Neolithic, Bronze Age, Iron Age, Romano-British and Anglo-Saxon excavations on the Transco Churchover to Newbold Pacey gas pipeline in 1999

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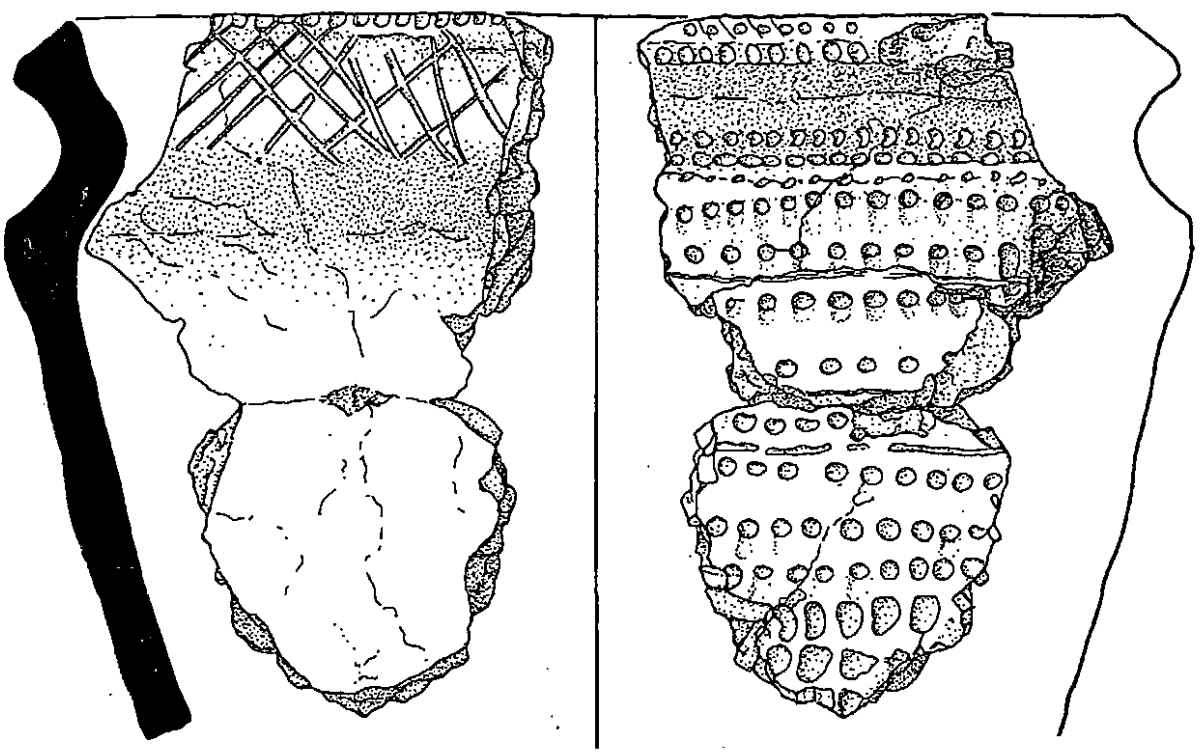
with contributions from Lawrence Barfield, Lynne Bevan, Maurice Deakin, Tim Deakin, Jerry Evans, Rowena Gale, Alex Gibson, James Greig, Andrew Hammon, Jacqueline McKinley, Phil Mills, Angela Monckton, Nicholas Palmer and Steve Willis



Report 0611

August 2006

Warwickshire County Council

Working for Warwickshire

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and illustrations by Candida Stevens and Andrew Isham

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SUMMARY

A series of eight archaeological sites were excavated in advance of the construction of the Transco Churchover to Newbold Pacey gas pipeline. Evidence of human activity dating from the earlier Neolithic to the Anglo-Saxon period was recorded along the 32km route.

At Church Lawford (Area D) an unusual Neolithic enclosure was associated with an extensive pit group containing pottery fragments from every major regional ceramic tradition between the earlier Neolithic and the Early Bronze Age. The site also produced a significant flint assemblage, the largest stratified group to be reported on from the county. Small quantities of cereals were found in the pits along with larger quantities of hazel nutshells. The possibility that the pits contained material derived from a midden is discussed. On the opposite bank of the Avon at King's Newnham (Area C), an unenclosed pit group was excavated with pottery of a similar date range to that of Area D. The two sites form parts of a monumental complex divided by the Avon and their relationship is discussed. Fieldwalking survey along the Avon terraces has revealed little in the way of contemporary flintwork and it is suggested that the landscape remained predominantly ritual in nature until the later Bronze Age.

