pottery and ashy deposits represented the deliberate deposition of rubbish. The primary deposits in these pits were dark and contained charcoal and some ashy material, but evidence for *in situ* burning (in the form of heat-discoloration of the surrounding natural) was not found.

In the eastern part of the site, approximately 15m east of the modern 'ring-ditch' 1185, was another dense group of twelve heavily-truncated pit bases (Fig. 134). These were all either round or ovate in shape. Most of the pits measured less than 1m in diameter, and several were intercutting. The largest, 1356, was 1.5m in diameter and was filled with dark deposits containing a large amount of Iron Age pottery.

Two isolated pits in the southern part of the site were assigned to Period 2 on the strength of the relatively large Iron Age pottery groups which they contained.

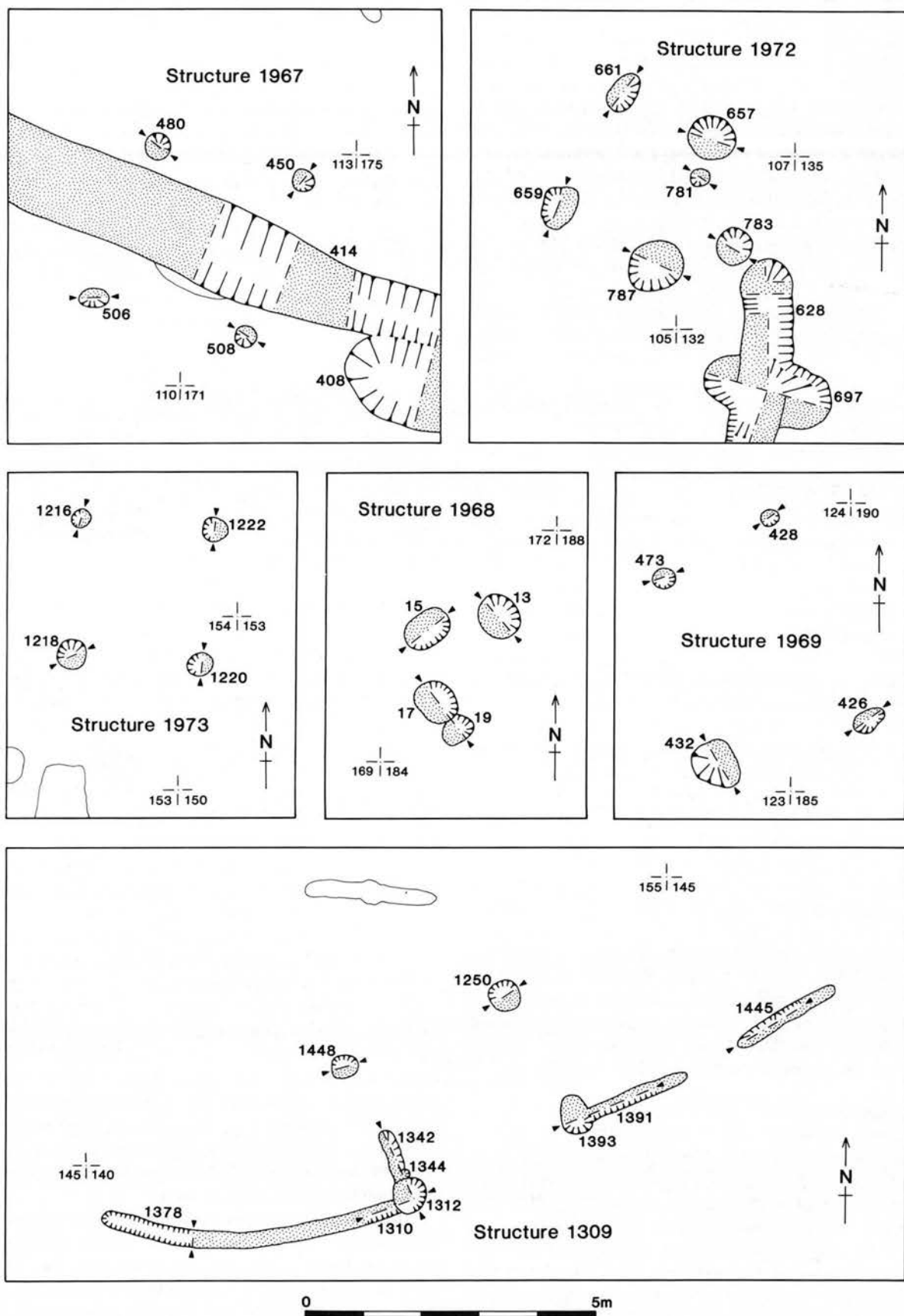
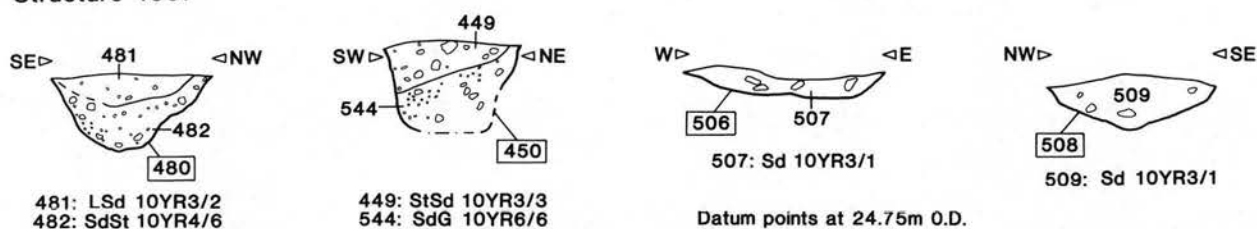


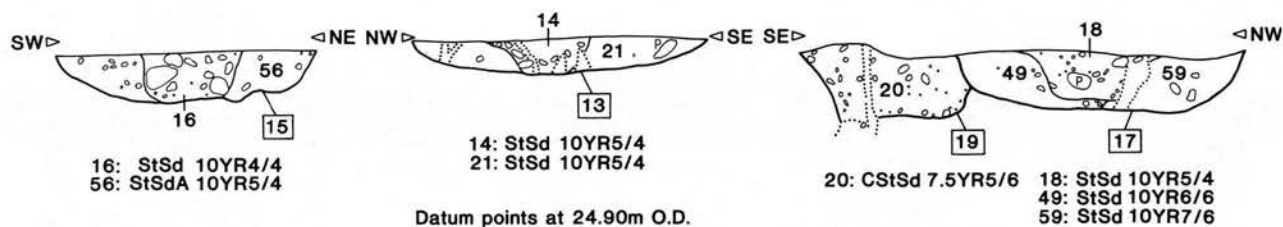
Figure 129 Plans of Period 2 four-post structures. Scale 1:100

TROWSE Valley Belt 1990 Site 9589 Period 2

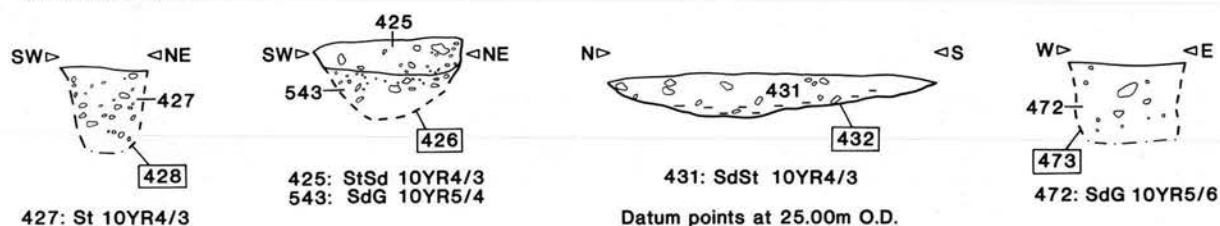
Structure 1967



Structure 1968



Structure 1969



Structure 1972

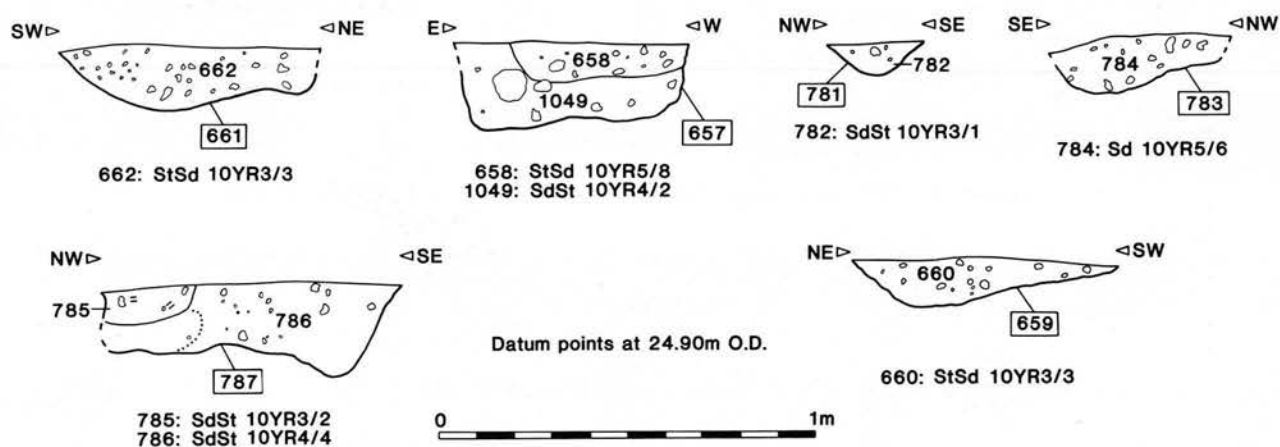
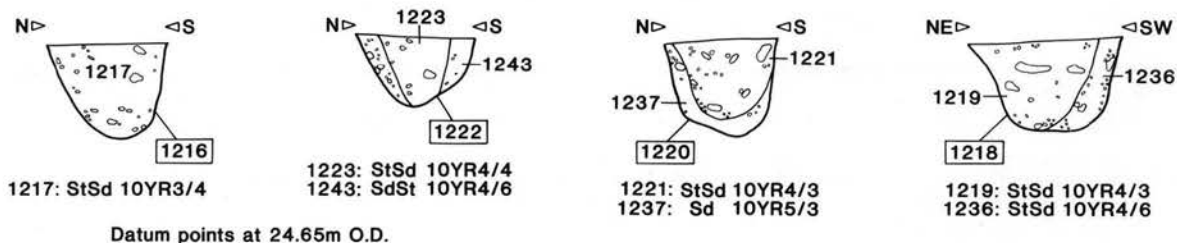


Figure 130 Sections through four-post structures 1967, 1968, 1969 and 1972. Scale 1:20

Structure 1973



Structure 1309

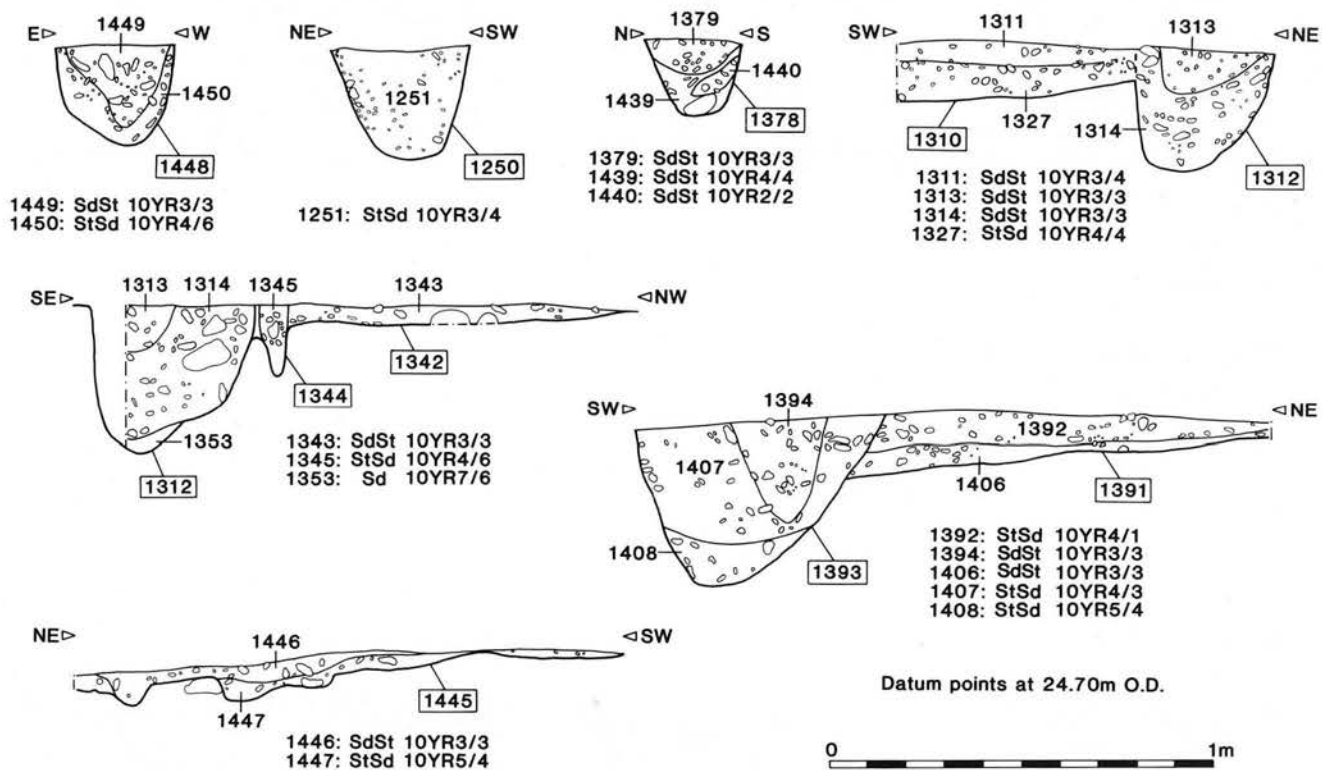


Figure 131 Sections through four-post structures 1309 and 1973. Scale 1:20

TROWSE Valley Belt 1990 Site 9589 Period 2

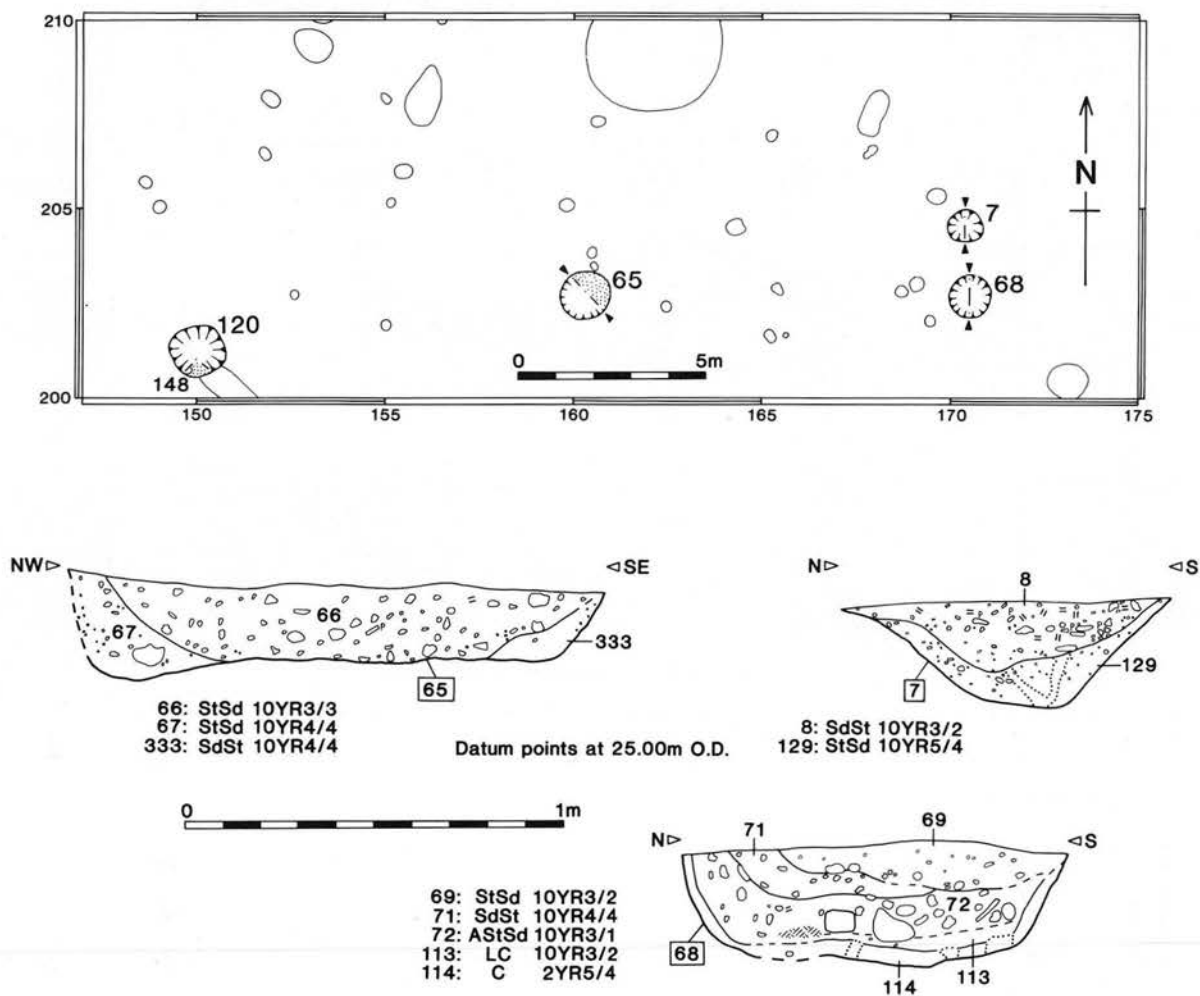


Figure 132 Plan and sections of Period 2 pits in northern part of site. Plan scale 1:100, sections scale 1:20

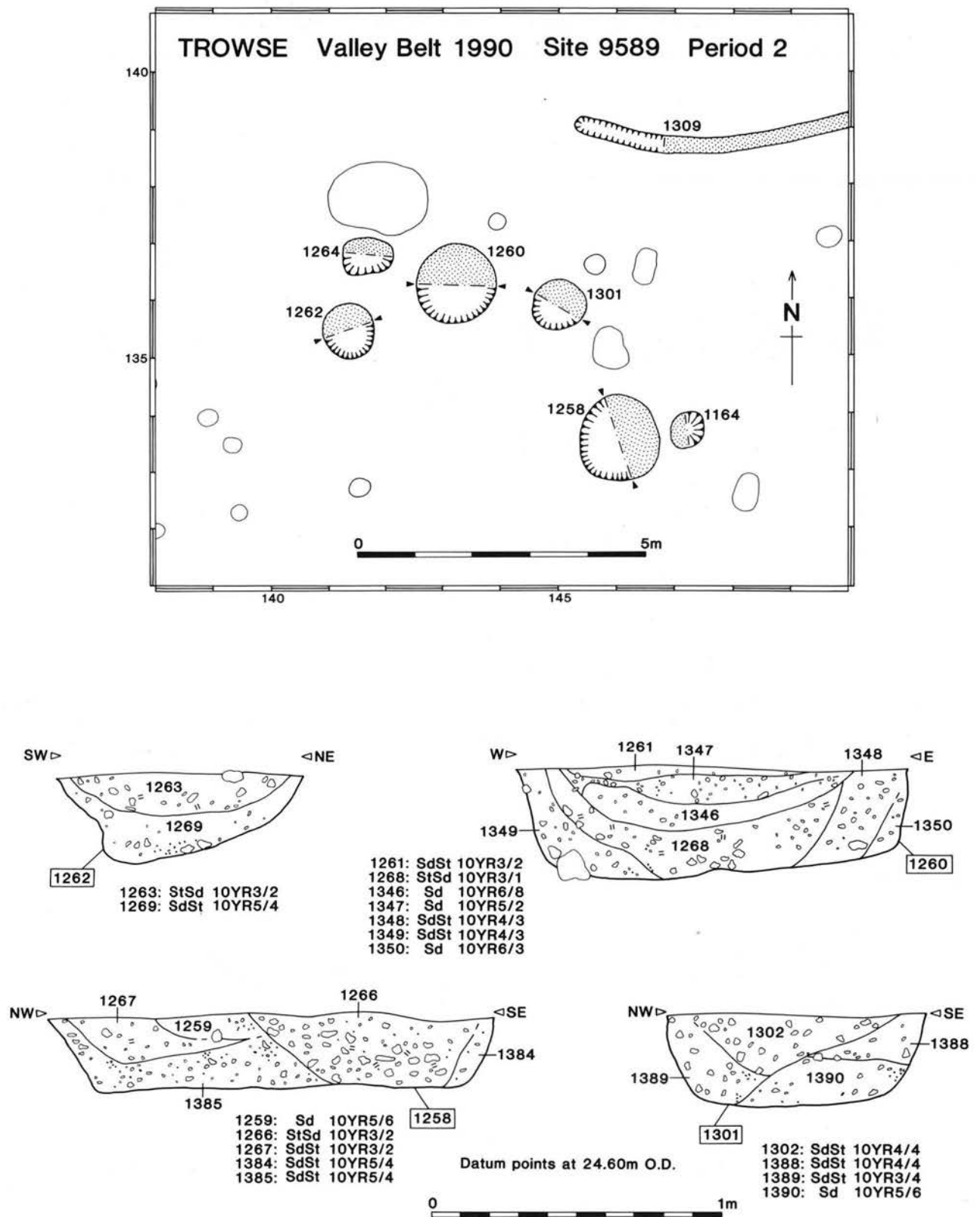


Figure 133 Plan and sections of Period 2 pits in central part of site. Plan scale 1:100, sections scale 1:20

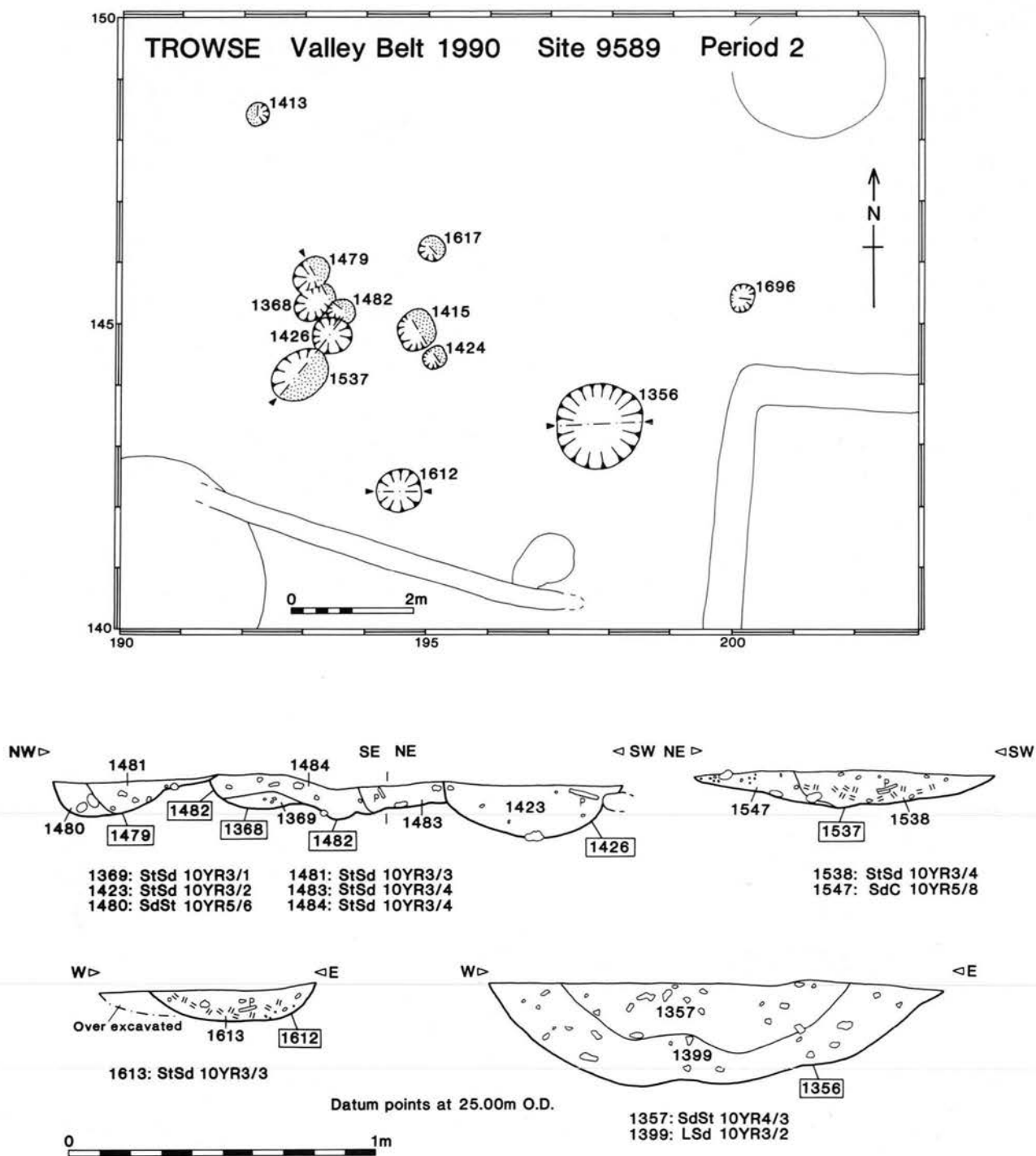


Figure 134 Plan and sections of pits in eastern part of site. Plan scale 1:100, sections scale 1:20

Artefacts

Pottery

by Sarah Percival

(Figs 135–142)

An assemblage of 2208 sherds of Iron Age type pottery, weighing 17.678kg, was recovered from 194 contexts. This represented 82% of the total quantity of sherds of all periods found on the site.

The density-distribution of this material by feature is set out in Fig. 135. Two features, pits 68 and 1356, yielded major assemblages weighing 4.7kg and 2.3kg respectively. However all but 20 of the c. 115 feature assemblages of Iron Age pottery were very small, weighing less than 100g. Furthermore a large proportion of the total Iron Age assemblage came from contexts of uncertain date. Because of these problems, detailed study and discussion of the nature of Iron Age assemblages was focussed during the analysis on four stratified ceramic groups which were chosen as a sample of well-preserved and apparently undisturbed collections. The full results of this work are recorded in the archive report, but are summarised here in Fig. 137.

The following fabrics were identified during the analysis. Alphanumeric codes refer to the fabric catalogue included in the Norwich Southern Bypass archive pottery report, where all fabrics are described in full.

IA13, coarse, hard, wiped/roughened surfaces. Common white calcined flint, moderate clear calcined flint.

IA14, coarse, hard, striated surfaces. Common quartz and calcined flint.

IA15, medium coarse, hard. Common calcite.

IA16, fine, dense, laminated, very hard. Common calcined flint, some mica and vacuoles (?leached chalk).

IA17, fine, hard, speckled. Common calcined flint, some mica.

IA18, fine, sandy, very hard. Common calcined flint, occasional flint and vacuoles (?eroded vegetable matter).

IA19, fine, sandy. Common quartz and calcined flint, some vacuoles.

IA20, fine, very hard, burnished. Common calcined flint, moderate quartz.

IA21, fine, sandy, hard. Abundant quartz.

IA22, fine, sandy, soft. Common quartz.

IA23, fine, sandy, hard, burnished appearance. Common calcined flint, moderate flint and grog.

IA24, fine, hard, organic vacuoles in surface. Common quartz, moderate calcined flint, organic vacuoles.

IA25, fine, very hard. Common quartz, sparse flint.

IA29, fine, hard. Common quartz, moderate crushed flint.

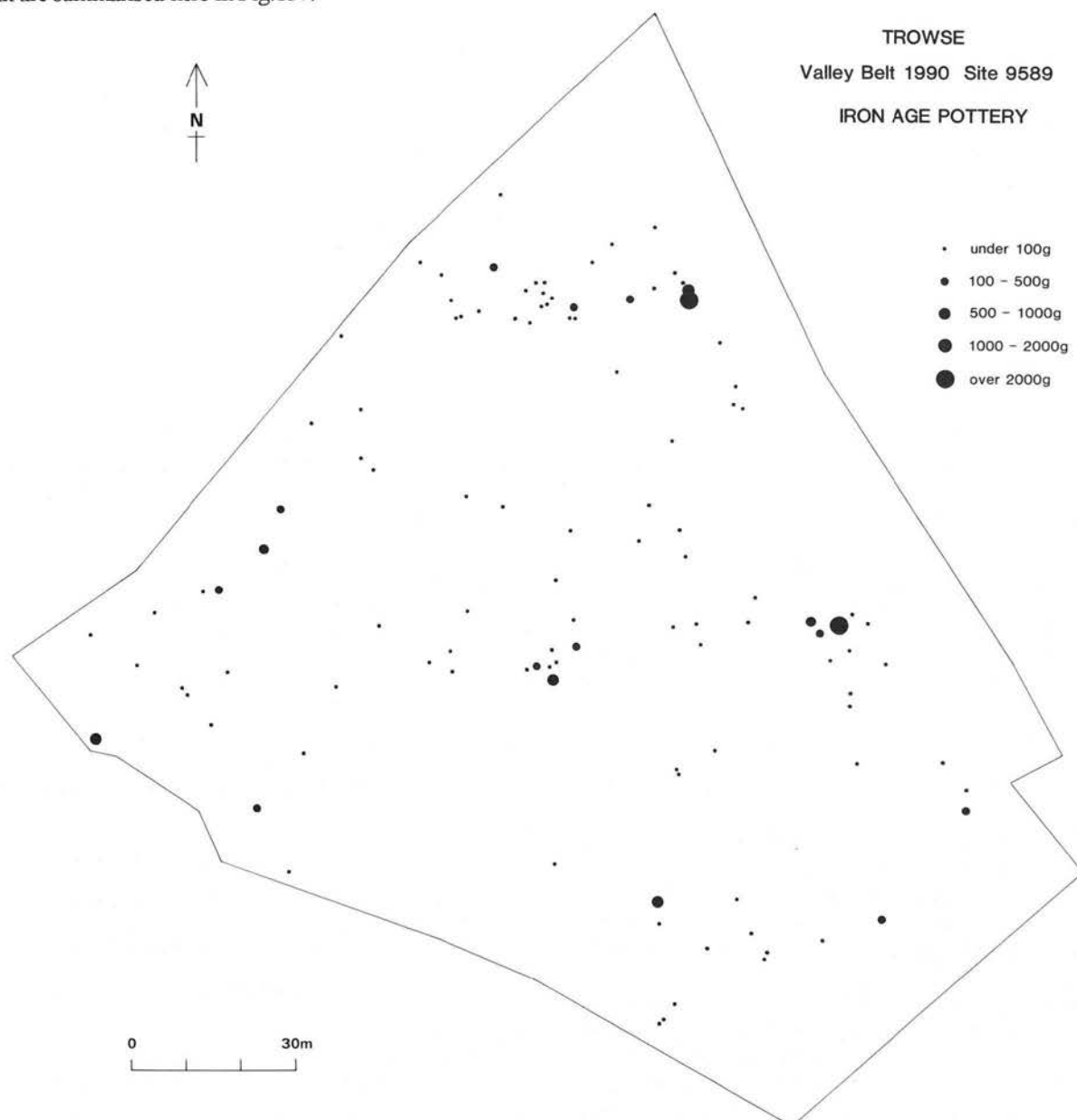


Figure 135 Distribution of excavated Iron Age pottery. Scale 1:1250

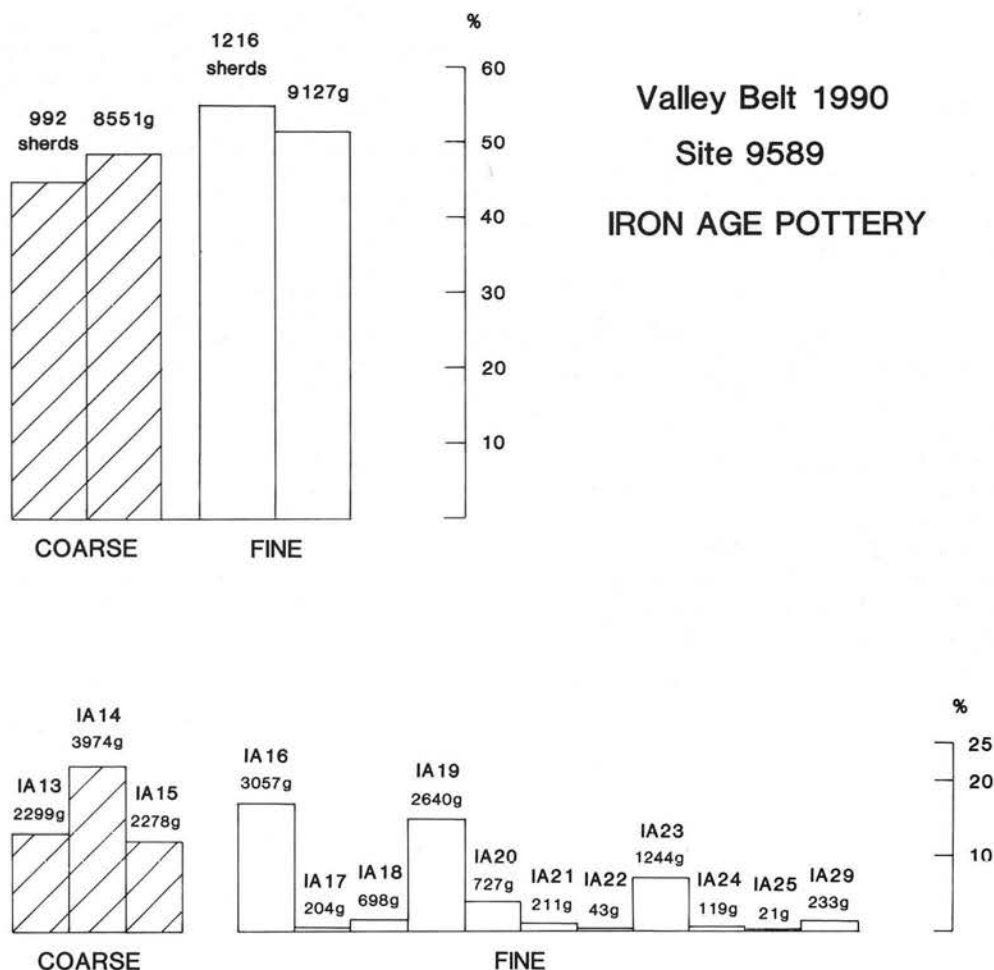


Figure 136 Iron Age pottery fabrics

For the purposes of analysis and discussion, the fourteen distinct Iron Age fabrics defined in this analysis have all been categorised either as 'coarse wares' or 'fine wares' (Fig 136). These categories are based on size of inclusions and the texture of the fabric rather than the form or decoration of the vessels. The 'coarse' wares contain ill-sorted inclusions of 0.5mm and larger, have a more open matrix and are poorly fired. The 'fine' wares contain inclusions of less than 0.5mm and have a denser texture. The surface of the 'fine' wares tended to be harder and smoother, and they are generally better fired than the coarse wares.

When considering the two exceptionally large groups, those from pits 68 (345 sherds/4.69kg) and 1356 (283 sherds/2.33kg), some interesting contrasts emerge. Sherd for sherd, much of the pottery from the two pits is very similar in character, but the 'coarse'/'fine' ware balance of the two groups is wholly different. Some 65% (by weight) of the sherds from 1356 were in 'fine' sandy fabrics, whereas in pit 68 this ratio was approximately reversed in favour of 'coarse' flinty material. Differences can also be seen when decoration and surface treatment are compared. Rough fingertip rustication seems the most common surface treatment in pit 68, and decorated sherds are few apart from the large fineware jar P93 with its incised and impressed neck. In contrast to this, many sherds from pit 1356 bore 'decorative' fingertip impressions in rows on rim, neck or shoulder (P119, P121, P124-5, P127-9). In

the absence of radiocarbon dates it is impossible to say whether or not the stylistic differences between these assemblages should be interpreted as evidence of difference in date.

Catalogue of illustrated sherds

(Figs 138-142)

- P83 s.f. 36, context 3, fill of pit 1. Fabric IA12
- P84 Context 8, fill of pit 7. Fabric IA20
- P85 s.f. 18, context 8, fill of pit 7. Fabric IA20
- P86 s.f. 34, context 8, fill of pit 7. Fabric IA19
- P87 s.f. 4, context 63, fill of pit 62. Fabric IA20
- P88 s.f. 7, context 66, fill of pit 65. Fabric IA20
- P89 s.f. 75, context 72, fill of pit 68. Fabric IA15
- P90 s.f. 80, context 72, fill of pit 68. Fabric IA16? Same vessel as P91?
- P91 s.f. 95, context 72, fill of pit 68. Fabric IA16? Same vessel as P90?
- P92 Context 72, fill of pit 68. Fabric IA15
- P93 s.f.'s 25, 76, context 72, fill of pit 68. Fabric IA20
- P94 s.f. 3, context 106, fill of solution hole 105. Fabric IA13
- P95 s.f. 24, context 121, fill of pit 120. Fabric IA14
- P96 s.f. 22, context 143, fill of post-hole 142. Fabric IA20
- P97 s.f. 29, context 312, fill of post-hole 311. Fabric IA19
- P98 Context 409, fill of ditch section 407 (part of ditch 406). Fabric IA18
- P99 Context 555, fill of ditch section 407 (part of ditch 406). Fabric IA18
- P100 s.f. 66, context 609, fill of ditch section 607 (part of ditch 406). Fabric IA14
- P101 s.f. 109, context 611, fill of ditch section 607 (part of ditch 406). Fabric IA19
- P102 s.f. 68, context 612, fill of ditch section 607 (part of ditch 406). Fabric IA21
- P103 s.f. 130, context 867, fill of solution hole 866. Fabric IA21

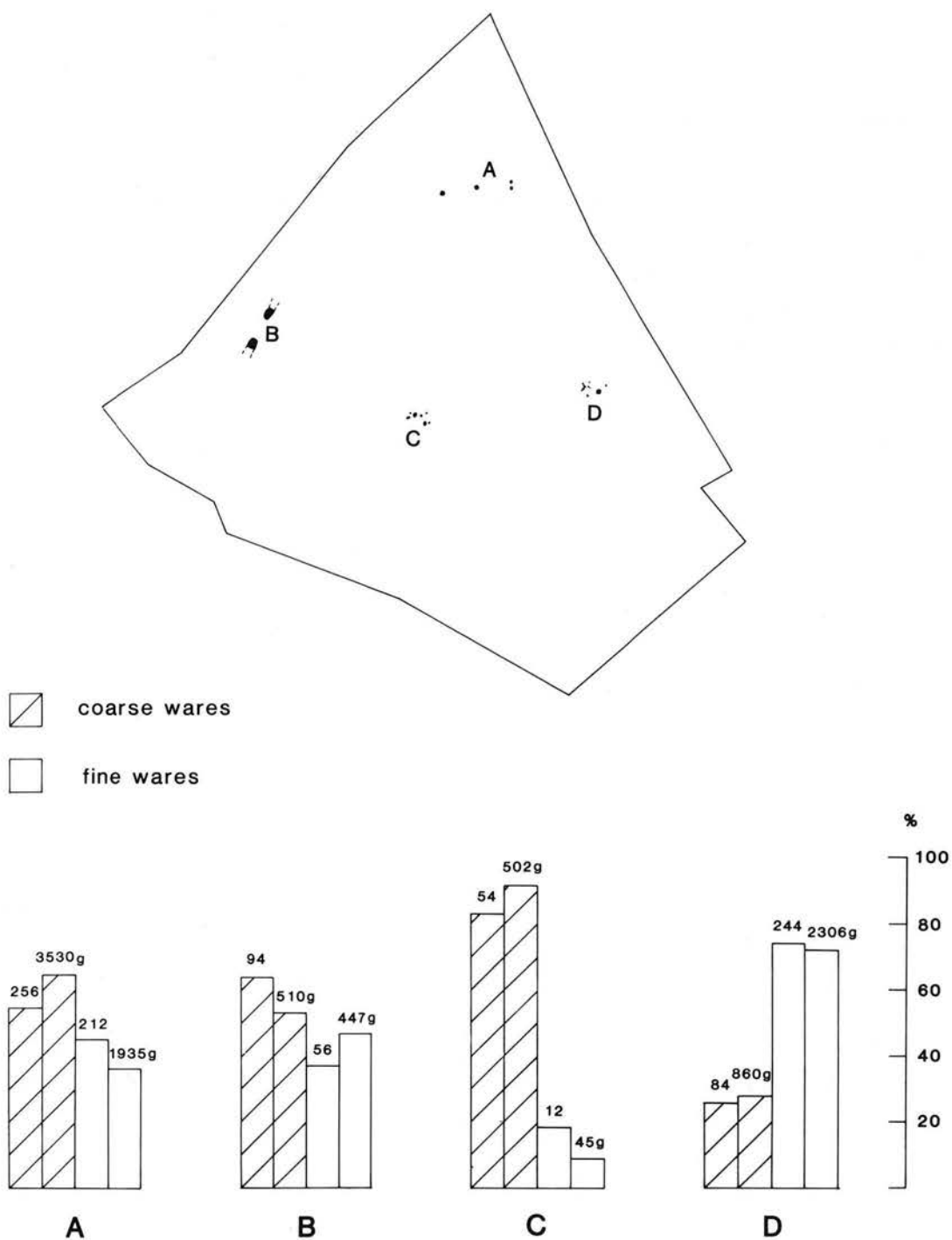


Figure 137 Coarse and fine ceramic fabrics from selected Period 2 feature groups

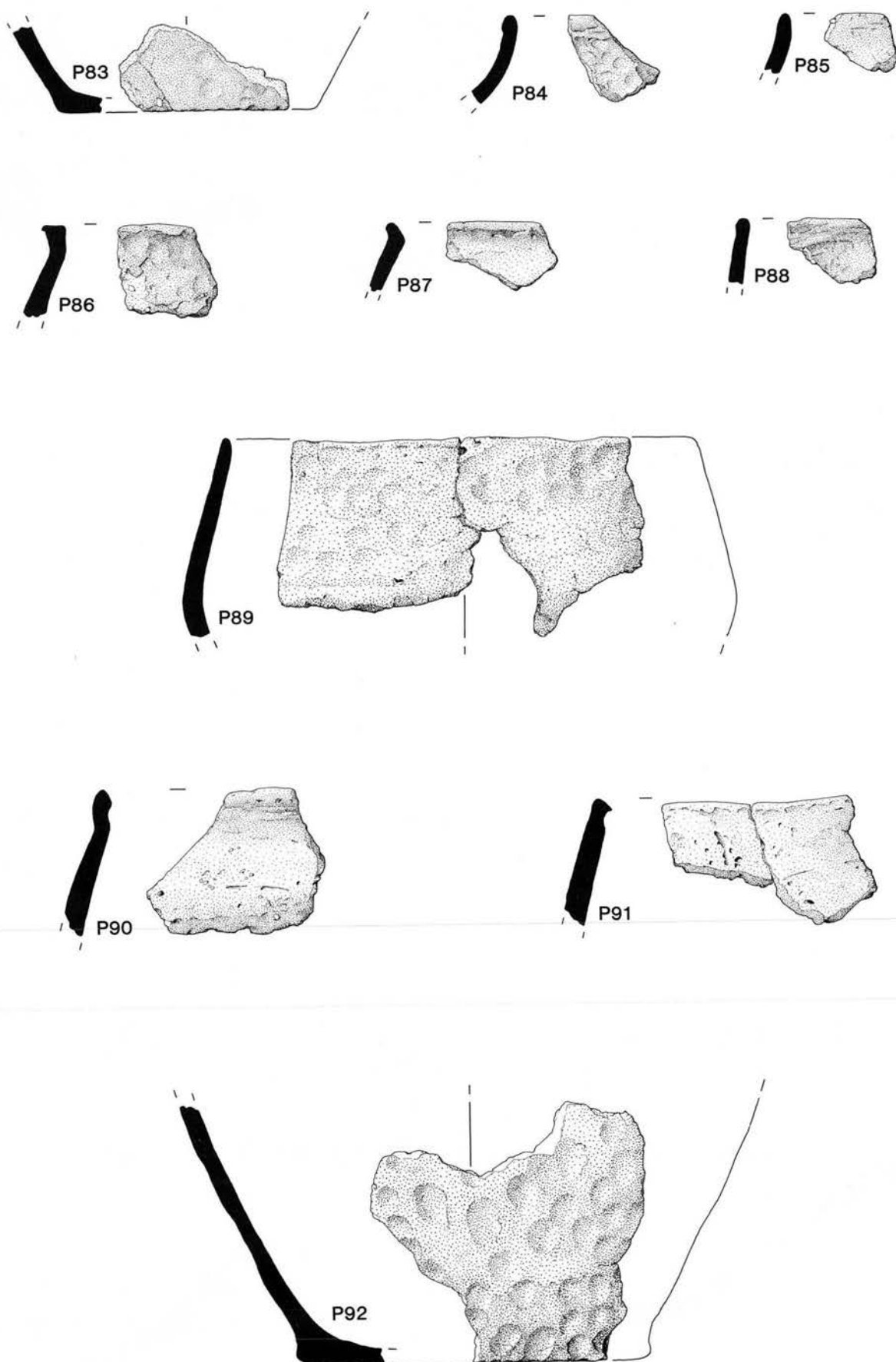


Figure 138 Iron Age pottery P83–P92. Scale 1:2

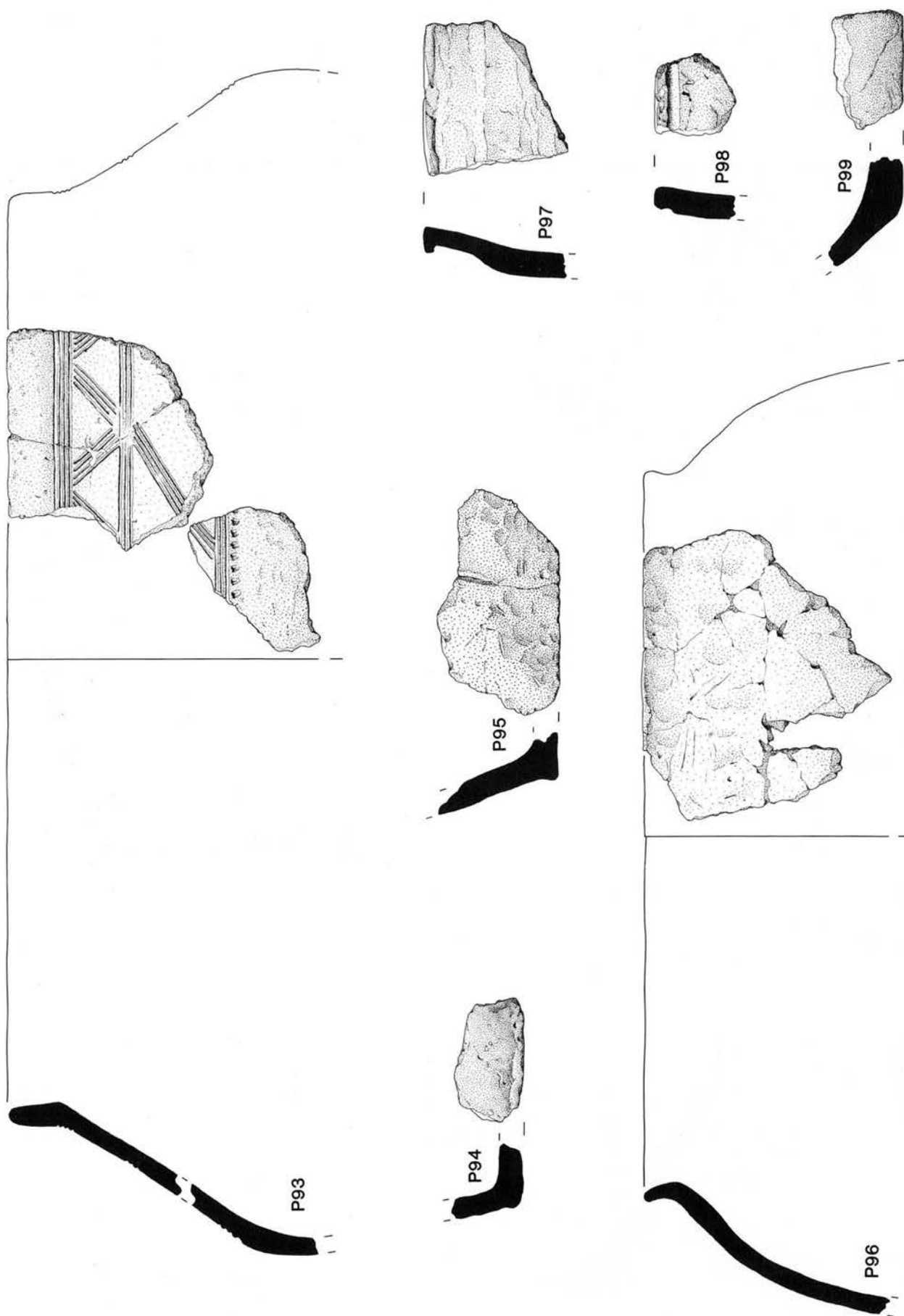


Figure 139 Iron Age pottery P93-P99. Scale 1:2

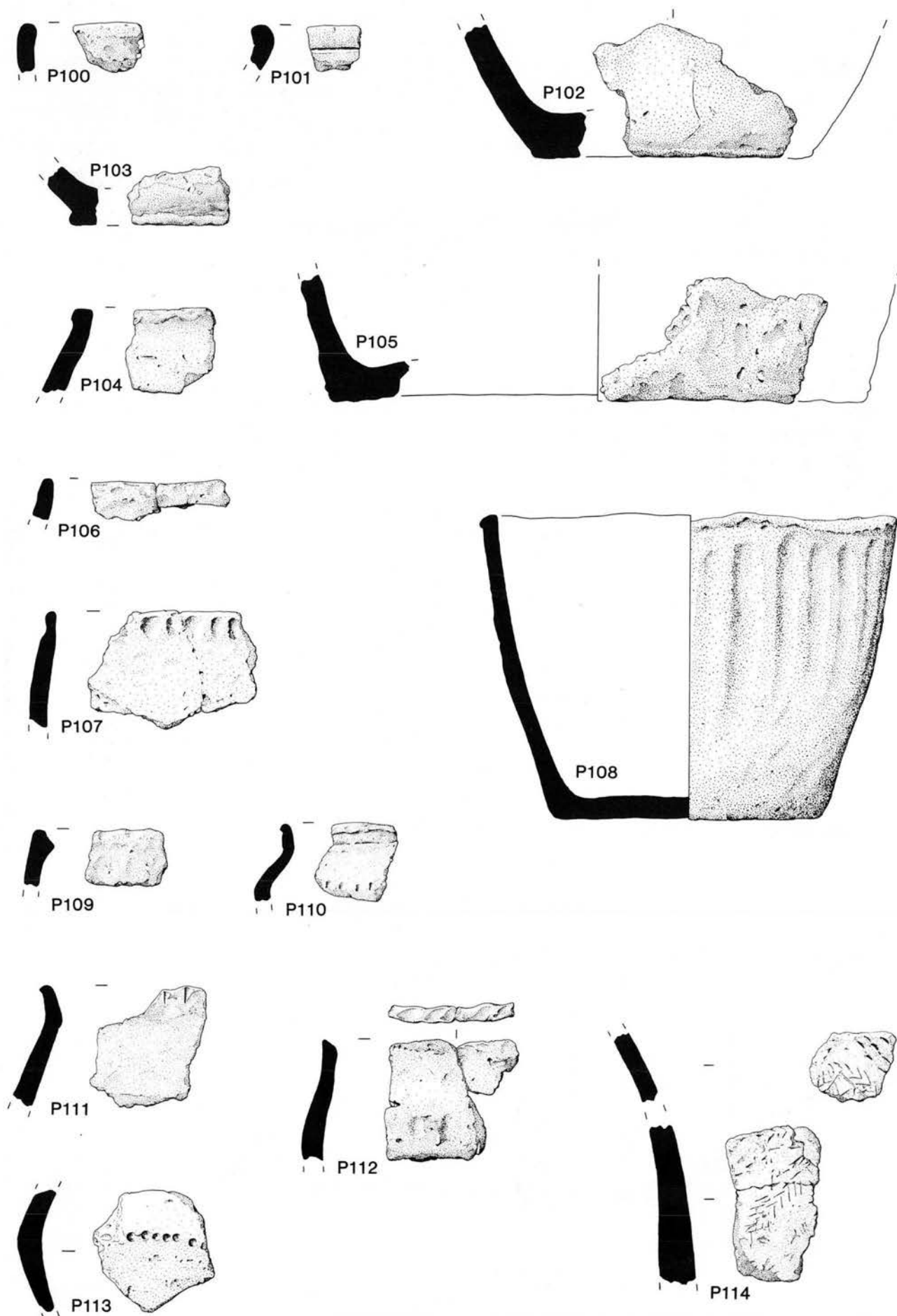


Figure 140 Iron Age pottery P100-P114. Scale 1:2

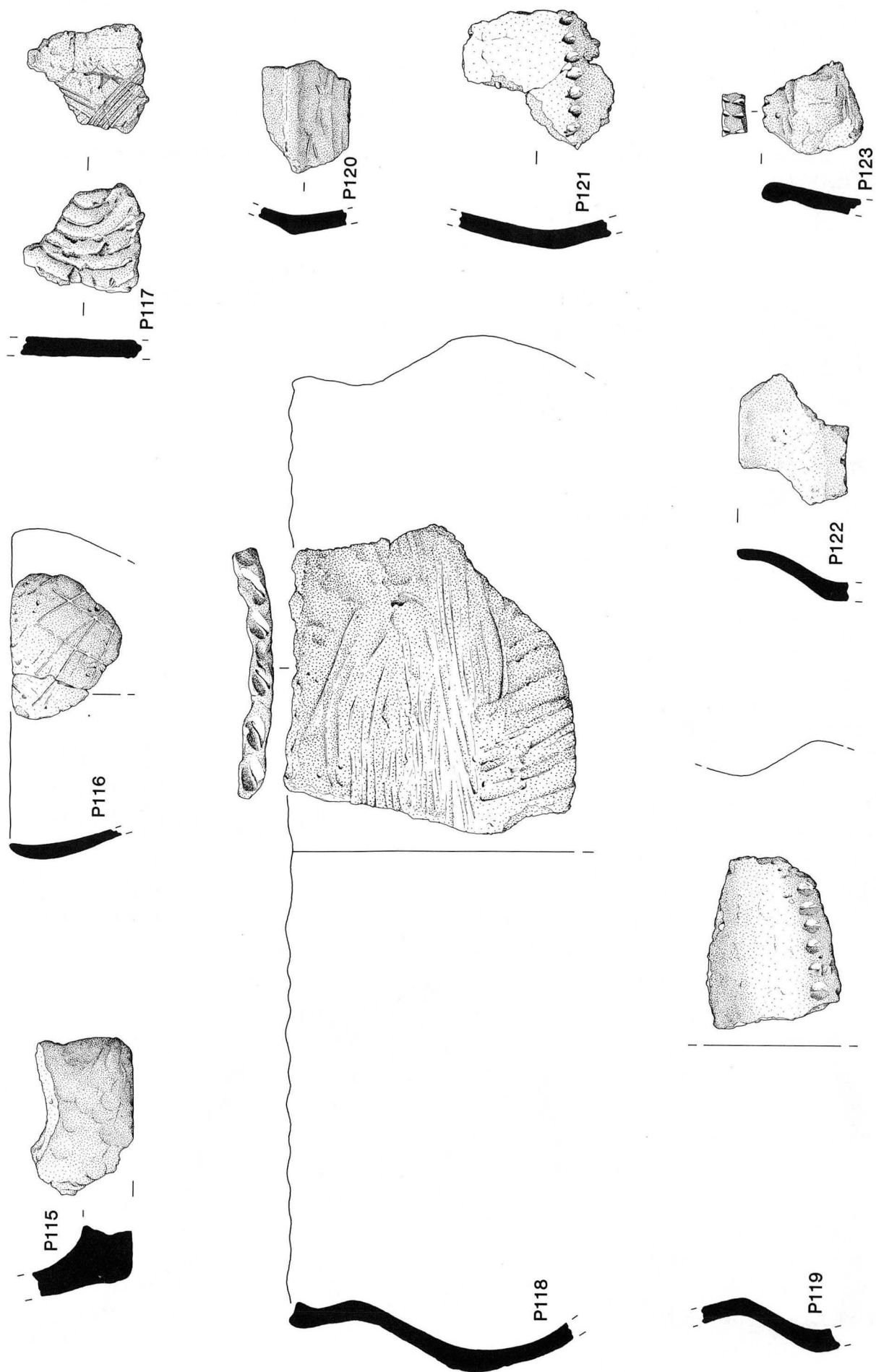


Figure 141 Iron Age pottery P115-P123. Scale 1:2

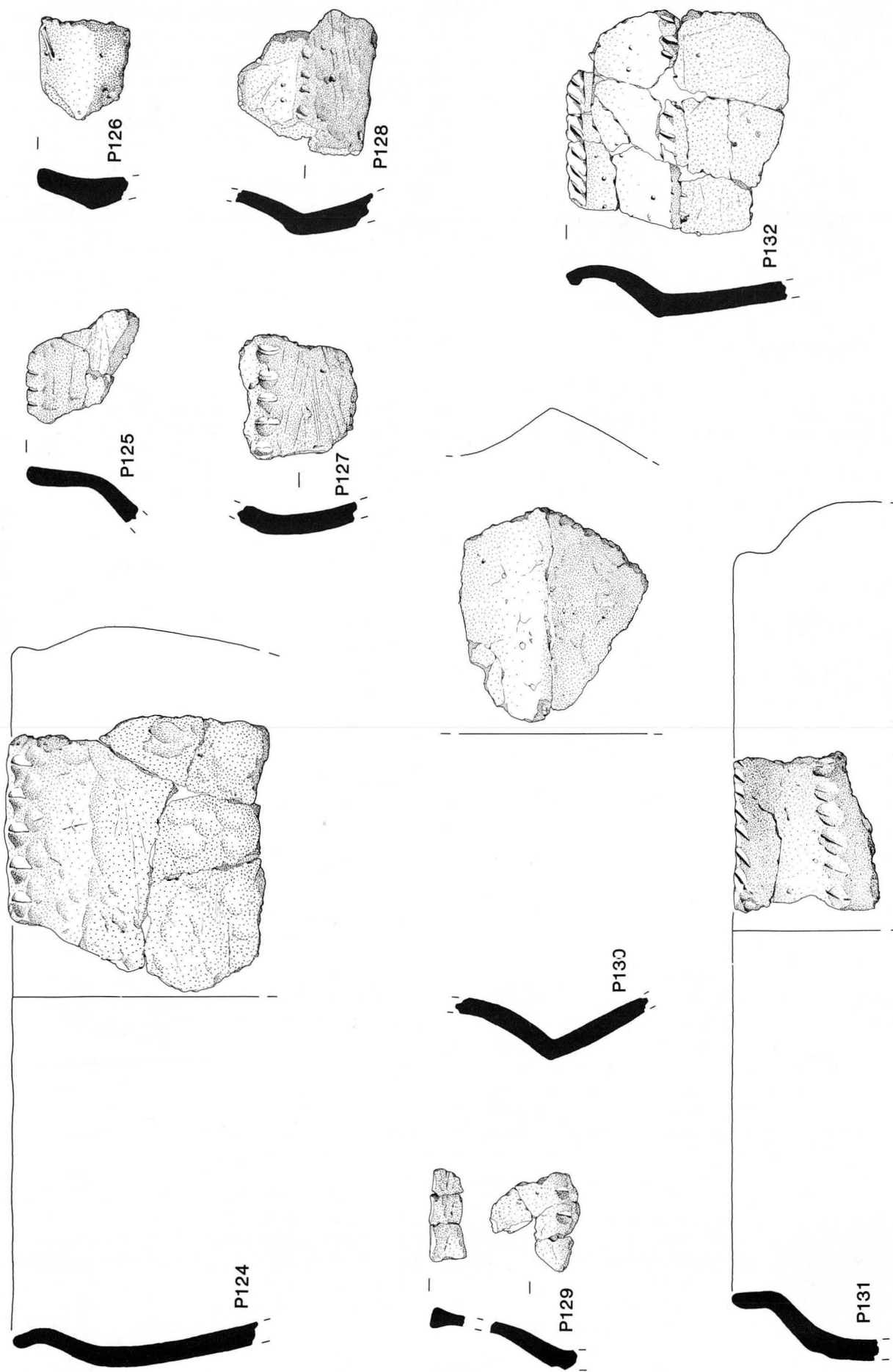


Figure 142 Iron Age pottery P124-P132. Scale 1:2

- P104 s.f. 131, context 867, fill of solution hole 866. Fabric IA24
P105 Context 867, fill of solution hole 866. Fabric IA13
P106 s.f. 168, context 1013, fill of post-hole 1012. Fabric IA20
P107 s.f. 172, context 1038, fill of pit 1037. Fabric IA24
P108 s.f. 135, context 1043, fill of pit 1041. Fabric IA15
P109 s.f. 175, context 1050, fill of ditch section 1050 (part of ditch 1025). Fabric IA14
P110 Context 1200, cleaning layer. Fabric IA20
P111 s.f. 176, context 1204, fill of pit 1205. Fabric IA20
P112 s.f. 178, context 1211, fill of pit 1210. Fabric IA24
P113 s.f. 167, context 1225, fill of pit 1157. Fabric IA24
P114 s.f. 147, context 1229, fill of pit 1226. Fabric IA18
P115 s.f. 147, context 1229, fill of pit 1226. Fabric IA18
P116 s.f. 148, context 1229, fill of pit 1226. Fabric IA18
P117 s.f. 183, context 1276, fill of pit 1275. Fabric IA25
P118 s.f. 181, context 1313, fill of post-hole 1312. Fabric IA15
P119 s.f. 150, context 1357, fill of pit 1356. Fabric IA19
P120 Context 1357, fill of pit 1356. Fabric IA20
P121 s.f. 136, context 1357, fill of pit 1356. Fabric IA23
P122 s.f. 152, context 1357, fill of pit 1356. Fabric IA23
P123 Context 1369, fill of pit 1368. Fabric IA20
P124 s.f. 204, context 1399, fill of pit 1356. Fabric IA23
P125 s.f. 201, context 1399, fill of pit 1356. Fabric IA19
P126 s.f. 203, context 1399, fill of pit 1356. Fabric IA15
P127 s.f. 200, context 1399, fill of pit 1356. Fabric IA23
P128 Context 1399, fill of pit 1356. Fabric IA14
P129 Context 1423, fill of post-hole 1426. Fabric IA20
P130 s.f. 195, context 1613, fill of pit 1612. Fabric IA19
P131 s.f. 194, context 1613, fill of pit 1612. Fabric IA19
P132 Context 1847, fill of pit 1846. Fabric IA16

Discussion

The pottery from Valley Belt is important as the largest collection of 'Iron Age' ceramics excavated, catalogued and analysed in Norfolk over the last forty years. The problems with the Trowse material arise from the nature of the site, which had suffered severe plough damage and where the quantity of residual material was high. The site lacked the quantity of identifiable structures and the stratification necessary to 'phase' the pottery in detail, yet the collection remains of considerable interest.

The ratio of 'fine' to 'coarse' sherds stands at c. 51%:49% for the assemblage as a whole. It would not be meaningful to compare this 'coarse: fine' ratio to the results of other published analyses, since this division has been drawn by various researchers on the basis of subtly different criteria. The functions of the vessels themselves are not understood in very specific terms, but it is possible that the 'coarse' wares were manufactured to withstand continued re-heating and cooling during cooking and therefore contained larger inclusions. The finer fabrics may have been used for vessels where this quality was not required, such as storage or other household use.

When compared with the results of fabric analysis carried out on the Iron Age pottery from Harford Farm, Caistor, some different patterns do emerge. Especially interesting is the fact that a far more variable proportion of 'fine' wares can be observed within individual feature assemblages. Unfortunately in the absence of radiocarbon dates or observable stratigraphic relationships it is impossible to suggest whether or not this varying proportion of coarse and fine material can be used as an indicator of varying date, with, for example, the proportion of 'fine' sandy sherds increasing over time (as suggested by Gregory in the case of the Iron Age pottery from Spong Hill, Norfolk: Gregory 1995).

Recent thin-section analysis work carried out on pottery from Lincolnshire and Cambridgeshire has suggested that more finely made and highly decorated pots within certain pit assemblages were not local to the sites from which they were recovered (J.D. Hill, D. Knight,

pers. comm.). Work of this nature has not lain within the scope of the present analysis. Some individual vessels *e.g.* P93) do appear quite different from the majority of the assemblage, however — even though macroscopically their fabrics appear similar — and might represent imported wares. If some unusual imported vessels were indeed present, their inclusion might suggest that these pit fills were in fact significant 'special deposits', rather than representing casual rubbish disposal.

The Trowse assemblage seems to support the view advanced by Pryor and others (Pryor 1984) that change within the later prehistoric ceramic tradition was a gradual process, with Iron Age styles being firmly rooted in those of the Late Bronze Age. This follows the suggestion of Lawson (Lawson 1980) and Pryor (1984) that the terms 'Later Bronze Age' and 'Early Iron Age' may not be meaningful when discussing material from sites such as West Harling and Valley Belt. These sites represent a transitional phase when the inhabitants of the site had adopted the use of iron but retained the lifeways of their ancestors.

The probably slow speed of change in the ceramic tradition over such a long period, perhaps as long as two to four hundred years (Pryor 1984, 144), does little to assist the dating of individual collections of pottery. There is so little excavated material from stratified sites in Norfolk that it has only been possible to provide a rough chronological scheme for later Bronze Age and Iron Age pottery from the area. The problem is underlined when information from radiocarbon dates is considered. Pryor argued that dates of the fourth and fifth centuries cal. BC returned from sites which typologically appear to be 'earlier' are now so common that 'it is no longer possible to regard them as anomalous' and concluded that a later Bronze Age inspired tradition continued in use at Fengate and elsewhere 'until about the third quarter of the first millennium cal. BC'.

The most obvious assemblage with which to compare the Trowse material is that from West Harling (Clark and Fell 1953). This is the largest and best-documented collection of Iron Age pottery which has been found in Norfolk. This comparison cannot be an exhaustive one. There is no published catalogue of the Harling pottery and no detailed quantification of the whole assemblage, while the report also lacks fabric descriptions other than brief notes on the illustrated sherds. While it lay beyond the scope of the Norwich Southern Bypass Project to reassess the Harling material at an archive level, this would be a very useful exercise to undertake in the future. The Valley Belt assemblage is also comparable with that from Fengate published by Hawkes and Fell in 1945. The problems with the dating and interpretation of this collection have been discussed in Pryor 1984, and taken into consideration by the present writer.

There are striking similarities between the pottery from West Harling and that from Valley Belt. The high-shouldered, angular forms characteristic of the Harling type are echoed in many of the vessels found here. The use of fingertip and fingernail decoration, especially along the rims and shoulders of pots, is also common to both assemblages. Impressed decoration using other tools is noted in several vessels from West Harling (Clark and Fell 1953, pl. 111 no. 7) and these have parallels at Trowse too (P113). The fingertip-impressed sherd P132 is almost identical in decorative motif to fig. 12, 25 and fig. 16, 93 from Harling. There is, however, one definitive

characteristic of the 'Harling' wares which does not occur at Trowse, the use of applied decorative cordons. This feature is not abundant amongst the West Harling material (Clark and Fell 1953, fig. 10) but is still common enough to be used to delineate a sub-group (class I) within Fell's analysis. The Trowse assemblage also lacks body sherds which have been pierced. At Harling piercing usually occurs just below the rim, and may have been used to fasten a cloth or hide cover to the vessel. This trait also occurs on the early material from Grimes Graves (Longworth, Ellison and Rigby 1988) and can therefore be postulated as a Later Bronze Age characteristic. It is also striking that the pottery from Trowse has only single rows of decoration on the rim and shoulder whilst it is quite common for vessels from Harling and Staple Howe (Brewster 1963) to have double or multiple rows.

The Trowse pottery also bears comparison to that from Fengate, Peterborough. There have been a long series of excavations at this multi-period occupation site, the earliest being published by Hawkes and Fell in 1945; their work was reviewed and further research described in the First and Fourth Fengate reports, published in the mid 1970s and 1980s. This more recent research has divided the Fengate Iron Age pottery into four sub-groups (Pryor 1984; Groups 1-4). The Valley Belt assemblage is most convincingly linked to Pryor's Group 1. This is equivalent to Hawkes and Fell's 'middle' phase, which Pryor argues could have been current as early as the ninth or eighth centuries cal. BC but which continued virtually unchanged until at least the fifth century cal. BC. The pottery assemblages again share the common decorative traits of incised decoration, fingertip and fingernail impressions on the rim and shoulder and the high shouldered forms. (Hawkes and Fell 1945)

The excavations on the Norwich Southern Bypass at Harford Farm (Chapter 4) also produced Iron Age pottery in quantity. The assemblages both featured similar fabric types and were dominated by domestic jar and bowl forms. However the Harford Farm material featured a far higher proportion (nearly 90% of total sherd weight) of 'coarse' flinty sherds. It also did not include the highly decorated forms found at Trowse, and indeed deliberate surface treatment was restricted to general roughening of the surface of the vessel, some applied cordons and the occasional use of fingertip impressions. This general lack of decoration and the slightly more rounded forms of the vessels suggests that the Harford Farm assemblage dates to between the fourth and second centuries cal. BC and is almost certainly slightly later than the material from Trowse.

The problems of providing a date for any Iron Age pottery assemblage have already been considered. Unfortunately no radiocarbon dates are available for Valley Belt, so dating is therefore dependent on typological comparisons. The similarities with the Harling material are obvious, but the Harling collection seems to display more characteristically 'later Bronze Age' traits (applied cordons and pierced body sherds) than that from Trowse. This could suggest that the Harling assemblage — usually dated to the seventh–sixth centuries cal. BC — is the older of the two. There are also many parallels between the Trowse pottery and the earlier pottery from Fengate, conventionally dated to the fifth–third centuries cal. BC. Stylistically, therefore, it may be suggested that the Valley Belt ceramics date to a period which centres on the fifth century cal. BC.

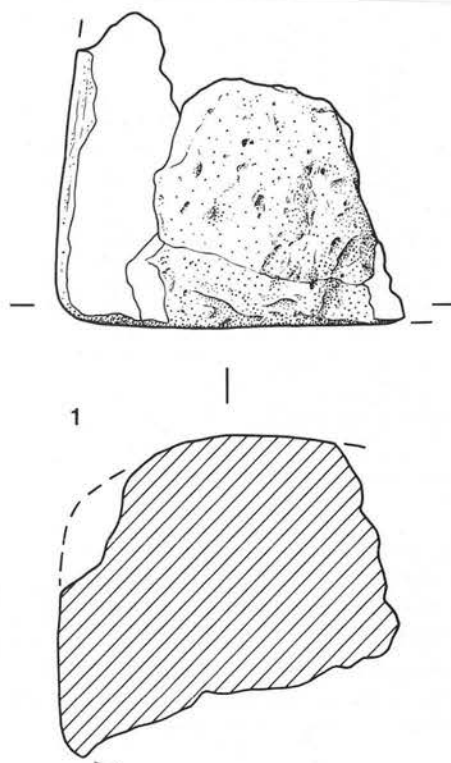


Figure 143 Objects of fired clay (loomweight).
Scale 1:2

Objects of fired clay
by Sarah Percival
(Fig. 143)

1 Loomweight; s.f. 65, context 72, fill of pit 68. Weight 1.45kg.

In the pottery-laden fill of pit 68, already discussed, one complete ceramic loomweight and the remains of at least one other were found. This object was of truncated pyramidal form. It resembled the Iron Age loomweights from Harford Farm (Chapter 4; Fig. 95) in size, but was notably more rounded in cross-section and was in a denser, finer fabric.

It appears that loomweights such as these were current throughout the 1st millennium cal. BC, occurring not only on Iron Age sites but also in Late Bronze Age contexts (e.g. Mucking North Ring, Essex; Jones and Bond 1988). It is possible that the loomweight from Trowse is typologically earlier in form than those from Harford Farm, its less angular shape being slightly more reminiscent of the cylindrical, axially-perforated weights of the Bronze Age. By contrast the angular weights from Harford Farm suggest more the later Iron Age and Roman triangular-style weights.

Objects of stone
by Trevor Ashwin and John A. Davies
(Fig. 144)

1 Worked stone object. s.f. 141, context 1211, fill of pit 1210. Polished. Almost cut in half lengthways by a deep groove running right round the object.

The function of this object is unclear; although possibly a partly worked rough-out for the manufacture of decorative objects, its polished finish would argue against this. Although the object was stratified with Iron Age

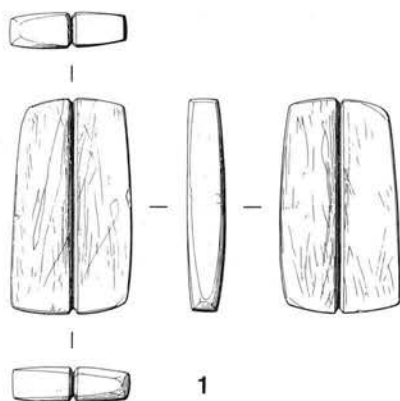


Figure 144 Objects of stone. Scale 1:1

pottery (including P112; Fig.140) in a feature phased to Period 2, it is not intrinsically dateable. It bears a passing — although maybe coincidental — resemblance in shape and size to several small grooved blocks of sandstone accompanying a Bronze Age cremation at Breach Farm, Glamorgan (Fox 1959, fig.56). Regarded by their excavator as arrowshaft smoothers, these items were associated with a bronze axe and a celebrated collection of fine barbed-and-tanged arrowheads.

V. Period 3

(Fig.145)

Square-ditched enclosures 1797, 1802

(Pl.XLVII; Figs 146 and 147)

Two square-ditched features were excavated close to the east edge of the site. The northernmost feature, *enclosure 1802*, measured 9m square with a 'causeway' a mere 0.5m wide in its south-east corner. *Enclosure 1797* was located 3m further south. This was slightly smaller (6.5m × 7m)

and featured an unbroken ditch. Both features shared the same orientation, with the four sides all facing the cardinal points. No other features were associated with either of them.

On excavation, ditch 1797 was seen to be flat-bottomed while 1802 was more rounded in profile. Both appeared to have infilled naturally. When fully silted-up they had been cut by the shallow north-east/south-west aligned gully 1809. The small amount of pottery found was all of Iron Age type. This was probably residual material resulting from the intense Period 2 use of the area evidenced by the group of intercutting rubbish pits immediately to the north-west. Gully 1809 and the other later unphased gullies which traversed the area all 'disappeared' where they crossed the square-ditched features. This suggested that a mound or bank may once have existed inside the enclosed areas. However no evidence for the weathering of such a feature was seen in the fills of the ditches.

The lack of finds and features associated with enclosures 1797 and 1802, and their careful orientation, all pointed to a ritual or ceremonial function. In this respect they appeared identical to the Period 3 square-ditched features dug at Harford Farm (Chapter 4). It is possible that they too represented the ploughed-out remains of square barrows of early Romano-British date.

Smelting furnace 837/874

(Pls XLVIII, XLIX; Figs 148 and 149)

A small iron-smelting furnace was found in the extreme west edge of the excavation. Its Romano-British date was made clear by the large amounts of Roman pottery in its fills.

The feature consisted of a circular clay-lined pit, 874, which contained the vitrified base of a ceramic furnace shaft which would originally have extended above the ground as a 'chimney'-like structure. The large sub-rectangular pit 837 located on its north-west side was



Plate XLVII Square enclosures 1797, 1802 after excavation, looking north. Scales = 2m. (9589 TWN 91, Trevor Ashwin)

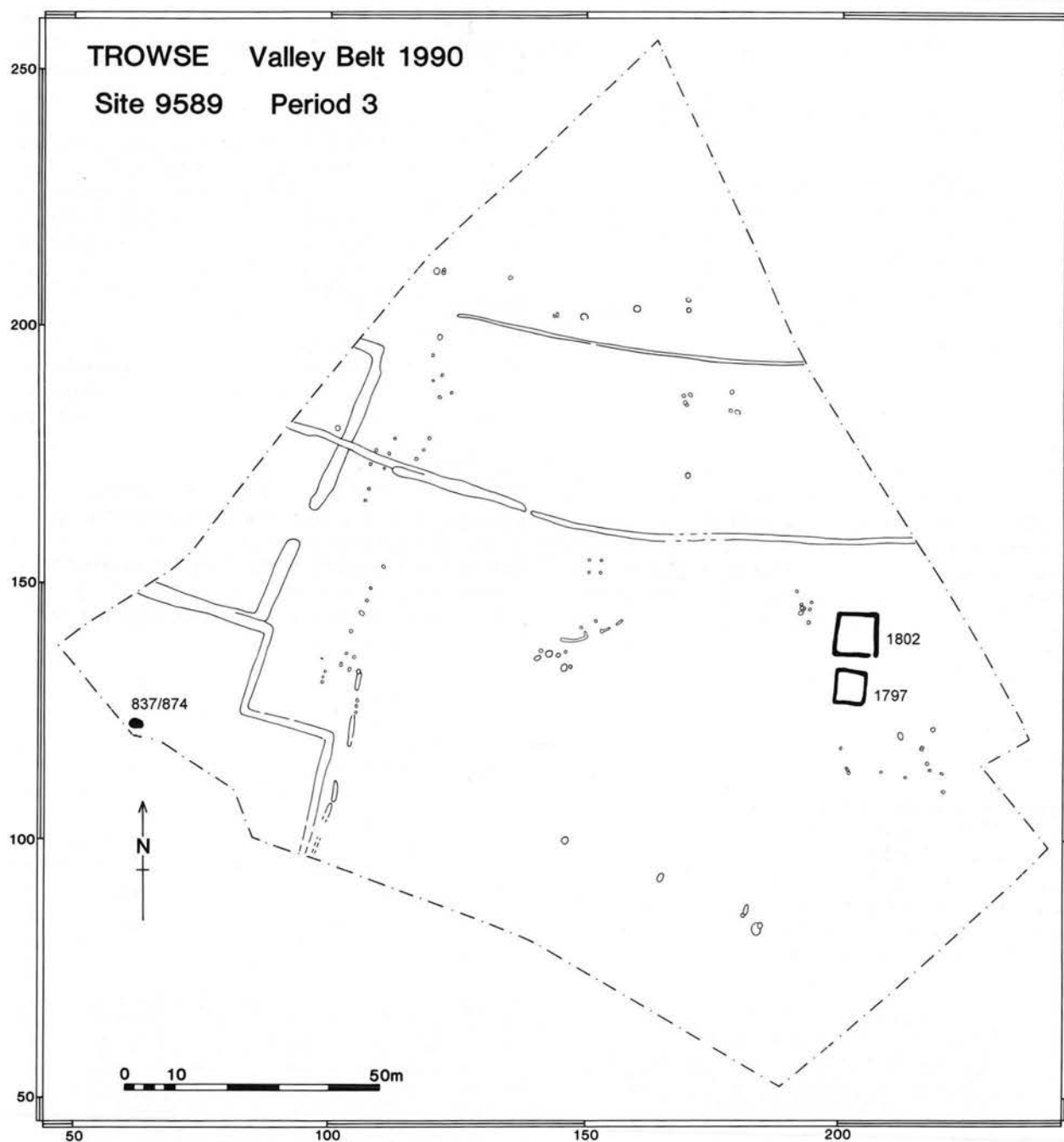


Figure 145 Period 3 phase plan. Scale 1:1250



Plate XLVIII Smelting furnace 837/874 half-excavated, looking north-east. Scale =2m. (FMJ 4, Trevor Ashwin)

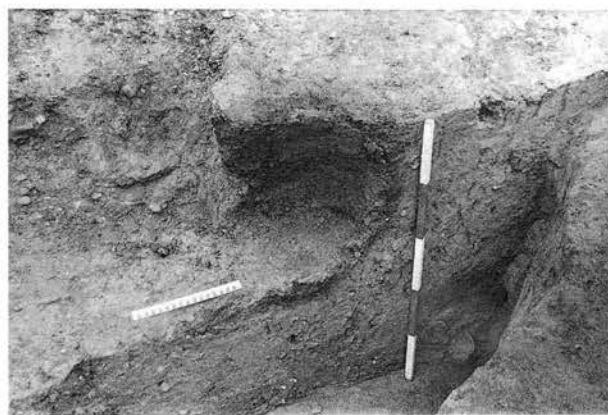


Plate XLIX Detail view of base of smelting furnace 874, looking north. Scale =0.3m. (FME 4, Trevor Ashwin)

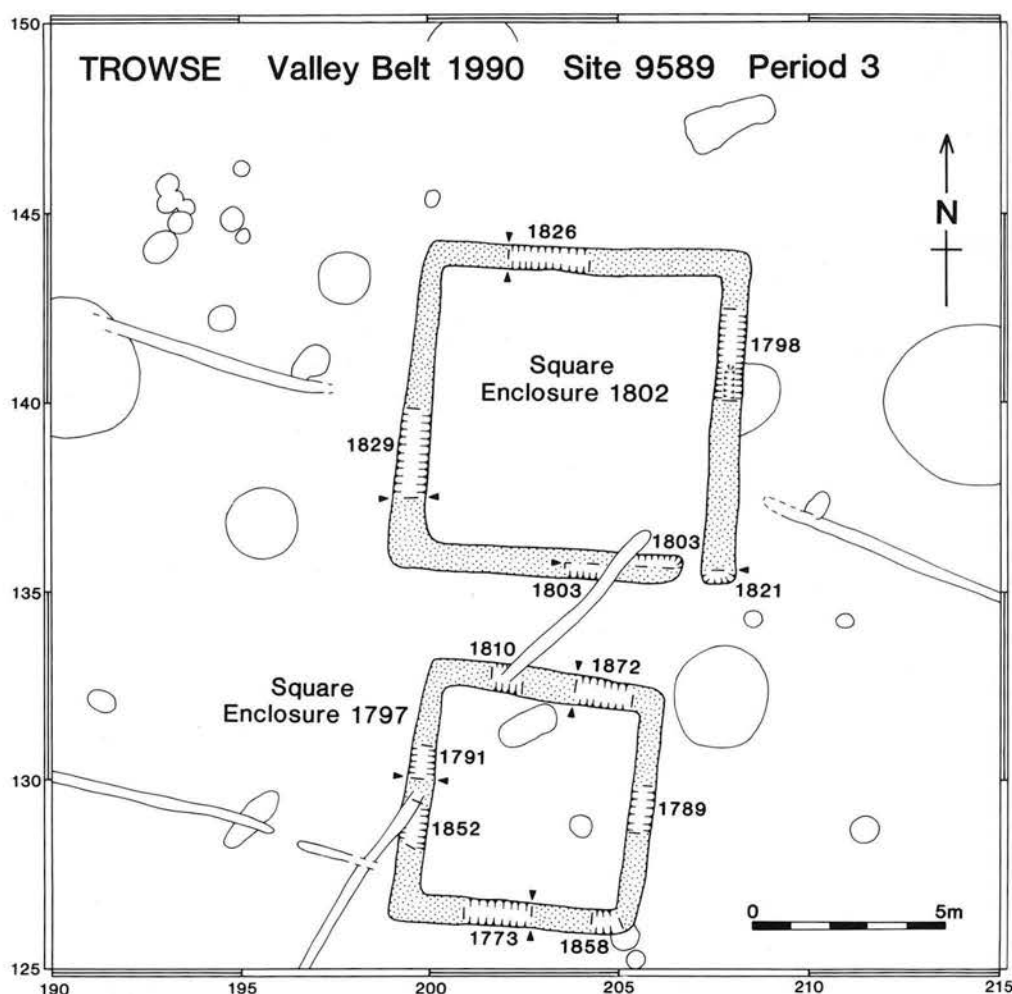


Figure 146 Plan of square-ditched enclosures 1797 and 1802. Scale 1:200

interpreted as an adjacent 'working hollow'. A shallow tap-hole, 1190, linked the two features. This would have allowed waste slag to be drained from the base of the furnace into the working hollow. Both furnace and tap-hole had been lined with clay which had been heated and vitrified to varying degrees. These deposits contained quantities of small gravel which might have been added deliberately as tempering. Two small holes piercing the clay wall of the furnace might have been tuyeres, showed that bellows had been used to achieve a high temperature for the smelting process.

A deposit of *c.* 6kg of iron slag was retrieved from contexts 930 and 965, both intermediate fills within working hollow 874. The loamy deposit 930 contained much very fine charcoal, conceivably waste/reject material from the charcoal-making process itself; certainly it was noted that charcoal inclusions found within the furnace itself were of larger size. The mixed composition of the deposit suggests that after tapping the slag was first dumped elsewhere, becoming admixed either accidentally or deliberately with loamy deposits in the process, before

its final deposition at the time of the furnace's disuse. Perhaps it was stored alongside the pit close to the topsoil which would have been cleared at the start of the operation.

Four post-holes to the north of the furnace complex may have represented a small associated trapezoidal structure, measuring *c.* 1.5m in plan at its greatest width. This might have been used as a shelter, or else for storing fuel and other materials.

The furnace might have been used for several smelting operations. After use the furnace structure appeared to have been deliberately demolished, perhaps during the process of removing the smelted iron, and the working hollow backfilled with waste from the process including large quantities of slag. Two hundred and fifty-two sherds of pottery found in these deposits suggested a third-century date for this backfilling event. However an iron bow-brooch (Fig. 150) of indubitable Late Iron Age pattern was also found. This might be a residual find in this context, rather than demonstrating the hoarding of scrap for use in the smelting process.

TROWSE Valley Belt 1990 Site 9589 Period 3

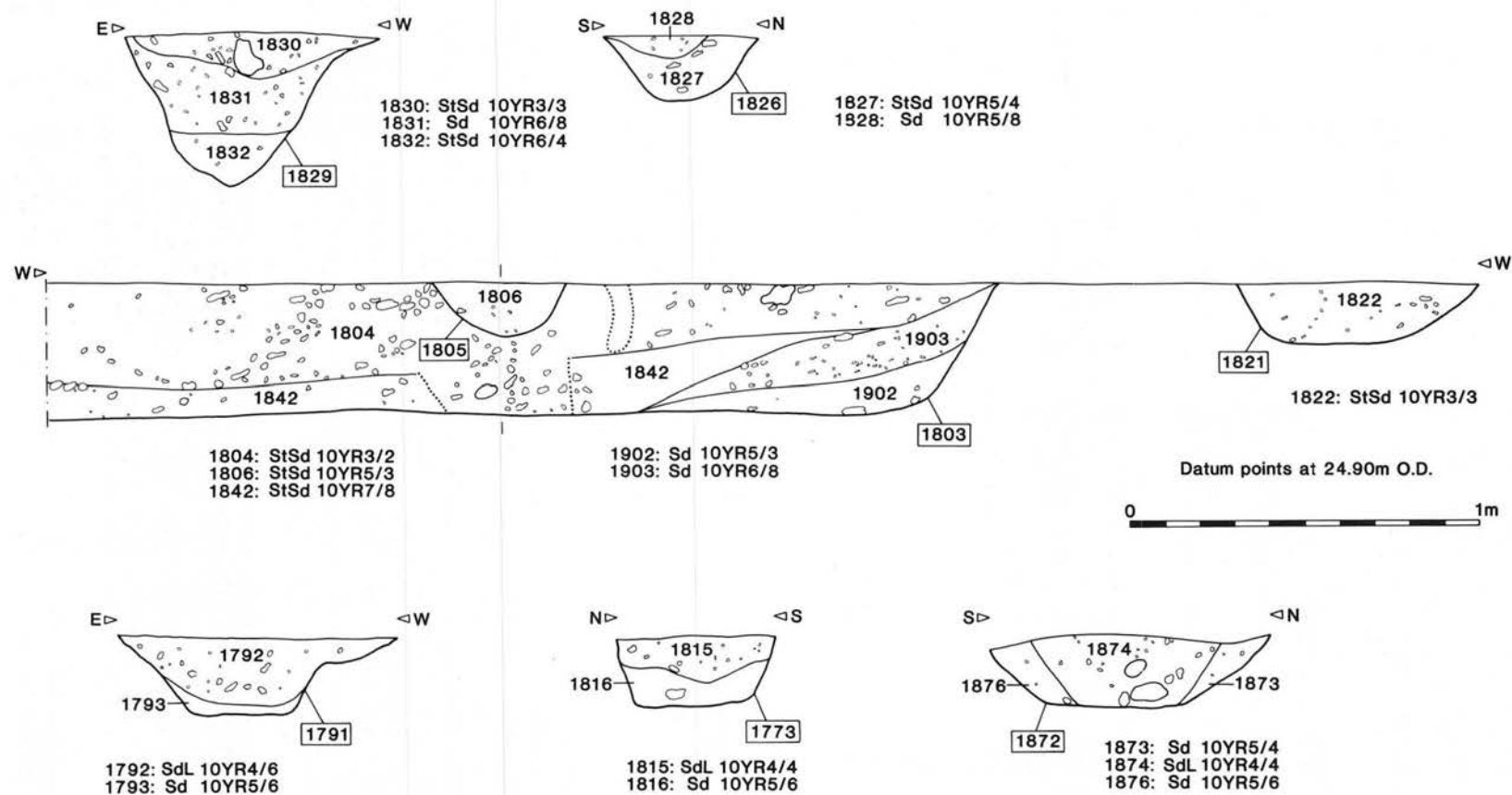


Figure 147 Sections through square-ditched enclosures 1797 and 1802. Scale 1:20

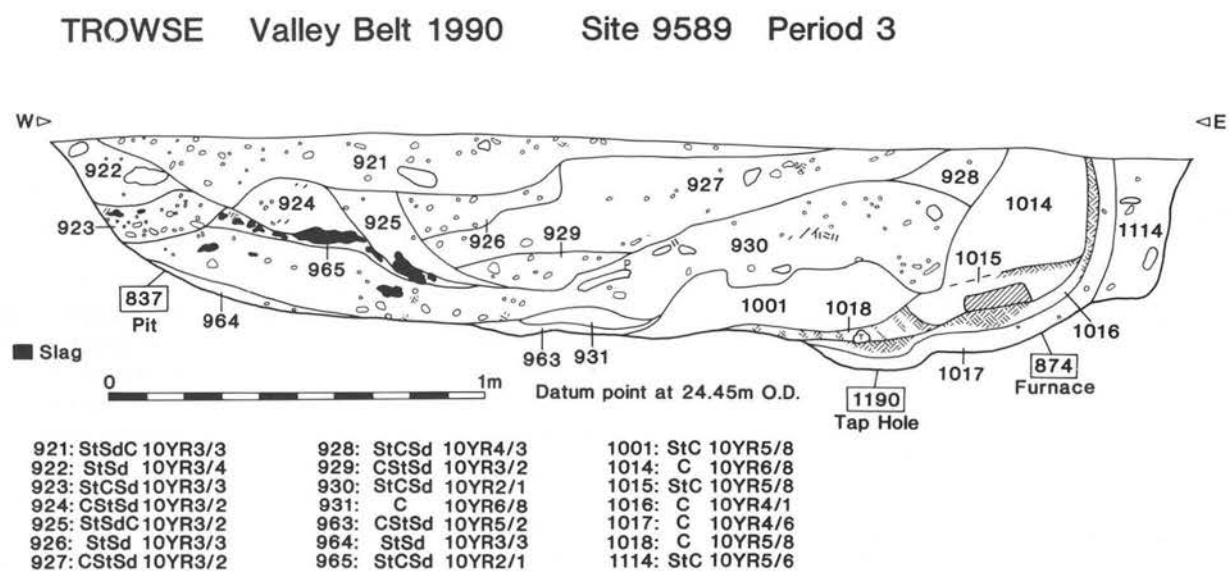
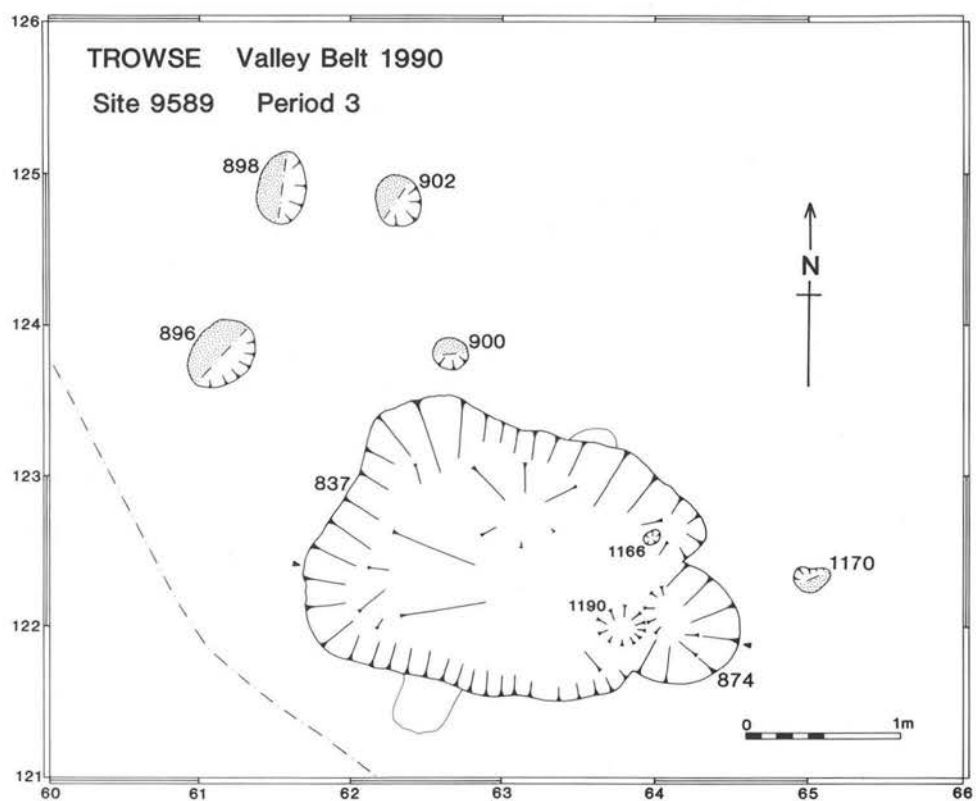


Figure 149 Section through smelting furnace 837/874. Scale 1:20

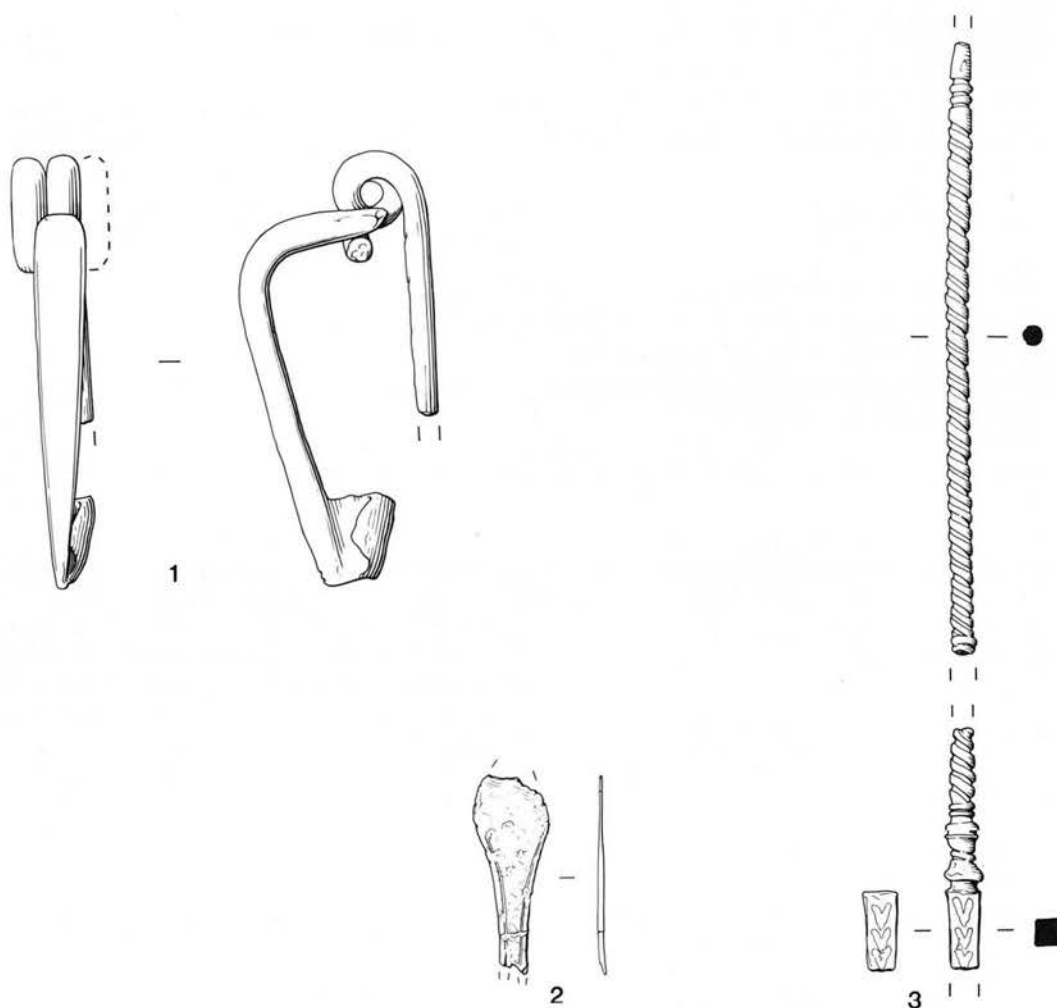


Figure 150 Roman small finds. Scale 1:1

Artefacts

Coins

identified by John A. Davies

Only two Roman coins were found, one of them from within the iron-smelting complex described above.