At Harbury (Area G) a single middle to late Bronze Age cremation lay close by an inverted urn of Later Bronze Age date and charred plant remains suggest the immediate surroundings were ungrazed grassland or disused arable.

At Frankton (Area E) an Iron Age D-shaped palisaded enclosure was redefined in the Roman period and linked with a circular gully. The site remains an enigma having produced little domestic detritus and exhibiting some morphological comparisons with local mortuary sites.

A middle to late Iron Age enclosure at Long Itchington (Area B1), associated with an extensive pit group, was overlaid by a Romano-British field system belonging to a nearby villa. Two corndrying ovens were excavated on the edge of the villa site (Area B2). This area also produced limited evidence for Anglo-Saxon activity.

At Harborough Magna (Area A) an enclosure system belonging to a low status Romano-British farmstead was examined. Waterlogged pollen and macrofossils describe the surrounding area.

The edge of a Romano-British enclosure sequence was encountered at Chesterton and Kingston (Area H) in what appears to have been a discrete low status settlement on the west side of the adjacent Romano-British small town. This area also revealed possible Anglo-Saxon activity.

Section 1: Introduction and methodology

INTRODUCTION AND BACKGROUND TO THE EXCAVATIONS

In 1999 the Warwickshire Museum Archaeology Projects Group was commissioned by Transco/Laing to provide a programme of archaeological work to be conducted in conjunction with the construction of a new gas pipeline that was to run between Churchover and Newbold Pacey, Warwickshire. The archaeological programme detailed in this report had been preceded by an environmental review that had included desktop assessment, walkover survey, and limited geophysical survey (RSK Environment Ltd 1998). A total of six sites that would be affected by construction had been identified in the review, together with a proposal for further work to include geophysical survey and/or trial trenching in order to ascertain the full impact of the pipeline.

The six sites identified for further work were National Monuments Record (NMR) No SP 4477 (Area C), Warwickshire Sites and Monuments Record (SMR) No WA 3445 (Area D), SMR WA 3173 (Area E), SMR WA 4631, SMR WA 1648 and 1701 (Area B) and NMR SP 3966.

Each of the sites was subject to a programme of geophysical survey. The results of this exercise were largely disappointing, although a double rectangular enclosure was revealed at Long Itchington (Area B); the remaining sites revealed no geophysical signature (EAS 1999). Transco therefore acknowledged the need for the excavation of Area B and made provision for a watching brief over the remainder of the pipeline easement to be conducted during the removal of the topsoil along the pipeline route. The machine removal of the topsoil under archaeological supervision in Area B began in earnest in April 1999.

The watching brief

Topsoil stripping was initiated in April 1999 beginning at Churchover on the northern border of the county (Fig 1). It was accomplished by two 360° tracked excavators with 2m wide ditching buckets working in tandem to pull topsoil from the left hand side of the easement and mounding the spoil in the middle of the easement. These machines were followed by a group of three D8 bulldozers which pushed the mounded spoil and the remaining width of topsoil over to the right hand side of the easement. This latter part of the process was far less clear than the former and the resultant ground surface was patchy and criss-crossed with impressed caterpillar tracks. It was not possible to observe the bulldozing process closely for health and safety reasons. The watching brief therefore concentrated on the first part of the process, where the 360° machines removed the initial 10m from the left side of the easement.

It was during this process that the first site at Harborough Magna (Area A) was identified. This unexpected discovery prompted Transco to reconsider their methodology and after discussions it was agreed that other such sites could be expected along the route, especially in those areas initially highlighted by RSK Environment from their SMR search, despite their failure to produce a geophysical signature. It became apparent that at no point since the production of the geophysical report had Transco been advised that there was a high probability that previously unknown sites, requiring significant archaeological input, would be revealed during the watching brief. It was also apparent that there was a strong possibility that the known sites that had failed to show up during the geophysical survey would nonetheless reveal features during the watching brief requiring additional work.

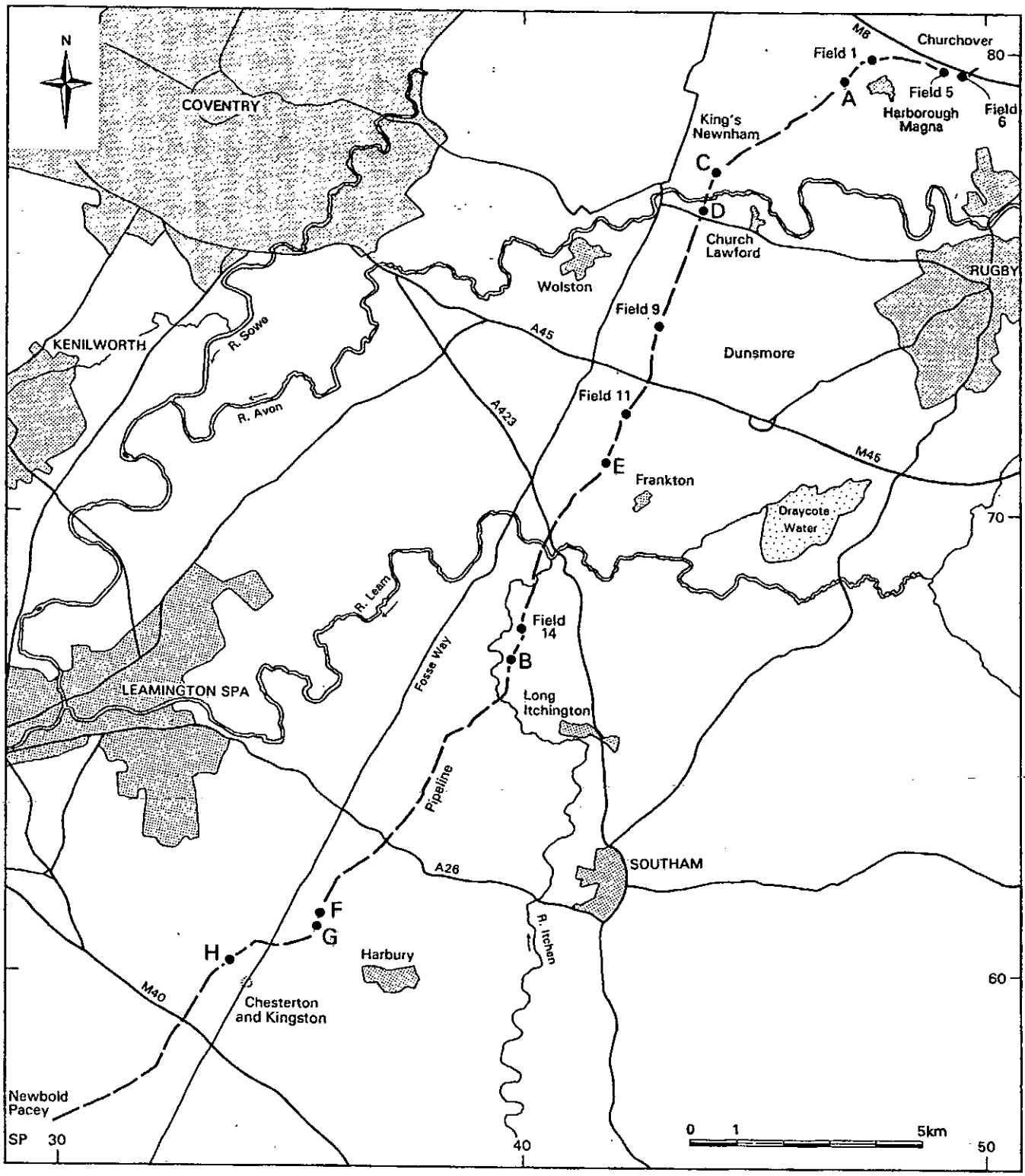


Fig 1: Central Warwickshire and the location of the excavated areas A-H and Fields 1, 5, 6, 9, 11 and 14

A mitigation strategy was therefore agreed whereby disturbance to archaeologically sensitive areas would be restricted to the 5m wide area in which the pipe was to be inserted and the topsoil along the edge of the trench would be protected from plant traffic by wooden bog-mats which were capable of spreading the weight of the huge pipe-laying machinery and other plant. To facilitate this a 5m wide trial trench would be machined in advance of the topsoil stripping cavalcade and the extent of the archaeological areas clearly marked at either end. Bog mats would then be laid over the topsoil between the marks and all construction traffic routed over them. It was also at this point that Transco were made aware of the timescale involved in the excavation of the double rectangular enclosures at Long Itchington (Area B). It was therefore decided that the same protection could be afforded that site and that the area could be re-covered with topsoil after the exposed surface had been recorded with only those deposits immediately threatened by the pipe itself being excavated.