- 1 Vespasian, IMP CAESAR [VESPASIAN] AVG COS IIII (obv.), SC, eagle on globe (rev.); s.f. 99, context 838, fill of furnace 'working pit' 837. Lyons mint. 72 AD.
- 2 Gallic Empire antoninianus; s.f. 213, context 665, fill of post-hole 664. Illegible. 268–74 AD.

Objects of iron

by Donald Mackreth
(Fig. 150)

- 1 **Brooch**; s.f. 98, context 838, fill of furnace 'working pit' 837. Iron. The X-ray reveals that the spring is integral with the bow and had an internal chord.

It is obvious that the brooch has lost one coil on its right-hand side, and it is impossible to fit three coils into what space is left to create the four-coil, internal-chord brooch of normal 'Nauheim' extraction. The normal pattern of brooches having three-coil springs is that there is only one coil on the left side with two on the right, and therefore only one coil is actually missing.

As an iron brooch with three coils, it joins a select group of undoubted Iron Age origin: Puckeridge, Skeleton

Green, c. 10 BC–AD 20 (Mackreth 1981, 132, fig.66, 3); Maiden Castle, c. 25–50 AD (Wheeler 1943, 252, fig.85, 34); Puckeridge, Station Road, c. AD 25–?Claudian (Mackreth 1979, 35, fig.6, 3); Neatham, Hants, from a third–fourth century AD context (Millett and Graham 1986, 101, fig.70, 2). These examples are all three-coil iron brooches having the same bow section. Copper alloy brooches with three coils are much more common, but their distribution is almost completely south of the Thames and generally east of Hampshire, and should not therefore be confused with the group to which this specimen belongs.

The message of the dated examples is clear: the *floruit* of these brooches is from the end of the first century BC to the middle of the first century AD. The item from Neatham was a residual find in its context: British bow brooches were not being worn much after AD 150–175.

Objects of copper alloy

by John A. Davies
(Fig. 150)

- 2 **Nail cleaner**, leaf-shaped blade type. s.f. 100, context 930, fill of furnace 'working pit' 837. The suspension loop is missing. The blade tapers gently from the shoulders towards the twin points. A marginal groove has been incised within the edge on both faces. Mid-first to early second century AD.

- 3 **Ligula or spoon probe.** s.f. 101, context 930, fill of furnace 'working pit' 837.

Broken into two pieces, with both ends missing. One end is square in section, and is separated from the shaft by grooved mouldings. This would have developed into a long spoon. The circular section at the opposite end would have continued and expanded into a probe.

Pottery

by Sarah Percival

356 sherds of Roman pottery weighing 4.9kg were retrieved from seventeen contexts at Trowse. 252 of these sherds were found in the fill of the 'working hollow' 837 which adjoined the iron smelting furnace 874. This was the only stratified Roman pottery from the site.

Of the assemblage in this feature, over 60% of the sherds were of local Grey Wares, mostly unprovenanced but including material from the local kilns at Brampton. The rest of the assemblage was mostly local Buff Wares, although a small amount of Nar Valley and Colchester material was also present. A date falling between the mid-second and mid-third centuries AD for the assemblage seems most likely.

VI. Period 5

Modern features

(Fig. 151)

Many large features and areas of disturbance were seen in the central part of the site. These were shown to be of recent origin by their dark organic soils and by the finds of metal piping and modern drain observed in their unexcavated fills.

The large circular ditch, with south-west-facing 'causeway' and central pit-like disturbance, occupied one of the highest points on the site and was probably the tracking circle of a World War 2 searchlight or anti-aircraft gun. Twenty-five metres to its south-east the ephemeral remains of another smaller feature were identified. Also seen were the foundation trenches of two small rectangular buildings and other large pits or disturbances in their vicinity. These were probably part of the 1940s installation too.

VII. Unphased

Linear boundaries

(Fig. 152)

In the central and eastern part of the site was recorded an extensive series of shallow ditches and gullies were seen. All were orientated either NNE-SSW or WNW-ESE. They could not be dated save by the fact that gully 1809 had cut both of the Period 3 square-ditched enclosures 1797 and 1802 after they had silted up.

The ditches and gullies had been heavily damaged by erosion and modern ploughing, and the remaining lengths probably represented only part of a system of land boundaries which may once have been more extensive. Gullies 1626, 1618, 1487 and 1809 appeared to form two small strip-like fields. The small enclosure 1678 at its south-eastern corner was the footing-trench for the upright timbers of a palisade-like fence or wall, and might have been an animal fold or other small agricultural structure. Further to the west another sub-rectangular area appeared to be defined by the ditches 1044 and 1471.

VIII. Discussion

Period 1

Settlement sites of the third and second millennium BC are at a premium in all parts of Norfolk, apart from the fen-edge zone where extensive traces of sites occupied by Beaker-using communities have been exposed by peat wastage since the 1940s (Bamford 1982; Healy 1984, 116-117; Healy 1995). In view of this scarcity it is regrettable that the evidence from Trowse was so ephemeral, but exposed locations such as these are especially vulnerable to erosion, both by ploughing and by natural processes.

It is likely that many cut features of this Period were either so damaged that they could not be identified as such, or else had been removed completely by ploughing. It must be assumed also that the remains of any post-hole structures that once existed here were of a type too ephemeral to survive the ravages of medieval and modern ploughing. These impediments, and the unsupervised removal of topsoil by the contractors before fieldwalking could be performed, made it impossible to discern any spatial concentrations of deposits or unstratified material which would allow the identification of discrete activity areas.

Material was not submitted for radiocarbon dating as charcoal of sufficient quality was not available from securely dated contexts. However it seems that the Period 1 material represented the first human occupation of the site, and that this had occurred in the latter half of the third millennium BC. Three factors support such a date-range. First of these was the nature of the pottery assemblage, which was predominantly Beaker of Clarke's 'Southern' or Case's 'Late' style (Clarke 1970, Case 1977). Secondly, analysis of the flint has shown that the relatively few diagnostic items in the lithic assemblage tended to be of 'later' rather than 'earlier' Neolithic type.

Occupation sites of the third and early second millennia cal. BC are often characterised by a low density of subsoil features. In her studies of the settlement remains of the Norfolk Neolithic, Frances Healy has observed the manner in which the 'transition' seen in the archaeology of settlements around the conclusion of the fourth millennium cal. BC is characterised by more than just changes in ceramic and lithic typology. 'Early Neolithic' sites dominated by artefact-rich pits (e.g. Broome Heath; Wainwright 1972) seem to give way to 'later Neolithic/Early Bronze Age' sites with fewer substantial cut features, where most pottery and other artefacts are found unstratified. Whether this transition is due to changes in rubbish disposal habits or to some more fundamental shift in lifeways is not clear, but it can be seen in Norfolk at Spong Hill (Healy 1988) and Eaton Heath (Wainwright 1973), both occupied over a very long time span. It has already been noted that the unsupervised removal of overburden before archaeological work began might have led to the loss without examination of a large proportion of the Beaker assemblage which once existed here.

Sarah Percival's analyses have shown that virtually all the pottery of Period 1 date from Trowse was of Beaker type, providing another example of the ceramic 'exclusivity' so common in this era. Cleal (1984) noted how frequently assemblages of late Neolithic/early Bronze Age date are composed of pottery solely of Beaker, Peterborough or Grooved Ware type, and that even if more

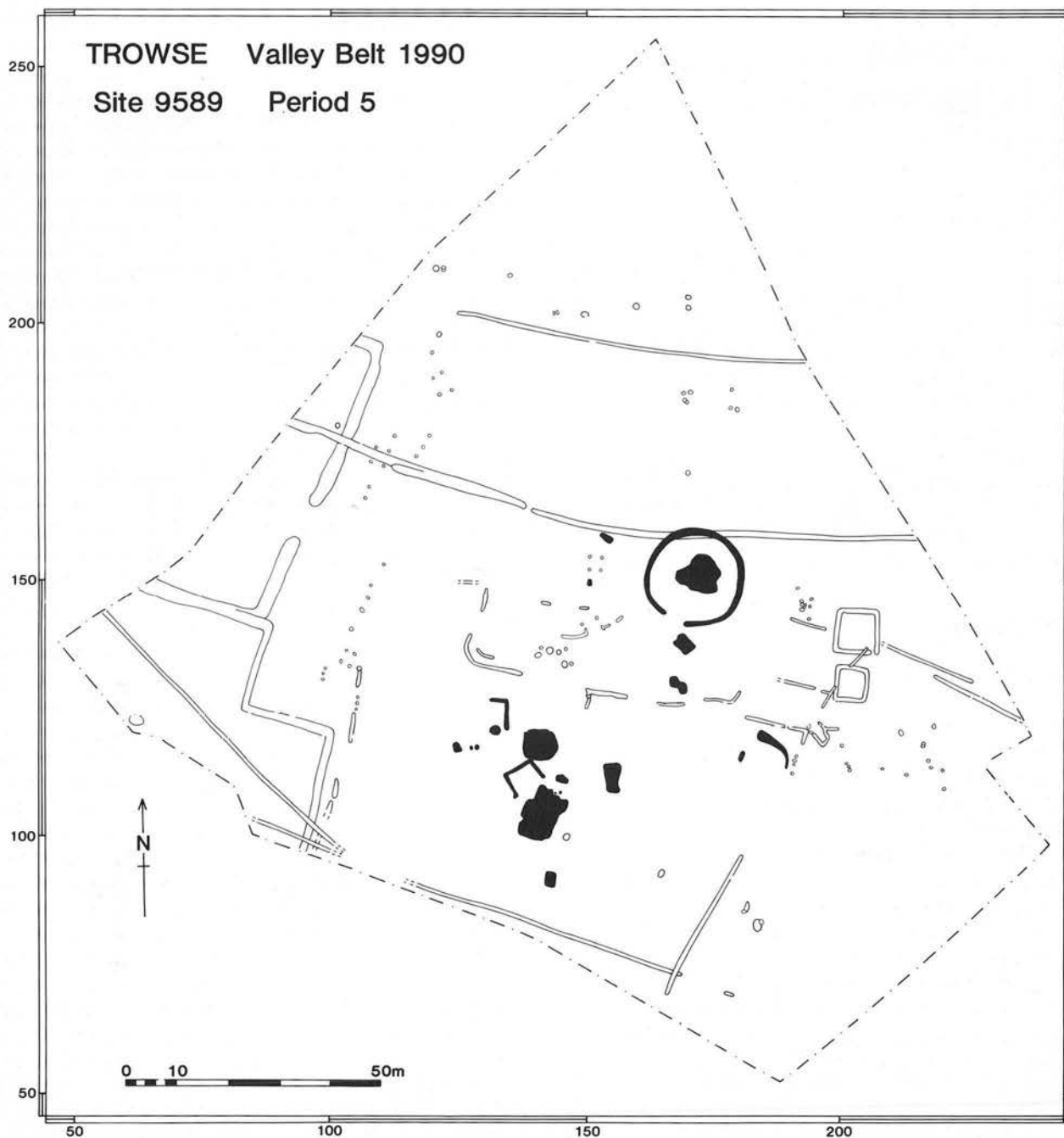


Figure 151 Period 5 phase plan. Scale 1:1250

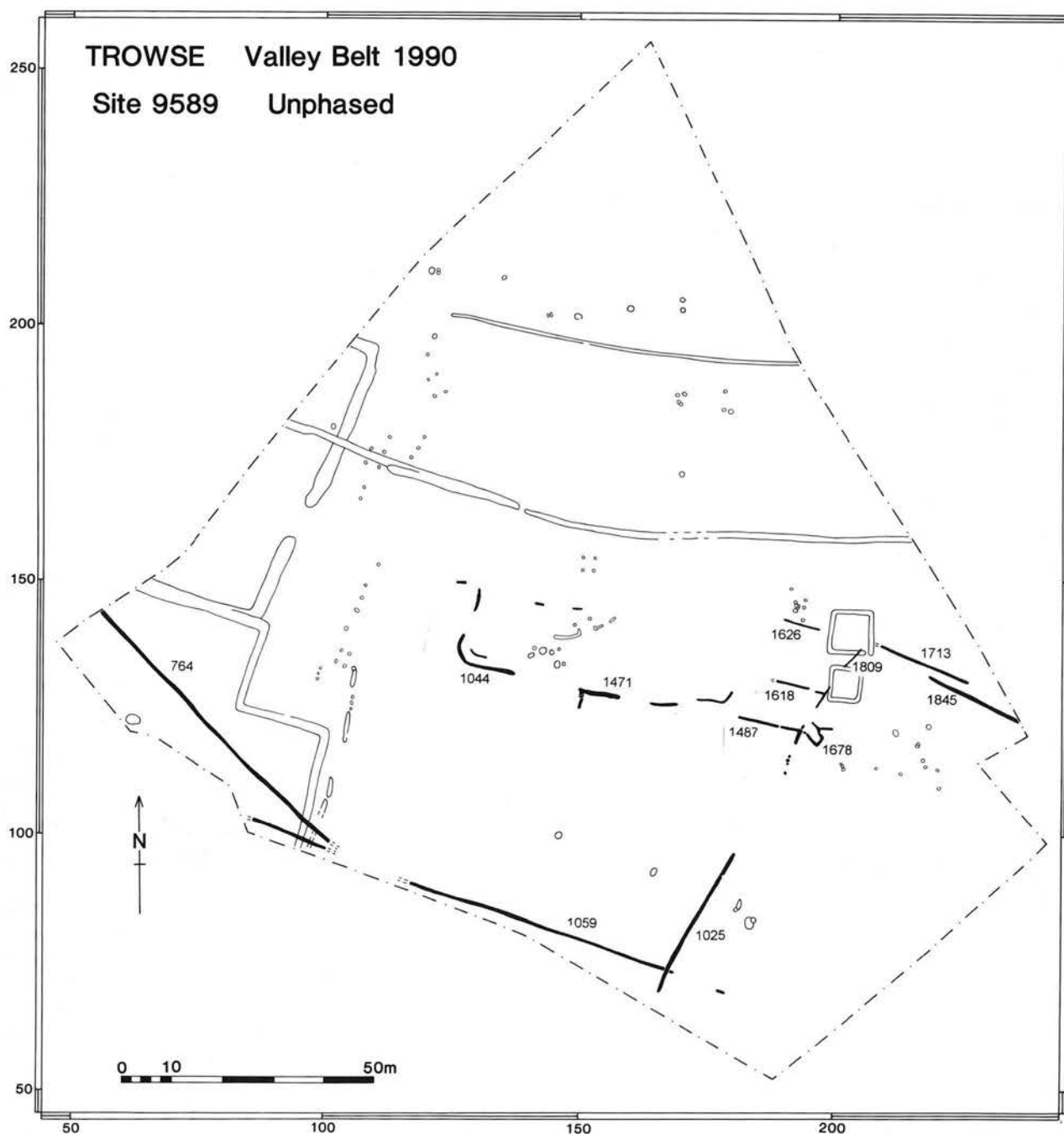


Figure 152 Plan of unphased features. Scale 1:1250

than one of these traditions is represented it is common for them to be found in distinct parts of the site. Once again, Healy's research at Spong Hill (Healy 1988) provides a useful Norfolk exemplar, with these different ceramic styles all occurring on the site yet very rarely actually being found stratified together.

Inter-site discussion of the Norwich Southern Bypass area will be delayed wherever possible until Chapter 10, but it appears that the Period 1 occupation of this often rather cold and weather-beaten hilltop was to some extent contemporary with the funerary use of the NAU-excavated barrows at Bixley less than a kilometre to the south, which yielded radiocarbon dates centred in the latter part of the third millennium cal. BC (Appendix 1). From the environmental evidence (Murphy, Chapter 9) we can see that varied subsistence strategies were practised, and that these included foraging as well as cultivation of crops since Peter Murphy's botanical studies revealed hazelnut remains along with those of cereals. The contents of pit 1132 show that flint working was also carried out here by some individuals on a significant scale. These knappers were probably not using imported or traded raw materials, and seemed adept at producing flakes from whatever flints or cobbles were to hand.

No positive evidence was recorded for settlement or other human use of the site during the later second millennium BC.

Period 2

General

Until very recently, domestic sites in Norfolk dating to the 1st millennium BC have been represented by the results of only two substantial excavations. These were of the well-known site at Micklemoor Hill, West Harling (Clark and Fell 1953), dug at various times in the 1930s, 40s and 50s, and nearby at Snarehill, Brettenham (Norfolk Site 5955; unpublished report by P. Shand in Norfolk SMR). The work of the NAU during the period 1990–93 has included the area excavation of three further examples, all of them directed by the writer, of which the site at Valley Belt is one. Considering the paucity of Iron Age evidence from the county, the accidental discovery of settlement of this period at Valley Belt was recognised at once as being potentially of great importance.

The presence of rubbish-filled pits containing pottery of 'Harling' type, occasionally in very large quantities as in pits 68 and 1356, attested to fresh occupation of the Valley Belt site which may have begun as early as c. 700 cal. BC or even before. At the conclusion of fieldwork and post-excavation analysis, it is sad that understanding of the date and chronology of the Period 2 occupation remains very generalised. Comparison with the Early Iron Age remains at West Harling shows the Valley Belt sitescape to have been a very different one, particularly in the absence of roundhouses or other structures which may have been human habitations.

Although the features excavated included pits, post-hole structures and both ditched and fenced land boundaries, it was impossible to establish a relative sequence for the Period 2 features, with a high proportion of cut features remaining unphased at the conclusion of the analysis process, and (save between the ditched enclosures) little stratigraphic contact recorded between features of Period 2 date. It is unclear to what extent the

pit groups, enclosures and structures were contemporaneous, and considering the possible date span of the occupation it is possible that the sundry elements of the Period 2 landscape either denote successive periods of activity or else only intermittent use of the hilltop.

Pits and structures

Taken as a group, the pits seem typical of those found on many later prehistoric settlement sites in providing very little evidence of the purpose for which they were first excavated, and displaying a very uneven distribution of finds, with a very few features containing exceptional quantities. Some of the pits might have fulfilled industrial functions of some kind. The clearest positive indications of this were provided by the pottery-filled round pit 68, with its clay 'lining' (Fig. 132). Features similar to this have been recorded at many other Iron Age sites, including (for example) Winklebury, Hants (Smith 1977, figs 23, 24), Little Waltham, Essex (Drury 1978, 30), London Road, Thetford (Davies 1993, fig. 3) and Twywell, Northants (Jackson 1975, fig. 20). Not only could these pits have been intended to hold water or other liquids for tanning, dying, antler/horn-soaking or other purposes, they also raise the possibility that other pits, at Valley Belt and on other sites, were once lined with wicker, hide or other perishable materials.

No roundhouses could be discerned at Trowse, and detailed study of the distribution of post-holes failed to isolate any fragmentary examples. Despite the considerable plough-damage here, it seems unlikely that buildings of this type ever existed, especially since remains of several four-post structures and fragmentary yet tangible traces of possible fence lines *did* survive for study. While it is possible that any dwelling-houses or other large buildings left only shallow archaeological traces which have been destroyed, it is equally likely that such buildings, if present at all, lay beyond the limits of the 1990 excavation area. In conclusion, however, the possibility that Valley Belt was not necessarily a settlement site but one frequented for a variety of agricultural and craft activities must also be considered. More recently NAU have carried out excavations at a possible example of such an Iron Age site at Park Farm, Silfield, Wymondham (Ashwin 1996b).

The problems of interpreting the four-post structures so typical of Late Bronze Age and Iron Age sites have been discussed since the time of General Pitt-Rivers, who considered those which he recorded on Cranborne Chase to have been raised granaries (Pitt-Rivers 1888). Stanford (1970) provides an interesting gazetteer of examples that had been published up to that date, and Ellison and Drewett's paper of 1971 considered various alternative hypotheses, including 'watchtowers' and platforms for the exposure of corpses. Until the recent NAU excavation campaigns on the Norwich Southern Bypass and at Park Farm, Silfield (Ashwin 1996b), structures of this type were, however, little known in the Iceni territory of Norfolk and northern Suffolk, so the six Trowse examples represent an important addition to the regional repertoire of structural types.

Little information about the structures themselves could be recorded apart from their dimensions in plan. Their interpretation poses problems. They are most commonly viewed by excavators of Iron Age sites as raised storage structures, and the absence (as at Harford

Farm, Chapter 4 this volume) of obvious examples of storage pits for cereals might reinforce this. However it is important to note that no less than three of the six Trowse examples appear to be associated with Period 2 boundary features, with two of them coinciding with gaps in lengths of fence or gully. Of the alternative interpretations rehearsed by Ellison and Drewett (1971), it is difficult to imagine them supporting 'watchtowers' (*ibid.*, 185–9), but they could possibly represent gateway or entrance structures of some kind pertaining to the enclosures. This idea is considered further below.

Enclosures

The Period 2 landscape at Valley Belt was dominated by the series of rectilinear ditched enclosures, which make an important contribution to our knowledge of Early and Middle Iron Age sitescapes in this area. Although the ditches and fence post-holes produced few artefacts, the well-stratified Iron Age pottery assemblage from the termini of enclosure 406 left no doubt as to the system's later prehistoric date. None of these landscape divisions could be examined in full, as all seem to have extended beyond the limits of the excavation. It is possible that they represented a succession of fields or substantial stock enclosures — ditches 406 and 663 would have been over 1m deep before they were eroded by ploughing. The enclosures are perhaps best interpreted as part of a large-scale livestock management scheme. Unfortunately the complete absence of animal bone, due to the prevailing acidity of the subsoil conditions, precludes any assessment of the kinds of animals (cattle, sheep, pigs) reared by the Iron Age communities who lived here.

The position of the 'fence' remnants in this sequence cannot be proven on stratigraphic or artefactual grounds. However the fact that both fences 1971 and 1972 lay parallel to the primary enclosure ditch 406 and immediately to its east suggested that ditches and fences may well have been integral parts of the same system of land division, rather than representing two distinct phases of landscape division. This tentative interpretation receives further support from the alignment of fence 1970; this conceivably formed the western limit of an elongated enclosure bounded on its north side by ditch 237 and to the south by ditch 408.

Indications that at least three of the four-post structures seem to have been integral parts of post-hole fencelines or other linear features must be considered, since it may provide insights both into the function of the oft-debated 'four-posters and the nature of the enclosures' use. Indeed the pursuit of this issue might have wider implications for the ongoing discussion about the nature of four-post structures, especially because similar relationships can be seen in the case of two other recently-excavated or recently-published Norfolk sites. At nearby Harford Farm (Chapter 4 this volume; Fig. 81) was excavated a putative four-post structure measuring c. 5m × 4.5m which protruded north-westwards from the line of Period 2 fence 1733. At Redgate Hill, Hunstanton, at least two post-hole structures seem to have been contiguous with a post-built rectangular enclosure (Healy, Cleal and Kinnes 1993, fig. 9). This complex of features is not unequivocally datable, and might represent activity in the second or third millennia cal. BC rather than the Iron Age. As already discussed with reference to Harford Farm, these structures could possibly have been gateways or corrals intended to

restrain small groups of animals or individual beasts while in transit from one field to another. If this interpretation has any value, their rather small size (usually less than 3m square) might suggest the presence of sheep rather than cattle.

Period 3

Although no end-date may be proposed for the Period 2 occupation discussed above, artefactual evidence — specifically the absence of Late Iron Age type pottery of the kind found in secondary contexts at the Arminghall Henge (Clark 1936, figs 7–8) — suggests that it had ceased a considerable time before the advent of 'Belgic' and Roman influence.

Most of the excavated area yielded no evidence whatever of Romano-British activity, either in the form of artefacts or cut features. Despite this, the two groups of Period 3 features suggest at least two distinct episodes in the use of the site, for burial and subsequently for industrial use. Environmental remains from the fill of the smelting furnace 837/874 suggested that the land in the vicinity was open heath during this period.

The close similarity of the two square-ditched enclosures 1797 and 1802 to the series of similar features excavated at Harford Farm, Caistor, has already been noted. It has been argued in Chapter 4 that these latter features represented square barrows of Late Iron Age or early Roman date, from which all traces of upstanding structure and burials had been removed by erosion. A similar interpretation is proposed for the two Trowse examples which, like those from Harford Farm, had been laid out on a polar north-to-south axis. Unfortunately no contemporary deposits can be identified elsewhere on the site, and the monuments' immediate surroundings cannot be reconstructed in any detail.

The pottery deposit associated with the demolition of the smelting furnace showed that it dated to the later Roman period. The furnace itself was of a type well known in East Anglia, a near-identical example having been found during watching brief work by Tony Gregory at Scole, Norfolk, in 1988 (Site 1008, report in Norfolk SMR: a reconstruction drawing of the Scole furnace in use is published in Robinson and Gregory 1987, 20). Its location on the very edge of the excavated area made it possible that it was an outlying member of a group of such features which was centred further to the south or west. The source of the raw materials used in the operation is unknown. However plant remains from 'working hollow' 874 suggested that heather and other heathland vegetation might have been used as fuel, while locally-occurring iron pan could have provided ore material.

Period 5

The circumstances of the 'discovery' of the Trowse site were somewhat ironic, as recounted on p. 143. The situation of Site 9589 on a gravel bluff overlooking the Tas Valley was topographically much the same as that of the three ploughed-out barrows at Bixley, previously excavated by the author as the first stage of the Norwich Southern Bypass Project. In view of this it is not altogether surprising that the modern 'ring-ditch' 1185 was mis-identified as a further barrow during air reconnaissance, given its barrow-like diameter of 20m and its careful siting, making the most of a slight rise in the relief of the hilltop.

RAF vertical photographs of the site taken in 1946 confirm the presence of an anti-aircraft battery here, the pictures clearly showing control huts, fencing and the site of a concrete pad as an extensive white negative crop-mark in the centre of the large ring-ditch. What is most

surprising (and salutary) is that the Trowse 'monuments' should have been accorded such respectful treatment so shortly after this date, St Joseph's 'discovery' of the site occurring a mere ten years or so later.

6. Excavations at Markshall, Caistor St Edmund (Site 9584), 1991

by Trevor Ashwin and Sarah Bates

I. Summary

Stripping of overburden from the area of a proposed gravel pit close to the River Tas, located equidistant between the excavation sites at Bixley (Chapter 3) and Harford Farm (Chapter 4), revealed a low density of features. A distinctive group of small round pits in the centre of the site yielded a Grooved Ware vessel and probably indicates activity here in the mid or later third millennium cal. BC.

A solitary pit containing a complete vegetable-tempered bowl was interpreted as a possible Anglo-Saxon grave, while a number of ditches and other features of medieval or later date were also recorded.

II. The site

Location and discovery

(Figs 2, 153)

Fieldwork at Site 9584 became necessary in April 1991 when May Gurney Construction Ltd applied for planning consent to extract gravel from the area in connection with the construction of the A47 Norwich Southern Bypass.

The excavated area centred on TG 233051, in a low-lying position 200m to the west of the River Tas. It lay a short distance to the south of its confluence with the River Yare and the site of the 'Arminghall Henge'. To the north of the site another possible henge (in the form of a large double-concentric ring-ditch crop-mark), and adjacent D-shaped enclosure (Site 9582) lay within the Yare-Tas confluence itself. Two more circular crop-marks in the field known as Home Close to the south of Site 9584 almost certainly represented prehistoric monuments of some kind. To the south-west the site was overshadowed by the steep wooded slope of Chapel Hill, on whose summit had once stood Markshall church. This had long vanished from the landscape, Markshall parish having been united with Caistor St Edmund in 1695.

The site lay roughly equidistant between the other Norwich Southern Bypass Project sites at Bixley (Sites 6099 and 9585) and Harford Farm (Site 9794), the line of the new road running alongside the southern edge of the development. A single linear crop-mark apparently representing an east-west oriented ditch could be traced across the site.

Previous research

For many years Site 9584 was thought to have been that of the church and deserted medieval village of Markshall. This erroneous belief has a long and confusing history, and persisted until the publication of Rainbird Clarke's 'Notes on the archaeology of Markshall' in 1935. The ruins of a building lay a short distance to the east of the 1991 excavation and close to the river Tas (Fig. 153). Local inhabitants testified to staff of the Ordnance Survey in 1882 that this was the remains of the former Markshall

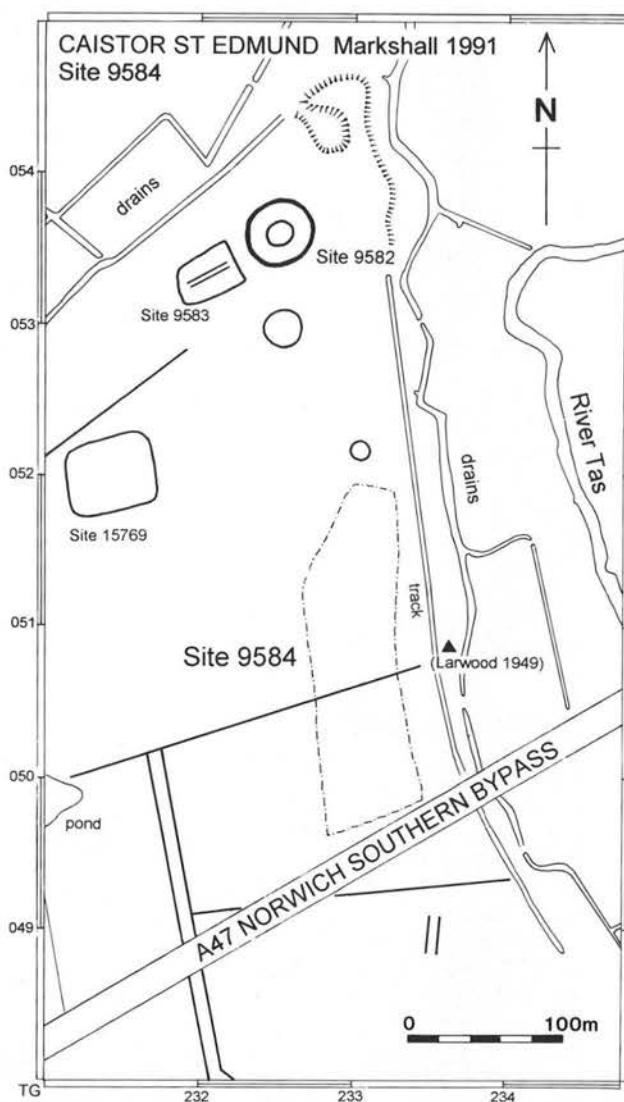


Figure 153 Markshall location plan, showing excavated area and crop-marks. Scale 1:5000

church; further confusion was engendered by H.J. Astley's ingenious suggestion that it was the remains of a Roman harbour structure facing the River Tas (Astley 1906). Excavation by the Norfolk Research Committee in 1949 demonstrated it to be the remains of a dwelling house which was occupied around 1500 AD (Larwood 1952).

Research aims

Evaluation of the area of the proposed borrow pit was required on account of the possible existence here of the deserted medieval village of Markshall, and also due to the proximity of the large prehistoric crop-mark monuments already noted.



P.ate L Aerial view of site under excavation, showing River Tas and Norwich Southern Bypass under construction, looking south.
(TG2305/ADT/GGK11, 20 April 1991, Derek A. Edwards)

The area affected by quarrying and soil-dumping totalled 2.5ha. It was decided to evaluate the extent, character and quality of archaeological deposits by monitoring the topsoil stripping of the entire site by the contractors, May Gurney, and by excavating selected features. This would permit speedy production of an evaluation report, and allow informed decisions about the desirability of larger-scale excavation to be taken.

The excavation

(Pl.L; Fig.154)

The excavation was carried out by a team of six NAU archaeologists during April 1991. Machine-stripping of the overburden revealed only a small number of cultural features, and demonstrated conclusively that the deserted medieval village of Markshall lay elsewhere. In view of this it was decided to sample-excavate the entire site within the allotted two-week span of the project, rather than producing an evaluation report and proceeding to a further 'excavation' stage. Work on the north/central part of the site was completed during the first week of the excavation, at the request of the developers, in order to release this area for immediate gravel extraction. Archaeological work on the remainder of the site was completed during the second week of excavation.

III. Period 0: natural features

Natural features

Five natural features were identified in the main area of Period 1 activity in the central 'hilltop' part of the site. These were all irregular ovate in shape and were probably natural hollows of post-glacial date. Two contained very fine sandy silt fills, with patches of red and black burnt sand and occasional flecks of charcoal. These probably represented the remains of natural fires. A single small round solution hole was identified close to the north-east edge of the site.

IV. Period 1

Features in the central part of the site

(Pl.LI; Figs 155–158)

Fourteen small pits were confined to a small area on a south-facing slope near the central summit of the site. All the features lay above 7.2m OD. They varied in size but all were round, four of them lying evenly spaced on a north-east to south-west axis. No relationship was seen between the Period 1 pits and the Unphased north-south ditch 41: the latter feature could not be detected on this elevated part of the site, probably because it had been eroded away. This made it clear that shallow prehistoric features could easily have been lost to truncation too.

Several of the pits contained struck flint, and sherds of Beaker pottery were found in pits 36 and 137, but exceptional among them was 82, in the centre of the group (Pl.LI). Its fill was dark in colour, and flotation yielded fragments of charred cereal and hazelnut shell. Numerous pieces of worked flint were found, including eleven scrapers (some of them heavily worn), an oblique arrowhead, cores and retouched flakes. Fourteen sherds from a straight-sided Grooved Ware jar bearing incised chevron decoration (Fig.161, P133) were also present.

The purpose behind the excavation of these pits is unclear. While the fill of pit 82 appears to have been a

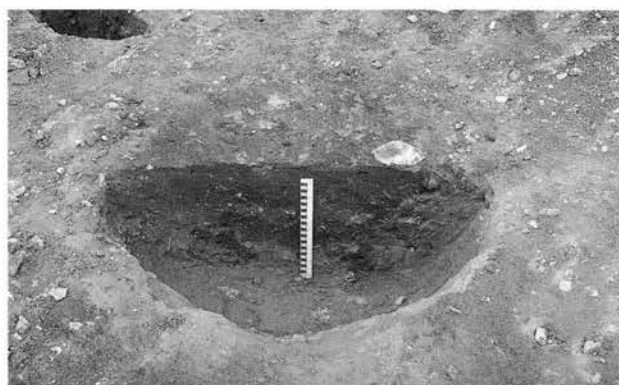


Plate LI East-facing section through pit 82. Scale = 0.3m.
(9584 CBN 9, Trevor Ashwin)

refuse deposit, the deposits contained by its neighbours — although derived from deliberate backfilling — were largely sterile and sandy.

Features in the southern part of the site

(Fig.156)

A group of features in the south-west corner of the site consisted of eight small pits of similar size and nature. All were ovate in plan, and all were orientated north to south or north-west to south-east. Lower profiles were generally very similar, with near-flat or gently sloping concave bases and quite steeply sloping sides. Most of the pits contained a single sandy silt fill. Three of them produced struck flint flakes, and part of a bifacially-retouched flint laurel leaf point (Fig.159, F39) was found in pit 161.

Artefacts

Struck flint

by Peter Robins
(Figs 159 and 160)

Introduction

A total of 263 lithic items were found. The raw material was mixed, with a preponderance of grey mottled flint with coarse grained inclusions; much showed signs of frost-damage.

141 of these items lay within a single feature, pit 82, where they were stratified with Grooved Ware pottery. This assemblage was noteworthy for the presence of eleven relatively large scrapers (illustrated examples F42–F46), the nine complete pieces measuring between 47mm and 65mm in length. All were rounded end scrapers with steep retouch, and several displayed extensive use-wear. Other tools included an oblique arrowhead (F40), a small piercer (F41) and ten retouched blades, one of which may have been part of a broken flake knife.

Few other objects are worthy of note, but the single laurel-leaf point F39 from pit 161 displayed shallow bifacial flaking on all of its surviving perimeter, typical of earlier Neolithic pieces.

Catalogue of illustrated flints

(Fig.159)

- F38 Microlith; s.f. 48, context 116, fill of solution hole 115.
- F39 Laurel leaf point, broken; s.f. 54, context 162, fill of pit 161.
- F40 Oblique arrowhead; s.f. 23, context 83, fill of pit 82.
- F41 Piercer; s.f. 24, context 83, fill of pit 82.
- F42 Horseshoe scraper; s.f. 34, context 83, fill of pit 82.
- F43 End scraper; s.f. 35, context 83, fill of pit 82.