The 5m wide trial trench proved to be a successful mitigation strategy and was adopted for over half of the pipeline. However, at Chesterton (Area H) concern over the increasing costs of the considerable quantity of bog-mats required along the easement tempted Transco to widen the area for full excavation. This process revealed that the sensitive area was considerably larger than indicated in the trial trench, covering an area too large to excavate in the time available and large parts of it had to be re-covered with topsoil. The 5m wide trial trench was also abandoned from this point onwards.

During the watching brief a number of isolated finds were recovered and their locations were plotted on a base map (in archive). Each field that produced a find or finds was given an independent number and these Field Nos are referred to in the specialist reports below where appropriate (see Fig 1).

Excavation methodology

A 360° excavator using either a 6ft (1.8m) or 8ft (2.4m) toothless ditching bucket removed the topsoil and any other recent plough soils from each of the eight excavation sites. The weather varied throughout this process although at this stage it was not detrimental to the archaeological deposits uncovered. However, Areas A, G and H were later subject to very heavy rainfall and consequently flooded. In the case of Areas A and H this had the effect of washing some deposits away and prohibiting the excavation and recording of others.

Some contexts were selected for environmental sampling. Waterlogged features were selected for pollen analysis (Area A only). Samples for charred plant remains were taken from contexts which contained occupation material (pottery, bones, flints, etc) or showed signs of having been burnt. Some samples were sieved and sorted for flint debitage (Areas C and D), small bones and cremated bone (Areas C, D and G).

Post-excavation assessment

The post-excavation process was begun after the completion of the fieldwork and a report was produced that detailed the results from each site including the finds and ecofacts recovered; it also provided an assessment of the material, a proposal for analysis and a post-excavation research design (Palmer 2000a).

Table 1: Post Excavation Research Design

Summary of archaeological findings	Principal research objectives	Secondary research objectives
Area D: Prehistoric ditched enclosure with pit group. Finds include pottery, flint, charred plant remains and charcoal. Further sample processing required.	Examine the Neolithic ditch and accompanying pit group and analyse their finds assemblages, significance and relationships. Examine the significance of the sites location, topography and relationship with adjacent cropmark sites, other sites in the Avon Valley and the wider region. Draw contrasts and comparisons with similar sites nationally.	Analyse co-variation of ceramics, lithics, charred plant remains and charcoal assemblages. Detect and identify organic residues on pottery sherds. Identify and submit suitable material for radiocarbon dating.
Area C: Prehistoric pit group.	Examine Neolithic and Bronze Age pit group with reference to its location and its relationship with Area D and other nearby sites.	As above.
Area G: Unurned cremation burial and Prehistoric vessel.	Determine age, sex, pathological condition of cremated individual and date of cremation. Report on vessel	Compare radiocarbon determinations with date of vessel.
Area E: Bronze Age penannular ditch and half a ring-ditch with spur.	Examine the penannular ditch, its relationship with the ring-ditch, their location and topography. Determine if features are funerary or domestic and consider with reference to prehistoric cropmark sites in the region.	Identify and submit suitable material for radiocarbon dating.
Area A: Romano-British farmstead indicated by ditches and gullies containing pottery animal bone and charred plant remains. Unusual waterlogged deposit revealed buried pollen and preserved plant remains.	Examine the structure of the ditches and gullies and determine the site layout and function. Analyse the pottery assemblage and use to date the occupation of the site. Examine the contemporary landscape by use of the plant and charcoal remains and animal bones, and determine the agricultural regime.	Examine the social context of the inhabitants and their trading habits. Compare with other excavated sites of the period in the region.
Area B: Iron Age enclosure (Area B1) and elements of a Romano-British villa with possible Anglo-Saxon connections (Area B2). Two corndriers and large assemblage of pottery, tile and animal bone.	Examine the layout and function of the enclosure and its relationship with the later villa system. Examine the crop processing techniques and compare with other local sites. Analyse the pottery assemblage and use to date the occupation of the site.	Investigate the Iron Age to Romano-British transition and compare with other local sites. Examine the social context of the inhabitants and their trading practices. Determine the extent of the Anglo-Saxon occupation.
Area H: Ditches and stone surfaces within a Romano-British settlement, which produced pottery, tile and animal bone.	Examine the layout of the settlement and determine its relationship with Chesterton Roman town. Analyse the pottery assemblage and use to date the occupation of the site.	Examine the social context of the inhabitants and their trading practices.
Area F: Natural features	No further reporting, results collated in the pipeline archive	