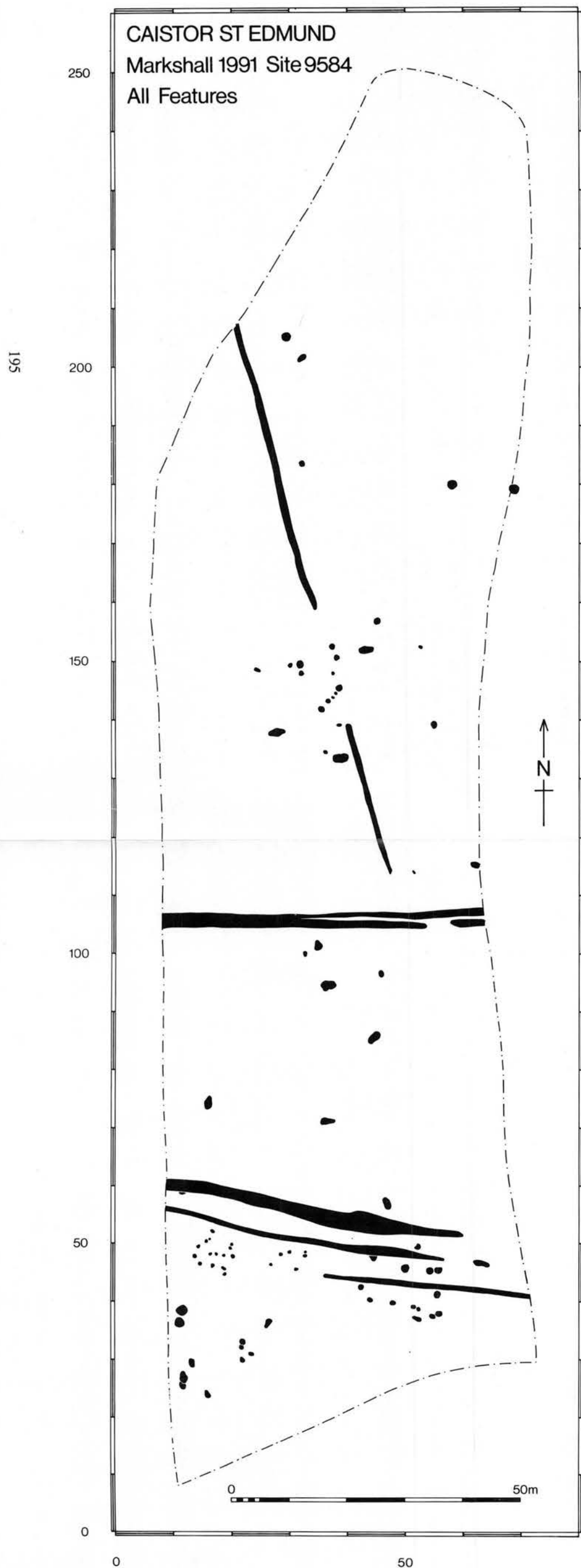


Figure 154 Plan showing all features. Scale 1:750

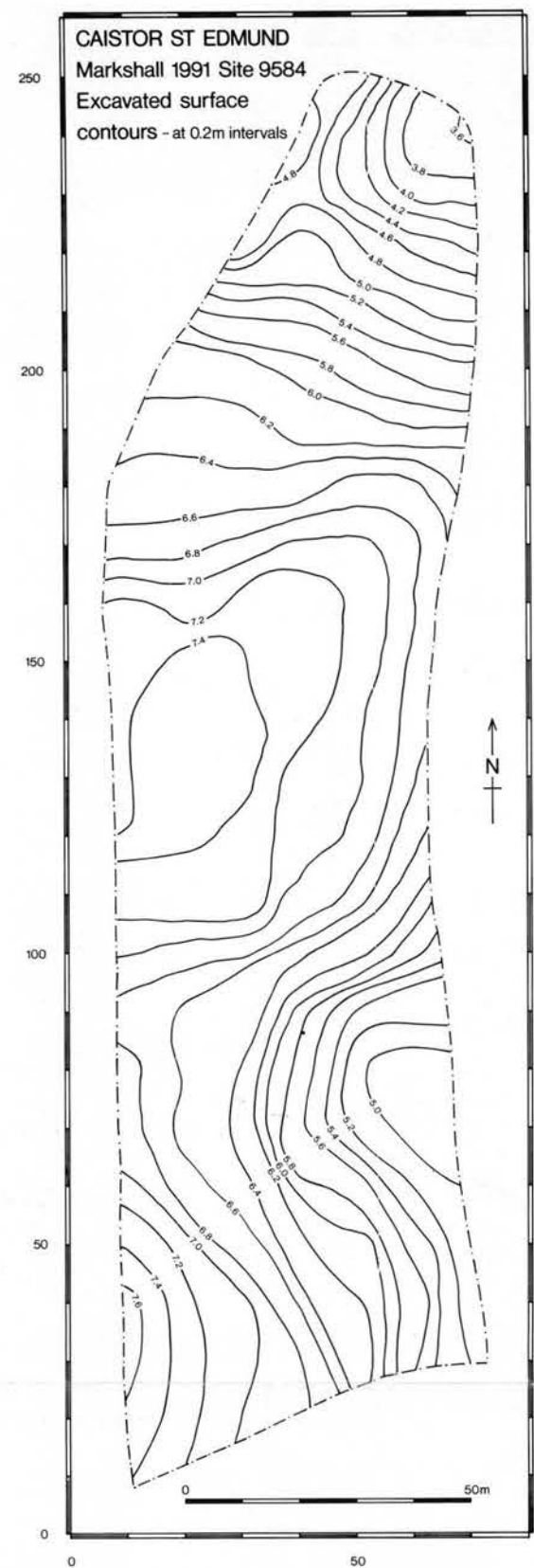


Figure 155 Plan showing excavated contours.
Scale 1:1250

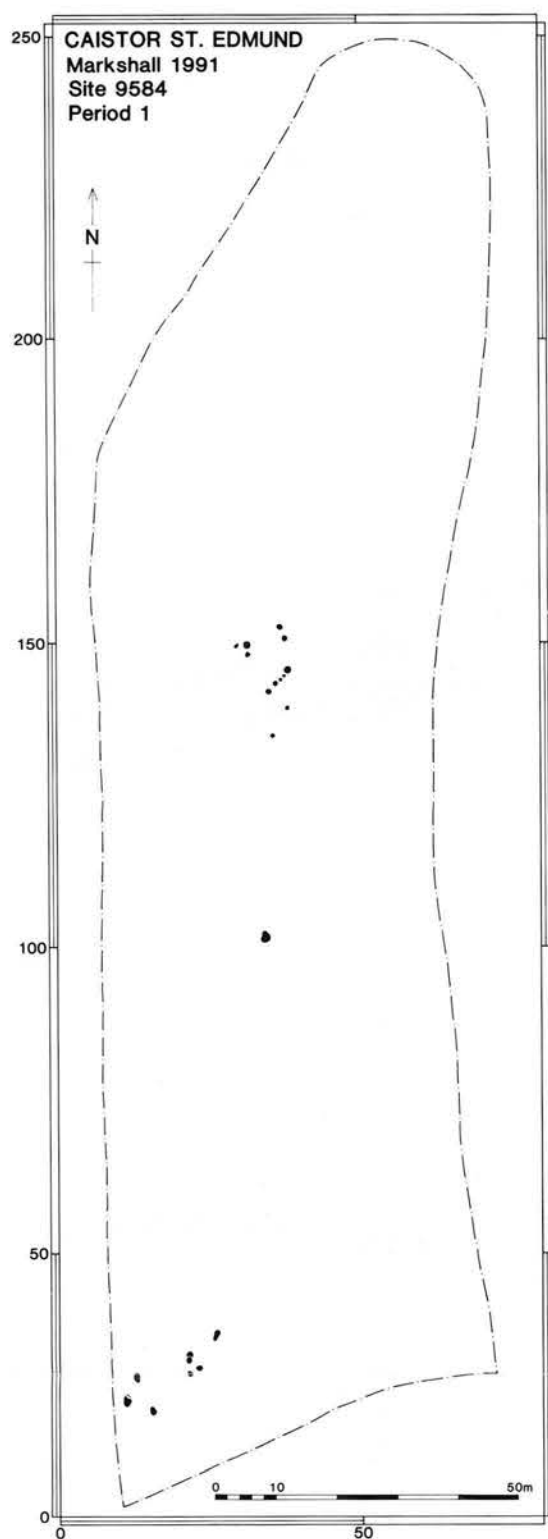


Figure 156 Period 1 phase plan. Scale 1:1250

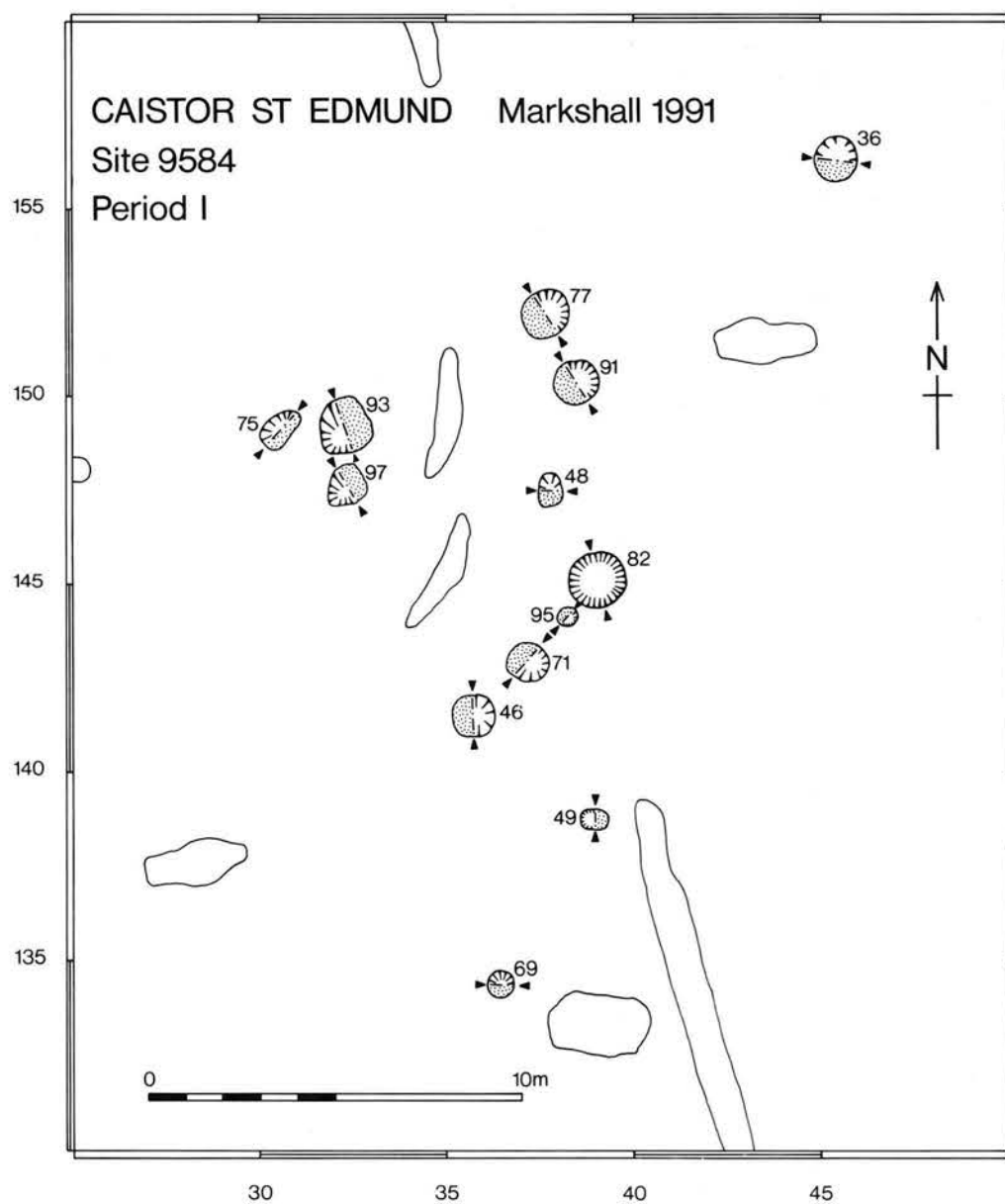


Figure 157 Plan of pits in central part of site. Scale 1:100

CAISTOR ST EDMUND
 Markshall 1991 Site 9584
 Period 1

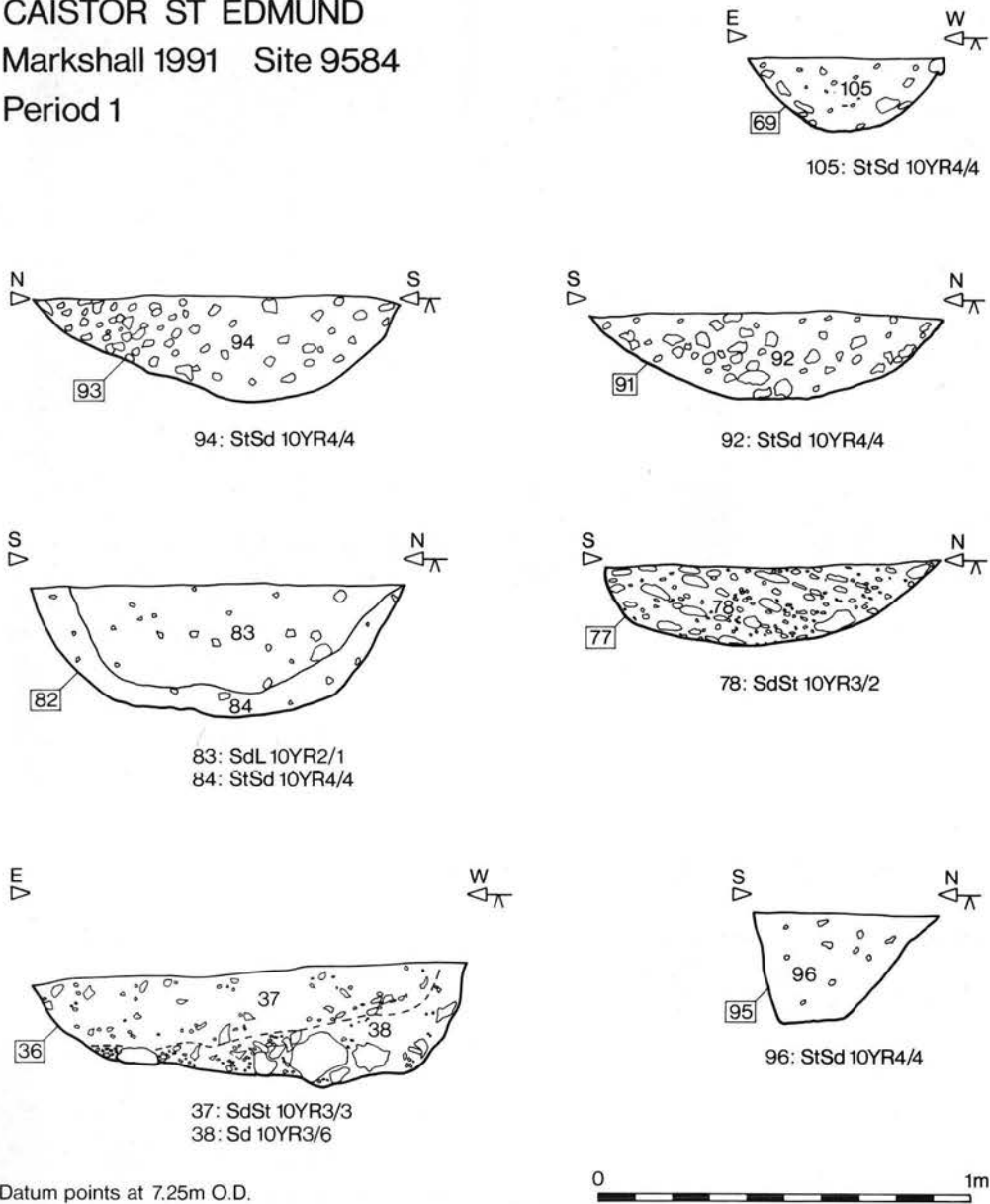


Figure 158 Sections through pits in central part of site. Scale 1:20

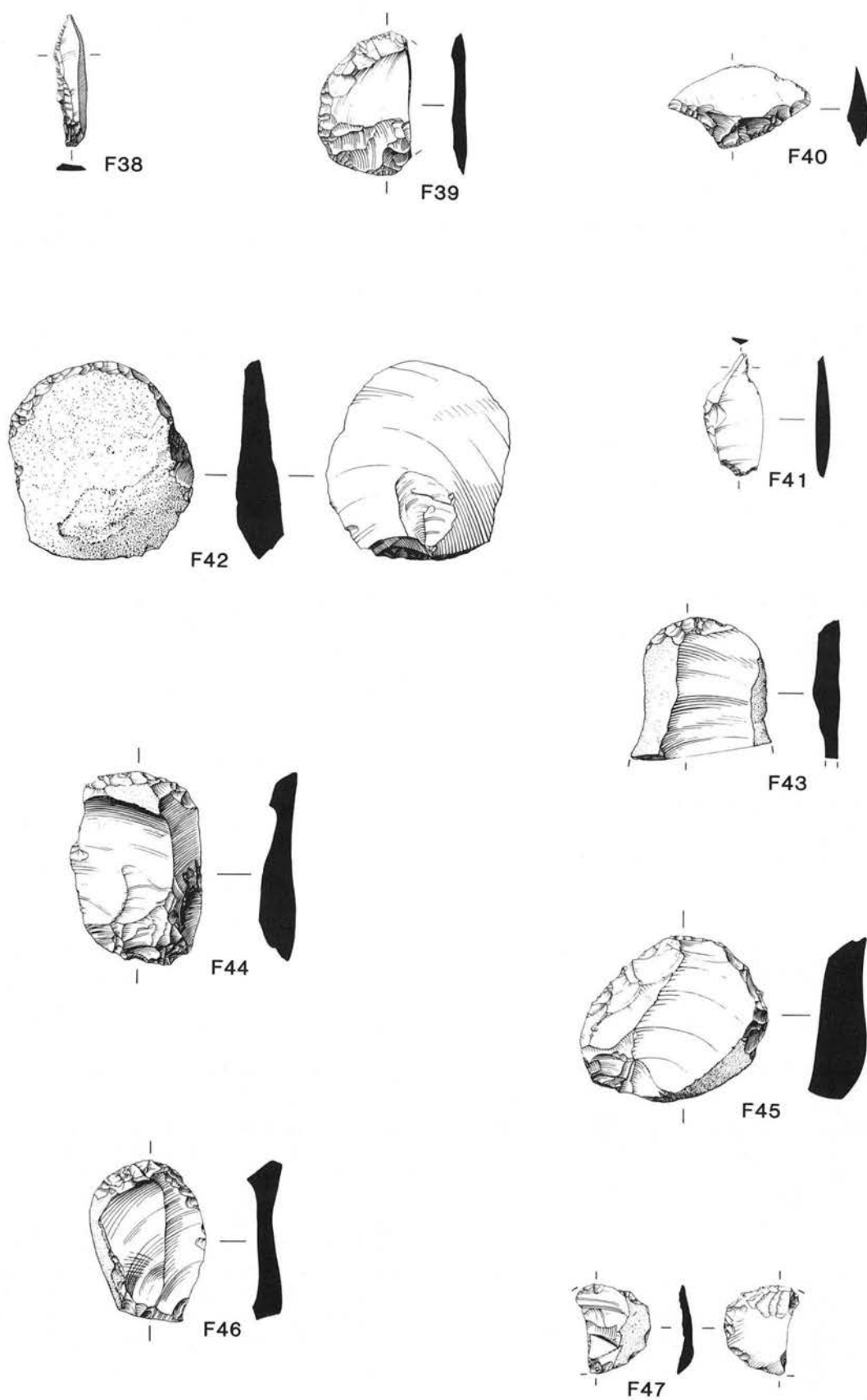


Figure 159 Lithic material F38-F47. Scale 1:2

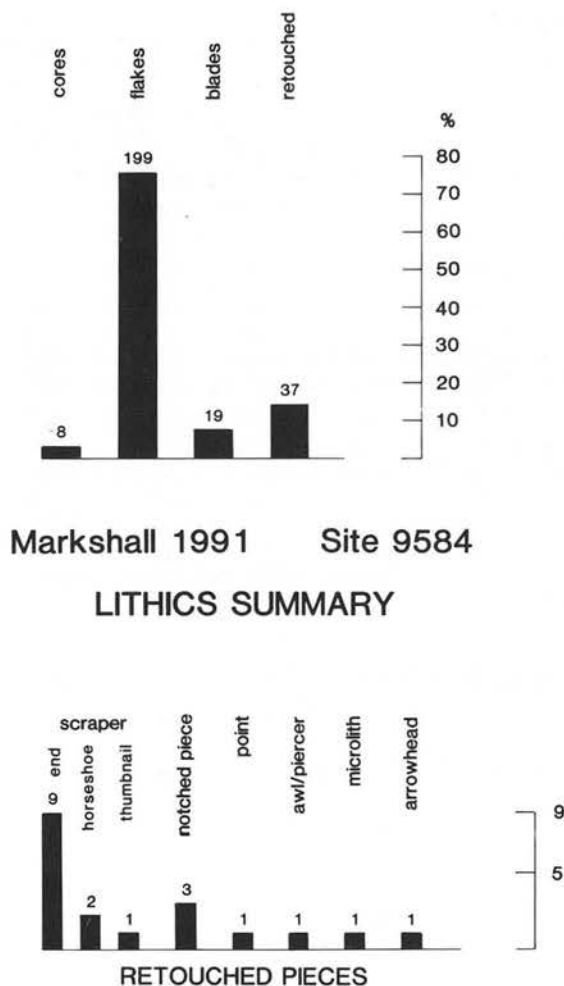


Figure 160 Lithics summary

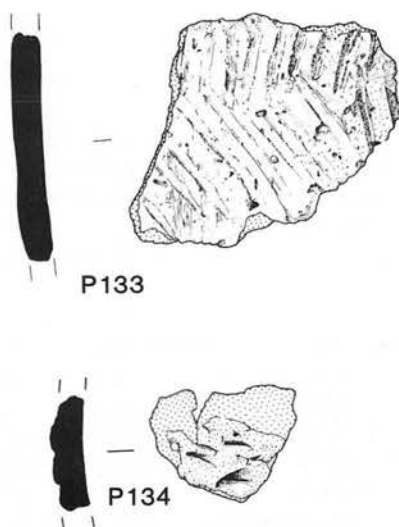


Figure 161 Grooved Ware and Beaker pottery P133, P134. Scale 1:2

- F44 End scraper; s.f. 37, context 83, fill of pit 82.
 F45 Horseshoe scraper; s.f. 39, context 83, fill of pit 82.
 F46 End scraper; s.f. 45, context 84, fill of pit 82.
 F47 Thumbnail scraper; s.f. 53, context 155, fill of natural feature 154.

Discussion

The industry appears similar to that studied from the other Norwich Southern Bypass sites. Much of the raw material was of poor quality, and could have been derived from the natural gravels underlying the site. The presence of Grooved Ware and an oblique arrowhead all argue for a Late Neolithic date for the main assemblage from pit 82. However a few individual pieces within the site assemblage as a whole, notably laurel leaf point F39, clearly represent earlier occupation.

Pottery

by Sarah Percival
 (Fig.161)

Introduction

Only fourteen sherds of earlier prehistoric pottery were found, all of them in fills of the small round pits in the central part of the site. Pit 37 produced three small Beaker sherds bearing simple fingernail impressions. Quantities of Grooved Ware came from nearby pit 82, apparently representing the remains of a small tub-like vessel (P133) which had been deposited there broken and incomplete. The pot could not be reconstructed but is represented in the illustrated catalogue by sherd P133.

Catalogue of illustrated sherds (Fig.161)

- P133 Grooved Ware; context 83, fill of pit 82. Many very small fragments; not fully reconstructed. Soft. Common flint, moderate grog.
 P134 Beaker; context 37, fill of pit 36. Very hard. Common quartz, moderate flint and grog.

Discussion

The few Beaker sherds were in a very hard fabric. While they were too small for further comment they were probably typologically 'Late', resembling material from 'The Oaks', Hockwold, Norfolk (Bamford 1982, figs 22-6).

The Grooved Ware vessel from pit 82 resembles the Clacton substyle as defined by Longworth (Longworth, Wainwright and Wilson 1971) as it displays incised chevron decoration and appears to have been straight-sided. The sample is too small to be attributed to a particular substyle with complete certainty and there are no rim or base sherds to aid identification. However P133 displays none of the horizontal or vertical cordons characteristic of the Durrington Walls substyle, which also tends to produce more curvilinear sherds when broken. The sherds resemble Grooved Ware found at Spong Hill (Healy 1988, fig.81) and Fengate (Pryor 1978, fig.40), and have some characteristics in common with material from Redgate Hill, Hunstanton (Cleal 1993).

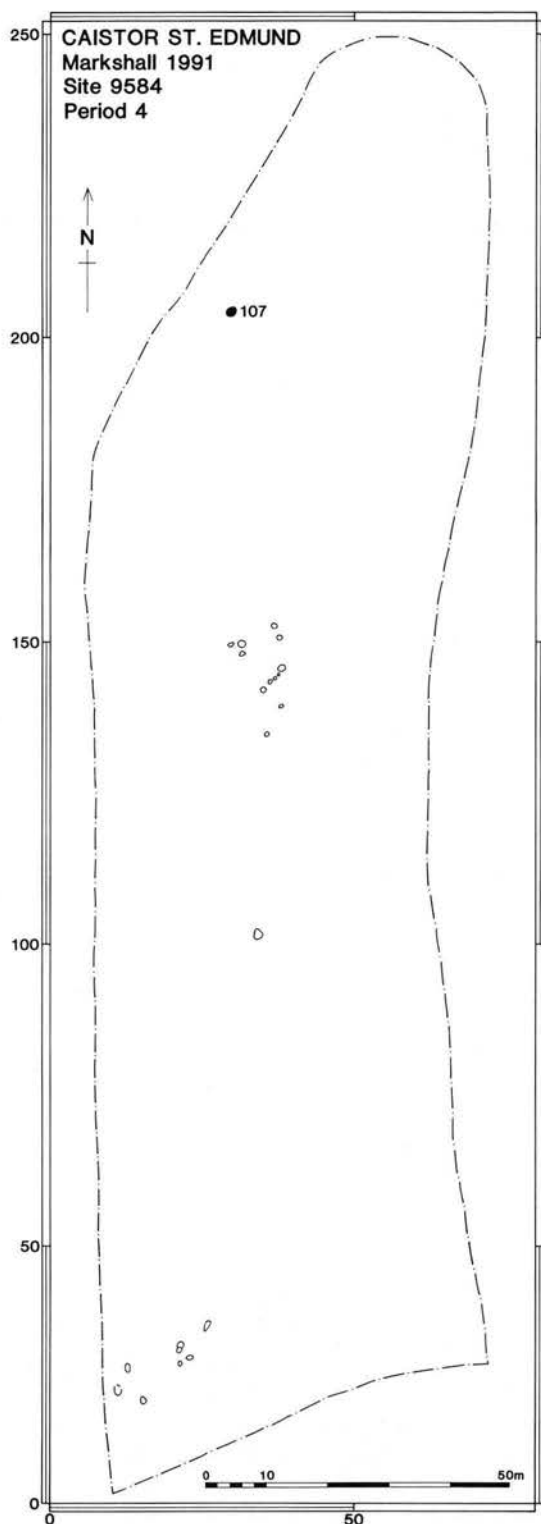


Figure 162 Period 4 phase plan. Scale 1:1250

V. Period 4

(Fig.162)

?Grave 107

(Figs 162, 163)

This solitary feature was located near to the north-west edge of the site, just east of the unphased ditch 41. It contained only one fill which was dark in colour and rather loamy, and which had been disturbed by animals at its upper edges. In the centre of the fill was found the broken but virtually complete pottery vessel P135. This resembled those found at the Anglo-Saxon cemetery at nearby Morning Thorpe (Green, Rogerson and White 1987). On this account the feature was interpreted tentatively as a grave from which all traces of bone had been dissolved by the acidity of the sand; the Morning Thorpe cemetery provides several examples of graves where similar bowls were the only finds recovered.

Artefacts

Pottery

by Sarah Percival
(Fig.164)

Catalogue of illustrated pottery (Fig.164)

P135 Globular bowl; context 108, fill of ?grave 107. Hard, vacuoles in surface. Abundant chaff, common sandy quartz.

Discussion

Parallels for P135 may be found amongst the vessels from the Anglo-Saxon cemeteries at Morning Thorpe, Norfolk (Green, Rogerson and White 1987, figs 316, 339, 359 and 440) and West Stow, Suffolk (West 1985, fig. 271).

VI. Period 5

Ditches

(Fig.165)

Three parallel east-to-west ditches, 157, 158 and 179, crossed the southern part of the site. All showed signs of serious plough damage, and it is quite likely that the easternmost parts of ditches 157 and 158 had been lost to differential erosion. All three contained animal bone and medieval pottery, including small quantities of Thetford-type ware, in their fills.

Also running east-to-west across the central area of the site were two more parallel ditches, 39 and 40. These ditches in fact overlapped at the western edge of the site but no relationship between them was seen, suggesting they had silted contemporaneously. The southernmost of these, 40, featured a causeway flanked by well-defined butt ends close to the east edge of the site, but there was no corresponding gap in ditch 39. These two ditches were thought to be post-medieval in date due to the presence of quantities of fibrous wood remains in some of their excavated fills. Small amounts of animal bone and a little Grimston Ware were also found.

Pits and post-holes

(Fig.165)

The medieval or post-medieval features to the south of ditches 157, 158 and 179 could not be dated, but seemed to fall into two distinct groups.

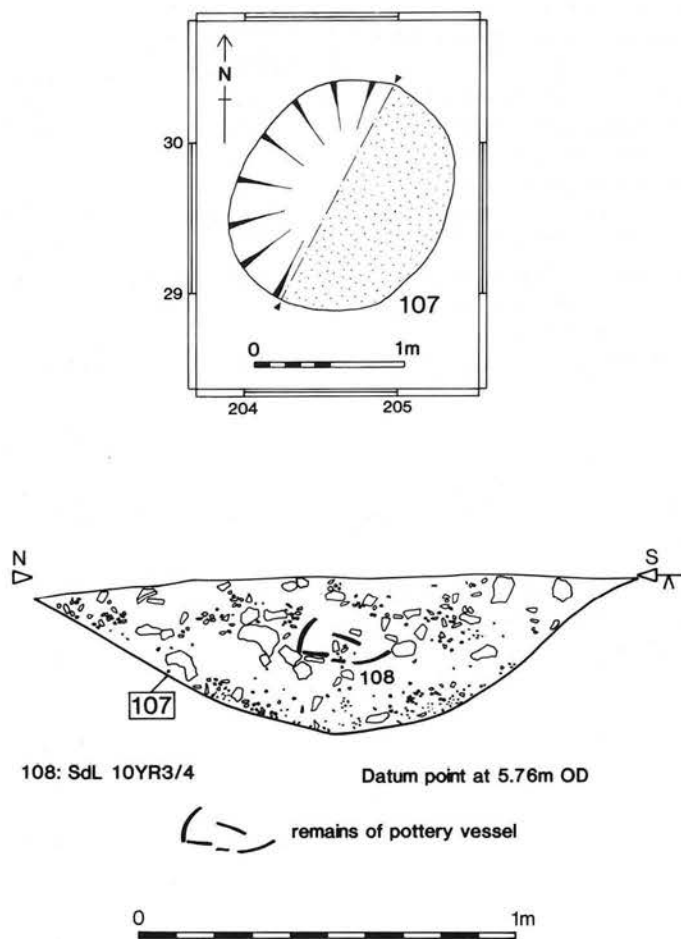


Figure 163 Plan and section of ?grave 107. Plan scale 1:50, section scale 1:20

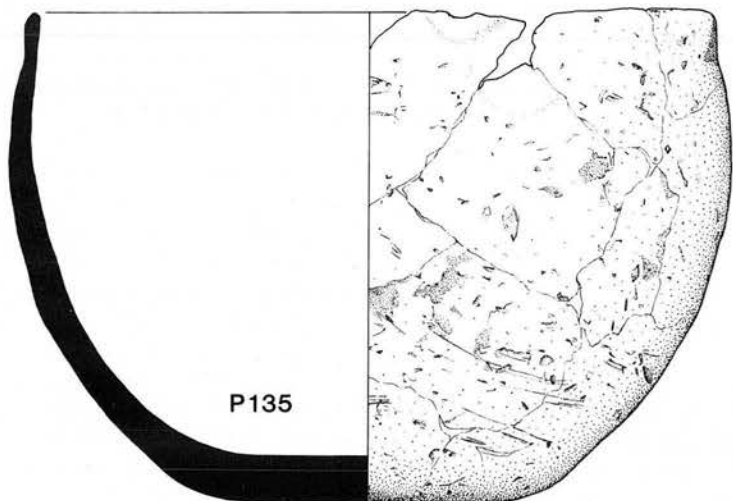


Figure 164 Anglo-Saxon pottery P135. Scale 1:2

In the eastern part of the site and to either side of ditch 179 lay a series of post-holes and pits, several of them lying in an east-west alignment roughly parallel to this ditch. One was interpreted as a possible cess pit due to the greenish colour of some of the clayey sediments it contained.

In the central and west parts of the site the remaining Period 5 features formed two apparent clusters of small, shallow post-holes. The easternmost of these comprised six post-holes, four of them forming an arc. All contained dark sandy loam fills: They were very well-defined: although they contained no dating evidence their loamy fills suggested a recent date to those who excavated them. The more westerly group of features comprised fourteen small post-holes. Some of these might conceivably have formed part of a circular structure *c.* 4m in diameter with a central post-hole.

VII. Unphased

Ditch 41

(Fig. 166)

This ditch ran north-to-south, and could be traced over a distance of nearly 100m in the northern part of the site. It seemed to have been heavily truncated, particularly in the higher central area of the site where a gap of *c.* 20m was probably due to erosion. It is possible too that the ditch once continued further south than its apparent 'terminus'. The excavated segments were very shallow. Struck flint was recovered from two of the excavated segments, but there were no other finds.

Other features

(Fig. 166)

Most of the other unphased features were isolated pits. They varied in size, but most were ovate in form and had been backfilled with sandy silt deposits which produced no finds. Some may well have been prehistoric.

VIII. Discussion

Period 1

Prehistoric features were discerned in two areas of the site, and may have represented two distinct phases of occupation. In the south-west corner of the site one of a group of several similar ovate pits produced a worked flint point of early Neolithic type. Further north on the elevated central part of the site a group of small circular pits may well have dated to the mid or later third millennium cal. BC on the evidence of the fragmentary Grooved Ware vessel which one of them contained.

Period 1 features excavated on the other Norwich Southern Bypass sites had usually been represented by crop-marks, and this site provided an opportunity to examine a superficially 'open' space in the prehistoric landscape. Also notable was the discovery of the first stratified examples of Grooved Ware during the Norwich Southern Bypass project, a type of ceramic which had been conspicuous by its absence from the funerary sites at Bixley and Harford Farm. There is every likelihood that other more ephemeral features had been removed from the elevated central area of the site, but Grooved Ware-producing pit 82 and its cluster of round neighbours are still of some interest.

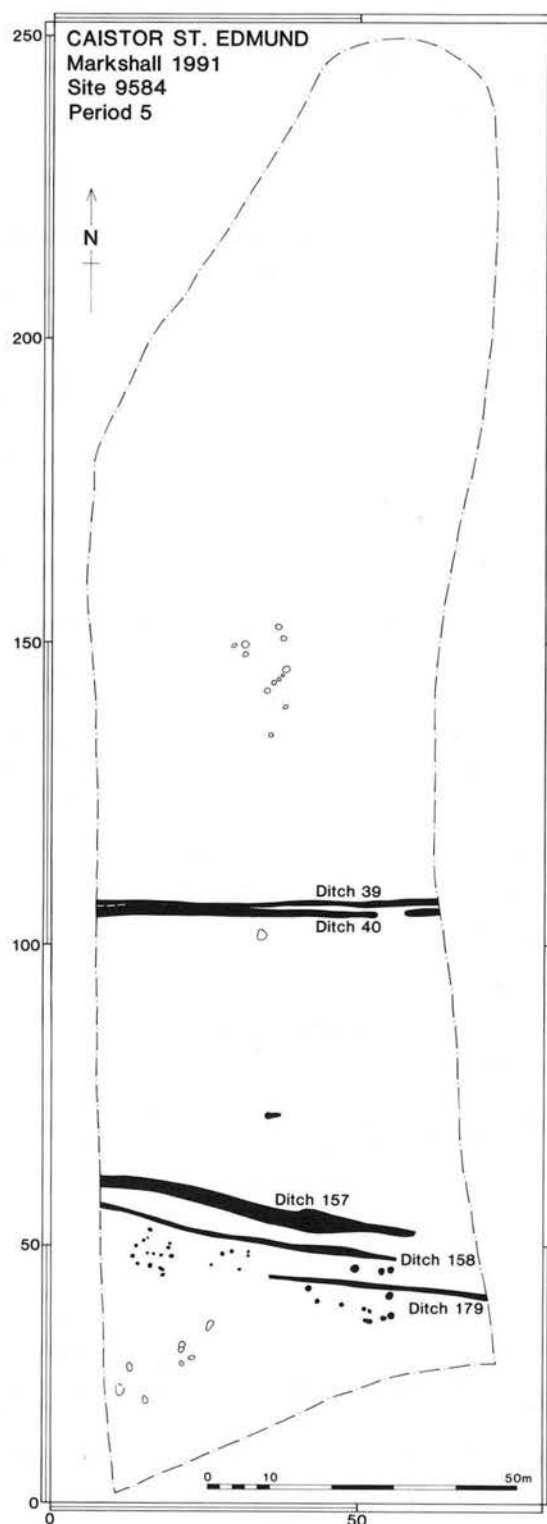


Figure 165 Period 5 phase plan. Scale 1:1250

The uneven distribution of artefacts in this group of pits deserves comment. The artefactual richness and dark colour of the refuse deposit in pit 82 were both very striking when compared with the fills of the near-identical round cuts surrounding it, which were all practically devoid of finds and organic remains. Cleal has drawn attention to the unusually careful and structured nature of many 'rubbish' deposits which include Grooved Ware, and it is likely that Markshall provides another example of this phenomenon (Cleal 1984, 148-9). Not only was virtually all the artefactual material from this group of pits found in one feature, but the range of different types of flint items, including not only the extraordinary 'set' of horseshoe scrapers but also side- and end-scrapers and single specimens of arrowheads and borers, makes it quite possible that items were selected with some care. The modern observer must take care not to underestimate the degree to which 'ritual' practices may have been inseparable from 'mundane' activities in prehistoric times. However this group of features does not necessarily represent ordinary domestic settlement activity. The presence nearby (Fig.2) of crop-mark monuments which include the putative henge and D-shaped enclosure at the confluence of Yare and Tas a short distance to the north raises the possibility that this pit group represents a ceremonial act or event.

Period 2

No features of this period were identified. Very small amounts of pottery of probable Iron Age type were found in two Unphased pits, but these may well have occurred residually.

Period 3

No features, and very few finds, of this period were identified. This is worthy of comment considering the closeness of the site to the Roman town at Caistor, but a similar lack of Roman material was also noted at the Harford Farm site 1km further to the south-west (Chapter 4). A stamped or incised lead plaque of Roman date was found in the topsoil.

Period 4

Activity during this period was represented only by the single putative grave. A drilled Roman coin found in the ploughsoil was also a find typical of early Anglo-Saxon cemeteries and might indicate that other graves had been lost to truncation. A further cemetery here would have been in good company, considering the nearness of those at Caistor, Markshall and Harford Farm (Myres and Green 1973, Penn 2000), but the evidence remains ambiguous.

Period 5

The scarcity of medieval features and artefacts from both fieldwalking and excavation demonstrated beyond doubt that the deserted village of Markshall was located elsewhere, probably in the area of the former church site on the wooded summit of Chapel Hill (Fig.2).

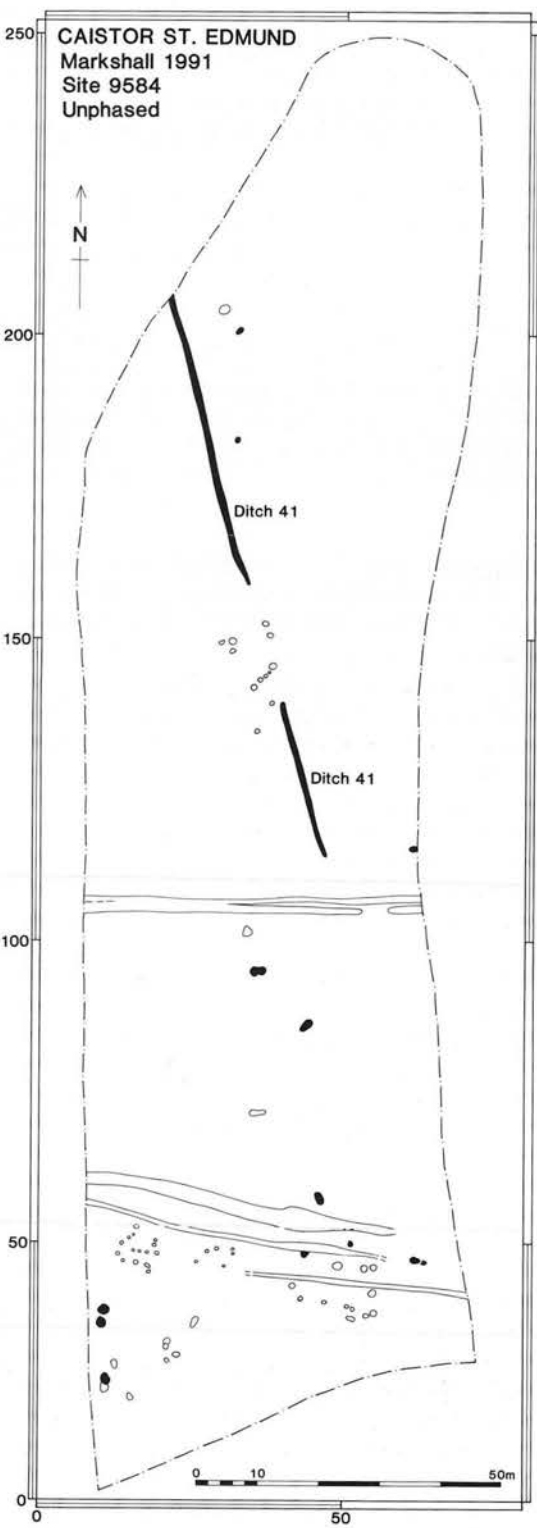


Figure 166 Unphased features. Scale 1:1250

7. Excavations at Frettenham Lime Co. Quarry, Caistor St Edmund (Site 13350), 1978–81

by Trevor Ashwin

I. Summary

Salvage work in the south-east corner of a large quarry to the north of the village of Caistor St Edmund, produced small amounts of Beaker pottery probably dating to the later third millennium cal. BC, along with pits and fragmentary structural remains probably dating to the early to mid first millennium cal. BC. While the original extent of the site is not known, the evidence seems similar to that retrieved from the much larger area subsequently excavated at Valley Belt Trowse, 1.5km further north (Chapter 5).

II. The site

(Figs 2, 167)

The site was discovered in the south-east corner of the large quarry operated by Frettenham Lime Co., a short distance to the east of the present road linking Norwich with the village of Caistor St Edmund 1km further to the south. It occupied high ground overlooking the Tas valley to the west. The area examined centred on TG 243065, and lay on the south-facing slope of a prominent spur at an elevation of c. 35m OD. This location boasts fine views of the Tas valley to the south and west, of the Tas-Yare

confluence and the hills beyond it to the north which are now occupied by suburban Norwich. The site's position was in fact similar to that of the three barrows dug by NAU at Bixley Sites 6099 and 9585 (Chapter 3), which was situated only 500m further north, although the Bixley hillock was rather less elevated.

In February 1978 Derek Woollestone, an experienced amateur archaeologist, found a quantity of Beaker pottery, flint and burnt stones in an infilled pit (37) which had been sectioned by quarrying. Later that month Mr Woollestone found similar material in a second pit c. 30m further south. Subsequently the site was visited by Andrew Lawson, then Field Officer with the NAU, Andrew Rogerson and Peter Murphy of the Centre of East Anglian Studies, University of East Anglia, and a small excavation was carried out by permission of the quarry operators.

The site lay on the characteristic glacial drift material which forms a capping over the chalk bedrock hereabouts. At this point the gravel layer was quite thin and was normally removed as unwanted overburden during the quarrying operations, which were concerned with the underlying chalk. By the time of the 1978 NAU excavation only a narrow strip of gravel c. 35m long remained for study. This lay along the eastern edge of the quarry some 55m to the south of Derek Woollestone's original finds. The area had been stripped of topsoil without archaeological overview, but several cut features could easily be identified. On subsequent visits further outlying features were recorded by Woollestone, and their positions have been plotted approximately on Fig. 167. This shows that prehistoric settlement may once have covered an area of the hilltop measuring at least 8000 square metres, and maybe more.

III. Features and finds

Features

(Figs 167, 168)

A total of twenty-one cut features were recorded, twelve of them during the main 1978 excavations. The majority of these contained pottery. Furthermore some 5kg of pottery recovered from the site was described as 'unstratified'. It is clear from the watching brief notes that some of this material actually came from further features in the quarry which were not located or otherwise recorded.

The most northerly features, pits 37 and 38, were excavated by Derek Woollestone before the small NAU excavation began. It is quite possible that these were merely a small sample of the cut features which once existed in this area, and others might have gone unrecognised during quarrying operations. They can only be located approximately, and were not recorded in detail. Pit 37's fill, context 2, contained eight sherds of Beaker representing both comb-impressed and finger-rusticated

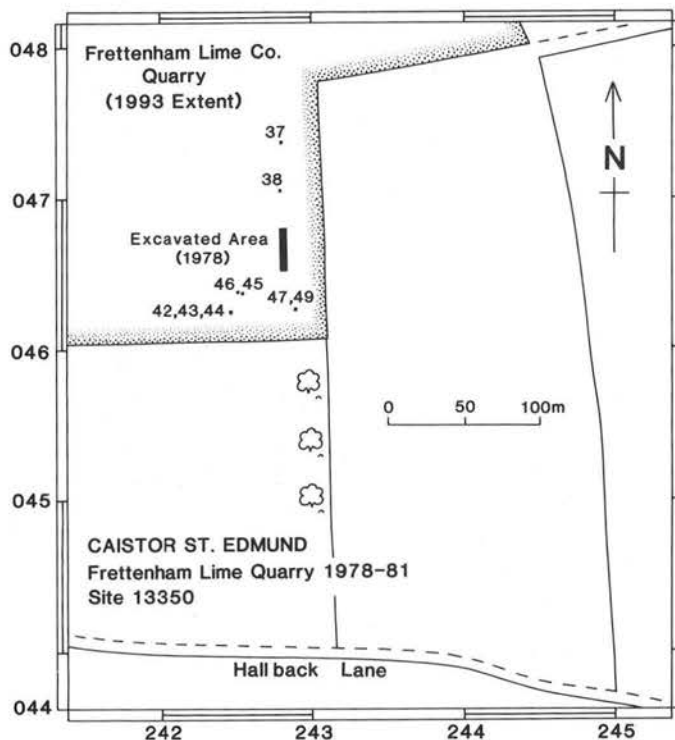


Figure 167 Plan showing location of 1978 excavation and of all recorded features. Scale 1:5000

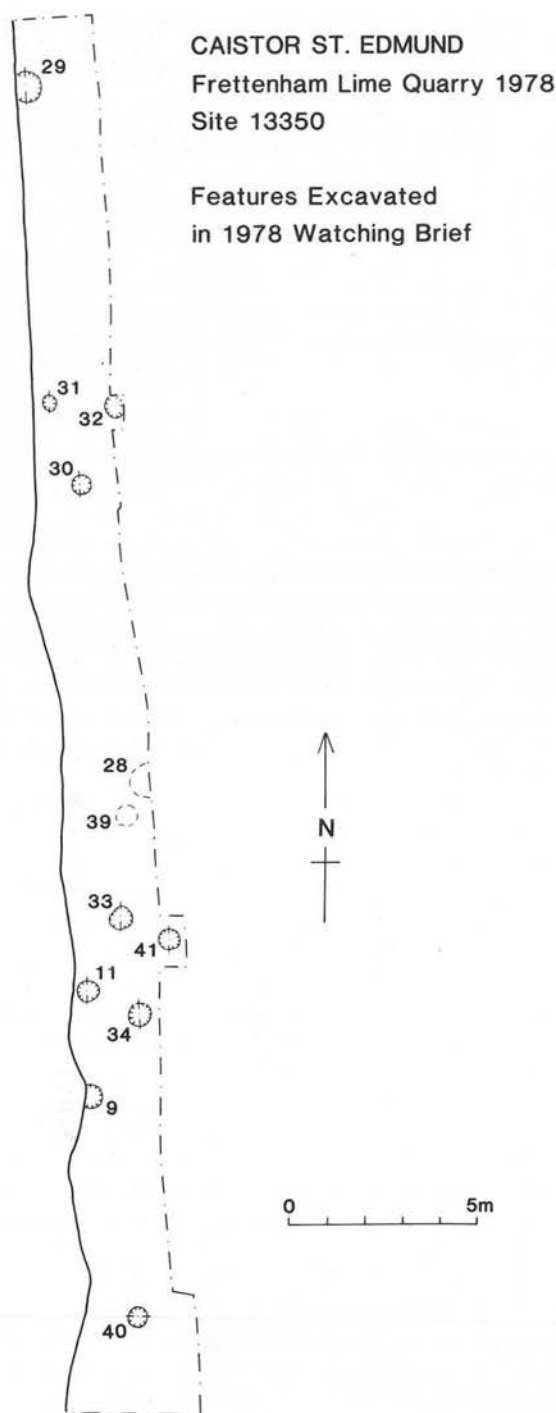


Figure 168 Plan of 1978 excavation. Scale 1:200

vessels, along with sixty-seven sherds of later Bronze Age pottery. However Iron Age-type sherds were also present in both pits, mostly in hard, 'fine' sand-tempered fabrics.

Twelve pits and putative post-holes were recorded during NAU's salvage excavation of 1978 (Fig. 168). The northernmost of these, 29, was deep and sheer-sided, and could not be fully excavated. It is probably best interpreted as a natural solution hole. Apart from two 'hollows', 28 and 39, which lay close together in the central part of the area, all other features were round or ovate and of similar size in plan, averaging c. 0.5m in breadth or diameter. Most were less than 0.25m deep, although this shallowness may partly have been due to modern plough damage. Features 11 and 41, when examined in half-section, displayed possible 'post-pipes' within their fills, raising the possibility that some at least of these cuts were actually truncated post-holes. It is conceivable that pits 11, 33, 34 and 41 constituted a small four-post structure measuring c. 2.5m x 1.5m square, and it may be that pits 30, 31 and 32 formed a similar structure some 12m further north, sharing the same alignment. However this must remain a matter of surmise, not least because the south-west corner of this debatable building had already been quarried away at the start of the 1978 excavation.

Most of the pottery sherds from these features were fragments of plain bowl-type vessels. However the shallow hollow 39 produced several heavily gritted, thick-walled sherds from a large cordon-decorated vessel (Fig. 170, P146).

Seven other pits were excavated in the southernmost part of the field after topsoil stripping by Frettenham Lime Co. These were only recorded summarily due to lack of time, and have been roughly located on the site plan. With the exception of 44, which measured 2.2m x 2.1m in plan, all these features were quite small and two of them, 47 and 49, were intercutting. Pottery, where present, was once again usually quite 'fine' and of bowl type, although thicker sherds containing more grit were recovered from pit 44.

A series of environmental samples was taken from the excavated features and analysed by Peter Murphy. Although small amounts of carbonised material were retrieved the results do not affect the interpretation of the site, and a report is deposited within the site archive.

Artefacts

Struck Flint

by Peter Robins

175 pieces of flint were retrieved. Of the features excavated during 1978–81 only the Beaker-producing pit 37 contained flints in any number, this collection including thirty unutilised flakes in mint condition. Some 60% of the total assemblage was in fact unstratified, although some at least of these pieces were probably found in unrecorded and unlocated features.

Overall the assemblage was very mixed and displayed few diagnostic features. Flakes were small and irregular, and derived from very mixed raw material which probably included locally-collected pebbles and nodules.

Pottery

by Sarah Percival
(Figs 169 and 170)

Introduction

An assemblage of 577 sherds of pottery, weighing 4.4kg, was found. The collated archive of the salvage excavation and watching briefs indicated that some 70% was 'unstratified' or from unlocated and unrecorded features disturbed by the quarry.

The Beaker pottery

Eight Beaker sherds were found in a single feature, pit 37. Five of these represented a total of three fine, well-fired Beakers (P136–8). The remaining three sherds (including P139) were fingertip-rusticated, being covered with 'crow's-foot' impressions.

The later prehistoric pottery

569 sherds of prehistoric pottery other than Beaker were retrieved, weighing a total of 4.3kg. Most of the sherds were in coarse flint- and quartz sand-gritted fabrics. Although some sandy wares were also present, these 'coarse' sherds made up some 75% of the total. They represent at least eighteen vessels, mostly open jars and cooking pots. Also present were sherds from a large barrel-shaped vessel (P146) with an applied decorated cordon. Some of the pots may have been slab-built: large square-shaped sherds were common and no coil fractures were seen.

The following fabrics were identified. Alphanumeric codes refer to the Norwich Southern Bypass catalogue of fabrics forming part of the archive pottery report, where full descriptions of all fabrics may be found.

LBA4, hard. Common flint, moderate mica, occasional chalk.

LBA5, hard. Common flint, moderate calcined flint.

LBA6, hard. Common flint and calcined flint, moderate vacuoles.

LBA7, hard. Common calcined flint, moderate flint and vacuoles.

LBA8, very hard. Common quartz, moderate flint.

LBA9, hard. Common calcined flint.

LBA10, hard, coarse, vacuous. Flint/calcined flint common, some vacuoles (leached-out chalk).

LBA11, very hard. Common flint/calcined flint.

LBA12, hard. Common chalk and sand, some vacuoles (leached-out chalk).

LBA13, very hard. Common flint and quartz sand.

LBA14, hard. Common calcined flint, moderate flint.

LBA15, hard. Common calcined flint, sparse flint.

All sherds had wiped surfaces, and many had been deliberately scratched with twigs or grass while wet or leather-hard to produce a distressed finish. This treatment was most prevalent among 'coarse' flint-tempered vessels, and may well have been functional in allowing the pot to be gripped more easily. Decoration was rare, a small number of sherds bearing fingernail impressions along the rim. The large vessel P146 bore vertical slashed decoration along the inside of the rim and along the applied cordon below it. Parallels for these traits can be found amongst Bronze Age pottery from Grimes Graves (Longworth, Ellison and Rigby 1988, fig.32), where applied neck cordons are the most common form of decoration, and from the North Ring at Mucking, Essex (Jones and Bond 1988, fig.21).

The presence of the barrel-shaped cordoned vessel P146, the coarse construction of many of the pots and the use of finger-impressed decoration all suggest the pottery to be later Bronze Age material dating from the late second or early first millennium BC.

Catalogue of Beaker and Later Bronze Age illustrated sherds (Figs 169 and 170)

P136 Beaker; context 2, fill of pit 37. Hard. Common calcined flint, moderate quartz.

P137 Beaker; context 2, fill of pit 37. Very hard. Sparse calcined flint.

P138 Beaker; context 2, fill of pit 37. Very hard. Common flint, moderate quartz, sparse grog.

P139 Beaker; context 2, fill of pit 37. Hard. Common flint.

P140 Late Bronze Age; context 1, unstratified. Fabric LBA9

P141 Late Bronze Age; context 1, unstratified. Fabric LBA12

P142 Late Bronze Age; context 13, fill of hollow 39. Fabric LBA9

P143 Late Bronze Age; context 25, fill of pit 44. Fabric LBA4

P144 Late Bronze Age; context 14, fill of pit 11. Fabric LBA14

P145 Late Bronze Age; context 1, unstratified. Fabric LBA9

P146 Late Bronze Age; context 1, unstratified. Fabric LBA11

Discussion

In recent years the British Museum radiocarbon dating programme addressing British Beakers has undermined the typological dating frameworks of Clarke, Lanting and van der Waals and Case (Kinnes *et al.* 1991). However the broad decorative bands and slack profile of P137 are typical of Case's 'Late' pattern (Case 1977) and of Lanting and van der Waals's Steps 6 and 7 (Lanting and van der Waals 1972). P138's profile and zoned decoration are somewhat similar. The rusticated decoration shown by P139 is also common amongst typologically 'Late' Beaker assemblages, and Bamford (1982) has noted how rusticated sherds often make up an average of 50% of these groups.

The small assemblage of later prehistoric pottery bears comparison with the larger and well-stratified collection from Grimes Graves, but the group remains one of the few of this date known from a domestic context in Norfolk. The sherds probably represent activity contemporary with the ephemeral structural remains from the site, and the large size and good condition of the sherds suggest the material has seen little subsequent disturbance. The 'domestic' nature of the collection is suggested by the predominance of large coarseware jars which may have been used for cooking. The large flint and quartz sand inclusions in these pots would allow repeated heating and cooling without the vessel walls expanding and exploding.

When viewed in the light of Barrett's classification (Barrett 1980) the material appears a little later than the later Bronze Age assemblage retrieved by the Norwich Southern Bypass Watching Brief at Watton Road, Little Melton (Chapter 8 this volume), where bucket-shaped forms were more numerous. In stylistic terms, the slightly flaring rims and fingertip-impressed decoration seen here might foreshadow the beginnings of the carinated jars and bowls of the Early Iron Age West Harling tradition (Clark and Fell 1953).

IV. Discussion

Despite the fragmentary nature of the excavated evidence, the site archive and finds have repaid detailed analysis. Interesting parallels can be drawn with the settlement evidence of the first millennium BC excavated more recently by the NAU at Valley Belt, Trowse (Chapter 5).

A preliminary report on the excavations was deposited with the County Sites and Monuments Record in 1978, shortly after excavation had ceased. While this document concentrated on the Beaker material from the site, much progress has been made in subsequent years towards a better understanding of Eastern England's later Bronze Age ceramics (Barrett 1980, Longworth, Ellison and Rigby 1988), and this has made possible a fuller appraisal

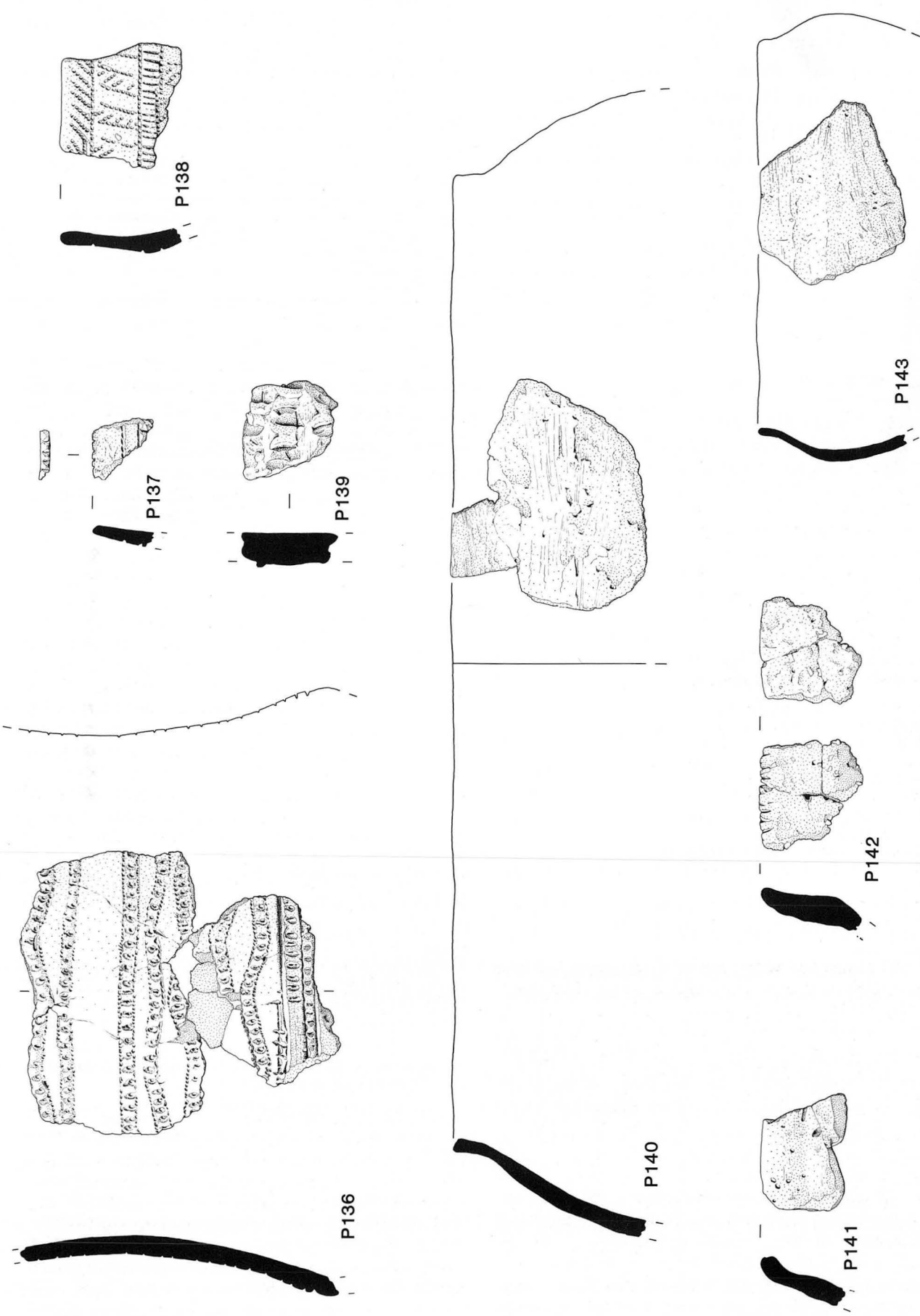


Figure 169 Beaker pottery P136-P139; Late Bronze Age pottery P140-P143. Scale 1:2

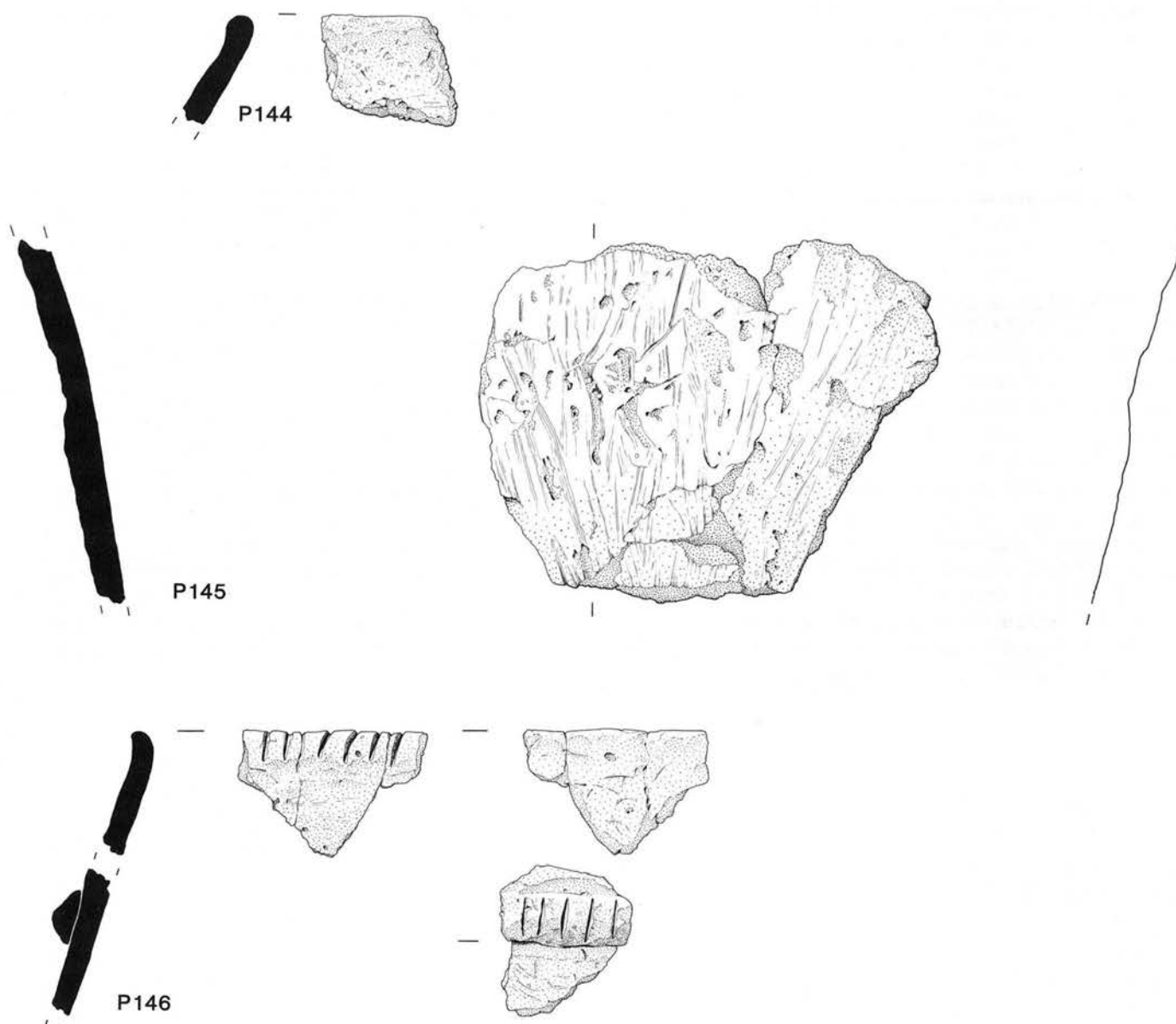


Figure 170 Late Bronze Age pottery P144-P146. Scale 1:2

of the much larger later prehistoric fraction of the assemblage.

It is possible that the occupation features at Frettenham Lime Quarry actually dated to the earlier first millennium cal. BC, and that the small Beaker element in the fill of pit 37 occurred residually in this context. While the apparently unabraded condition of Beaker sherd P136 in particular speaks against this, the results of the recent NAU excavations in a very similar environment at Trowse show the possible extent to which ceramic residuality might occur under these conditions. This latter site, in a topographically near-identical position overlooking the Tas-Yare confluence only 1.5km further to the north, was occupied by a Beaker-using community, and then subsequently during the first millennium cal. BC by people using pottery of Iron Age type. Detailed phasing of features at the site was largely thwarted by the degree of plough erosion, but it was clear that levels of residuality were often very high indeed, with Beaker pottery sometimes occurring in quite large pieces in features demonstrably of Iron Age date. There is no reason why

this should not also have been the case at Frettenham Lime Quarry.

The presence of at least one possible four-post structure — and a putative second example a little to the north — also supports this conclusion. Several similar 'buildings' occurred at Trowse, and these structures are of course an archetypal feature of Late Bronze Age and Iron Age sites (Ellison and Drewett 1971).

Having first separated the Period 1 Beaker-using occupation from the later pits and structural remains of Period 2 date, we must consider the nature of the human activity which left these physical traces. Unfortunately few conclusions may be drawn from such a small sample of the subsoil features which probably once existed here. Worthy of comment in the case of a domestic site such as this is its seemingly rather inhospitable position: although not far from running water it would have been most exposed to the worst of the weather borne by the prevailing westerly winds. However it shares these characteristics with the other prehistoric settlement sites discovered in the area by Norwich Southern Bypass excavations, at Trowse

and at Harford Farm, and the writer has often had cause to reflect upon this apparent perversity after a February or March day in the field. A summary analysis of the environmental remains sieved from many of the features by Peter Murphy produced possible evidence of local cereal cultivation. Wood charcoals present were predominantly oak, with some ?hawthorn, ash and a coniferous species (unidentified).

Period 1 occupation was evidenced largely by pottery, with no features demonstrably of this date being found with the possible exception of pit 37. This is actually quite characteristic of many domestic sites in Norfolk where typologically late Beaker is found, even where larger areas have been excavated than at Frettenham Lime Quarry. 'Settlement' remains sealed by barrows at Weasenham Lyngs (Site 3660) and Reffley Wood, near Kings Lynn (Site 5489) were represented by scatters of refuse rather than by cut features (Healy 1984, 116), and it is possible that the Beaker material found in the area of the Bowthorpe barrow (Site 11431, Lawson 1986b) was another site of this kind. Perhaps controlled area-stripping of a larger area would have revealed a similar situation to that at Valley Belt Trowse; the dearth of cut features of demonstrable Period 1 date at this latter site made it seem likely that any dwellings or other structures which once existed there had been destroyed by subsequent erosion.

On the basis of our present understanding of Iron Age ceramics from Norfolk, it may be suggested that the Period 2 remains date to the early first millennium cal. BC. There was no evidence that the site was ever occupied subsequently. Unfortunately the excavated features themselves can provide no detailed information about human activity here in the Bronze Age or Iron Age. Pits, post-holes, enclosure ditches and environmental evidence — in the form of domestic refuse — showed that the analagous Trowse site nearby had seen occupation in the early-mid first millennium cal. BC (Chapter 5), and individual features there might have evidenced potting or other 'industrial' activity as well. Apart from raising these possibilities no further discussion is possible.

The function of the ubiquitous four-post structures so often found on Late Bronze Age and Iron Age sites has been discussed briefly with reference to the Trowse examples (Chapter 5). The extrapolation of two possible examples from Frettenham Lime Quarry remains open to doubt, and plausible interpretations of these features remain elusive. They have often been viewed as raised granaries or other storage facilities, although as 'watchtowers' (one of several alternative uses offered in Ellison and Drewett 1971) they would have occupied a superb vantage point overlooking the mouth of the Tas valley and beyond. There is insufficient evidence of any kind to speculate further.

8. Norwich Southern Bypass Watching Brief: Prehistoric Features and Finds from Cringleford and Little Melton

by Trevor Ashwin

I. Summary

(Fig.171)

Watching brief work by the Norfolk Archaeological Unit on the line of the A47 Norwich Southern Bypass at Little Melton, to the south-west of Norwich, revealed a total of thirteen features and a number of unstratified finds of prehistoric date. Most of these features were undatable. However a small group of pits produced large quantities of later Bronze Age pottery of post-Deverel Rimbury type. A radiocarbon determination of 1520–1220 cal. BC (GU 5290; 3110±60 BP) from associated charcoal makes this a valuable assemblage, both undisturbed and dated, for comparative purposes.

Also of note was the discovery of a hoard of three socketed axes, dating to the earlier first millennium cal. BC, at Cringleford.

II. The watching brief

The NAU's watching brief on the construction of the Norwich Southern Bypass was funded by English Heritage, and carried out by arrangement with main contractors

Messrs. Budge, Fairclough and May Gurney. Watching brief work began in August 1991 when earthworks commenced on the easternmost section of the road between Whitlingham and Trowse, and continued through the winter and spring of 1991–2 as work progressed. The work was done under the supervision of Jayne Bown of NAU.

The line of the road was walked immediately after the topsoil had been removed by motorscraper. Conditions and visibility varied, often being affected by the weather, localised over- and under-stripping, and disturbance of the stripped surface by contractors' vehicles and other activities. Despite this, visibility for identifying subsoil features was sometimes good, although the partial destruction of a ring-ditch discovered subsequently by air-photo analysis in the region of the Watton Road B1108 intersection went unobserved (p.212).

All finds and features noted by the watching brief were located within a series of 100m blocks, which were defined by the chainage values used during road construction. Where possible their position was noted by measured sketch, and features were summarily sectioned to retrieve data concerning date and possible function. All such

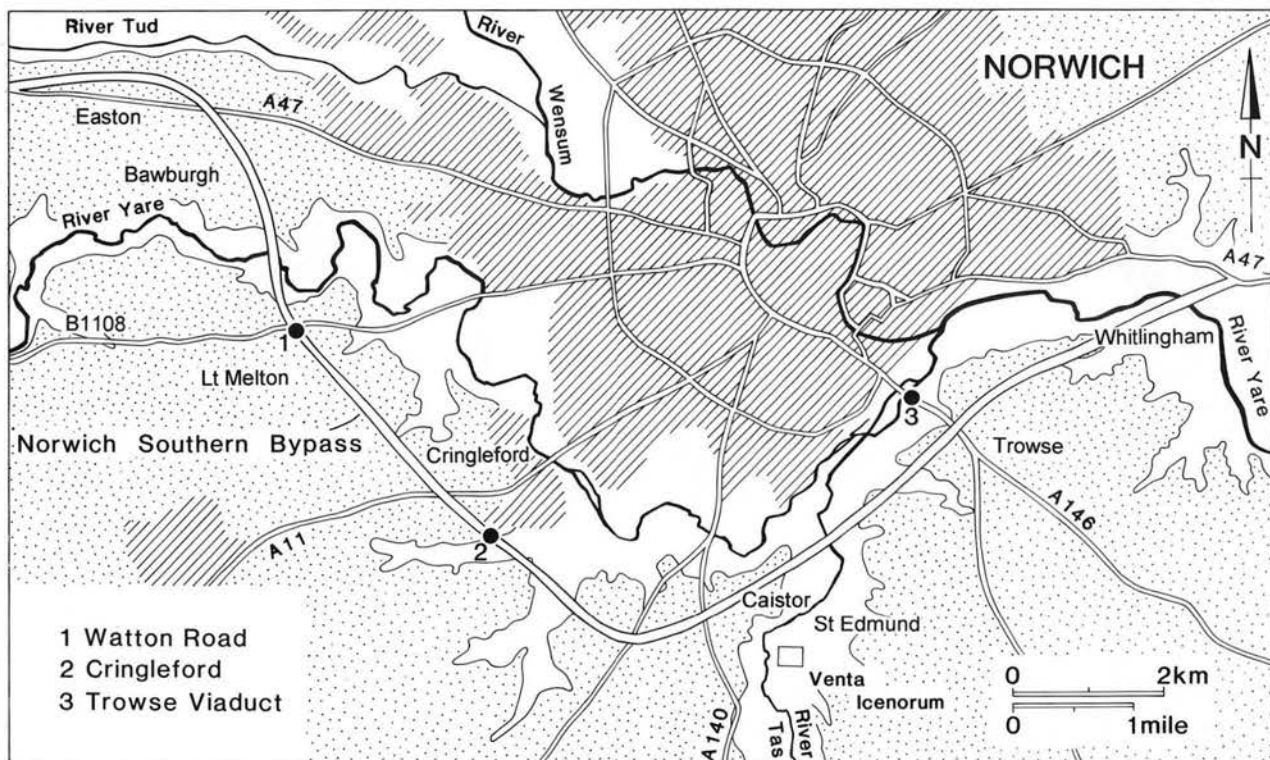


Figure 171 Location of watching brief sites reported here

information was logged in a site notebook, one such book being maintained for each of the four Contract divisions. At the end of fieldwork, all recorded sites and finds were catalogued in a west-to-east numerical sequence along the length of the Bypass, and appropriate specialist identifications of material were carried out by Norfolk Museums Service staff and others. These results were then added to the county Sites and Monuments Record.

Sites and stray finds of all periods were recorded by the Watching Brief, among them a pit in Easton parish containing large quantities of kiln debris of early Roman date (Site 29047: TG 157105). Many small subsoil features (mostly undated) were sectioned and recorded, while coins and other metalwork of Roman, medieval and post-medieval date were found. Of especial interest, however, were two finds. One of these was a group of pits in Little Melton parish containing an exceptional group of late Bronze Age pottery (Site 29057: TG 165077). The other was a hoard of three bronze socketed axes, found by metal detector close to the Norwich Southern Bypass's intersection with the A11 trunk road at Cringleford (Site 16229, context 3). Both of these discoveries are reported in this chapter.

III. Three socketed axes from Cringleford (Site 16229)

by Andrew J. Lawson
(Figs 171, 172)

1-3 **Socketed axes**; linear facet decoration. From different moulds but all very similar. Linear facets on 1 terminate in pellets. Unfinished, casting flash attached. Length 102mm (1), 114mm (2), 102mm (3).

This group comprises three axes of similar form belonging to the 'linear faceted' type. The type in which the decorative facets of the body are bound by ribs (or, in less well-executed examples, the form poorly reflects that design) has its origins in the octagonal-sectioned 'faceted' type of the Late Bronze Age. However, associations place the linear faceted type at the very end of the Bronze Age and in the Llyn Fawr metalworking tradition of the seventh

century BC. The Cringleford bronzes are typical of the smaller examples found in East Anglia, having a round mouth and heavy collar with an indistinct horizontal moulding beneath. Typically the blades are trapezoidal, with broad but unexpanded cutting edges. Pellet decoration (as on 1) demonstrates contemporaneity with other forms such as the Sompting type, the eponymous hoard also including linear faceted axes (Curwen 1948).

The distribution of this type is concentrated in East Anglia, although others occur as far afield as Dorset (Moore and Rowlands 1972, 30, pl.72) as well as the Rhineland, the Netherlands and Belgium, continental finds of moulds demonstrating production there during Halstatt C (O'Connor 1980, list 27, map 76). Although the continental finds are of isolated objects, in East Anglia they are frequently found in hoards. The best example of these is the seven axes of the Watton hoard (Norfolk Museums Service 1977, 37, fig.58) but others include those from Butley, Suffolk and Wicken Fen, Cambridgeshire.

IV. Excavations at Watton Road, Little Melton (Site 29057)

(Figs 171, 174-176)

Introduction

(Figs 173 and 174)

The small group of features considered here was revealed in February 1991 by topsoil removal in the area immediately to the south of the intersection between the new bypass and the B1108 Watton Road. They were summarily excavated before construction work continued.

The Watton Road junction lies at TG 165 078 atop a prominent east-to-west aligned gravel ridge, whose crest the B1108 follows at this point. To the north the land slopes away steeply towards the River Yare, which flows only 300m away, and the village of Bawburgh 1km to the north-west. To the south the relief falls away rather more gently. The Watching Brief here revealed many features of probable prehistoric date over c. 400m of the new road's length. In addition to these discoveries made during

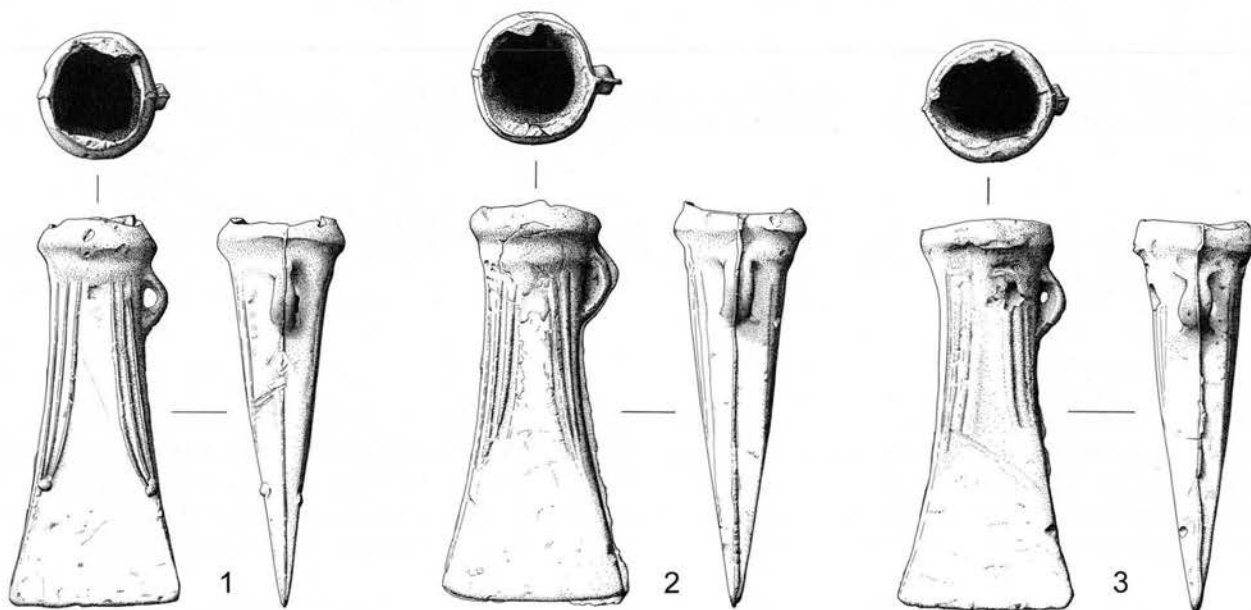


Figure 172 Bronze socketed axes from Cringleford. Scale 1:2

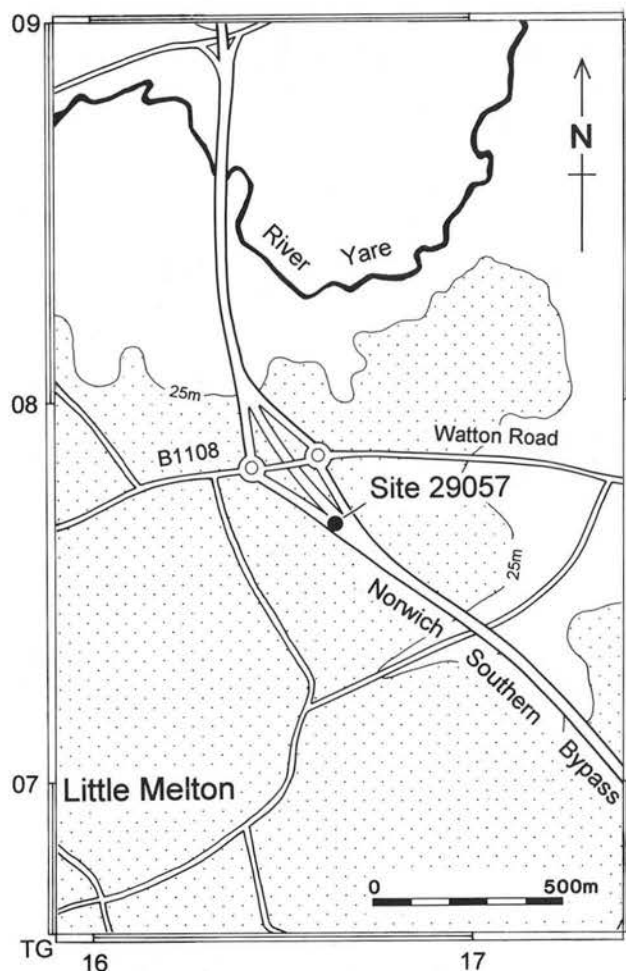


Figure 173 Watton Road junction (Site 29057) site location. Scale 1:20,000

earthmoving, a ring-ditch lay in the vicinity of the Watton Road junction. Although recorded by NAU's routine air surveillance during 1989, the crop-marks were not logged on the county Sites and Monuments Record until earthmoving was complete, by which time they had been severely damaged by the road. Plotting of these crop-marks suggested that a ring-ditch some 30m in diameter lay centred on TG 1649 0796, probably representing a flattened round barrow dating perhaps to the earlier second millennium BC. Unfortunately its western half was destroyed by the road construction without being identified by the watching brief. A smaller ring-ditch enclosing a prominent central pit lay a very short distance further to the east, and is interpreted as another possible barrow.

The five pits 300–308 at Site 29057 merited special attention because of the dearth of features and ceramic groups of the later Bronze Age known from Norfolk. While an important collection of material of this period from Grimes Graves has been published (Mercer 1981), our knowledge of the period is otherwise scant, as Andrew Lawson demonstrated in his comprehensive survey of 1980. These features were chosen for detailed study because of the potential regional significance of such a large group of 'post-Deverel Rimbury' style pottery. This was enhanced by the collection of charcoal in sufficient quantity for radiocarbon dating. Many of the sherds showed possible signs of differential firing, suggesting the material might have been a kiln waste deposit from a pottery production site of the later second millennium cal. BC.

Excavated features

(Fig. 174)

The group of pits occupied a gentle south-facing slope some 300m to the south of the crest of the ridge, at an elevation slightly below 35m OD. Thus they form the southernmost group of prehistoric features in the area of the Watton Road intersection. Other cut features in the vicinity have been excluded from the study because of their uncertain date, but the presence of solely Beaker ceramic in another pit a mere 50m further north indicates that some of these other 'hearths' and cut features may well be of earlier prehistoric date. Detailed recording was not attempted under the circumstances, while one of the pits, 308, could only be located in very general terms. All had probably been reduced by plough erosion, while pit 306 had been partly destroyed by the eastern edge of the road and was seen only in section.

Pits 300, 302 and 308 each yielded over 1kg of pottery, the largest quantity (nearly 5.5kg) coming from pit 300. This was a round feature with a bowl-shaped lower profile, which was found close to the western edge of the road line. Many of the sherds showed striking variations in surface colour, probably due to burning or to over-firing. So densely packed were the sherds that parts of the deposit were lifted as blocks so that the individual pieces could be separated indoors under more controlled conditions without loss or breakage. Charcoal from this feature was submitted for radiocarbon dating, and produced a determination of 1520–1220 cal. BC (GU-5290; 3110±60 BP). 15m further to the east another round pit, 302, lay between two scorched areas of natural sand which were interpreted as the truncated bases of hearths. This pit was also rich in large sherds of pottery.

Unfortunately no further information can be gleaned about the character or size of the site at Watton Road, in the absence of fieldwalking or of area-stripping on either side of the Bypass line. As elsewhere on the Norwich Southern Bypass it was clear that no activity surfaces or buried soils had survived recent plough erosion, and in fact the undisturbed surface of the natural had certainly been further denuded by the topsoil stripping process before the Watching Brief covered the area.

Artefacts

(Figs 175 and 176)

Struck flint

by Peter Robins

A total of eleven worked flints were found in pits 300, 302 and 304. Of these the only formal piece was a piercer from pit 302.

Pottery

by Sarah Percival

(Figs 175 and 176)

780 sherds weighing 9.352kg were recovered from the five pits under consideration. Some 300 of the sherds appeared to have been subjected to high temperatures, causing great variations in colour and surface finish.

At least thirty vessels were represented. They appear to have been fairly large, rim diameters varying between 10cm and 35cm, with straight sides and bucket-shaped profiles. However some of the vessels had slightly flaring rims, suggesting a more angular profile. The bucket-shaped pots

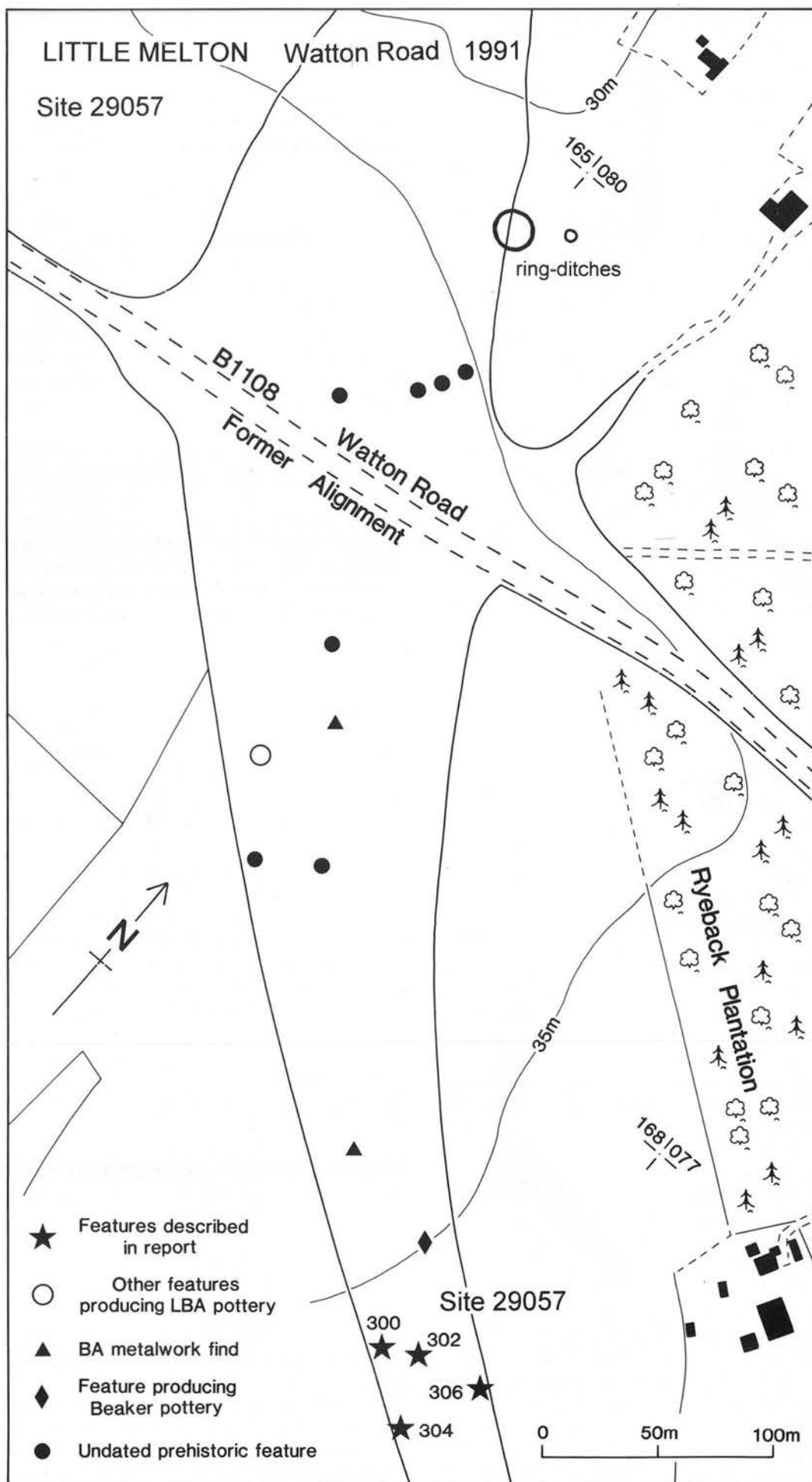


Figure 174 Watton Road, location of finds and features. Scale 1:2500

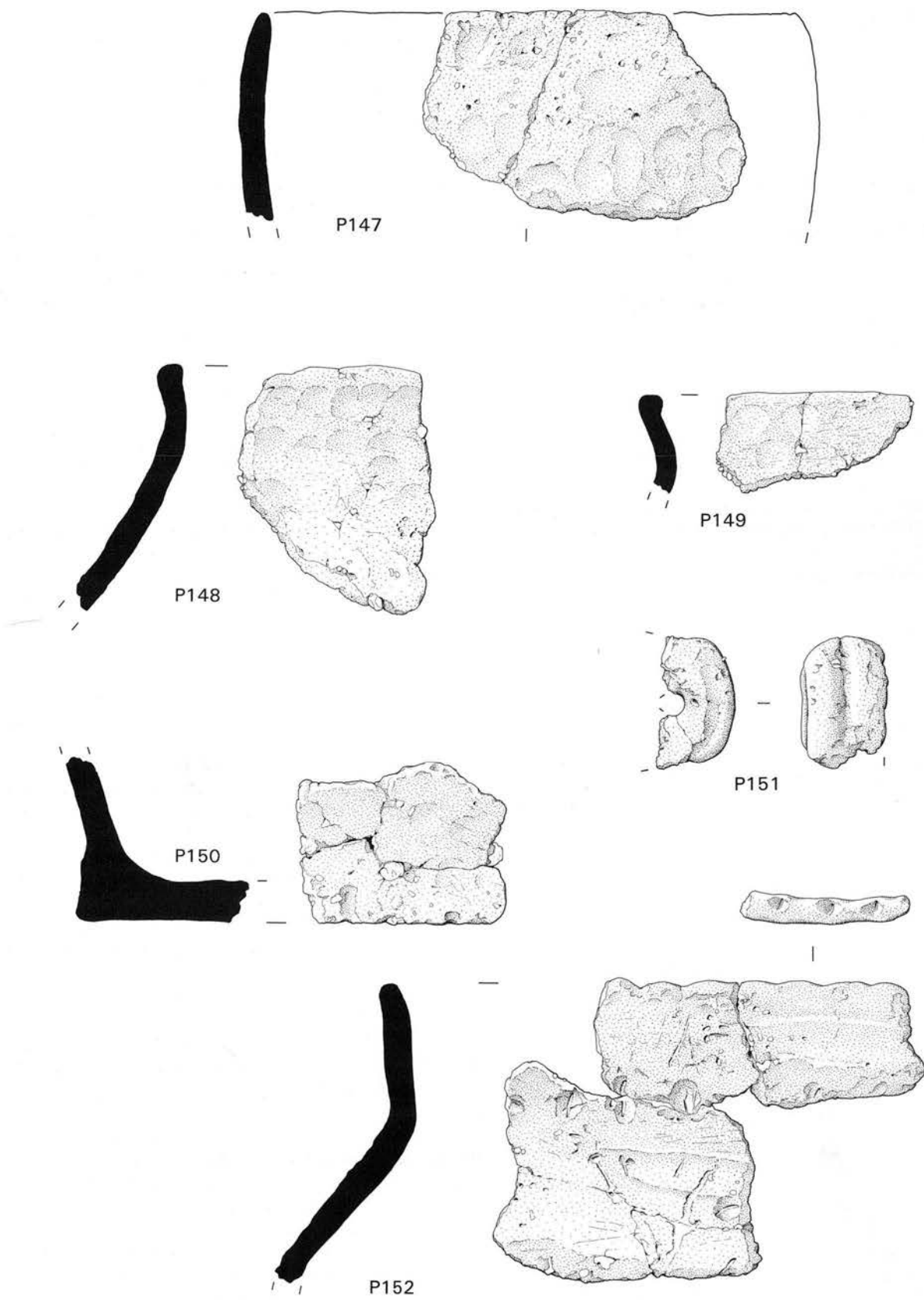


Figure 175 Watton Road, Late Bronze Age pottery P147-P152. Scale 1:2

were apparently slab-built: this is suggested by the preponderance of large, rather square, sherds.

Three distinct fabric groups were identified. Alphanumeric codes refer to the complete fabric catalogue forming part of the Norwich Southern Bypass archive pottery report, which contains full descriptions of all fabrics.

LBA1, hard. Common flint and quartz sand, moderate grog.

LBA2, hard. Common calcined flint, moderate grog.

LBA3, very hard. Common quartz sand, moderate organic inclusions.

Only seven of the sherds were decorated, five of them rims. Two vessels displayed fingertip-decoration along the top of the rim, and one of these also showed similar decoration around the neck just below the rim. Vertical fingertip-wiping occurred on at least two of the bucket-shaped vessels. Two rim sherds were pierced, maybe for attachment of a lid.

Great variations in colour were noted in sherds of the same fabric, often from the same vessel. 'Unusual' colours observed in this usually dark buff/grey ceramic varied from dark orange through to a very light grey. Thirty-four (4%) of the sherds seemed to have been subjected to very high temperatures, causing them to become very light in colour. Eight sherds appeared to have been 're-fired' after they had been broken, judging from the discoloration of the abraded (and clearly ancient) breaks.

Catalogue of illustrated sherds

(Figs 175 and 176)

P147 Context 301, fill of pit 300. Fabric LBA3

P148 Context 301, fill of pit 300. Fabric LBA1

P149 Context 301, fill of pit 300. Fabric LBA3

P150 Context 301, fill of pit 300. Fabric LBA3

P151 Context 301, fill of pit 300. Fabric LBA1

P152 Context 303, fill of pit 302. Fabric LBA3

P153 Context 307, fill of pit 306. Fabric LBA3

P154 Context 309, fill of pit 308. Fabric LBA2

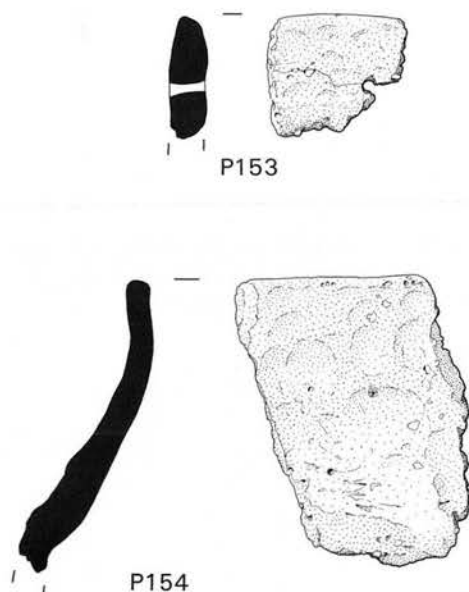


Figure 176 Watton Road, Late Bronze Age pottery
P153–P154. Scale 1:2

Discussion

The pottery from Watton Road is important since it represents one of the few later Bronze Age domestic assemblages studied from Norfolk.

The biconical vessels with perforated applied lugs find close parallels among the later Bronze Age pottery from Stansted, Essex (Brown forthcoming). This would date the material to the later second–early first millennium cal. BC, placing it in the so-called post-Deverel Rimbury tradition. The small proportion of decorated sherds may be significant in this context; Barrett (1980) has sought regional variations within the post-Deverel Rimbury tradition, and suggested that plain vessels predominated in Norfolk. The presence of slightly flaring rims echoes the 'Harling' -type carinated wares of early Iron Age date (Clark and Fell 1953). Few of the individual sherds (with the possible exception of P152) closely resemble those from Harling, however; vessels from the latter site were mostly well made and finished by comparison with the coarse and rough-surfaced Watton Road examples. The presence of grog in fabrics LBA 1–2 is another significant point of difference from the Harling assemblage.

Pottery of this kind probably represents the adaptation of the earlier large urns of Deverel Rimbury type, which had functioned as heavy-duty domestic vessels and as containers for cremations, to a wider range of pots fulfilling domestic functions. This diversification was illustrated by Ellison at Grime's Graves (Longworth, Ellison and Rigby 1988) where the assemblage seemed to fall into at least three distinct size groups and displayed a generally smaller vessel size in comparison with earlier material.

The rims from Watton Road appear generally smaller than those from Grime's Graves and there seems to have been a wider range of rim diameters, although our sample is too small to justify statistical comparison. Similar forms and fabrics were also found at Thwing, East Yorkshire (Barrett and Bradley 1980), where an analogous range of smaller vessels in coarse, flint-gritted fabrics were found in domestic contexts. The pottery from Thwing displays the same vertical finger-wiping, and similar applied lugs and piercing below the rim also occurred there.

The assemblage does not necessarily represent the remains of a kiln site. The colour variation the sherds exhibit could have occurred in a number of ways, and there is no other positive evidence supporting the interpretation. Pottery of this kind was probably fired in open clamps which were little more than bonfires. This would make domestic pottery production archaeologically indistinguishable from other domestic activities, a fact observed both by ethnographic researchers and by archaeologists conducting reconstruction firings. The sherds which had been 'refired' after breakage could indicate fracturing during the firing process. However similar results could have been achieved by accidental 'refiring' of sherds in a domestic hearth.

Conclusive evidence for pottery production would have been the presence of wasters, such as those found in Neolithic assemblages at Briar Hill, Northampton (Bamford 1985). In prehistoric assemblages these usually take the form of spalls (rounded flakes of clay blown from the pot during firing) or body sherds from which spalls have come. There were no such wasters in the Watton Road assemblage, nor could *underfired* sherds be identified conclusively.

V. Discussion

Cringleford

by Andrew J. Lawson

In his review of Bronze Age metalwork common to Britain and the continent, O'Connor concludes that the linear faceted axes of East Anglia 'demonstrate the continued existence of regional production of bronze axes during LBA4' (O'Connor 1980, 230). Bearing in mind the prevalence of this type in hoards it is possible that the three axes from Cringleford originally formed a hoard, or part of a hoard later disturbed by agriculture. Bronze axes of this period frequently appear to be unfinished or unsharpened, as in the case of the Cringleford finds. O'Connor (1980, 230) states that these axes 'probably retain their function as a common tool, notwithstanding possible employment as weapons'. However their unfinished state might suggest that they were of symbolic use, or that they were items of exchange in a pre-coinage monetary system at a time when wider social and economic change is evident (Thomas 1989, 274–5).

Little Melton

by Trevor Ashwin

Knowledge of later Bronze Age settlement sites in Norfolk has not advanced greatly since the publication of Lawson's 1980 summary of the evidence, which provided a gazetteer of ceramic finds. With reference to Rainbird Clarke's classic synthesis of East Anglian archaeology published in 1960, Lawson noted that 'the dilemma that faced Clarke in trying to account for man's activities in the region over a period of 700 years still exists, for...the total (ceramic) collection could be placed on a single table'. Most of this pottery which has an excavated provenance of any kind actually comes from funerary sites. Good examples of this are the cremation cemeteries at Salthouse, Shouldham and Witton (Lawson 1980, 1983), and the chance discoveries of urned cremations at East Carleton and Alington, both a short distance to the south of Norwich (Wymer 1990a, Wymer 1990b).

The 1971–2 excavations at Grime's Graves (Mercer 1981) have made a major contribution to the study of this period. This work recorded a very thick midden-like accumulation dating to the late second millennium cal. BC which had built up in a disused flint-working shaft of Neolithic date. However although large amounts of bucket-urn type pottery and animal bone were found no traces of contemporary buildings or other features were discovered, and the excavator concluded that no such remains had ever existed in the immediate vicinity of the shaft itself (Mercer 1981, 36). This lack of occupation and other sites is in stark contrast with the abundance of evidence for human activity in Norfolk provided by metalwork of the period.

The extent of the late Bronze Age activity site at Watton Road could not be determined, and it does not appear to have been enclosed by any ditched or other earthwork feature. While it is possible that some of the

small pits and hearths on the summit of the ridge dated to the later Bronze Age too this cannot be proven, particularly as sherds of Beaker pottery were also found.

Lawson (1980, 285) has suggested that the elusive settlements of the later Bronze Age might best be discovered by systematically correlation of surface finds of pottery and metalwork with known crop-mark sites. However, like the other prehistoric settlement remains discovered on the Norwich Southern Bypass at Harford Farm, Caistor St Edmund (Site 9794) and Trowse (Site 9589), the Watton Road site belies this approach in being unenclosed and therefore of a type unsuited to aerial discovery. Its elevation and aspect, lying just below the crest of a gentle south-facing slope, made it similar to other sites chosen for settlement in the first millennium cal. BC at both Harford Farm and Frettenham Lime Quarry, Caistor, both excavated as part of the Norwich Southern Bypass Project (Chapters 4 and 6). Another similarity to Harford Farm is that the summits of both sites had apparently been occupied by round barrows during the earlier second millennium cal. BC.

The radiocarbon determination GU-5290 from pit 300 supports a later Bronze Age date for the activity. Sarah Percival has identified the vessels as being of Barrett's 'post-Deverel Rimbury' type, and postulated that they lie in typological terms in between the bucket-type vessels found in such quantity at Grime's Graves on one hand and the early Iron Age bowl pottery of the Harling tradition on the other. The main significance of the site lies in the pottery group, and the information it supplies will be of value in appraising and dating pottery of this kind from other excavations and surface collection. The circumstances of its deposition remain unclear. It is possible that it represents a dump of kiln waste, although Percival (above) has argued against this on account of the absence of clearly-identifiable 'waster' material. Perhaps the heat-discolouration apparent in some of the assemblage resulted from burning in domestic fires — perhaps along with other rubbish — rather than pottery production. Alternatively it might have been spoil from a now-vanished oven; a prehistoric feature of this kind at Barham, Suffolk (Martin 1993, 23–6) produced many sherds in a heavily-burnt state similar to that recorded at Watton Road.

Despite the tiny scale of the archaeological intervention, the site provides a useful analogue to the Harford Farm excavations, described in Chapter 4 of this volume, where an area of high ground situated on a striking bluff above the River Yare to the north was used first as a round barrow cemetery and subsequently as an occupation site during the first millennium cal. BC. Considering how frequently barrows and 'ring-ditches' are excavated as isolated crop-marks without examination of their immediate surroundings, such occupation of earlier prehistoric funerary sites could easily have occurred frequently in Norfolk and yet escaped detection by the hydraulic excavator and shovel of the rescue archaeologist.

9. Zoological, Environmental and Botanical Evidence

by Peter Murphy, Sue Anderson, Trevor Ashwin
and Simon Mays

I. Environmental and botanical evidence

by Peter Murphy

Summary

This report presents results from two Bronze Age barrow cemeteries (Sites 6099 and 9585; Site 9794) with Iron Age occupation, Saxon burials and Late Saxon deposits; from Grooved Ware pits (Site 9584); from Beaker and Iron Age domestic features and a Roman iron-smelting furnace (Site 9589); and from a section through palaeochannel sediments in the Yare valley. Pre-barrow natural features produced pine charcoal and hazel nutshell, of early Flandrian date. Bronze Age features produced oak, hazel, hawthorn-type and *Prunus* charcoals. Cremations and other deposits produced charred macrofossils derived from Arrhenatheretum grassland with sparse cereal remains. Beaker pits included charred emmer, hulled and naked barley, hazel nutshell and crab apple fragments. Iron Age features produced sparse cereal remains (emmer, spelt, barley) and hazel nuts. The smelting furnace was fuelled partly with broom and ling, indicating heathland locally. Upper ring-ditch fills produced some Late Saxon charred plant material. In the Yare Valley coarse mineral sedimentation with weed seeds, charcoal and charred cereal remains is related to an early medieval phase of intensive agriculture.

Introduction

The Trowse, Bixley and Caistor sites were all located on low hills within a landscape block on soils mapped by the Soil Survey as the Burlingham 3 Association (Hodge *et al.* 1984, 136). This association occurs mainly on chalky till or head, but some component soils are formed, as here, on sandy fluvioglacial drift. These include soils of the Newport Series, brown sands of variable stone content. The archaeological sites were thus on the most freely-draining soils of this association, on which nowadays productivity is limited by droughtiness and poor natural fertility (*ibid.*, 271). It seems reasonable to suppose these areas of sandy, nutrient-poor soils on hilltop locations were, in the past, not the most favoured for agriculture and may in fact have been marginal land.

Preservation and retrieval

The feature fills were composed largely of re-worked fluvioglacial sands and gravels into which the features themselves had been cut. Most of the plant material from these contexts proved to be preserved by charring. Additionally there was some preservation by mineral replacement. Ferrimanganiferous concretions were noted in many contexts. Generally these were black and amorphous, coating pebbles and cementing together sand grains and small charcoal fragments. In some deposits,

however, plant tissue had been impregnated with ferrimanganiferous compounds. The replacement was generally quite coarse, though the presence of replaced vascular, fibre and ray tissue characterises mineral-replaced wood. Some indeterminate stem/leaf and possible root tissue was also noted in a mineral-replaced state. Unburnt bone had hardly survived in these coarse, leached deposits, though cremated bone fragments were often common.

Evident or suspected cremation deposits were collected entirely for laboratory processing. The material was initially gently disaggregated under running water on a coarse (5mm) mesh. Cremated bone and large charcoal fragments > 5mm were separated from the material retained on this mesh. Charred plant material was then separated from the remaining sediment by manual flotation/washover using a 0.5mm collecting mesh, before the non-floating residue was set-sieved over a 1mm mesh. Mineral-replaced plant material, being less dense than sand and pebbles, was also effectively separated by flotation/washover. The flots obtained were dried prior to sorting under a binocular microscope at low power.

Samples were taken from other contexts where concentrations of charred material or mineral concretions were noted. Depending on sample size they were processed by machine flotation or manually, but using a 0.5mm mesh throughout. Macrofossils retrieved included cereal remains, nutshells, fruitstones, weed seeds *etc.*, vegetative plant material and charcoal. Charcoal fragments larger than 6mm were separated for identification. Small samples were also taken from miscellaneous stains, apparently representing mineral-replaced organic materials, in an attempt to characterise them.

Almost all the samples collected at sites on the road line were fully analysed. The flots from Valley Belt, Trowse, (Site 9589), however, were initially scanned in order to detect samples including significant and informative assemblages. Only samples which were dated by associated pottery, with a few other samples of interest, were analysed in detail.

Results

The results from the excavated sites are summarised in Table 1. Full tables and catalogues of identifications are included in the site archive, and have also been given in an *Ancient Monuments Laboratory Report* (Murphy 1992). Copies of the catalogues and tables are available on request from the publishers, Norfolk Field Archaeology Division.

Due to the truncated state of the sites, and the general paucity of artefacts, close dating of some contexts proved difficult. The excavator has divided the contexts into six

broad chronological Periods, and this framework has been followed throughout this report.

Period 0

At Harford Farm (Site 9794) natural features including fossil periglacial features and probable tree-root hollows were common. Two of them (contexts 1274 and 2339) had reddened clay deposits in their fills, associated with charcoal, and samples were collected for flotation. Feature 1274 was interpreted as part of an ice-wedge cast and 2339 as a periglacial hollow, but the charred material was clearly of post-glacial date.

The plant material present was sparse but interesting. Both samples included pine charcoal (*Pinus* sp), and 1274 contained an abraded scrap of charred hazel nutshell (*Corylus avellana*). Comparable results were obtained at Spong Hill, Norfolk, where pine charcoal, in one case from a natural hollow showing reddening and associated with Mesolithic flints, gave radiocarbon dates in the range 8150–8280 BP (Healy 1988, 104; HAR-2903, -7025, -7063). The results from Spong Hill seem to indicate that early Flandrian charred plant material accumulated in depressions left after partial infilling of periglacial and postglacial natural features. This could relate to purely natural fires in pine woods on dry, sandy soils, and need not necessarily indicate intentional clearance by Mesolithic groups. There is no direct dating evidence for the Caistor pine charcoal nor any directly associated artefacts but it seems probable that the charred material is penecontemporaneous with that from Spong Hill, and relates to early Flandrian pine/hazel woodland.

The fills of three other natural features were sampled at Bixley (Site 9585). One of these (1084) produced remains of ling (*Calluna vulgaris*) with Ericaceae charcoal, while another included an indeterminate cereal grain fragment and a hazel nutshell fragment. These charred plant remains are less readily interpretable, and certainly are undated. Feature 1106, however, a natural feature originally thought to be a Period 1 pit excavated within the circuit of barrow ring-ditch 1002, produced abundant *Pinus* (pine) charcoal, from which a C14 date of 8990±100 BP (GU-5186) was obtained. Clearly this relates to early Flandrian woodland, though as at Caistor it is impossible to say whether natural or anthropogenic burning resulted in the production of this charcoal.

Period 1

The charred plant remains from Period 1 features are considered here in two groups: those from funerary deposits and those from other contexts.

Samples were collected from all cremations excavated at Bixley and Harford Farm. Although some of these contexts produced no charcoal fragments greater than 6mm in length or other identifiable plant macrofossils (full details in archive), in most of them large charcoal fragments were abundant. These were mainly of oak (*Quercus* sp), which was evidently the main fuel used on the pyres, though there was some charcoal of hazel (*Corylus* sp), hazel or alder (*Corylus/Alnus* sp), ?sloe (*Prunus* sp) and the Pomoideae (hawthorn) group.

Cereal remains were very sparse and infrequent: they comprised indeterminate grain fragments, a wheat grain (*Triticum* sp) and barley rachis fragments. There was a single hazel nutshell fragment from Bixley Site 6099. Other fruits and seeds from Bixley Site 9585 comprised

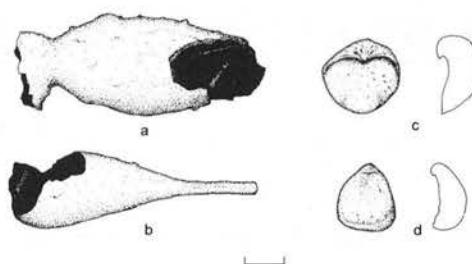


Figure 177 Charred macrofossils from cremations. a, b. Tuber fragments (9794 1301); c, d. 'Bulbs' (9585 1170). Scale = 1mm

mainly grassland species: *Montia fontana*, small leguminous seeds of *Medicago/Lotus/Trifolium*-type; *Vicia/Lathyrus* sp, *Rumex acetosella*, *Plantago lanceolata* and *Carex* sp.

Vegetative plant material was abundant. Much of this material cannot, at present, be identified but categories of charred plant remains were distinguished, as follows.

1. 'Tubers', or enlarged basal internodes, of the onion couch, *Arrhenatherum elatius* (L.) Beauv. ex. J and C Presl. var *bulbosum* (Willd.) Spenser. These varied considerably in size and shape, from pyriform to more elongate. There were also some basal Poaceae internodes with roots, showing slight swelling, which may also be of this grass.
2. 'Bulbs'. These were rather irregularly shaped objects, c 1.1–1.9mm long, 0.5–1.8mm broad. They had one convex surface and one concave, with an attachment point at one end. There was a pattern of epidermal cells radiating from this point on the concave face with a more uniform epidermal cell patterning on the convex face. There was no obvious sign of an embryo or hilum and they are therefore thought to be some type of small bulb (Fig. 177).
3. Rhizome fragments. These were elongate charred plant organs typically showing short internodes with scars for root attachment. Apparent root tissue was sometimes present.
4. Stem fragments. These were of two main types. There were some woody, apparently dicotyledonous stems. Some may simply be very young twigs relating to the tree charcoals from the samples. Others externally resembled Ericaceae charcoal. Reliable identification of such very young stems has not proved possible. Stem fragments from monocotyledonous plants, including grasses, and showing typical grass-type nodes and longitudinal ribbing on the internodes, were also common.
5. Tubers. Much of the charred material consisted of poorly-preserved sub-spherical to elongate masses of parenchyma with little or no sign of epidermis. Tuber fragments found in cremation deposit 1301 at Harford Farm were better preserved. They were elongate, with rough surfaces and root stumps. Internally there were large cavities, produced during charring. Some tubers were attached to others at narrow constrictions: other examples had slender rhizomes leading from them (Fig. 177).
6. Moss stem fragments. Short lengths of 'stem', slightly flattened and about 0.1mm thick, with abundant 'leaf' bases along their lengths closely resembled moss stems.

The range of taxa and types of plant organs present were quite typical of Bronze Age cremations. The cremation cemetery at Moverons Farm, Brightlingsea, Essex produced a very similar range of seeds, including *Montia*, various small-seeded Fabaceae, *Rumex acetosella* and *Plantago lanceolata* with some crop weeds, occasional cereal remains, some *Corylus*, *Sambucus* and *Prunus* and abundant vegetative plant material (Murphy, in prep.). Very similar results came from a barrow at Deeping St Nicholas, Lincolnshire (Murphy 1994). The significance of *Arrhenatherum* tubers from cremations and other contexts has been reviewed by Robinson (1988). Elsewhere, Moffett (1988) described similar assemblages from cremations at Radley Barrow Hills, Oxon. Camilla

Dickson (*pers. comm.*) has reported assemblages including *Arrhenatherum* and 'bulbs' identical to those from the Norwich Southern Bypass from a Bronze Age cremation in Perthshire, which she notes have also come from cremations investigated by Gill Campbell at Irthlingborough and West Cotton, Northants. Most workers have been unable to identify the tubers and other vegetative material from cremation samples, though Moffett (1991) has characterised tubers of *Conopodium/Bunium*. The tubers from the Bixley and Caistor sites do not seem to be of these genera.

These remarkably consistent results from Bronze Age cremations at sites widely spread across the country are interpreted as indicating the use of uprooted grasses and associated grassland herbs as kindling for cremation pyres, though there are grounds for suspecting that at least some of the tubers represent intentional food offerings to the deceased. The sparse cereal remains and *Corylus* nutshell could be interpreted similarly, though cereal straw might also have been used as kindling. In ecological terms Robinson (1988) considers that *Arrhenatherum* grassland, (found today on verges, poorly-managed pasture and meadow and abandoned cultivated land which is ungrazed), is represented. This general type of grassland community seems to have been very characteristic of land in and around barrow cemeteries during the Bronze Age.

Plant material replaced by ferrimanganiferous compounds was present in several flotation samples, and further samples from miscellaneous 'stains' and darker sandy deposits within the fills of cremation pits, graves and other features were examined. These 'stains' were of three main types. First, there were those which differed lithologically from the generally coarse sandy matrix of the feature fills. At Bixley Site 6099 (cremation pit 289 and at Harford Farm (grave 22) brown loamy deposits, with more silt and clay and a higher humus content than other feature fills, were sampled. These are most simply interpreted as patches of turf or topsoil in the backfilling of cremation pits and graves. Secondly there were dark-stained sand deposits which included amorphous ferrimanganiferous concretions but no replaced plant material. These may represent poorly-replaced organic materials but from the characteristics examined it is not possible to determine the type of material originally present. Finally there were samples including mineral-replaced wood or other plant tissue, for example the coffin stain 28 from Harford Farm. Most of the wood from the sites was black, hard and brittle, replaced by ferrimanganiferous compounds. Features necessary for specific identification had not survived. The wood from deposit 4029 within grave 1906 at Harford Farm was orange-brown and soft, resembling wood from urban latrine pits replaced by phosphatic compounds. Possibly decay of the corpse provided a source of biogenic phosphate for mineral-replacement.

Besides cremations and inhumations other Period 1 contexts were also sampled. At Bixley Site 6099 and Harford Farm these included ring-ditch fills, pits, graves and post-holes. Oak charcoal with some hazel and *Pomoideae* was present, with occasional cereal remains, hazel nutshell, sloe endocarp, some seeds of grassland plants and vegetative plant material. Assemblages from these contexts seem similar to those from the cremations.

A series of pits at Bixley Site 9585 was sampled, producing thirteen samples containing identifiable plant

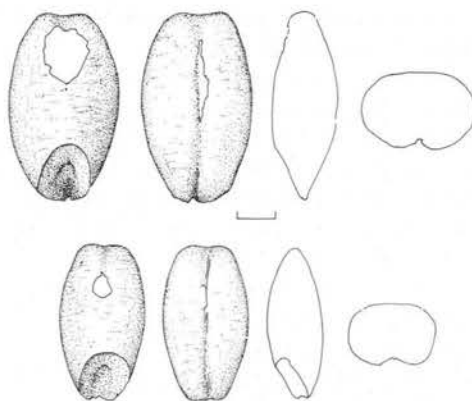


Figure 178 Charred grains of naked barley, *Hordeum vulgare* var *nudum* from Site 9589. Scale = 1mm

material. Six of these included *Corylus* nutshell: a notably higher frequency than in other samples from these sites. Some cereal remains were also present. Several fills of central ?grave pit 21 within the southern barrow produced remains of *Corylus* or cereals. Although this material is sparse, it is quite distinctively different from the material in the cremations and seems to have a more 'domestic' character.

At Valley Belt, Trowse, (Site 9589), pits and post-holes of Beaker (Period 1) date were sampled. Nine samples from contexts containing Beaker pottery and a tenth almost certainly of Beaker date were analysed. The most frequent macrofossils in these samples from domestic features were fragments of hazel nutshell (*Corylus avellana*). Cereal remains occurred in seven contexts; emmer-type grains (*T. dicoccum*) in three; barley, including both hulled and naked six-row barley, (*H. vulgare*, *H. vulgare* var *nudum*) in five (Fig.178). Crab apple remains (*Malus* sp) were found in a single sample. Cereal chaff fragments and weed seeds were extremely uncommon. The assemblages from this site closely resembled those from Beaker pits at Longham, Norfolk (Site 13025; Fryer and Murphy 1998), in which hazel nutshells were ubiquitous and cereal grains, including barley, less frequent. This general type of assemblage has been reported from many Neolithic sites in lowland Britain, and is thought to indicate continued substantial reliance on plant food gathering throughout lowland Britain in the Neolithic (Moffet *et al.* 1989) and into the early Bronze Age.

Samples from two Grooved Ware-producing pits at Site 9584 were also examined. Context 83 produced a small amount of charcoal with hazel nutshell fragments (*Corylus avellana*) and sloe fruitstone fragments (*Prunus spinosa*). In context 92 charcoal was still more sparse, but again some hazel nutshell fragments were present.

Period 2

Samples were collected from Period 2 (Iron Age) pits and post-holes at Harford Farm. Eight of the thirty contexts sampled produced no identifiable macrofossils but seventeen did contain cereal remains and a further two, though lacking cereals, included arable weed seeds. The assemblages consisted of generally small numbers of grains, glume bases, spikelet forks and other chaff fragments of emmer (*Triticum dicoccum*) and spelt (*Triticum spelta*) with rare barley grains (*Hordeum*

vulgare) and wild or cultivated oats (*Avena* sp). Hazel nutshell fragments came from six contexts. The associated weed flora was dominated by Chenopodiaceae (mostly poorly preserved or encrusted with sediment), *Persicaria maculosa/lapathifolia* and *Bromus* sp. The assemblages were too sparse to be interpretable in terms of crop-processing activities but they do provide useful evidence supporting the excavator's interpretation of these features as domestic. There was a distinct spatial pattern to the distribution of cereal remains in Period 2 features. Seven samples collected from the post-holes of roundhouse 3004 in the northern part of the site produced no charred cereals. In the southern part of the site, pit 1161 contained no cereals, while pits 1335 and 2425 produced few. However all but one of the sampled post-holes associated with structure 5213 contained cereal remains, the highest density being that retrieved from post-hole 1613. These results indicate a focus of cereal processing activities and waste disposal around this roundhouse.

Period 2 features at Valley Belt, Trowse (Site 9589) produced a similar range of cereals — emmer, spelt and barley — but again in very small amounts. Chaff and weeds were still more uncommon than at Harford Farm. An unusual feature of the Trowse Iron Age samples was the comparative abundance of hazel nutshell fragments: they were, in fact, more frequent than cereal remains, and in this respect the Iron Age samples closely resembled those from Beaker contexts at the same site. Interpretation of samples from such a small group of closely dated contexts is inevitably tentative. It may be that some kind of specialised activity area, related to the exploitation of hazel scrub on marginal land, is represented, though the possibility of contamination by re-working of earlier deposits has to be considered.

Period 3

The only Romano-British contexts sampled were those associated with the iron-smelting furnace at Site 9589. Charcoals from three contexts were of oak (*Quercus*), broom (*Sarothamnus* (*Cytisus* sp)), the Pomoideae (hawthorn etc.), hazel or alder *Corylus/Alnus* sp) and Ericaceae. A single charred flower of *Calluna vulgaris* indicated that the latter included ling. The remains of broom and ling are useful indicators for the proximity of heathland by this period and also show that heath vegetation was used as a source of industrial fuel. All three samples produced some cereal remains, and badly preserved grains were common in deposit 921. It does not seem probable that the furnace would also have been used for grain drying, since the temperatures needed for this purpose clearly differ greatly from those required for smelting. The significance of these charred cereal remains is therefore difficult to assess.

Period 4

The only bulk sample taken for flotation from a Period 4 grave was from a dark deposit in the fill of grave 1020 at Harford Farm. Charred cereal remains, including emmer, *Triticum dicoccum*, were present. This particular crop is not unknown from Anglo-Saxon contexts (Murphy 1990) but is far more frequently encountered in prehistoric deposits. The possibility that this grave cut through a prehistoric feature and that 1021 is a re-deposited fill has therefore to be considered.

Period 5

The upper fills of the ring-ditch at Site 6099 originated during the Saxo-Norman period. Two samples produced plant material, including small numbers of grains of bread wheat-type (*Triticum aestivum*), rye (*Secale cereale*) and barley (*Hordeum* sp) with crop weeds, vegetative plant material and charcoal of broom (*Sarothamnus* (*Cytisus*)) and ash (*Fraxinus*). Interpreting such a sparse collection of material unassociated with settlement evidence is obviously difficult.

Valley sediments

Introduction

The excavated sites were on well-drained glacial sandy gravels, and the fills of the archaeological features consequently provided rather poor preservation conditions for biological materials: only charred (and some mineral-replaced) plant macrofossils and cremated bone survived, as noted above. In order to amplify the palaeoecological information from the project it was clear from the outset that examination of river valley sediments, exposed in contractors' excavations, would be necessary. The work took place during the Norwich Southern Bypass Watching Brief. Two areas were distinguished as potentially significant: the valley of the River Tas, adjacent to the Markshall excavation site described in Chapter 6, and in the Yare valley at Trowse (Fig.171).

The Tas Valley

Borehole transects by Norwest Holst Soil Engineering and Ground Engineering Ltd along the road-line across the Tas Valley showed that sediments above the sub-alluvial gravels comprise two main units. These are lower, predominantly, biogenic sediments described in the bore logs as 'silty' or 'sandy peats' and upper, predominantly minerogenic, sediments described as 'silty clay'. These sediments generally total less than 1m in thickness, but in borehole 168 c. 75m to the south-west of the modern channel a thicker sequence through a palaeochannel was recorded, as follows (top surface at 2.85m OD):

2.85 to 2.65m OD	Topsoil
2.65 to 2.25m	Soft red-brown silty clay with traces of peat
2.25 to 1.55m	Plastic dark brown very silty amorphous peat
1.55 to 0.55m	Plastic black silty very sandy amorphous peat with shells and traces of gravel.
0.55 to -0.95m	Medium dense dark grey fine to coarse sand and fine to coarse subrounded to subangular gravel.

Unfortunately the contractors' excavations in this area were shallow and water-filled (Jayne Bown, *pers. comm.*) and no sections through palaeochannels were visible.

The Yare Valley: Trowse viaduct (Fig.179)

In the Yare valley, sections were exposed briefly during construction of the Trowse Viaduct and these were recorded and sampled. Prior to the construction of the earth bund leading from White Horse Lane to the viaduct, sediments over the suballuvial gravels were stripped away. Two sections were recorded in detail (see Fig.179 for locations).

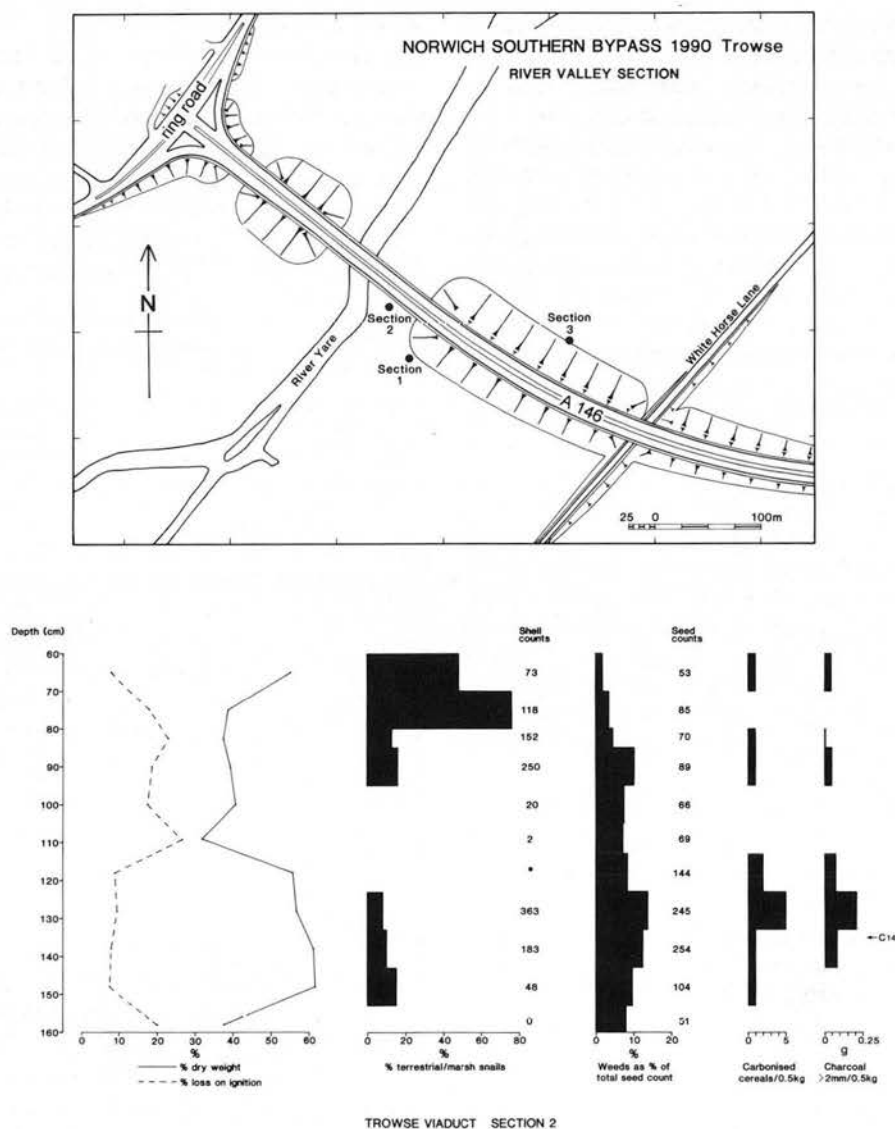


Figure 179 Location of Trowse river valley section, with summary of palaeoecological results

Section 1

- 0–20cm Humified peaty loam; abundant fibrous and fleshy roots; merging boundary
- 20–35cm Firm greyish brown organic clay/silt; large prominent reddish-brown mottles; blocky structure; abundant fibrous and fleshy roots; undulating boundary
- 35–45cm Soft grey clay/silt; small black mottles; some roots; merging boundary
- 45–55cm Soft brown organic clay/silt; merging boundary
- 55–80cm Soft greyish-brown slightly sandy organic clay/silt; impersistent off-white marl deposit forming distinct band at 70cm and intermittently below; becoming more sandy towards base; small rounded and subrounded flints at base; sharp boundary
- 80cm+ Flint gravel in coarse grey sandy matrix.

A monolith with its top at 30cm was taken for possible pollen analysis, and samples for macrofossil analysis were also collected from deposits below this level, though these were not analysed.

This section was typical of the area excavated for bund construction; deposits thinned steadily eastwards.

Section 2

- 0–20cm Humified brown peaty loam; abundant fibrous and fleshy roots; merging boundary
- 20–45cm Firm greyish-brown clay/silt; large prominent reddish brown mottles; blocky structure; some chalk fragments up to 30mm; fibrous and fleshy roots; merging boundary
- 45–70cm Slightly firm greyish-brown organic sandy clay/silt; small reddish-brown mottles; some wood fragments and mollusc shells, particularly towards base; fibrous and fleshy roots; merging boundary
- 70–85cm Soft dark brown organic clay/silt; some fibrous and fleshy roots; merging boundary
- 85–153cm Soft greyish-brown organic clay/silt; becoming progressively more sandy with increasing content of rounded and subrounded flints; 5mm band of sand at 113cm; by 143cm some large angular and subangular flints up to 65mm; small heat-shattered flints; large wood fragments at 135cm; mollusc shells locally abundant; indistinct boundary
- 153+cm Soft fine-textured brown organic clay/silt; stoneless; no molluscs.

Below c. 160cm the excavation was flooded and, as pumps were not in operation, the water-level rose during recording and sampling. Because of this problem and the limited time available during a pause in the contractors' work, sampling was not as detailed as would have been desirable in ideal circumstances. A monolith for pollen analysis with its top at 70cm was collected but the tube could not be inserted far into the stony sediment below about 125cm. Instead individual pollen samples were taken at the coarse interval of 5cm between 115–160cm. Macrofossil samples were collected from below 60cm.

Section 3 was not recorded in detail, but seemed to show predominantly mineral sediments filling a channel heading northwards, and fills of a recent drainage ditch.

Trowse Viaduct Section 2

Sub-samples from the bulk macrofossil samples were taken for the determination of % dry weight and % loss on ignition (12 hrs at 100° C and 12hrs at 375° C). The results are displayed in Fig.179. Plant macrofossils were extracted from 0.5kg samples using the methods of Kenward *et al.* (1980). Counts of macrofossils > 0.5mm are given in archive and the presence/apparent absence of smaller macrofossils (mostly charophyte oogonia and *Juncus* seeds) was noted. Only charcoal fragments > 2mm were extracted for weighing.

Apical and hinge fragments of mollusca > 0.5mm were extracted from the organic and mineral fractions of the 0.5kg samples. The freshwater taxa were not counted individually, principally because the shells were very fragile and most specimens consisted of extremely small apical fragments, many not closely identifiable. It was not possible to separate out the amphibious taxa *Lymnaea truncatula* and *Anisus leucostoma* from other freshwater species since only small apical fragments were present, which could have been of these species or of other species in these genera. The valves of Sphaeriacea were mostly very immature specimens. At some levels in the sample column shells were rare. This may in part have been due to preservational factions (e.g. at 153cm, where gypsum crystals were present, implying shell destruction) or in part taphonomic (e.g. at 105cm, where only comparatively dense, flat elements — *Bithynia* opercula, limacid shells, Sphaeriacea valves — occurred).

Other macrofossils present but not counted or identified included rhizomes, wood fragments, monocotyledonous stem fragments, mosses (very poorly preserved), ostracods, caddis larval cases, beetles, fly puparia, amphibian bones and mammal bone fragments.

Dating

Twigs and wood (*Salix* and *Quercus*) from 135cm in section 2 gave a radiocarbon date of AD 1020–1270 (GU-5192; 860 ± 60 BP).

Discussion

The depth of deposits in section 2 compared to section 1, which was typical of the floodplain in this area, appears to indicate that the sediments seen in section 2 were infilling a palaeochannel, although the section was not sufficiently large to expose the base, edges or profile of this presumed channel. From field observations and analytical data (Fig.179) there seem to be four main units: below 153cm a basal organic clay/silt; between 153–113cm a sandy organic clay/silt with flints; from 113–70cm a more

organic clay/silt; and above 70cm a less organic sandy clay/silt.

The plant macrofossils (excepting crop plants) may loosely be divided into four ecological groups:

1. Aquatics/marginal rooted plants. *Ranunculus* subg. *Batrachium*, Nymphaeaceae, *Rorippa microphylla*, *Apium nodiflorum*, *Oenanthe aquatica*, *Menyanthes trifoliata*, *Myriophyllum* sp., *Hippuris vulgaris*, *Alisma plantago-aquatica*, *Sagittaria sagittifolia*, *Potamogeton* spp., *Zannichellia palustris*, *Schoenoplectus lacustris*.
2. Wetland/grassland plants. *Caltha palustris*, *Ranunculus acris/repens/bulbosus*, *Ranunculus flammula*, *Lychnis flos-cuculi*, *Urtica dioica*, *Persicaria hydropiper*, *Bidens* spp., *Sparganium* spp., *Isolepis setacea*, *Eleocharis palustris/uniglumis*, *Carex* spp.
3. 'Weeds' *Papaver* spp., *Fumaria officinalis*, *Raphanus raphanistrum*, *Agrostemma githago*, *Stellaria media*, *Montia fontana*, *Chenopodium album*, *C. ficifolium*, *Atriplex* spp., *Malva sylvestris*, *Aphanes arvensis/microcarpa*, *Polygonum aviculare*, *Persicaria lapathifolia*, *Fallopia convolvulus*, *Rumex acetosella*, *Urtica urens*, *Solanum nigrum*, *Verbena officinalis*, *Valerianella* sp., *Anthemis cotula*, *Lapsana communis*.
4. Woodland/scrub taxa. *Rubus* sp., *Alnus glutinosa*, *Solanum dulcamara*, *Sambucus nigra*.

Unsurprisingly, remains of plants in the first two groups formed the predominant component of the macrofossil assemblages from these samples. Inspection of the data for clear trends in the relative abundance of macrofossils from these two groups has proved unsuccessful. Certain wetland taxa (*Ranunculus acris/repens/bulbosus*, *Lychnis flos-cuculi* and *Carex* spp) were relatively more abundant in the topmost sediments formed, it is thought, in semi-terrestrial conditions (see below) but otherwise it is hard to see any clear pattern, perhaps because the 'seed counts' obtained were simply too small. Woodland and scrub taxa were consistently very rare, never comprising more than 2% of any assemblage. Clearly trees and scrub plants were rare in the valley floor whilst these deposits formed. Seeds of weed plants, however, did show fluctuations in frequency, which correlated with changes in sample lithology, and the density of charred plant material, as discussed below.

The mollusca included a high proportion of incompletely identified specimens, mainly due to the fragility and fragmentary state of the shells, but three ecological groups were distinguishable:

1. Freshwater species. *Theodoxus fluviatilis*, *Valvata cristata*, *V. piscinalis*, *Bithynia tentaculata*, *Lymnaea truncatula*, *L. peregra*, *Bathymorphus contortus*, *Planorbis planorbis*, *Anisus leucostoma*, *Gyraulus albus*, *Acroloxus lacustris* and Sphaeriacea.
2. Wetland/marsh taxa. *Carychium minimum*, *Succinea/Oxyloma*, *Vertigo antivertigo*, *Vallonia pulchella*, *Zonitoides cf nitidus*.
3. Terrestrial taxa. *Cochlicopa* spp., *Vertigo pygmaea*, *Pupilla muscorum*, *Vitrea* sp., *Nesovitrea hammonis*, Limacidae, *Euconulus fulvus*, *Trichia hispida* group.

There is obviously considerable overlap in the habitat ranges of taxa in groups 2 and 3, and for present purposes these, and other incompletely identified shells, can be considered as a single group of terrestrial/marsh molluscs.

Some of the more significant results from this section are summarised in the diagram on Fig.179. The basal organic sediment below 153cm (loss on ignition 20%) produced few macrofossils of plants and no whole molluscs. This was in part due to preservational factors: the presence of gypsum crystals indicated that sulphur acids of biogenic origin caused dissolution of most shells. Ecological interpretation is difficult but the fine-textured

organic character of the deposit implies a tranquil sedimentary environment.

Above this, between 153 and 113cm, the sediments were much less organic (% loss on ignition 7.4–9.3%) with a high sand content, some sand laminations and large rounded-angular flints up to 65mm. These features indicated deposition in an actively-flowing channel, and some of them could be explained by natural processes of channel migration in the floodplain. There were, however, also features pointing to an anthropogenic influence. Percentages of weed taxa were high at this level. Furthermore charred plant material (charcoal and cereals) was more abundant at this level than elsewhere in the section. In addition the sharply-fractured angular flints in the sediment, some of which were heat-shattered, must have related to human activity. It is therefore suggested that the sand and flint content of the deposits at this level was related, at least in part, to agricultural activities on gravel terrace soils adjacent to the floodplain. A sample of wood (fragments of mature oak (*Quercus* sp) with 28mm diameter willow (*Salix* sp) roundwood) from 135cm gave a date of 860 ± 60 BP (GU-5192). This seems inconsistent with the records of charred spelt (*Triticum spelta*) from 123cm, which has not been recorded in this area from post-Roman deposits. Conceivably these charred cereals may have been derived from the erosion of a Roman site in the vicinity, resulting from intensive early medieval cultivation.

Sediments between 113 and 70cm were more fine-textured, becoming stoneless and with a higher organic content (% loss on ignition 17.1–26.3%). It would appear that the channel was no longer active or at least only intermittently flooded. Terrestrial plant material (weed seeds, cereals, charcoal) was still present, but at lower frequencies. Molluscs were virtually absent between 95 and 113cm, perhaps due to taphonomic factors, but above this the assemblages became increasingly dominated by terrestrial/marsh species and by 70–80cm these accounted for 76% of the total. *Carychium* spp (including *C. minimum*) and *Vallonia* spp (including *V. pulchella*) were the main snails. An open floodplain environment with abundant litter from fen plants seems to be indicated: the sample from 70–80cm did in fact contain a high proportion of fragmentary monocotyledonous plant stems and leaves.

Above 70cm predominantly mineral fine-textured sediments, becoming more oxidised towards the surface, underlay the thin peaty topsoil of the modern grazing marsh. The mineral sediments related to over-bank flooding from the main channel and the peaty topsoil, presumably, to decreased frequencies of flooding since small-scale earth embankment of the Yare and drainage of the floodplain. Chalk fragments at 20–45cm implied relatively recent marling. In view of the late date of the deposits and probably allochthonous character of pollen assemblages it was decided not to proceed with pollen analysis.

Conclusions

(Tables 1 and 2)

The results from studies of macrofossils at these sites are summarised in Table 1. Many of the results are paralleled at contemporary sites elsewhere in the country, but there are some features which seem to have been influenced by the location of the sites on nutrient-poor, freely-draining sandy soils of the Newport Series (Hodge *et al.* 1984, 271).

The presence of pine charcoal and hazel nutshells in pre-barrow natural features at Harford Farm is thought to be related to fires in early Flandrian woodland of pine and hazel. Pine charcoal from Bixley Site 9585 dated to 8990 ± 100 BP (GU-5186) might relate to either natural or anthropogenic fires in such woodland.

Charcoals from Period 1 features establish that woodland and scrub of oak, hazel, hawthorn-type and *Prunus* sp was present nearby. Other charred macrofossils from funerary contexts at the barrow cemeteries indicate the proximity of Arrhenatheretum grassland, a community well represented by macrofossils from barrow sites throughout the country.

The development of heath vegetation on these sandy soils is indicated by the presence of charred remains of ling and broom from the Romano-British smelting furnace at Valley Belt Trowse, and the late Saxon-Medieval upper ring-ditch fills at Bixley Site 6099.

Beaker pits at Bixley Site 9589 indicate an economy based partly on crop production (emmer, hulled and naked barley) and partly on wild plant food collection (hazel nuts, crab apples). Pits associated with the barrows, one of them a putative grave shaft, produced similar but sparser material which may also derive from domestic activity. Cereals were exceedingly sparse in the cremation deposits. Iron Age domestic features at Trowse and Harford Farm included charred remains of emmer, spelt and hulled barley but in small quantities, insufficient to suggest very large-scale cereal processing. At Harford Farm, and still more so at Trowse, charred hazel nutshell fragments were more common than is usual at Iron Age sites in eastern England. A possible explanation is that on these marginal sandy soils wild plant food collection including nut gathering in hazel scrub was of greater economic importance than at sites on better soils.

Some cereal remains were associated with the Romano-British smelting furnace at Trowse, and the upper fills of the ring-ditch at Bixley Site 6099 which dated to the late Saxon-Medieval period, but the significance of these in terms of specific activities is hard to assess.

From the radiocarbon date of 860 ± 60 BP on wood at 135cm in Section 2 at the Trowse Viaduct it would appear that there was an early medieval phase of intensive agriculture on gravel terrace soils adjacent to the Yare floodplain. The deposits in this section proved to be more recent than had been anticipated, relating to the medieval and later periods, and regrettably provided no information on prehistoric river-sedimentation.

Site	9585/9794	6099	6099	9585	9585	9794	9794	9584	9589	9589	9794	9589	9794	6099
Site periods	0	1	1	1	1	1	1	1	1	2	2	3	4	5
Context-types		crems	other	crems	other	crems	other	pits	pits etc.	pits etc.	pits and post-holes	furnace	grave	ditch fills
1. Cereals														
Cereal indet ca fr	1	1	1	-	2	-	1	-	5	4	12	1	-	1
Cereal indet ca	-	-	2	-	-	-	1	-	6	4	10	2	1	1
<i>Triticum</i> sp ca	-	1	-	-	-	-	-	-	1	3	10	3	-	1
<i>Triticum</i> sp spk fr	-	-	-	-	-	-	-	-	2	1	7	-	-	-
<i>Triticum</i> sp a fr	-	-	-	-	-	-	-	-	-	-	1	-	-	-
<i>Triticum dicoccum</i> -type ca	-	-	-	-	-	-	-	-	3	-	1	-	1	-
<i>Triticum dicoccum</i> Schübl spkfr	-	-	-	-	-	-	1	-	-	2	7	-	1	-
<i>Triticum spelta</i> L spk fr	-	-	-	-	-	-	-	-	-	1	7	2	-	-
<i>Triticum aestivum</i> -type ca	-	-	-	-	-	-	-	-	-	-	-	-	-	1
<i>Secale cereale</i> L ca	-	-	-	-	-	-	-	-	-	-	-	-	-	1
<i>Hordeum</i> sp ca	-	-	1	-	1	-	-	-	4	2	2	2	-	1
<i>Hordeum</i> sp ri fr	-	-	-	2	-	-	-	-	-	-	-	1	-	-
<i>Hordeum vulgare</i> L.emend Lam ca	-	-	-	-	-	-	-	-	1	-	2	-	-	-
<i>H.vulgare</i> var. <i>nudum</i> ca	-	-	-	-	-	-	-	-	3	-	-	-	-	-
<i>Avena</i> sp ca	-	-	-	-	-	-	-	-	-	-	2	-	-	-
<i>Avena</i> sp a fr	-	-	-	-	-	-	-	-	-	-	1	-	-	-
2. Nutshells/fruitstones														
<i>Corylus avellana</i> L	2	1	2	-	6	-	3	2	9	8	6	1	-	-
<i>Prunus spinosa</i> L	-	-	1	-	-	-	-	1	-	-	-	-	-	-
<i>Malus</i> sp	-	-	-	-	-	-	-	-	1	-	-	-	-	-
3. Weeds etc.														
<i>Chenopodium album</i> L	-	-	-	-	-	-	-	-	-	-	2	-	-	-
<i>Atriplex</i> sp	-	-	-	-	-	-	-	-	-	-	1	-	-	-
<i>Chenopodiaceae</i> indet	-	-	-	-	-	-	1	-	-	-	8	-	-	-
<i>Scleranthus annuus</i> L	-	-	-	-	-	-	-	-	-	1	-	-	-	-
<i>Caryophyllaceae</i> indet	-	-	1	-	-	-	-	-	-	-	-	-	-	-
<i>Montia fontana</i> L.subsp. <i>chondrosperma</i>	-	-	-	6	-	-	-	-	-	-	-	-	-	-
<i>Medicago/Lotus/Trifolium</i> -type	-	-	1	8	-	-	-	-	-	-	-	-	-	-
<i>Vicia/Lathyrus</i> sp	-	-	-	3	-	-	1	-	1	1	5	2	-	-

Site	9585/9794	6099	6099	9585	9585	9794	9794	9584	9589	9589	9794	9589	9794	6099
Site periods	0	1	1	1	1	1	1	1	1	2	2	3	4	5
Context-types		crems	other	crems	other	crems	other	pits	pits etc.	pits etc.	pits and post-holes	furnace	grave	ditch fills
<i>Crataegus</i> group (Pomoideae)	-	-	-	1	-	-	1	-	-	-	-	1	-	-
<i>Ericaceae</i>	1	-	-	-	-	-	-	-	-	-	-	3	-	-
<i>Fraxinus</i> sp	-	-	-	-	-	-	-	-	-	-	-	-	-	1
<i>Pinus</i> sp	3	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Prunus</i> sp	-	-	-	1	-	-	-	-	-	-	-	-	-	-
<i>Quercus</i> sp	-	4	5	16	-	2	10	-	-	-	-	3	-	-
<i>Sarothamnus (Cytisus)</i> sp	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Total no. of samples with 'identifiable' material	5	4	11	18	12	2	19	2	10	11	22	3	1	2

The results are presented in terms of frequency (*ie.* nos. of samples in which each taxon or plant organ is present). Taxa are represented by fruits or seeds except where indicated. Abbreviations: afr-awn fragments; ca-caryposes; fr-fragments ri-rachis internodes; spkfr-spikelet fragments (glume bases, spikelet forks *etc.*). NB: Charcoal from Period 2 and 4 features at Site 9794 and Period 1 and 2 contexts at Site 9589 was not identified.

Table 1 Summary of charred plant remains from Sites 6099, 9584, 9585, 9589 and 9794

<i>Site Periods</i>	<i>Bixley (Sites 6099 & 9585)</i>	<i>Caistor St Edmunds (Site 9794)</i>	<i>Valley Belt, Trowse (Site 9589)</i>	<i>Trowse Viaduct</i>
5 Late Saxon - medieval	Charred remains of wheat, rye and barley with charcoals of broom and ash relating to localised fires - possibly domestic			Sedimentation in more tranquil environment. Conditions locally becoming more terrestrial. Sandy, stony sediments with weed seeds, charcoal and charred cereals suggest intensive agriculture on river terraces
4 Early - Middle Saxon				
3 Romano-British			Iron smelting furnace fuelled with oak, broom, hawthorn group, hazel/alder, Ericaceae. Proximity of heath vegetation. ?Some cereal processing	
2 Later Bronze Age - Iron Age (c. 1000 BC - AD 43)		Charred remains of emmer, spelt and hulled barley related to crop processing and/or consumption. Hazel nut collection apparently remaining important.	Charred remains of emmer, spelt and hulled barley relate to crop processing and/or consumption. Hazel nut collection apparently remaining important.	
1 Neolithic - later Bronze Age (pre- c. 1000 BC)	Charred seeds etc., indicate local Arrhenatheretum grassland. Charcoals of oak, hazel, hawthorn-type, <i>Prunus</i> . Sparse cereal remains in funerary contexts. (?) Domestic deposits with charred hazel nuts and cereals	Charred seeds etc. indicate local Arrhenatheretum grassland. Oak and hazel charcoals. Sparse remains of cereals in ?non-funerary contexts	Beaker pits etc., with charred emmer, hulled and naked barley, charred remains of hazel nuts and crab-apples. Economy involving crop production and foraging	
0 Natural features	Charcoals from natural features relating to early Flandrian pine woodland. C14: 8990 ± 100BP	Pine charcoal and hazel nutshells in features probably relating to early Flandrian woodland.		

Table 2 Summary of results from macrofossils

II. Unburnt human bone

by Sue Anderson

General

The extreme acidity of the sandy soils ensured that no uncremated human bone was found in any of the prehistoric graves. Two pieces were recovered from post-Roman contexts at the Bixley barrow sites.

Bixley Site 6099

The very degraded shaft of a long-bone, probably a right ulna, was recorded from the uppermost filling of outer ring-ditch 6 (excavated segment 28), where it was associated with Thetford-type ceramics and animal bone. It probably belonged to a child or adolescent.

Bixley Site 9585

A fragment of very degraded long-bone shaft was collected during initial cleaning of the upper fill of ring-ditch 7. It is probably human, but its shape is so distorted by weathering that identification is very difficult. It is probably the lower half of an adult left humerus.

III. Cremated Human Bone

by Simon Mays

Introduction

The three ring-ditches excavated at Bixley (Sites 6099 and 9585) yielded a total of six Bronze Age cremation burials. Ring-ditch 2100 at Harford Farm (Site 9794) encompassed two further cremations, while a cremation of probable Early Romano-British date was also found at this latter site.

Recovery methods

The larger pieces of cremated bone were hand-recovered on site. The remainder was recovered by wet-sieving: the bone from residue retained by 5mm mesh was hand-sorted, the residues from smaller mesh sizes were not sorted. The weighings and estimations of fragment sizes and counts refer only to the fraction larger than 5mm, the unsorted smaller fractions merely being scanned for diagnostic fragments.

Catalogue of cremations

Bixley Site 6099

Cremation pit 289 (Period 1). Un-urned cremation in area enclosed by innermost ring-ditch 200.

Material	weight (g)	mean fragment size (mm)	approx. fragment count
skull	16.5	14	25
post-cranial & unidentified	239.4	12	790
total	255.9		815

Sex: unknown Age: adult

Cremation pit 300 (Period 1). Un-urned cremation in area enclosed by innermost ring-ditch 200. Accompanied by fragmentary copper-alloy awl.

Material	weight (g)	mean fragment size (mm)	approx. fragment count
skull	11.4	18	19
post-cranial & unidentified	208.6	9	850
total	220.0		869

Sex: ?female, on the basis of general size and robusticity Age: adult

Bixley Site 9585

Cremation pit 12 (Period 1). Un-urned cremation cut into barrow mound 61, southern barrow.

Material	weight (g)	mean fragment size (mm)	approx. fragment count
skull	9.6	20	6
post-cranial & unidentified	479.6	14	800
total	489.2		806

Sex: unknown Age: adult

Cremation pit 32 (Period 1). Un-urned cremation cut into barrow mound 61 in central part of southern barrow. Accompanied by small accessory Collared Urn.

Material	weight (g)	mean fragment size (mm)	approx. fragment count
skull	86.4	22	110
post-cranial & unidentified	677.4	18	2100
total	763.8		2210

Sex: female (cranial morphology, general robusticity and size of bones) Age: young adult c. 18–35 years (cranial suture closure)

Cremation pit 47 (Period 1). Un-urned cremation cut into barrow mound 61, southern barrow. Scorching apparent on sides of pit and in adjacent area.

Material	weight (g)	mean fragment size (mm)	approx. fragment count
skull	15.3	15	21
post-cranial & unidentified	103.2	10	700
total	108.5		721

Sex: unknown Age: adolescent, c. 14–18 (epiphysal fusion)

Cremation pit 1132 (Period 1). Cremation contained by large upright Collared Urn, northern barrow. Scorching apparent on sides of pit and in adjacent area.

Material	weight (g)	mean fragment size (mm)	approx. fragment count
skull	99.4	20	85
post-cranial & unidentified	561.6	14	1650
total	661.0		1735

Sex: unknown Age: young adult, c. 18–35 years (cranial suture closure)

Notes: 172.9g (about one quarter) of the total bone came from the urn itself, while the remainder came mainly from the upper fill of the pit. There was no evidence for the selection of specific anatomical parts for insertion in the urn. Given the evidence, from the scorching around the upper edges of the pit, that the pyre stood very nearby, it seems probable that the upper fill of the pit contained material swept in from the pyre itself.

Harford Farm Site 9794

Cremation pit 1004 (Period 1). Truncated cremation in plain bucket urn, in SW part of area surrounded by barrow ring-ditch 1321.

Material

What little bone remained consisted of small fragments which could not be separated from the other material (soil, charcoal etc.) from the urn and pit fills

Sex: unknown Age: infant

Grave 1906 (Period 1). Un-urned cremation placed in (or tipped into) backfill of grave pit containing coffined inhumation, in centre of barrow ring-ditch 1322. Accompanied by small copper-alloy pin or rivet.

Material	weight (g)	mean fragment size (mm)	approx. fragment count
skull	82.7	18	150
post-cranial & unidentified	852.5	20	2500
total	935.2		2650

Sex: ?male (cranial morphology, general robusticity and size of bones) Age: adult c. 35–50 (cranial suture closure)

Cremation pit 2005 (Period 3). Small quantity of cremated bone found in base of heavily-truncated ovate pit, immediately above a layer of twiggy wood apparently burnt *in situ*. Accompanied by 'Colchester' copper-alloy brooch.

<i>Material</i>	<i>weight (g)</i>	<i>mean fragment size (mm)</i>	<i>approx fragment count</i>
total	16.0	7	150
<i>Sex: unknown Age: unknown</i>			

Discussion

Cremation of an adult corpse yields about 2–3kg of bone (Wahl 1982). Using this as a guide it is clear that all nine cremations are substantially incomplete, the weights of bone from adult burials varying between 220.0g and 935.2g. The infant and adolescent cremations, too, are very incomplete. One factor contributing to the general lack of bone is damage to the cremations by ploughing or animal activity, but even those which appear undisturbed are substantially incomplete. Some loss of bone probably occurred during its long sojourn in the soil, while the weighings slightly underestimate the total bone recovered since they only refer to those fragments longer than 5mm. However the very incomplete nature of the burials probably indicates that significant losses occurred during antiquity, due to partial collection of remains from the pyre for burial. There was no evidence of selective retrieval of particular skeletal elements for burial.

The cremated bone was predominantly neutral white in colour. Shipman *et al.* (1984) demonstrate that bone colour may be used as a very approximate guide to firing temperature; the appearance of the bone suggests thorough, even firing, with temperatures in excess of *c.* 940° C.

IV. Animal bone

by Trevor Ashwin

General

Faunal remains were scarcely found at all during the Norwich Southern Bypass excavations due to the extreme hostility of the acid soil environment. The only collection worthy of comment is that from post-Roman contexts, mostly upper ring-ditch fills, at Bixley.

Bixley Sites 6099 and 9585

A total of *c.* 7.3kg of animal bone was retrieved from forty contexts at Bixley. The great majority of this came from Site 6099. Here 6.6kg of bone was found, all of it either unstratified or from the upper fills of Period 1 ring-ditch 6 in deposits dated to the Saxo-Norman era by the presence of Thetford-type Ware. Anatomies of cow, sheep/goat, horse and pig were identified, the latter species being represented mostly by loose teeth and mandible fragments. A single piece of red deer antler was also found.

A summary catalogue of the material is held in the project archive. Detailed analysis was impractical due to the assemblage's small size and very poor condition, while the friability of the bone led to many of the larger items being damaged during excavation. Evidence of gnawing or of butchery practices was distinguishable very rarely, although such traces might well have been removed wholesale by erosion.

10. Synthesis

by Trevor Ashwin

I. Period 1

This section of the report will attempt a summary of our present understanding of the Arminghall group of barrows and its context. It will start with an appraisal of the Arminghall Henge itself, and then will characterise the barrow groups and the settlement evidence from the area of the Tas-Yare confluence before making some concluding comments.

The Arminghall Henge and its context (Pls LII, LIII; Fig. 180)

Nearly sixty years after its original excavation by Professor Grahame Clark the Arminghall Henge remains — alongside Grime's Graves and Fornham All Saints (Suffolk) — one of East Anglia's most significant prehistoric field monuments. The barrows and

ring-ditches around the Yare-Tas confluence have become known as the Arminghall group; it is necessary to consider the Henge, and its situation in the broader ritual landscape, before making any general comments on the eight barrows excavated on the line of the Norwich Southern Bypass.

Discovered from the air during the 1920s, the Arminghall Henge emerged as a circular, double-ditched enclosure with a greatest external diameter of nearly 80m (Pl.LII). The southern part of the outer ditch had been obscured by the building of an electricity sub-station. The inner ditch was interrupted on its south-west side by a causeway *c.* 5m wide, and encircled a horseshoe-like setting of eight post-holes of exceptional size, whose open end also pointed in a south-westerly direction. The manner in which the excavated ramps used during the insertion of each of the timber uprights point in a southerly direction, rather than towards the causeway across the inner ditch,



Plate LII The Arminghall Henge, aerial view. (TG2306/E/ANU5, 9 June 1980, Derek A. Edwards)

may indicate that timber structure is the earlier of these two core elements (Gibson 1998, fig. 48).

Clark excavated a large proportion of the central area of the henge and trenched the two concentric ditches. His report of 1936 was of importance in attempting a general survey of the henge-monument phenomenon, and in placing the Arminghall Henge in a national context. The radiocarbon date of 3520–2740 cal. BC (BM-129; 44401 ± 50 BP) derived subsequently from one of its upright timbers (Healy 1984, 102) remains, at face value, one of the earliest results from a henge monument. However the fact that it is only a single determination, with such a wide error term, should deter prehistorians from placing too much interpretative weight upon it. Eastern England's henge monuments frequently were sited in multiples at river confluences, notable groups occurring in the Aire and Ure valleys of Yorkshire and the Milfield basin of Northumberland. The Arminghall Henge fits this pattern comfortably by lying at Norfolk's main confluence of rivers. Furthermore it was not necessarily situated there alone, since a splendid double-concentric crop-mark lying 900m to the south-west in the fork of the Yare-Tas confluence itself (Pl.LIII) might represent a comparable feature. This latter site, which also boasts a large

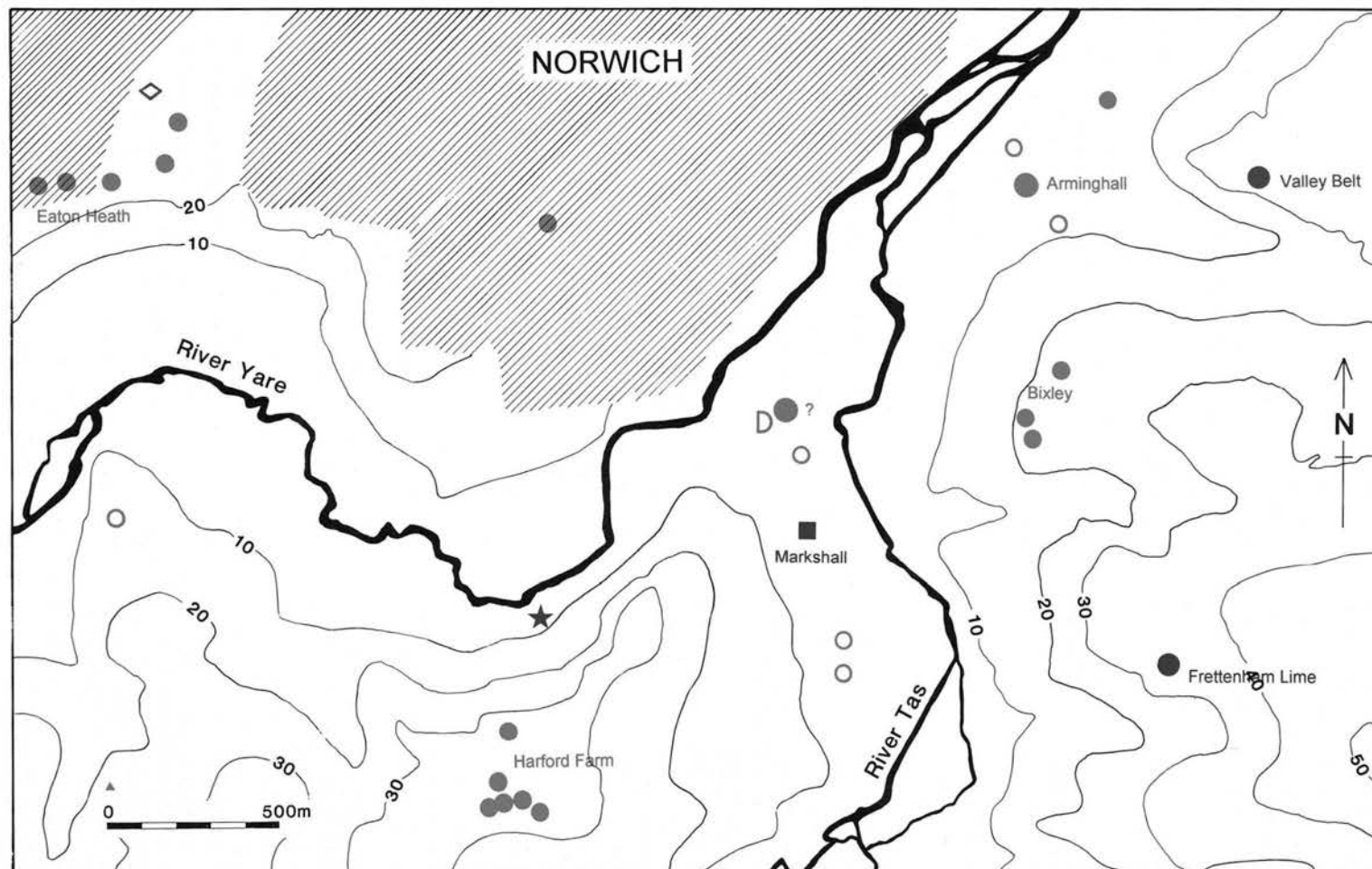
'D'-shaped enclosure immediately to its west, remains unexcavated. (It is worth mentioning at this point that the only other putative henge monument identified as such in the Norfolk Sites and Monuments Record, Great Witchingham Site 1018, also stands at a confluence, in this case in the Wensum valley.)

In a 1985 excavation report, Pryor complained that the ceremonial aspects of the East Anglian Neolithic have received little attention until quite recent years. This is certainly true in comparison with the attention paid by archaeologists to the more numerous ritual sites of Wessex. The large ceremonial monuments at Maxey (Pryor and French 1985) and Arminghall remain the only published excavations of major henges from eastern England, and it is striking that both monuments occupy similar positions on prime land, low-lying yet flood-free, close to major rivers. However, no unequivocal statement concerning the original function of the Arminghall Henge can be made on the basis of Clark's excavation, nor can the duration of its use be discerned.

The remarkable artefactual 'clean-ness' of these large Eastern henges has been remarked upon by Cleal (1984) and others. If the central areas of these monuments had been used continuously for any period of time they must



Plate LIII Double ring-ditch and D-shaped enclosure at Caistor St Edmund (Site 9582/3) aerial view looking east. (TG2305/AFK/DHX3, 15 June 1989, Derek A. Edwards)



- | | |
|----------------------|----------------------------------|
| ● henge | ◇ occupation assoc. Neo bowl |
| ● barrow | ■ occupation assoc. Grooved Ware |
| ○ ?barrow | ● occupation assoc. Beaker |
| D D-shaped enclosure | ★ ?flint mine |
| ▲ urned cremation | |

Figure 180 The Tas-Yare confluence: Period 1 landscape

surely have been kept clear of pottery, organic matter and other rubbish in a deliberate and scrupulous manner. Alternatively the period of the monument's ceremonial use could have been quite brief, despite its impressive scale and its focal position in the subsequent development of the landscape. In the absence of more explicit evidence it is conceivable that the henge was originally constructed for one event, or single short-lived series of events, only.

Comparisons with the Maxey henge are of interest. In the case of this latter monument, Pryor's argument that construction, use and final abandonment of this complex series of features all took place within a space of a few years is strongly supported both by stratigraphic analysis and by French's soil studies (Pryor and French 1985, 233–7). The Arminghall excavation data obviously does not derive from full area-stripping, nor does it include a comparable wealth of scientific information. The lack of finds and the absence of conspicuous evidence for the recutting or cleaning-out of the two concentric ditches do not necessarily indicate that the Arminghall Henge saw little human activity, but does suggest that this took place over a relatively brief period. Elements of the monument could have been left to silt and regenerate after their construction rather than being serviced and maintained, possibly in similar fashion to the disuse evidence noted at Stonehenge I (Richards 1990, 269) as well as at Maxey. However Healy (1984) has noted that radiocarbon determination BM-129 from the timber uprights sits uneasily alongside the group of rusticated Beaker sherds found within the inner ditch (Clark 1936, 19). On typological grounds these vessels were considered by Healy 'unlikely to date from before c. 2150 bc' (c. 2750 cal. BC; Healy 1984, 103), and originated beyond doubt in the ditch's undisturbed basal fill rather than in a secondary context.

Further speculation is undermined not only by the need for caution with regard to radiocarbon determination BM-129 but also by the doubt cast upon traditional typological dating schemes for Beakers by the publication of the results of the major British Museum dating programme (Kinnes *et al.* 1991). However it may be appropriate to borrow Pryor's tentative 'use-life' classification for Neolithic cursus monuments (Pryor and French 1985, 301) to suggest that the Arminghall Henge could well have been a focus of *long-lived episodic* use, rather than being either a *monumental* (continuously used) or a *short-lived* (single-period) site. While it is possible that the monument in its earliest form pre-dates the origin of the surrounding round barrow groups, it is conceivable that the monument's inner ditch represents a subsequent episode in its use which might well have been contemporary with the earliest barrows at Bixley and Harford Farm. If this hypothesis has any value, it is important to note how this later addition to the monument perpetuated the apparent core alignment of the henge, established by the layout of the central timber settings. Stonehenge provides the most notable example of a henge axis — in that case clearly an astronomical one — being perpetuated over centuries of re-modelling. The midwinter sunset may have been significant at Arminghall; however attention has been drawn to the way in which the openings in henges and stone circles frequently 'point' towards topographical features. Here this might have been the summit of Chapel Hill, which dominates the Yare-Tas confluence 1.7km to the south-west.

The barrows

The Arminghall group embraces a total of at least twenty barrows and ring-ditches. By excavating eight of these, the Norwich Southern Bypass Project has brought the number of those which have been excavated, mostly since the Second World War, to fourteen. Although many of these have been archaeologically levelled by recent plough-damage, the Arminghall group has national significance as one of Britain's most thoroughly-examined barrow cemeteries, deserving consideration alongside recently-published barrow groups such as those at Shrewton, Wilts. (Green and Rollo-Smith 1984), Barrow Hills, Radley, Oxon (Barclay and Halpin forthcoming) and West Heslerton, North Yorks (Powlesland 1986).

Comparison of the individual Norwich Southern Bypass barrows with (for example) those excavated at Witton, Norfolk (Lawson 1983), Risby, Suffolk (Vatcher and Vatcher 1976) and Deeping St Nicholas, Lincs. (French 1994) gives some idea of how much information might have been lost to the plough, particularly concerning 'secondary' deposits inserted into the now-vanished mounds. Their importance lies less in their potential for studying the minutiae of the mortuary practise of the third and second millennia cal. BC and the actual structure of the monuments themselves than in their collective potential as a group for chronological and spatial studies.

Round barrows, identified either as upstanding monuments or from the air as ring-ditches, remain by far the most numerous prehistoric site-type known from Norfolk (Lawson, Martin and Priddy 1981, Lawson *et al.* 1986) with well over 1,500 putative examples logged in the County Sites and Monuments Record at the present time. Yet prior to the Norwich Southern Bypass campaign only approximately ten examples of barrows or ring-ditches had been excavated and published to modern standards. With the notable exceptions of those at Witton (Lawson 1983) and Bawsey (Wymer 1996) most of these features have been excavated in plough-flattened form, with the resultant loss of much detailed information. However an equally serious weakness in this record, highlighted by Lawson (1986c), is the fact that most of these sites have been excavated as individual features, in trenches embracing the extent of the threatened crop-mark or mound and no more. The Norwich Southern Bypass Project provided an opportunity so far unparalleled in East Anglia for a relatively large group of neighbouring barrows to be compared — albeit crudely, due to their poor state of stratigraphic preservation — in terms of form, date and surviving contents. Furthermore the circumstances of the Harford Farm excavation permitted the large-scale examination of the land-surface between a group of barrows, a *lacuna* identified by Lawson (*op. cit.*).

A series of six radiocarbon determinations, whose age-ranges span the third and the first half of the second millennium cal. BC, were derived from the Norwich Southern Bypass barrows (Fig. 181). It is unfortunate that suitable material for dating could not be retrieved from several of the monuments, notably the large 'hengiform' and disc-type barrows at Harford Farm. However the occurrence of faience beads in an apparently primary context in the latter feature suggested that it had been constructed later in the second millennium cal. BC than the barrows from which radiocarbon dates had been

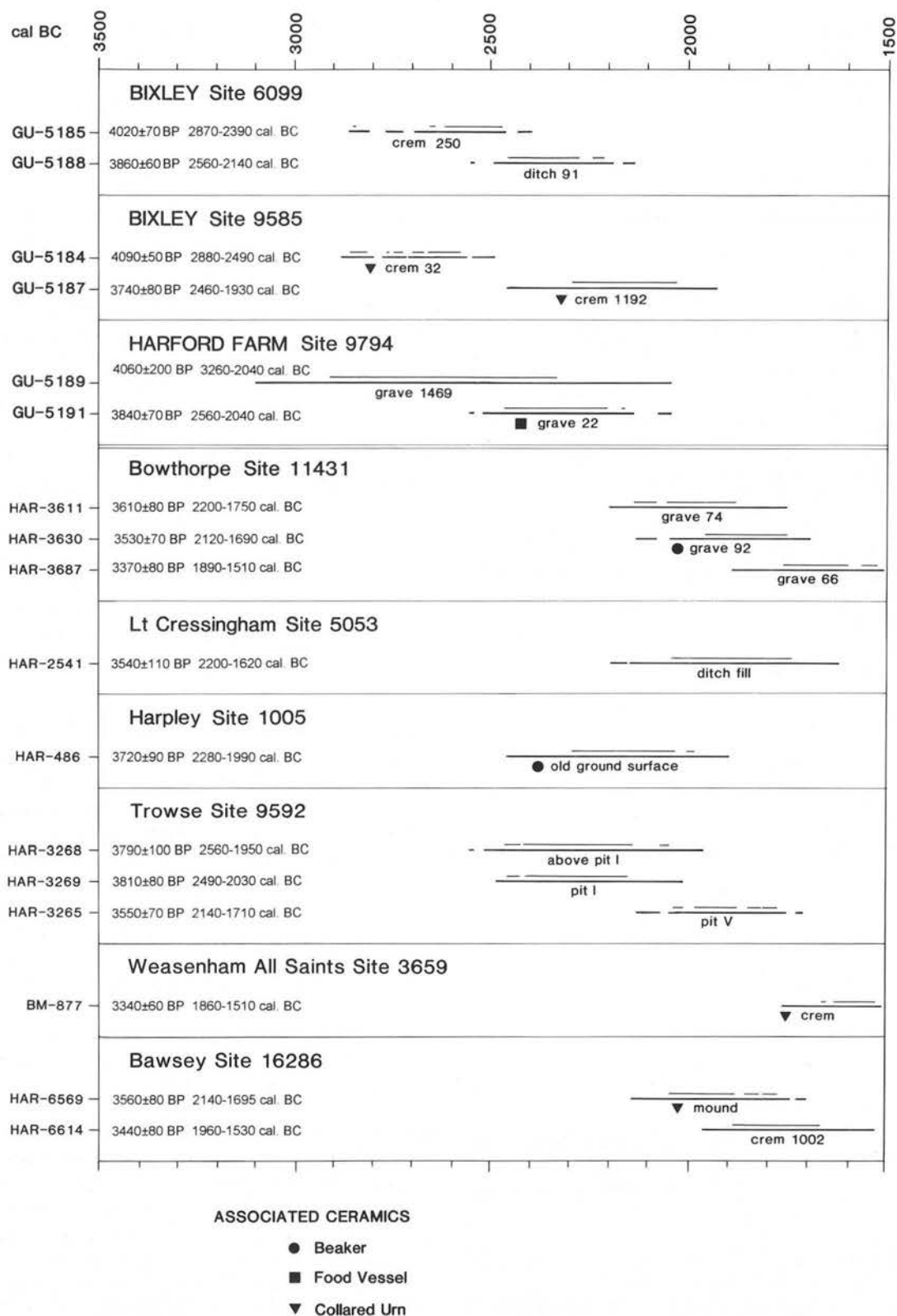


Figure 181 Radiocarbon dates from Norfolk barrows. (Based on Lawson *et al.* 1986, fig. 1). All dates have been calibrated using CALIB v.1.3, and are indicated at 68% and 95% confidence levels

obtained. This suggests (Bamford, Chapter 4) that some at least of the barrows were probably not constructed before c. 1500 cal. BC at the earliest, and implies that various elements of the barrow cemetery were in use for burial for many centuries.

The near-total lack of *in situ* mound or other superstructure did not prevent examples of bowl (4), bell (?2) and disc (1) barrows from being identified with reasonable confidence. Especially significant has been the identification of a possible 'palisade' barrow of Dutch type at Harford Farm. It is sad that plough-damage has removed most information about this barrow beyond the basic ground plan of its earthworks. While other excavated barrows (eg. Tallington Site 16: Simpson 1976) have featured prominent stake-circles, it seems that no British example published to date has borne a closer resemblance to those described in Glasbergen 1954, although it has not been possible to identify a precise parallel in the Dutch literature (Dr Jan Albert Bakker, *pers. comm.*)

No two of the eight barrows were identical or near-identical in size and appearance. It is possible that some of them originated as flat cemeteries which were subsequently mounded up after an uncertain length of time. Evidence for this is clearly to be seen at Bixley Site 6099, where up to eight putative cremation and inhumation deposits, some of them intercutting, probably pre-date the building of a mound over the central area of the barrow. Similarly in the case of the barrow at Harford Farm surrounded by ring-ditch 1022, the apparent re-use of the central grave by three inhumations superimposed directly upon each other suggests that decades at least may have elapsed between deposition of the primary burial and the sealing-over of a group of interments by a mound.

However this developmental model — similar to that proposed by Powlesland for the well-preserved barrow group excavated at Heslerton, North Yorks (Powlesland 1986, 127) — does not hold good for all of the Southern Bypass monuments. In fact it is expressly contradicted by the sole barrow where relict mound material survived, the southern example excavated at Bixley Site 9585. Here it seems that the first phase of barrow use, following topsoil removal and tree clearance, was the construction of the mound itself and that the insertion of all of the burials, which included at least two inhumations and three cremations, followed this event.

While a key objective of the excavations at Sutton Hoo between 1986 and 1991 was the examination of the spaces between the burial mounds, opportunities to study *prehistoric* barrow cemeteries in this manner had seldom arisen in East Anglia prior to the Harford Farm excavations. The absence of contemporary flat graves from this area stands in sharp contrast with the results of comparable recent exposures in East Yorkshire, including those at Heslerton (Powlesland 1986) and at Wetwang Slack (Dent 1979), where such deposits were a frequent occurrence. Perhaps such burials were not a feature of Norfolk's barrow cemeteries.

Individuals buried in the barrows included males and females, adults and juveniles. Unfortunately the paucity of human remains collected, due to the complete absence of surviving bone from inhumations and the relatively small number of cremations, allowed no demographic or pathological insights. However the *contemporaneity* of inhumation and cremation rites in some at least of the barrows was recorded at Bixley and at Harford Farm; it

was seen graphically at the latter site, where an un-urned cremation may have been 'poured' into an inhumation grave while it was being backfilled.

It is necessary to conclude with an assessment of the chronology of the Arminghall group of barrows as a whole. The starting point for this is the total of nine radiocarbon determinations available to us, six of them from the Norwich Southern Bypass work (Appendix 1) and another three from the Trowse barrow previously excavated by Rainbird Clarke and Wade (Fig. 181; Healy 1982, 12–14). Ashbee's seminal work concerning Bronze Age barrows, when dealing with 'barrow cemeteries', stressed the importance of identifying through excavation 'a series of burials and relics which could be arranged in a temporal sequence, thus relatively dating the barrows' (Ashbee 1960, 33). On the basis of this group of dates and the distribution of the monuments themselves, it is important to note that there is presently no evidence for a well-defined 'primary' barrow or series of barrows in the Arminghall group. Indeed it seems likely that both the Bixley and Harford Farm barrows were in use contemporaneously during the latter part of the third millennium cal. BC. No obvious sequence in the construction or use of the different groups of barrows in the cemetery emerges from the available data. Although the absence of *in situ* mound material precludes certainty, the majority of the samples probably relate to deposits which were either primary ones within the barrows which contained them or occurred relatively early in the sequence of the monuments' use. The determinations to be considered here ranged in value between 3260–2040 cal. BC (GU-1589; 4060 ± 200 BP) from the remains of a tree-trunk coffin at Harford Farm (maybe the least useful individual sample due to the poor quality of the available charcoal) and 2140–1700 cal. BC (Har-3265; 3550 ± 70 BP) from a putative grave at Trowse Site 9592 (Healy 1982). The four radiocarbon dates from the three Bixley ring-ditches range between 2880–2490 cal. BC (GU-5184; 4090 ± 50 BP) and 2460–1930 cal. BC (GU-5187; 3740 ± 80 BP).

The excavated data from the five Eaton Heath barrows (Sites 9549 and 11295) is scanty by comparison with the NAU's more recent work, and includes no radiocarbon dates. 'Barbed Wire' Beaker sherds apparently located beneath one of the mounds suggested to Healy a date of c. 1900–1800 bc, using the typology of Lanting and van der Waals (c. 2380–2220 cal. BC; Healy 1986, 57). While the use of established Beaker seriation methods in this manner points to the construction of some at least of the Eaton Heath barrows during a similar temporal range as those at Bixley, Harford Farm and Trowse, increasing scepticism during the 1990s about the chronological significance of Beaker typology (Kinnes *et al.* 1991) devalues this somewhat. The faience and other artefacts from the primary deposit within the large disc barrow excavated at Harford Farm probably date from the later second millennium cal. BC; it can be suggested with some confidence that this barrow, and perhaps its hengiform 'Dutch' neighbour, originated at a later date than the other monuments. While it is likely that many of the barrows were still receiving modifications and secondary interments (now lost to the plough) at this date, the evidence suggests that the construction of new barrows may have ceased by c. 1500 cal. BC.

The number of ceramic accessory vessels retrieved from the various graves and other deposits in the Arminghall group barrows as a whole is not large, but is of regional importance nonetheless. Most interestingly there are hints of a certain ceramic 'exclusivity' between the different local elements of the barrow group. Cleal's paper of 1984 showed that certain of the Late Neolithic ceramic traditions are rarely found in direct association with each other on eastern English settlement sites. Such divisions have not been studied in the same manner with reference to funerary ceramics, but possible signs that they existed are provided by the occurrence of only Beaker in the Trowse barrow (Healy 1982, 19–21) and the presence of Collared Urn to the exclusion of all other types in the Bixley graves. On the grounds of traditional ceramic seriation the Trowse barrow could be construed as being of earlier origin than those nearby at Bixley, due to the presence of Beaker at the former and Collared Urn at the latter site. However the consistently 'early' radiocarbon dates from samples associated with Collared Urn at Bixley reinforce the possibility that these two distinct ceramic traditions may have been in widespread *contemporaneous* use.

Settlement evidence

Knowledge of earlier prehistoric settlement around the Tas-Yare confluence remains skeletal in the absence of intensive field survey, but has been enhanced to some extent by the Norwich Southern Bypass Project.

Prior to the start of the research the only examined settlement site of the third or fourth millennia cal. BC in the immediate area was that at Eaton Heath (Site 9544; Wainwright 1973), where traces of occupation were found across an area of over 6500 square metres to the north of the River Yare. As well as pits and other small subsoil features containing Neolithic bowl pottery, a series of round 'shafts' (now interpreted as natural solution holes) contained quantities of Peterborough Ware, Beaker and Food Vessel, some of them possibly deliberate deposits placed in the shafts when they were open due to subsidence. (For a full discussion of this issue see Healy 1986, 57–8). The only other site ascribed to the period was the series of pits excavated by Lawson at Frettenham Lime Quarry, Caistor (Site 13350; Chapter 7). Although this report has suggested that most, if not all, of the features themselves date to the early first millennium cal. BC and contain Beaker sherds only residually, the occurrence of pottery of this kind does indicate a human presence here in earlier centuries.

Considering the position of the study area at the convergence of major river valleys and natural routeways, it is possible that further foci of Early Neolithic activity remain undiscovered in the area. However the recent NAU projects themselves discovered only a single feature likely to date to this period. This was a solitary pit recorded by the Watching Brief to the north-east of the Harford Farm site which contained sherds of plain bowl pottery. The Norwich Southern Bypass fieldwork revealed 'new' settlement sites at Valley Belt Trowse (Site 9589; Chapter 5) and at Markshall (Site 9584; Chapter 6), both discovered fortuitously by evaluation stripping, bringing the total to four. That at Markshall lay atop a low hillock in the Tas valley. The other three sites were all situated on south-facing slopes, each of these locations being elevated and yet not far from water. Such situations seem typical of

the relatively few prehistoric settlement sites studied in Norfolk, and can be seen in the cases of both Spong Hill (Healy 1988) and Broome Heath (Wainwright 1972). The absence of surviving animal bone from the Norwich Southern Bypass sites is a great loss in terms of economic evidence, but Murphy has demonstrated that the occupants of the Trowse site derived food from many sources, both cultivated and wild (Chapter 9). Sites such as those at Valley Belt and Frettenham Lime Quarry would have been well situated for such a broad-based subsistence strategy by being situated on the boundary between distinct topographic zones. These locations can be imagined as lying within easy reach of light, easily-cultivated soils on higher land and the valley bottoms for pasture, fishing and fowling.

Comparison of the evidence from Valley Belt with the site at Eaton Heath tends to reinforce some of the general patterns discerned by Healy and others in their study of the Norfolk Neolithic. The occupation of the Eaton Heath site probably ranged from the fourth millennium (or earlier) to the second millennium cal. BC, the site being frequented at various times by users of Neolithic bowl, Peterborough Ware and Clarke's 'East Anglian' and other fine Beaker pottery. By contrast, settlement sites such as that at Valley Belt featuring typologically 'later' Beaker types are found more characteristically on previously un-occupied sites, as appears to be the case at Valley Belt. Another characteristic regional trait, already mentioned in Chapter 5, is the frequent 'exclusivity' of the various late third-early second millennium cal. BC ceramic types in domestic contexts. This is seen in the case of the site at Valley Belt, which seems to have been used by people using only Beaker. By contrast the small pottery assemblage from the Markshall Borrow Pit site was almost entirely of Grooved Ware. Cleal and others have suggested that Peterborough Ware, Grooved Ware and Beaker-type ceramics were actually in use contemporaneously for an extended period during the third millennium cal. BC (Cleal 1984). Future research must test more fully the theory that these different pottery types (and their associated lithic and other material culture) were actually in use contemporaneously by divergent communities or networks of peoples, rather than occurring in strict chronological succession. As increasing numbers of calibrated radiocarbon dates become available for study, however, there are indications that this pattern may be dispelled by larger numbers of Grooved Ware and Peterborough Ware-associated determinations which clearly date to the pre-Beaker era.

A unifying factor observable in the ceramic material from the Norwich Southern Bypass excavations and from watching brief work in the area is the total dominance of Beaker, either finger-rusticated or typologically of Case's 'Late' pattern. A significant factor here, of course, may be the relative hardness and decorative distinctiveness of Beaker sherds, especially when compared with Collared Urn and other Bronze Age ceramics, making them perhaps more likely to be found and identified than other prehistoric pottery types (Healy 1995, Ashwin 1996a). This dominance does need further discussion, however, particularly considering the apparent dearth of earlier Neolithic material from the Norwich Southern Bypass sites. Even taking into account the variable provenance of some of the material and the lack of associated radiocarbon dates, the general absence of the plain bowl

ceramics of the fourth millennium cal. BC from these assemblages might point to major agricultural and settlement expansion in this region by Beaker-using communities, presumably occurring during the broad time-frame of the barrow cemetery's use. Further support for this idea may come from the fact that much of this Beaker tends to be of Case's 'Late' type. While the British Museum dating programme (Kinnes *et al.* 1991) has cast doubt on the chronological value of Beaker typology, this has done nothing to dent the clear and distinct identities of many of the stylistic groups defined by Clarke, Case and others, which may well signify social rather than temporal delineations. A predominance of 'Late' Beaker is often seen in Norfolk on sites which display little or no evidence of previous occupation. Such a situation is clearly apparent at Valley Belt, Trowse (Chapter 5). Perhaps future research should consider the hypothesis that these ceramics represent territorial expansion and intensification during the late third–early second millennia cal. BC.

Conclusions: ways of life and death

Whatever conclusions the individual may choose to draw concerning points of detail, the body of evidence presented in this volume challenges any idea of the Tas-Yare confluence area as some kind of un-peopled 'ritual landscape' given over wholly to funerary and ceremonial activity. In coming to this conclusion, the Norwich Southern Bypass Project echoes in broad outline the results of the (far more extensive and landscape-based) fieldwork of the recent Stonehenge Environs Project (Richards 1990), which demonstrated considerable levels of 'mundane' Neolithic and Bronze Age activity in an area of Salisbury Plain traditionally regarded as a ritual preserve.

No new sites of the earlier Neolithic period were revealed by the Norwich Southern Bypass Project. The only known site of this period in the area of the Tas-Yare confluence remains that at Eaton Heath, where features containing Mildenhall-type and plain bowl pottery were radiocarbon dated to the late fourth and third millennia cal. BC (Wainwright 1973). The first indications of the area's ceremonial significance come with the construction of the Arminghall Henge itself, perhaps around the end of the fourth millennium cal. BC. Despite the wealth of crop-mark evidence there are no examples of major earthwork monuments, in the form of causewayed enclosures or long barrows, pre-dating this event. A single possible exception to this is an oval crop-mark identified as a putative long barrow at Marlingford, some 5 km upstream in the Yare valley (Site 13357). However this original interpretation (Edwards 1978) seems less certain in the light of the publication of an oval enclosure from the round barrow cemetery at Weasenham Lyngs (Healy and Petersen 1986), which clearly fulfilled some other function.

The concept of a major cultural hiatus during the later Neolithic period — characterised by the appearance of a new diversity of ceramic styles, the rise of individual burial and debatable evidence for subsistence crisis (Whittle 1978, Bradley 1984) — seems less convincing in the 1990s, when larger numbers of radiocarbon dates and the universal adoption of a calibrated radiocarbon chronology are heightening the evidence for continuity during the latter part of the fourth millennium cal. BC.

Certainly the Norfolk evidence, taken as a whole, is equivocal (Ashwin 1996a). The Arminghall Henge and the surrounding barrows were, it is true, constructed in an area where earlier long barrows and enclosures appear to be absent. However it must be acknowledged that earlier field monuments could very easily have been obscured by the present-day city of Norwich, which occupies virtually all of the land to the north of the Yare itself. Furthermore, it is arguable that the siting of 'new' monuments such as henges or bank barrows within or adjacent to earlier ones actually represents an act of challenge or even of 'sighting' or desecration rather than one of respectful conservatism. So the apparent lack of ritual continuity here before the latter part of the fourth millennium cal. BC does not necessarily amount to evidence for a wholesale break with the past. The general lack of earlier Neolithic finds and features from the area of the excavated barrow group at Barrow Hills, Radley *despite the close proximity of the Abingdon causewayed enclosure* is instructive (Barclay and Halpin forthcoming). Significant earlier Neolithic activity around the Tas-Yare confluence need not have impinged upon the areas occupied by the barrows themselves.

The Arminghall Henge can be seen to occupy an archetypally 'Eastern English' setting for a henge monument, overlooking a major confluence, and was probably accompanied by at least one other henge. The results of the 1935 excavation suggest that the Arminghall Henge might have been used occasionally or episodically over a considerable period of time during the later fourth and third millennia cal. BC. Development of the surrounding barrow group was probably under way by c. 2500 cal. BC, and it seems most likely that the three main concentrations of barrows all originated during a roughly similar period rather than successively. The siting of the barrows accords well with Lawson's observation that in Norfolk these monuments tend to be situated on the lightest and poorest soils available (Lawson, Martin and Priddy 1981, 62).

Consideration of prehistoric sight-lines between the barrows and other monuments, and of the appearance of this tract of landscape 4–5000 years ago, is much more difficult now it has been dissected so heavily by noisy and visually obtrusive dual-carriageway roads. These changes are especially poignant when visiting the Arminghall Henge itself: the new roads dominate large areas of the skyline to the south and east, and even late in the evening the noise is incessant. It is clear that both the Henge and the Bixley barrows on the 'false crest' to the south would have been highly intervisible. The view between the Bixley and Harford Farm monuments — now massively emphasised, of course, by the road which links the two — would also have been clear and uninterrupted. The view south-westwards from the Henge is entirely dominated by the wooded summit of Chapel Hill, however. The ridge occupied by the Harford Farm barrows lies immediately 'behind' this eminence, further to the south-west, and probably only the northernmost of the barrows there (ring-ditch 112) would have been intervisible with the Henge. It is surely possible that monuments much older than the former parish church of Markshall once occupied Chapel Hill, which lies directly in the sight-line of the Henge's south-west facing entrance.

Radiocarbon dates suggest that most of the barrows originated in the later third millennium cal. BC. However

the Harford Farm group is distinguished by the presence of large, developed barrows of disc and hengiform type, which are probably of later date. Settlement remains at Trowse and Markshall are likely to be to some extent contemporary with use of the barrows. However there is no positive evidence for any direct link between these Beaker and Grooved Ware-using populations and those interred in the barrows.

Although quantities of flint debitage were retrieved from secondary contexts at the Bixley barrows this is perhaps unlikely to pre-date them; all in all there is very little evidence of pre-barrow occupation at any of the sites. This was particularly the case at Harford Farm, where large areas within the barrow group seemed devoid of Period 1 features and finds. This makes an interesting contrast with certain other excavated Norfolk barrows, such as those at Weasenham Lyngs (Healy and Petersen 1986) and Bowthorpe (Lawson 1986b), where domestic sites featuring Beaker pottery pre-dated the construction of the funerary monument. Perhaps it is significant that the few radiocarbon determinations derived from these barrows (especially Weasenham Site 3659) are consistently more recent than those from the Arminghall group (Fig.181). This makes it possible that these other sites were actually in use for settlement — continuously or intermittently — rather than funerary activities at the time when the earlier barrows in the Arminghall group were under construction.

It is hoped that this discussion has demonstrated some of the research potential which flattened barrow groups may have when examined on a large scale, even when many of the constituent monuments have suffered severe damage. However it is also true that the Project has made limited progress towards an understanding of the development of Neolithic and Bronze Age *settlement* in the area. This problem is rooted in the manner in which the few apparently 'domestic' or 'mundane' activity sites reported in this volume stand in relative isolation, and cannot be set in context against a wider background of fieldwork. All were chance discoveries, whose existence would have remained hidden without disturbance by quarrying and road construction. Present dependence on the results of aerial photography for identifying rural prehistoric sites emerges as a key problem in explaining why so many fieldwork projects ultimately devote their resources to producing data which concern 'ways of death' to the exclusion of 'ways of life'. Only sites featuring major negative features such as deep ditches and pits are likely to be identified as crop-marks, and in a Norfolk context these are likely to be sites of a funerary or monumental nature, such as barrows. Contemporary occupation traces usually remain unidentified, and presumably are being degraded and destroyed in large numbers by agricultural and other processes.

At the start of her paper of 1984, Cleal drew attention to the Eastern English contrast between the 'sparse and undistinguished' Neolithic monumental tradition on one hand and the wealth and diversity of pottery, lithics and other artefacts from the area on the other. This suggests that East Anglia was heavily settled during this period, and contrasted strongly with Wessex in boasting a considerable economic wealth which was *not* reflected in a conspicuous monumental tradition. The Arminghall group represents a concentration of ceremonial monuments which — in East Anglian terms — is unique

in several respects; not only in terms of its focal position in Norfolk's drainage and topography but also because of the amount of excavated data which has been retrieved over several decades. Yet even at the conclusion of the Norwich Southern Bypass Project very little information exists to help characterise mundane, rather than ritual, human activity in the area. Urgent thought must be given to how this extraordinary landscape's fragile archaeological resource is to be managed and curated in the face of threats from ongoing ploughing and future development.

II. Period 2

Background: Iron Age studies in Norfolk

While present understanding of the later Bronze Age and Iron Age in Norfolk remains limited in many respects, interest in the region's later prehistory has quickened during the 1990s. Important developments during this period have included the publication of a comprehensive survey of Norfolk's so-called 'hillforts' (Davies *et al.* 1991), of the major Late Iron Age ceremonial site at Thetford Fison Way (Gregory 1991), and of Davies' major new synthetic article dealing with the Iron Age of northern East Anglia (Davies 1996). This period has also seen three significant excavations of Iron Age sites by the NAU, all directed by the writer, the first in the county since Clark's work at West Harling (Clark and Fell 1953). Those at Harford Farm and Valley Belt are described in Chapters 4 and 5 of this volume, while that at Park Farm, Silfield, Wymondham is published elsewhere (Ashwin 1996b).

Despite this progress, our understanding of the period is still bedevilled by a lack of excavated sites and the absence of a secure ceramic typology to assist with dating. In connection with this first point it must be noted that both the Iron Age sites excavated on the Norwich Southern Bypass represented a chance discovery by the NAU which was unheralded either by field survey or by aerial photography, although a small linear crop-mark noted at Valley Belt proved after excavation to be part of the system of Period 2 enclosures extending over the site. It is also true that the recent publications dealing with hillforts and with the important Fison Way ceremonial complex have, of course, been devoted to sites of a rather more exceptional nature than those evidencing the day-to-day life of rural communities.

At West Harling, in South West Norfolk (Apling 1932, Clark and Fell 1953), two small enclosures containing post-built structures were sited on a low hill in the valley of the River Thet. Abundant pottery, probably dating to c. 800–600 cal. BC, was found, and the site has acquired the status of a regional 'type-site' for the early first millennium cal. BC in northern East Anglia. However the West Harling occupation remains undated by radiocarbon or other scientific means, and no corresponding sites or groups of material dated securely to the *later* first millennium cal. BC have previously been excavated on a scale sufficiently large to indicate subsequent developments in lifeways, material culture and environment. The results of the Norwich Southern Bypass Project have made important additions to this picture.

The Norwich Southern Bypass sites

Previous archaeological finds of the period from the Tas-Yare confluence area were few. They included pottery

of West Harling type from the silting of an earlier barrow ditch on Eaton Heath (Site 9549/c4: Healy 1986, 53–5) and also pottery of Late Iron Age date from the secondary ditch siltings at the Arminghall Henge itself (Clark 1936, 15–18). However no demonstrably Iron Age deposits or features had been excavated and published. This situation is changed by the production of this volume, where evidence from three further domestic sites of the period clustered around the mouth of the Tas valley — at Frettenham Lime Quarry, Valley Belt and Harford Farm — is presented.

The duration of Period 2 occupation is unclear in the case of any of these individual sites. However it seems likely that both Harford Farm and Valley Belt were occupied for an extended period, continuously or episodically, since both show signs of large-scale re-ordering of boundaries and land divisions. Although no radiocarbon dates are available, a tentative sequence for their occupation may be proposed drawing on our present understanding of the ceramic evidence. This would place the Period 2 occupation of the Valley Belt site roughly contemporary with use of the West Harling settlement, perhaps around 700 cal. BC. On the basis of Sarah Percival's ceramic studies it seems likely that the occupation detected by the Watching Brief at Frettenham Lime Quarry (Chapter 8) somewhat pre-dates this, the pottery here resembling more the 'post-Deverel Rimbury' tradition identified by Barrett and other researchers. Conversely the roundhouses and land divisions at Harford Farm are likely to be rather later, and to represent occupation and agricultural activities during the Middle Iron Age. In the absence of either a secure ceramic type series or usable radiocarbon determinations a broad date-range of c. 500–200 cal. BC may be proposed.

In his recent study of Iron Age hilltop sites in Suffolk, Martin has observed how frequently Iron Age settlements were located on previously-occupied sites (Martin 1993, 56–58). With reference to one group of sites in the Fynn and Deben valleys of East Suffolk, he has noted how often they occupy topographical positions which are elevated and yet within 500m or so of running water. Similar patterns can be discerned in our study area, and are obvious in the topographical similarity between the Valley Belt and Frettenham Lime Quarry sites. Earlier prehistoric occupation and land-use could be detected at both of these locations. At Valley Belt this took the form of occupation by Beaker-using people during the previous millennium. The much scantier data from Frettenham Lime Quarry implies a similar sequence; even if it is true that the Beaker pottery recovered from this small intervention occurred residually in a later deposit (Chapter 7), such large and well-preserved sherds surely indicate activity very close by. In contrast the later settlement at Harford Farm occurred in the midst of the earlier Period 1 barrow cemetery, probably several centuries after its last use for burial and yet while the barrow earthworks may still have stood to something approaching their full height. Doubt has already been cast on the idea of the Tas-Yare confluence being a specialised 'ritual landscape' during the third and second millennia cal. BC. The excavated evidence from Harford Farm, along with the presence of Harling-type pottery in barrow-ditch fills at Eaton Heath, argues that the large tracts of land occupied by the Period 1 cemeteries were certainly not 'cities of the dead' during the *later* prehistoric period either.

It is tempting to conclude that Iron Age settlement was often attracted to places topographically similar to those frequented during earlier prehistoric times, and that the 'interface' location which these sites held between different areas of relief and land-use might reflect a similarly diverse exploitation of the natural environment for food. Certainly Murphy's botanical studies at Valley Belt (Chapter 9) produced evidence for wild as well as cultivated plants in the diet. Beyond these general observations, it has often been difficult to characterise the human activity on the individual sites in much detail. While the site at Harford Farm produced evidence for cereal-processing, the evidence from Valley Belt (although clearly featuring pastoral farming at some period of the occupation) has proved much more difficult to interpret. This is because plough damage and problems of residuality often made it difficult to separate Period 1 from Period 2 features at all with any confidence.

One of the surprises provided by the NAU's successive excavation of the Iron Age sites at Harford Farm, Valley Belt and Silfield sites during 1990–3 has been the great contrasts between them in terms of layout and morphology, and the manner in which each of these sites has produced structural and other phenomena not seen at the others. This is apparent when comparing the relatively ordered plan of the Harford Farm site, with its structures and possible related land divisions, and the more diffuse layout apparent at Valley Belt, the latter site being dominated by enclosure ditches and concentrations of small pits yet devoid of large structures. By contrast the excavated portion of the Silfield site seems most likely to have been of one phase, and to have featured spatial 'zoning' of different types of features and a wide range of industrial pursuits (Ashwin 1996b). It has suggested that this latter site was not necessarily a settlement site as such. Certainly a lack of convincing evidence for dwelling structures at Valley Belt makes this at least a possibility here too. While post-built roundhouses of the kind excavated at Harford Farm and West Harling might — of course — have lain beyond the limits of excavation, it is difficult to postulate that they had ever existed within the excavated area unless they were of very ephemeral construction.

Norfolk and beyond

The Norwich Southern Bypass Project has contributed substantially to the corpus of excavated settlement data of the first millennium cal. BC from Norfolk. The assemblages of pottery and botanical material are of great interest, while the human landscape of the period may be compared with that observed in East Suffolk by Martin (Martin 1993, 41–58), where settlement location may have been dictated by similar geographical factors.

The lack of excavated Iron Age settlement sites is by no means a problem exclusive to Norfolk, and a similar situation prevails in many other parts of lowland eastern England. Of the five 'regions' proposed in the mid-1980s by Darvill for Early and Middle Iron Age studies, eastern England (to the east of the 'hillfort zone' of Wessex and the West Midlands) emerges as the least well documented of all in archaeological terms (Darvill 1987, 144). Cunliffe's important survey of the area's evidence, the most recent undertaken (Cunliffe 1968) is an important study of the apparent local fragmentation of ceramic traditions which occurs in the earlier first millennium, but this paper was right to bemoan the extent of necessary reliance on ceramic material, often ill-provenanced, to the

exclusion of settlement and topographic information. Furthermore the absence of a landscape dominated by defended sites — Norfolk's 'hillforts' seem confined to Thetford and to the north-western part of the county — has discouraged sociological studies of settlement and geography of the kind attempted in southern and western England (Cunliffe 1982).

Despite these *caveats*, however, it can be argued that certain regional characteristics *can* be discerned in the settlement record from Eastern England in this period (Bradley 1993a, Hill forthcoming). In particular the landscape appears to have been dominated by unenclosed sites, most of them relatively small. If some progress can be made towards characterising the size and morphology of these sites, recording the pottery associated with them, and investigating the topographical niches which they occupy, then the conclusions of work in Norfolk may be important to the study of other parts of lowland England. How can the Norwich Southern Bypass work contribute to this process of elucidation?

The recent synthesis of the Norfolk Iron Age by Davies (1996) is invaluable in outlining a geographical model for the development of Iron Age settlement in Norfolk. Davies proposes that Early Iron Age activity (?c. 800–500 cal. BC), represented principally by excavated sites in West Norfolk and the Thetford region (West Harling, Snarehill, Redgate Hill), might well have mirrored the distribution of later Bronze Age metalwork (Rowlands 1976; Lawson 1980, 1984) and have been most intense in the west of the county. When considering the Middle Iron Age (?c. 500–100 cal. BC), the small number of known sites are spread wider across the county yet still display a westerly bias, and only from the later Middle Iron Age onwards can positive signs of occupation be seen on the Norfolk Boulder Clay plateau. In the terms of this hypothesis the light soils of the West Norfolk chalk and the Brecklands are construed as the heartland of early first millennium settlement, from which more intensive human occupation expanded; it has been argued that the presence of the 'hillforts' in this core zone and the location of the earthworks of the Launditch and Panworth Ditch close to its eastern limit might reflect economic or strategic pressures during the Middle Iron Age.

Comparing the results from Harford Farm, Valley Belt and Frettenham Lime Quarry with those from Park Farm, Silfield seems to offer support to this hypothesis, especially as regards a preference for light soils in the earlier first millennium. All of the Norwich Southern Bypass sites featured occupation in the Early or Middle Iron Age, and were situated on free-draining sands and gravels in locations which had all seen earlier prehistoric settlement or funerary land-use. The Silfield site, by contrast, was situated on Boulder Clay (Ashwin 1996b). Although the ceramic dating criteria used would benefit from a programme of scientific dating, it seems unlikely that this site was occupied before the later Middle Iron Age (c. 300 cal. BC or later), and it showed no positive signs of previous human activity apart from a barbed-and-tanged arrowhead and an isolated Beaker sherd. This is a most important topic. Recent studies have suggested that the intensification and expansion of human settlement during the latter part of the Iron Age is a national phenomenon, and that its explanation may be one of the most important tasks at present facing students of

the lowland Iron Age (Haselgrove 1989, Hill forthcoming.).

The very partial nature of excavation at Harford Farm and Valley Belt is a drawback in any attempt at reconstructing and appreciating Norfolk's Iron Age 'sites' as totalities. However, comparing and contrasting the nature and spatial organisation of the excavated remains is of interest when considering possible research objectives and methodologies for the future study of Norfolk's Iron Age settlements. The lack of uniformity displayed by the different Norwich Southern Bypass sites and by that at Park Farm has already been highlighted. When designing strategies for future research into Norfolk's later prehistory this may be a warning of the risks inherent in attempting — with our present somewhat lowly state of knowledge — to categorise rural settlement 'types' (for instance 'enclosed' or 'unenclosed settlements', 'farmsteads') from the basis of a series of excavated exemplars, or indeed to view settlement structure hierarchically using the types of models deployed by Cunliffe and others in Wessex (e.g. Cunliffe 1982). In terms of immediate research tasks, work should perhaps be focussed on continuing to define and test the geographical/demographic model proposed by Davies, on exploring the true range of diversity displayed by Norfolk's Iron Age 'settlements', and using radiocarbon or thermoluminescent dating to establish a new chronological understanding of the ceramics to succeed Cunliffe's original scheme for Eastern England (Cunliffe 1968).

As already discussed with regard to Period 1, the extent of our present reliance on air photography in the identification and definition of prehistoric sites remains a grave difficulty, especially since later prehistoric settlement sites in Norfolk seem rarely to be defended by major ditched features which would be easily visible as crop-marks. As well as highlighting the difficulties involved in recognising occupation sites in the first place, the Norwich Southern Bypass Project has also emphasised the importance of targetting further research on the fundamental problems of chronology which this period still poses nearly 30 years after Cunliffe's 1968 survey. The pottery collection from Frettenham Lime Quarry is regionally significant in suggesting a typological link between the Deverel Rimbury type ceramics retrieved in such quantity at Grimes Graves and the better-known Early Iron Age material of the West Harling tradition. While Middle Iron Age pottery remains only very approximately datable, Percival's current work (this volume and 1996) is making important progress towards the definition of an Iron Age ceramic type-series. Although too 'pot-centred' an approach must be avoided, further advances in the relative dating of Iron Age pottery are needed, especially to allow further analysis of sites known only from fieldwalking. Although the Norwich Southern Bypass material almost certainly has a considerable date-range, the absence of scientific date-measurements and detailed phasing from any of the sites has precluded any real breakthroughs. These may result either from future excavation work on stratigraphically well-preserved sites, or from the rigorous application of appropriate scientific techniques to excavated material.

III. Period 3

Evidence of Romano-British activity arising from the Norwich Southern Bypass Project is principally negative. Excavation has revealed a near-complete absence of evidence of any kind from the excavated areas, with the exception of the square 'ceremonial' enclosures from Harford Farm and Valley Belt. This dearth is particularly striking in the case of Harford Farm, which lay only c. 800m to the north-west of Roman *Venta Icenorum*.

The date at which the focus of settlement shifted from hilltop sites to Caistor St Edmund and other low-lying locales preferred during the Romano-British period is not known. However excavation has shown that Period 2 settlement at both Harford Farm and Valley Belt had probably ceased some considerable time before the ultimate pre-Roman Iron Age. Indeed it is possible that these areas had become marginal or reverted to heathland, a possibility further hinted at by remains of broom and other heathland vegetation used as fuel in the Period 3 iron-smelting furnace at Valley Belt. Certainly none of the excavated areas saw settlement during the Period 3 timespan, and the near-total absence of diagnostic artefacts makes it unlikely that they were subject to intensive farming either. However the tentative identification of a series of square barrows at Harford Farm and Valley Belt may be of importance.

The rationale behind the interpretation of these tantalising features as funerary monuments, and their dating to the first centuries BC or AD, is presented in detail in Chapter 4, and need not be repeated here. It is clear that groups of comparable monuments are known in south-east England and the East Midlands, albeit largely from aerial photography alone. However, no similar complexes have been recorded from Norfolk despite the scale of aerial coverage by Derek Edwards over the past twenty years. How can they contribute to studying the issue of *Venta Icenorum*'s possible 'Icenian' origins prior to the foundation of the Roman cantonal capital?

Once again we are indebted to Davies, for his review of present knowledge of Norfolk's Iron Age (Davies 1996). Especially relevant here is his identification of at least three putative *oppida*, at Thetford, Saham Toney and Caistor St Edmund. All of these are located at major river confluences and, although not excavated on a large scale, all have produced abundant surface finds. It has been noted that fieldwalking and small-scale excavation works at Caistor St Edmund have consistently yielded Late Iron Age coins and metalwork in quantity, from both inside and outside the walled area, and that the locality displays a major concentration of Boudiccan hoards. Davies concludes that the evidence for an Early Roman military presence here could denote the post-Boudiccan need to control an important community at *Venta*, but goes further by suggesting that the putative military ditches to the south and east of the Roman town might instead have defined a Late Iron Age defended enclosure akin to those excavated in Suffolk at Burgh (Martin 1988) and Barnham (Martin 1993). This important hypothesis deserves testing by limited excavation as a matter of urgency.

In conclusion it is possible that the Norwich Southern Bypass ritual/funerary features might form another element of the rich and diverse Late Iron Age landscape in the area of the Tas-Yare confluence. Their discovery may add further weight to the view that *Venta Icenorum*, rather

than being established by the Romans on a new site, was actually a pre-existing Icenian centre.

IV. Period 4

The position of the Harford Farm cemetery in the landscape and its relationship with the earlier Anglo-Saxon cemeteries in the vicinity of *Venta Icenorum* is discussed by Penn in Section VI of the second volume of this publication. Here the graves are considered against the background of the 'final phase' of Anglo-Saxon burial in open, unchurched locations, and the apparent seventh-century upsurge in barrow construction and in the reuse of prehistoric barrows for burial is discussed in full.

Although the details of settlement in the area around 700 AD are unknown, Penn (forthcoming) has argued that the cemetery occupied a prominent location in the north-eastern corner of a large 'estate' centred on the parish of Wymondham. The limits of this putative land-unit are defined by the Rivers Yare and Tas, and to the south by a parish boundary alignment which may be of considerable antiquity. Penn's research has drawn attention to the manner in which Anglo-Saxon cemeteries in the immediate vicinity are often sited on high ground overlooking rivers and streams, suggesting that their location might have territorial significance.

Hard evidence is difficult to come by, but some suggestions about settlement and human activity in the area of the Tas-Yare confluence around 800 AD can be made on the basis of our present limited knowledge. Recent fieldwalking and metal detecting work around *Venta Icenorum* has led to the discovery of about thirty coins of seventh- or eighth-century date, mostly in the area immediately to the west of the Roman west gate and close to the River Tas. These coins include four Merovingian issues and *sceattas* from Kent and Essex (Rigold and Metcalf 1984). Other Middle Saxon finds from the area include pins, strap-ends and a 'Coptic' bronze bowl. Although small amounts of Ipswich-type ware have been found the general scarcity of pottery from the area is striking, especially considering the quantities of metalwork retrieved. This has fuelled suggestions that the Roman cantonal capital remained a centre of trade and exchange during this period, and that the community using the Harford Farm cemetery were involved in this activity. Penn has also drawn attention to the location of the former Markshall church on the summit of Chapel Hill, a short distance to the east of Harford Farm on a prominent spur between the Rivers Yare and Tas. Small amounts of eighth- and ninth-century metalwork from the site raise the possibility of a Middle Saxon settlement site of high status here, topographically similar to that at Bawsey in West Norfolk.

Despite the circumstantial nature of much of this evidence it is all of the greatest interest, particularly in view of our continuing ignorance of the date at which Norwich itself arose as a truly 'urban' centre. It certainly appears that the *Venta* areas's economic importance continued into the eighth century at least, only to be succeeded in subsequent centuries by the rise of the new settlement to the north on the banks of the Wensum.

V. Period 5

Very few features of later Saxon or medieval date were recorded by the Project. However this negative evidence has itself been of considerable value in the case of Markshall Borrow Pit (Chapter 6), where NAU's excavation proved that the deserted medieval village of Markshall lay elsewhere.

Most Period 5 features on the sites were fragments of linear field boundaries which could not be closely dated

by any means. The most important exception to this negative preponderance was at Bixley Site 6099. Here a prehistoric barrow ditch had been used for the disposal of rubbish, including quantities of Thetford-type ware, during the eleventh or twelfth centuries. However no structural remains were found, and the location of the settlement from which this material emanated remained undiscovered by the excavation project or by the Norwich Southern Bypass watching brief.

Appendix 1: radiocarbon dates

A series of nine charcoal samples was selected for radiocarbon assay and processed at the Scottish Universities Research and Reactor Centre, East Kilbride, in April 1991. Subsequent to the completion of the Norwich Southern Bypass watching brief a tenth (GU-5290) from the Watton Road site was submitted in 1993. Calibrated age ranges have been calculated using CALIB 2.1 (Stuiver and Reimer 1986), utilising the twenty-year atmospheric curve.

Bixley Site 6099

context/type	ref	radiocarbon age BP	cal. age ranges BC	
			1 σ	2 σ
251 Cremation	GU-5185	4020 \pm 70	2860–2460	2870–2390
312 Ditch fill	GU-5188	3860 \pm 60	2470–2200	2560–2140

Bixley Site 9585

context/type	ref	radiocarbon age BP	cal. age ranges BC	
			1 σ	2 σ
33 Cremation	GU-5184	4090 \pm 50	2870–2570	2880–2490
1106 Nat fill	GU-5186	8990 \pm 100	-	-
1215 Cremation	GU-5187	3740 \pm 80	2290–2030	2460–1930

Harford Farm Site 9794

context/type	ref	radiocarbon age BP	cal. age ranges BC	
			1 σ	2 σ
148 Grave fill	GU-5191	3840 \pm 70	2460–2140	2560–2040
1672 Grave fill	GU-5189	4060 \pm 200	2900–2340	3260–2040
5127 Pit fill	GU-5190	3460 \pm 60	1890–1690	1940–1640

Watton Road Site 29057

context/type	ref	radiocarbon age BP	cal. age ranges BC	
			1 σ	2 σ
301 Pit fill	GU-5290	3110 \pm 60	1440–1310	1520–1220

Trowse Viaduct

context/type	sample	radiocarbon age BP	cal. age ranges AD	
			1 σ	2 σ
TV-175 Peat	GU-5192	860 \pm 60	1050–1240	1020–1270

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Bibliography

- Annable, F.K. and Simpson, D.D.A., 1964 *Guide Catalogue of the Neolithic and Bronze Age Collections in Devizes Museum*, Wiltshire Archaeology and Natural History Society, (Devizes)
- Apling, H., 1932 'A Hallstatt Settlement at West Harling, Norfolk', *Norfolk Archaeol.* 7 (1), 111-122
- Ashbee, P., 1960 *The Bronze Age Round Barrow in Britain*, (London, Phoenix House)
- Ashwin, T., 1996a 'Neolithic and Bronze Age Norfolk', *Proc. Prehist. Soc.* 62, 41-62
- Ashwin, T., 1996b 'Excavation of an Iron Age site at Park Farm, Silfield, Wymondham, Norfolk', *Norfolk Archaeol.* 42 (3), 241-82
- Ashwin, T., 1998 'Excavations at Ennemix Quarry, Longham, 1990: Neolithic and Bronze Age features and finds', *Norfolk Archaeol.* 43(1), 1-30
- Astley, H.J., 1906 'The true site of Markshall church and a supposed Roman landing place', *Norfolk Antiq. Misc.* (2nd series) 1, 39-45
- Atkin, M.W., Ayers, B.S. and Jennings, S., 1983 *Thetford-type Ware Production in Norwich*, E. Anglian Archaeol. 17, 61-97
- Audouze, F. and Büchenschütz, O., 1991 *Towns, Villages and Countryside of Celtic Europe*, (London, BCA/Batsford)
- Bamford, H.M., 1982 *Beaker Domestic Sites in the Fen Edge and East Anglia*, E. Anglian Archaeol. 16
- Bamford, H.M., 1985 *Briar Hill, Excavation 1974-1978*, Northampton Development Corp. Archaeol. Mono. 3, (Northampton)
- Barclay, A. and Halpin, C., forthcoming *Excavations at Barrow Hills, Radley, Oxfordshire. Volume 1. The Neolithic and Bronze Age Monument Complex*, Thames Valley Landscape Mono. Series
- Barrett, J.C., 1980 'The Pottery of the Later Bronze Age in Lowland England', *Proc. Prehist. Soc.* 46, 217-319
- Barrett, J.C. and Bradley, R.J. (eds), 1980 *Settlement and Society in the British Later Bronze Age*, Brit. Archaeol. Rep. British Series 83, (Oxford)
- Barringer, C. (ed.), 1984 *Aspects of East Anglian Prehistory (20 years after Rainbird Clarke)*, (Norwich, Geo Books)
- Bateman, T., 1861 *Ten years' Digging in Celtic and Saxon Grave Hills*
- Beck, H.C. and Stone, J.F.S., 1936 'Faience Beads of the British Bronze Age', *Archaeologia* 85, 203-252
- Bedwin, O., 1981 'Excavations at Lancing Down, West Sussex, 1980', *Sussex Archaeol. Coll.* 119, 37-56
- Black, E.W., 1986 'Romano-British Burial Customs and Religious Beliefs in South-East England', *Archaeol. J.* 143, 201-239
- Blair, W.J., 1995 'Anglo-Saxon Pagan Shrines and their Prototypes', *Anglo-Saxon Studies in Archaeology and History* 8, 1-28
- Bown, J.E., 1986 'The Excavation of a Ring-ditch on Sweet Briar Road, Norwich, 1982' in Lawson, A.J. et al., *Barrow Excavations in Norfolk, 1950-82*, E. Anglian Archaeol. 29, 59-64
- Bradley, R.J., 1980 'Subsistence, Exchange and Technology — A social framework for the Bronze Age in Southern England, c. 1400-700 bc' in Barrett, J.C. and Bradley, R.J. (eds), *Settlement and Society in the British Later Bronze Age*, Brit. Archaeol. Rep. British Series 83 (i), 57-75, (Oxford)
- Bradley, R.J., 1984 *The Social Foundations of Prehistoric Britain*, (London, Longman)
- Bradley, R., 1993a 'Where is East Anglia? Themes in Regional Prehistory' in Gardiner, J.P. (ed.), *Flatlands and wetlands: Current Themes in East Anglian Archaeology*, E. Anglian Archaeol. 50, 5-13
- Bradley, R., 1993b *Altering the Earth: the Origins of Monuments in Britain and Continental Europe*, Society of Antiquaries of Scotland Monograph Series 8, (Edinburgh)
- Bradley, R. and Gardiner, J.P. (eds), 1984 *Neolithic Studies*, Brit. Archaeol. Rep. British Series 133, (Oxford)
- Brewster, T.C.M., 1963 *The Excavation of Staple Howe*, (Malton: East Riding Archaeology Research Committee)
- Brown, N., forthcoming 'Stansted: Late Bronze Age and Iron Age Pottery' in Havis, R., *A Landscape Study in North-west Essex: The Stansted Project 1985-1990*, E. Anglian Archaeol.
- Burgess, C.B., 1969 'Chronology and terminology in the British Bronze Age', *Antiq. J.* 49, 22-29
- Burgess, C.B., 1980 *The Age of Stonehenge*, (London, Dent)
- Burgess, C.B., 1986 '“Urnes of no small varietie”: Collared Urns reviewed', *Proc. Prehist. Soc.* 52, 339-351
- Burl, A., 1984 *Prehistoric Astronomy*, (Shire)
- Bussel, G., 1976 *X-Ray Fluorescence Analysis of Beads of Jet-like Material*, E. Anglian Archaeol. 3, 50-53
- Carter, A. et al., 1974 'Excavations in Norwich, 1973. The Norwich Survey — Third Interim Report', *Norfolk Archaeol.* XXXVI (4), 39-71
- Case, H.J., 1977 'The Beaker Culture in Britain and Ireland' in Mercer, R.J. (ed.), *Beakers in Britain and Europe: Four Studies*, Brit. Archaeol. Rep. S26, (Oxford)
- Clare, T., 1986 'Towards a reappraisal of henge monuments', *Proc. Prehist. Soc.* 52, 281-316
- Clare, T., 1987 'Towards a reappraisal of henge monuments: origins, evolution and hierarchies', *Proc. Prehist. Soc.* 53, 457-78
- Clark, J.D.G., 1936 'The Timber Monument at Arminghall and its Affinities', *Proc. Prehist. Soc.* 2, 1-51
- Clark, J.D.G. and Fell, C.I., 1953 'The Early Iron Age site at West Harling, Norfolk, and its Pottery', *Proc. Prehist. Soc.* 19, 1-40
- Clark, J.D.G., Higgs, E.S. and Longworth, I.H., 1960 'Excavations at the Neolithic Site at Hurst Fen, Mildenhall, Suffolk', *Proc. Prehist. Soc.* 26, 202-245

- Clarke, D.L., 1970 *The Beaker Pottery of Great Britain and Ireland*, (Cambridge, University Press)
- Clarke, R.R., 1935 'Notes on the archaeology of Markshall', *Norfolk Archaeol.* 25, 354-67
- Cleal, R.M.J., 1984 'The Later Neolithic in Eastern England' in Bradley, R. and Gardiner, J.P. (eds), *Neolithic Studies*, Brit. Archaeol. Rep. 133, 135-160, (Oxford)
- Cleal, R.M.J., 1993 'Pottery and fired clay' in Bradley, R. *et al.* 1993, *Excavations on Redgate Hill, Hunstanton, Norfolk, and at Tattershall Thorpe, Lincolnshire*, E. Anglian Archaeol. 57, 40-60
- Coles, J.M., Coutts, H. and Ryder, M.L., 1964 'A Late Bronze Age find from Pyotdykes, Angus, Scotland', *Proc. Prehist. Soc.* 30, 186-198
- Crowfoot, E., 1984 'The textiles' in Green, C. and Rollo-Smith, S., 'The Excavation of Eighteen Round Barrows near Shrewton, Wiltshire', *Proc. Prehist. Soc.* 50, 255-318
- Crowfoot, E., 1986 'Textile remains' in Lawson, A.J. *et al.*, *Barrow Excavations in Norfolk, 1950-82*, E. Anglian Archaeol. 29, 99
- Cunliffe, B.W., 1968 'Early Pre-Roman Iron Age Communities in Britain', *Antiq. J.* XLVIII, 175-91
- Cunliffe, B.W., 1974 *Iron Age Communities in Britain*, (London)
- Cunliffe, B.W., 1982 'Settlement, Hierarchy and Social Change in Southern Britain in the Iron Age', *Analecta Praehistorica Leidensia* 15, 161-87
- Curwen, E.C., 1948 'A Bronze Age Cauldron from Sompting, Sussex', *Antiq. J.* XXVIII, 157-63
- Darvill, T., 1987 *Prehistoric Britain*, (London, Batsford)
- Davies, J.A., 1993 'Excavations at London Road, Thetford', *Norfolk Archaeol.* 41 (4), 441-61
- Davies, J.A., 1996 'Where Eagles Dare: The Iron Age of Norfolk', *Proc. Prehist. Soc.* 62, 63-94
- Davies, J.A., Gregory, A.K., Lawson, A.J., Rickett, R. and Rogerson, A., 1991 *The Iron Age Forts of Norfolk*, E. Anglian Archaeol. 54
- Dent, J.S., 1979 'Bronze Age burials from Wetwang Slack', *Yorkshire Archaeol. J.* 51, 23-40
- Donaldson, P., 1977 'The excavation of a multiple round barrow at Barnack, Cambridgeshire 1974-1976', *Antiq. J.* LVII (2), 197-231
- Drury, P.J., 1978 *Excavations at Little Waltham, 1970-71*, CBA Research Report 26, (London)
- Edwards, D.A., 1978 *The air photographs collection of the Norfolk Archaeological Unit: Third Report*, E. Anglian Archaeol. 8, 87-105
- Egan, G. and Pritchard, F., 1991 *Dress Accessories* (Medieval Finds from Excavations in London)
- Ellison, A. and Drewett, P., 1971 'Pits and Post-holes in the British Early Iron Age: Some Alternative Explanations', *Proc. Prehist. Soc.* 37, 183-191
- Erith, F.H. and Longworth, I.H., 1960 'A Bronze Age urnfield on Vince's Farm, Ardleigh, Essex', *Proc. Prehist. Soc.* 26, 178-192
- Field, N., 1985 'A multi-phased barrow and possible henge monument at West Ashby, Lincolnshire', *Proc. Prehist. Soc.* 51, 103-136
- Fitzpatrick, A.P., 1991 'Everyday life in the later Iron Age of European Britain', paper presented to the 5th *Archaeology in Britain* conference of the Institute of Field Archaeologists, Univ. Birmingham
- Fitzpatrick, A.P., 1994 'Outside in: the Structure of an Early Iron Age House at Dunston Park, Thatcham, Berkshire' in Fitzpatrick, A.P. and Morris, E.L. (eds), *The Iron Age in Wessex: Recent Work*, Trust for Wessex Archaeology/Association Francaise D'Etude de L'Age du Fer, (Salisbury)
- French, C.A.I., 1994 'Excavation of the Deeping St Nicholas barrow complex, South Lincolnshire', *Lincolnshire Archaeology and Heritage Report Series* 1, 79-81, (Heckington: Heritage Trust of Lincolnshire)
- Fox, C., 1959 *Life and Death in the Bronze Age*, (London: Routledge)
- Fryer, V. and Murphy, P., 1998 'Charred plant remains' in Ashwin, T., 'Excavations at Salter's Lane, Langham 1990: Neolithic and Bronze Age Features', *Norfolk Archaeol.* 43(1), 22-3
- Gerloff, S., 1975 'The early Bronze Age daggers in Great Britain and a reconsideration of the Wessex Culture', *Praehistorische Bronzefunde* Ab. 6, 2 Band., Munich
- Gibson, A.M., 1978 *Bronze Age Pottery in the North East of England*, Brit. Archaeol. Rep. 56, (Oxford)
- Gibson, A.M., 1982 *Beaker domestic sites, a study of the domestic pottery of the late third and early second millennia BC in the British Isles*, Brit. Archaeol. Rep. 107, (Oxford)
- Gibson, A.M., 1998 *Stonehenge and Timber Circles*, (Stroud, Tempus Books)
- Gibson, A.M. and Woods, A., 1990 *Prehistoric Pottery for the Archaeologist*, (Leicester, University Press)
- Glasbergen, W., 1954 'Barrow excavation in the Eight Beatitudes. The Bronze Age Cemetery between Toterfout and Halve Mijl, North Brabant', *Palaeohistoria* 2, 3
- Graham-Campbell, J., 1982 'Some new and neglected finds of ninth-century Anglo-Saxon metalwork', *Med. Archaeol.* 26, 144-51
- Green, C. and Rollo-Smith, S., 1984 'The Excavation of Eighteen Round Barrows near Shrewton, Wiltshire', *Proc. Prehist. Soc.* 50, 255-318
- Green, E.B., Rogerson, A. and White, S.G., 1987 *The Anglo-Saxon Cemetery at Morning Thorpe, Norfolk*, E. Anglian Archaeol. 36
- Green H.S., 1970 *The Flint Arrowheads of the British Isles*, Brit. Archaeol. Rep. 75, (Oxford)
- Greenwell, W., 1877 *British Barrows*, (Oxford)
- Gregory, A.K., 1991 *Excavations in Thetford, 1980-82, Fison Way*, E. Anglian Archaeol. 53
- Gregory, A.K. and Rogerson, A., 1991 'General Conclusions' in Davies, J.A. *et al.*, *The Iron Age Forts of Norfolk*, E. Anglian Archaeol. 54, 69-72

- Gregory, A.K., 1995 'The Iron Age Pottery' in Rickett, R.J., *The Anglo-Saxon Cemetery at Spong Hill, North Elmham, Part VII: The Iron Age, Roman and Early Saxon Occupation*, E. Anglian Archaeol. 73, 90-4
- Grimes, W.F., 1961 'Draughton, Colsterworth and Heathrow' in Frere, S.S. (ed.), *Problems of the Iron Age in Southern Britain*, University of London Occasional Paper 2, 21-28
- Grimes, W.F. and Close-Brooks, J., 1993 'The excavation of Caesar's Camp, Heathrow, Harmondsworth, Middlesex, 1944', *Proc. Prehist. Soc.* 59, 303-60
- Hartridge, R., 1978 'Excavations at the Prehistoric and Roman Site on Slonk Hill, Shoreham, Sussex', *Sussex Arch. Colls* 64, 69-141
- Haselgrove, C., 1989 'The later Iron Age in Southern Britain and beyond' in Todd, M. (ed.), *Research on Roman Britain: 1960-89*, Society for the Promotion of Roman Studies, 1-18, (London)
- Hawkes, C.F.C. and Fell, C.I., 1945 'The early Iron Age settlement at Fengate, Peterborough', *Archaeol. J.* 100, 186-223
- Healy, F., 1982 *A Round Barrow at Trowse: Early Bronze Age Burials and Medieval Occupation*, E. Anglian Archaeol. 14, 1-34
- Healy, F., 1984 'Farming and field monuments: the Neolithic in Norfolk' in Barringer, C. (ed.), *Aspects of East Anglian Prehistory (20 years after Rainbird Clarke)*, 77-140, (Norwich, Geo Books)
- Healy, F., 1986 'The Excavation of Two Early Bronze Age Barrows on Eaton Heath, Norwich, 1969-70' in Lawson, A.J. et al., *Barrow Excavations in Norfolk, 1950-82*, E. Anglian Archaeol. 29, 50-58
- Healy, F., 1988 *The Anglo-Saxon cemetery at Spong Hill, North Elmham, part VI: occupation during the seventh to second millennia BC*, E. Anglian Archaeol. 39
- Healy, F., 1991a 'Appendix I. Lithics and Pre-Iron Age Pottery' in Silvester, R.J., *The Fenland Project No. 4: The Wissey Embayment and the Fen Causeway, Norfolk*, E. Anglian Archaeol. 52
- Healy, F., 1991b 'Pre-Iron Age pottery' in Gregory, A.K., *Excavations in Thetford, 1980-82, Fison Way*, E. Anglian Archaeol. 53, 148-55
- Healy, F., 1995 'Pots, Pits and Peat: ceramics and settlement in East Anglia' in Kinnes, I. and Varndell, G. (eds), *Unbaked Urns of Rudely Shape: Essays on British and Irish Pottery for Ian Longworth*, Oxbow Monograph 55, 173-84, (Oxford)
- Healy, F., Cleal, R.M.J. and Kinnes, I.A., 1993 'Excavations on Redgate Hill, Hunstanton, 1970 and 1971' in Bradley, R., Chowne, P., Cleal, R.M.J., Healy, F. and Kinnes, I., *Excavations on Redgate Hill, Hunstanton, Norfolk, and at Tattershall Thorpe, Lincolnshire*, E. Anglian Archaeol. 57, 1-77
- Healy, F. and Housely, R.A., 1992 'Nancy was not alone: human skeletons of the Early Bronze Age from the Norfolk Peat Fen', *Antiquity* 66 no. 253, 948-55
- Healy, F. and Petersen, F., 1986 'The Excavation of Two Round Barrows and a Ditched Enclosure on Weasenham Lyngs, 1972' in Lawson, A.J. et al., *Barrow Excavations in Norfolk, 1950-82*, E. Anglian Archaeol. 29, 70-102
- Hedges, J., 1972 'A Late Bronze Age socketed knife and textile from Nydie Mains, Fife', *Proc. Soc. Ant. Scot.* 104, 1971-2, 293-4
- Henshall, A.S., 1950 'Textiles and Weaving Appliances in Prehistoric Britain', *Proc. Prehist. Soc.* 10, 130-162
- Hill, J.D., 1993 'Can we recognise a different European past?; a contrastive archaeology of later prehistoric settlements in southern England', *J. European Archaeol.* 1, 57-75
- Hill, J.D., forthcoming 'The Iron Age in Britain and Ireland (c. 800 BC to AD 100): an overview', *Journal of World Prehistory*
- Hills, C.M., Penn, K.J. and Rickett, R.J., 1984 *The Anglo-Saxon Cemetery at Spong Hill, North Elmham, part III: Catalogue of Inhumations*, E. Anglian Archaeol. 21
- Hodge, C.A.H., Burton, R.G.O., Corbett, W.M., Evans, R. and Seale, R.S., 1984 *Soils and their use in Eastern England*, Soil Survey, (Harpenden)
- Hope-Taylor, B., 1977 *Yeaving: an Anglo-British Centre of Early Northumbria*, Department of the Environment Archaeology Reports 7
- Huntley, B. and Birks, H.J.B., 1983 *An atlas of past and present pollen maps for Europe, 0-13,000 years ago*, (Cambridge)
- Jackson, D.A., 1975 'An Iron Age site at Twywell, Northants', *Northants. Archaeol.* 10, 31-93
- Jackson, R., 1985 'Cosmetic sets from late Iron Age and Roman Britain', *Britannia* 16, 165-192
- Jennings, S., 1981 *Eighteen centuries of pottery from Norwich*, E. Anglian Archaeol. 13
- Jones, M.U. and Bond, D., 1988 *Excavations at the North Ring, Mucking, Essex: A Late Bronze Age Enclosure*, E. Anglian Archaeol. 43
- Kenward, H.K., Hall, A.R. and Jones, A.K.G., 1980 'A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits', *Sci. and Archaeol.* 22, 3-15
- Kinnes, I.A., 1978 'The earlier prehistoric pottery' in Hedges, J. and Buckley, D., 'Excavations at a Neolithic causewayed enclosure at Orsett, Essex, 1975', *Proc. Prehist. Soc.* 44, 259-68
- Kinnes, I.A., 1985 *British Bronze Age metalwork: Beaker and Early Bronze Age Grave Groups*, Associated Finds Series, British Museum Publications
- Kinnes, I.A., Gibson, A.M., Ambers, J., Bowman, S., Leese, M. and Boast, R., 1991 'Radiocarbon Dating and British Beakers: The British Museum Programme', *Scottish Archaeological Review* 8, 35-68
- Kromer, B., Rhein, M., Bruns, M., Schoch-Fischer, H., Münnich, K.O., Stuiver, M. and Becker, B., 1986 'Radiocarbon calibration data for the sixth to the eighth millennia BC', *Radiocarbon* 28, 954-60
- Lanting, J.N. and van der Waals, J.D., 1972 'British Beakers as seen from the continent', *Helinium* 13, 38-58
- Larwood, G.P., 1952 'A Late Medieval Farmstead at Markshall', *Norfolk Archaeol.* 30 (4), 358-364
- Lawson, A.J., 1976 *The excavation of a round barrow at Harpley*, E. Anglian Archaeol. 2, 45-63

- Lawson, A.J., 1980 'The evidence for later Bronze Age settlement and burial in Norfolk' in Barrett, J. and Bradley, R. (eds), *Settlement and Society in the British Later Bronze Age*, Brit. Archaeol. Rep. 83 (ii), 271-294, (Oxford)
- Lawson, A.J., 1983 *The Archaeology of Witton, near North Walsham*, E. Anglian Archaeol. 18
- Lawson, A.J., 1984 'The Bronze Age in East Anglia, with particular reference to Norfolk' in Barringer, C. (ed), *Aspects of East Anglian Prehistory (20 years after Rainbird Clarke)*, 141-171, (Norwich, Geo Books)
- Lawson, A.J., 1986a 'The Excavation of a Round Barrow Site at Little Cressingham, 1977' in Lawson, A.J. et al., *Barrow Excavations in Norfolk, 1950-82*, E. Anglian Archaeol. 29, 5-19
- Lawson, A.J., 1986b 'The Excavation of a Ring-ditch at Bowthorpe, Norwich, 1979' in Lawson, A.J. et al., *Barrow Excavations in Norfolk, 1950-82*, E. Anglian Archaeol. 29, 20-49
- Lawson, A.J., 1986c 'Introduction' in Lawson, A.J. et al., *Barrow Excavations in Norfolk, 1950-82*, E. Anglian Archaeol. 29, 1-4
- Lawson, A.J. 1986d 'Notes on Three Norfolk Barrow Excavations at Bridgham, Cockley Cley and Old Hunstanton' in Lawson, A.J., et al., *Barrow Excavations in Norfolk, 1950-82*, E. Anglian Archaeol. 29, 104-113
- Lawson, A.J., Martin, E.A. and Priddy, D., 1981 *The Barrows of East Anglia*, E. Anglian Archaeol. 12
- Lawson, A.J., Bown, J.E., Healy, F., Le Hegarat, R. and Petersen, F., 1986 *Barrow Excavations in Norfolk, 1950-82*, E. Anglian Archaeol. 29
- Leask, H.G., Clarke, J.D.G., Evans, E.E., Childe, V.G. and Grimes, W.F., 1938 'Notes on excavations in Eire, England, Northern Ireland, Scotland and Wales, 1938', *Proc. Prehist. Soc.* 4, 314-325
- Linick, T.W., Suess, H.E. and Becker, B., 1985 'La Jolla measurements of radiocarbon in south German oak tree-ring chronologies', *Radiocarbon* 27, 20-32
- Longworth, I.H., 1960 'Pottery' in Clark, J.D.G., 'Excavations at the Neolithic Site at Hurst Fenn, Mildenhall, Suffolk (1954, 1957 and 1958)', *Proc. Prehist. Soc.* 26, 228-40
- Longworth, I.H., 1984 *Collared Urns of the Bronze Age in Great Britain and Ireland*, (Cambridge University Press)
- Longworth, I.H., Ellison, A. and Rigby, V., 1988 *Excavations at Grimes Graves, Norfolk, 1972-1976. Fascicle 2: The Neolithic, Bronze Age and later pottery*, (London, British Museum)
- Longworth, I.H., Wainwright, G.J. and Wilson, K.E., 1971 'The Grooved Ware Site at Lion Point, Clacton', *Brit. Mus. Quarterly* 35, 93-124
- Mackreth, D.F., 1979 'The brooches' in Partridge, C., 'Excavations at Puckeridge and Braughing, 1975-79', *Hertfordshire Archaeology* 7, 28-132
- Mackreth, D.F., 1981 'The brooches' in Partridge, C., *Skeleton Green, a Late Iron Age and Roman site*, Britannia Monog. Ser. 2
- Manby, T.G., 1986 'The Pottery' in Powlesland, D.J., 'Excavations at Heslerton, North Yorkshire, 1978-1982', *Archaeol. J.* 143, 117-124
- Martin, E.A., 1976 *The excavation of a tumulus at Barrow Bottom, Risby, Suffolk, 1975*, E. Anglian Archaeol. 3, 43-62
- Martin, E.A., 1988 *Burgh, the Iron Age and Roman Enclosure*, E. Anglian Archaeol. 43
- Martin, E.A., 1993 *Settlement on Hilltops: Seven Prehistoric Sites in Suffolk*, E. Anglian Archaeol. 65
- McKerrell, H., 1972 'On the origins of British faience beads and some aspects of the Wessex-Mycenae relationship', *Proc. Prehist. Soc.* 38, 286-301
- Mercer, R.J. (ed.), 1977 *Beakers in Britain and Europe: Four Studies*, Brit. Archaeol. Rep. S26, (Oxford)
- Mercer, R.J., 1981 *Grimes Graves, Norfolk: Excavations 1971-72 Vol. 1*, DOE Arch. Rep. 11
- Millett, M. and Graham, D., 1986 *Excavations on the Romano-British Small Town at Neatham, Hants*, Hampshire Field Club Monograph 3, (Gloucester)
- Moffett, L., 1988 'Prehistoric use of plant resources at Radley Barrow Hills, Oxon', *Ancient Monuments Laboratory Report* 152/88
- Moffett, L., 1991 'Pignut tubers from a Bronze Age cremation at Barrow Hills, Oxon, and the importance of vegetable tubers in the prehistoric period', *J. Arch. Sci.* 18 (2), 187-192
- Moffett, L., Robinson, M.A. and Straker, V., 1989 'Cereals, fruit and nuts: Charred plant remains from Neolithic sites in England and Wales and the Neolithic economy' in Milles, A., Williams, D. and Gardner, N., *The Beginnings of Agriculture*, Brit. Archaeol. Rep. Int. Series 496, 243-61, (Oxford)
- Mook, W.G., 1986 'Business meeting: Recommendations/Resolutions adopted by the Twelfth International Radiocarbon Conference', *Radiocarbon* 28, 799
- Moore, C.N. and Rowlands, M., 1972 *Bronze Age Metalwork in Salisbury Museum*, (Salisbury)
- Mortimer, J.R., 1905 *Forty Years' Researches into British and Saxon Burial Mounds of East Yorkshire*, (London and Hull, A. Brown and Sons)
- Murphy, P., 1990 'Springfield Lyons, Chelmsford, Essex: Carbonised plant remains from Neolithic, Late Bronze Age, Iron Age, Roman, Early and Late Saxon contexts', *Ancient Monuments Laboratory Report* 11/90
- Murphy, P., 1992 'Norwich Southern By-Pass; plant remains from Beaker, Bronze Age, Iron Age, Romano-British and Late Saxon contexts; River valley sediments', *Ancient Monuments Laboratory Report* 20/92
- Murphy, P., 1994 'The molluscs' in French, C.A.I., *Excavation of the Deeping St Nicholas barrow complex, South Lincolnshire*, Lincolnshire Archaeology and Heritage Report Series 1, 79-81, (Heritage Trust of Lincolnshire, Heckington)
- Myres, J.N.L., and Green, E.B., 1973 *The Anglo-Saxon cemeteries of Caistor-by-Norwich and Markshall, Norfolk*, Rep. Res. Comm. Soc. Antiq. 30, (London, Society of Antiquaries)
- Neville, R.C., 1852 'Account of Excavations near Fleam Dyke, Cambridgeshire, April 1852', *Archaeol. J.* 9, 226-230

- Norfolk Archaeological Unit, 1974 *Condemned: The Archaeological Implications of the Norwich Southern Bypass*, (unpub.)
- Norfolk Museums Service, 1977 *Bronze Age Metalwork in Norwich Castle Museum*, 2nd ed. (Norwich, Norfolk Museums Service)
- O'Connor, B., 1980 *Cross-channel Relationships in the Later Bronze Age*, Brit. Archaeol. Rep. Int. Series 91, (Oxford)
- Parker-Pearson, M., 1996 'Food, fertility and front doors in the first millennium BC' in Champion, T.C. and Collis, J.R., *The Iron Age in Britain and Ireland: Recent Trends*, 117–32. (Sheffield, J.R. Collis Publications/University of Sheffield)
- Pearson, G.W., Pilcher, J.R., Baillie, M.G.L., Corbett, D.M. and Qua, F., 1986 'High-precision 14C measurement of Irish oaks to show the natural 14C variations from AD 1840–5210 BC', *Radiocarbon* 28, 911–34
- Pearson, G.W. and Stuiver, M., 1986 'High-precision calibration of the radiocarbon timescale, 500–2500 BC', *Radiocarbon* 28, 839–62
- Penn, K.J., 1999 *An Anglo-Saxon Cemetery at Oxborough, West Norfolk: Excavations in 1990*, E. Anglian Archaeol. Occ. Pap. 5
- Penn, K.J., 2000 *Excavations on the Norwich Southern Bypass, 1989–91, part II: The Anglo-Saxon Cemetery at Harford Farm, Caistor St Edmund*, E. Anglian Archaeol. 92
- Percival, S.A., 1996 'Prehistoric pottery' in Ashwin, T.M., 'Excavation of an Iron Age site at Park Farm, Silfield, Wymondham', *Norfolk Archaeol.* XLII, 256–66
- Piggott, S., 1938 'The Early Bronze Age in Wessex', *Proc. Prehist. Soc.* 4, 52–106
- Pitt-Rivers, A., 1888 *Excavations in Cranbourne Chase*, Vol.2
- Powlesland, D.J., 1986 'Excavations at Heslerton, North Yorkshire, 1978–1982', *Archaeol. J.* 143, 53–173
- Pryor, F.M.M., 1974 'Two Bronze Age Burials near Pilsgate, Lincolnshire', *Proc. Cambridge Antiq. Soc.* 65, 1–12
- Pryor, F.M.M., 1978 *Excavations at Fengate, Peterborough, England: the second report*, Royal Ontario Museum Archaeology Monograph 5, (Toronto)
- Pryor, F.M.M., 1984 *Excavations at Fengate, Peterborough, England: the fourth report*, Northants Archaeol. Soc. Monograph 2/Royal Ontario Museum Archaeology Monograph 7, (Toronto)
- Pryor, F.M.M. and French, C.A.I., 1985 *Archaeology and Environment in the Lower Welland Valley*, E. Anglian Archaeol. 27
- Renfrew, C., 1984 *British Prehistory. A New Outline* (London, Duckworth)
- Reynolds, P.J., 1995 'The life and death of a post-hole', *Interpreting Stratigraphy* 5, 21–5
- Richards, J.C., 1990 *The Stonehenge Environs Project*, English Heritage Archaeological Report 16, (London)
- Rigold, S.E. and Metcalf, D.M., 1984 'A revised check-list of English finds of *sceattas*' in Hill, D.H. and Metcalf, D.M. (eds), *Sceattas in England and on the Continent*, Brit. Archaeol. Rep. 128, 245–267, (Oxford)
- Robinson, B. and Gregory, T., 1987 *Norfolk Origins 3: Celtic Fire and Roman Rule*, (North Walsham, Poppyland)
- Robinson, M.A., 1988 'The significance of the tubers of *Arrhenatherum elatius* (L) Beauv. from Site 4, Cremation 15/11' in Lambrick, G. (ed.), *The Rollright Stones*, English Heritage Archaeological Report 6, 102, (London)
- Rogerson, A., 1995 *A Neolithic, Saxon and Medieval Site at Middle Harling, Norfolk*, E. Anglian Archaeol. 74
- Rowlands, M.J., 1976 *The production and distribution of metalwork in the Middle Bronze Age in southern England*, Brit. Archaeol. Rep. 31, (Oxford)
- Sainty, J.E., 1927 'An Acheulean Palaeolithic Workshop at Whitlingham, near Norwich', *Proc. Prehist. Soc. E. Anglia* 7, 171–76
- Scott, L., 1951 'The Colonisation of Scotland in the Second Millenium BC', *Proc. Prehist. Soc.* 17, 16–82
- Shipman, P., Forster, G. and Schoeninger, M., 1984 'Burnt Bones and Teeth: An Experimental Study of Colour, Morphology, Crystal Structure and Shrinkage', *J. Archaeol. Sci.* 11, 307–25
- Simpson, D.D.A., 1968 'Food Vessels: Association and Chronology' in Coles, J.M. and Simpson, D.D.A. (eds), *Studies in Ancient Europe*, 197–212, (Leicester)
- Simpson, W.G., 1976 'A barrow cemetery of the second millennium BC at Tallington, Lincolnshire', *Proc. Prehist. Soc.* 42, 215–240
- Smith, I.F., 1954 'The pottery' in Childe, V.G. and Smith, I.F., 'Excavation of a Neolithic barrow on Whiteleaf Hill, Bucks', *Proc. Prehist. Soc.* 20, 221–8
- Smith, I.F., 1965 *Windmill Hill and Avebury*, (Oxford, Clarendon Press)
- Smith, K., 1977 'The Excavation of Winklebury Camp, Basingstoke, Hants', *Proc. Prehist. Soc.* 43, 31–130
- Society of Antiquaries, 1992 'Archaeological Publication, Archives and Collections: Towards a National Policy', (unpublished discussion document)
- Stanford, S.C., 1970 'Credenhill Camp', *Archaeol. J.* 127, 82–129
- Stead, I.M., 1969 'Verulamium, 1966–8', *Antiquity* XLIII, 69, 45–51
- Stead, I.M., 1979 *The Arras Culture*, (York)
- Stead, I.M., 1991 *Iron Age Cemeteries in East Yorkshire*, English Heritage Archaeological Report 22
- Stone, J.F.S. and Thomas, L.C., 1956 'The use and distribution of faience in the Ancient East and Prehistoric Europe', *Proc. Prehist. Soc.* 22, 32–84
- Stuiver, M., Kromer, B., Becker, B. and Ferguson, C.W., 1986 'Radiocarbon age calibration back to 13,300 years BP and the 14C age-matching of the German oak and US bristlecone pine chronologies', *Radiocarbon* 28, 969–79
- Stuiver, M. and Pearson, G.W., 1986 'High-precision calibration of the radiocarbon timescale, AD 1950 – 500 BC', *Radiocarbon* 28, 805–38
- Stuiver, M. and Reimer, P.J., 1986 'A computer program for radiocarbon age calibration', *Radiocarbon* 28, 1022–30

- Thomas, R., 1989 'The Bronze-Iron Age Transition in Southern England' in Sorensen, M.L.S. and Thomas, R. (eds), *The Bronze Age — Iron Age Transition in Europe*, Brit. Archaeol. Rep. Int. Series 483, 263–86, (Oxford)
- Vatcher, F. de M. and Vatcher, H.L., 1976 'The excavation of a round barrow near Poor's Heath, Risby, Suffolk', *Proc. Prehist. Soc.* 42, 263–292
- Wahl, J., 1982 'Leichenbranduntersuchungen. Ein Überblick über die Bearbeitungs- und Aussagemöglichkeiten von Brandgräbern', *Praehistorische Zeitschrift* 57, 1–125
- Wainwright, G.J., 1969 'A review of henge monuments in the light of recent research' *Proc. Prehist. Soc.* 35, 112–33
- Wainwright, G.J. and Longworth, I.H., 1971 *Durrington Walls: excavations 1966–1968*, Rep. Res. Comm. Soc. Antiq. 29, (London)
- Wainwright, G.J., 1972 'The excavation of a Neolithic settlement on Broome Heath, Ditchingham, Norfolk', *Proc. Prehist. Soc.* 38, 1–97
- Wainwright, G.J., 1973 'The excavation of Prehistoric and Romano-British Settlements at Eaton Heath, Norwich', *Archaeol. J.*, CXXX, 1–43
- Wainwright, G.J., 1979 *Mount Pleasant, Dorset: Excavations 1970–1971*, Rep. Res. Comm. Soc. Antiq. London 37
- West, S.E., 1985 *West Stow, the Anglo-Saxon village*, E. Anglian Archaeol. 24
- West, S.E., 1990 *West Stow, the Prehistoric and Romano-British Occupations*, E. Anglian Archaeol. 48
- Wheeler, R.E.M., 1943 *Maiden Castle, Dorset*, Rep. Res. Comm. Soc. Antiq. 12, (Oxford)
- Whimster, R., 1981 *Burial Practises in Iron Age Britain*, Brit. Archaeol. Rep. 90, (Oxford)
- Whittle, A.W.R., 1978 'Resources and Population in the British Neolithic', *Antiquity* 52, 34–42
- Wilson, D.M., 1964 *Anglo-Saxon Ornamental Metalwork, 700–1100*
- Wilson, D.M. and Moorhouse, S., 1971 'Medieval Britain in 1970', *Medieval Archaeol.* XV, 124–79
- Wymer, J.J., 1990a 'A Cremation Burial at Alington', *Norfolk Archaeol.* XLI (1), 71–4
- Wymer, J.J., 1990b 'A Later Bronze Age Cremation Cemetery and Beaker Pits at East Carleton', *Norfolk Archaeol.* XLI(1), 74–83
- Wymer, J.J., 1996 *Barrow Excavations in Norfolk, 1984–88*, E. Anglian Archaeol. 77

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