Report layout

With the exceptions of Areas C and D, the locations, topographic settings and dating of the excavated sites are for the most part entirely unrelated and do not provide a coherent narrative of a particular landscape or geography. For this reason, as a group, they can do no more than provide basic intra-site *comparanda* based on the transect the pipeline cut through each of them. In addition there was no detailed research design prepared prior to the fieldwork commencing. Therefore the report is split into sections with the Neolithic and Bronze Age sites C, D and G forming one section and the Iron Age, Romano-British and Anglo-Saxon sites E, B, A and H together in another. The excavations, the finds and the environmental evidence are described in each section along with a general discussion at the end of each section. The latter group also includes a small amount of residual prehistoric flintwork that is described with the deposits from its respective area.

This section includes a description of the methods used in the analysis of the flintwork, the charred plant remains and the charcoal, the results of which appear in both of the following sections. The final section attempts to draw conclusions from the work along the pipeline route and includes a critical project analysis which is hoped may influence any future work of a similar nature.

The full excavation archive is held at the Warwickshire Museum under site code TR99.

FLINTWORK: METHODOLOGY AND QUANTIFICATION *by Lynne Bevan*

Methodology

The flint was examined, classified and catalogued initially with the aid of a hand lens at x10 magnification. The dimensions of all cores, formal tools and complete flakes were recorded. Flint was weighed by area and context, with individual weights being recorded for complete flakes, retouched items and cores. Individual flint assemblages are discussed separately according to Area or Field number. For general comments on the quality of the raw material and technology see discussion of the largest assemblage from Area D.

Illustrated examples of the main tool types are shown in Figs 12 &13. Selection for illustration focused upon the key pit groups from Area D, supplemented by other chronologically diagnostic artefact types from the larger assemblage. All illustrated items have been catalogued according to individual artefact categories. In the interests of clarity, non-illustrated material is referred to by individual finds/context number only when individual pieces are discussed, although a full record is available in the site archive.

Overall quantification of the assemblage

The assemblage of humanly-worked flint comprised a total of 2285 items, weighing *c* 2110 grams. Groups of flint came from Areas A, B1, B2, C, D, E, F and H while single flints were recovered from topsoil in Fields 1, 5, 6, 9, 11 and 14. The vast majority of the total assemblage, over 87%, was derived from Area D. However, over 85% of the material from Area D comprised micro-debitage, mainly secondary and tertiary flakes, recovered through environmental sampling. Small quantities of micro-debitage were also recovered from Areas A, B2, C and E.

The relative totals and weights of worked flint by Area/Field are shown in Table 2 below and the artefactual composition of the assemblages is shown in Table 3, with the larger and more artefactually varied assemblage from Area D being shown in greater detail in Tables 7 and 8.

Table 2: Totals of worked flint by Area/Field

Area/Field	*Total Worked Flint*	*Total Weight (grams)*
Area A	75	315
Area B1	14	70
Area B2	9	8
Area C	152	147
Area D	1992	1434
Area G	23	2
Area F	1	6
Area H	13	66
Field 1	1	24
Field 5	1	10
Field 6	1	12
Field 9	1	5
Field 11	1	8
Field 14	1	3
Totals:	2285	2110

Table 3: Composition of flint assemblage by Area/Field

Area/Field	*Core*	*Core frag/ CRF*	*Flake/ Chunk*	*Micro-debitage*	*Scraper*	*Other Retouched*
A	2	-/-	23/4	34	3	7 flakes, 1 serrated blade, 1 knife
B1	-	2/-	4/1	-	3, including denticulate	2 blades, 2 flakes
B2	-	-/-	1/1	5	1	1 flake
C	1	-/-	53/2	95	-	1 arrowhead
D - see Tables 9-13	4	2/4	235/3	1707	17	20 – see Table 4
G	-	-/-	1/-	22	-	-
F	-	-/-	-/-	-	-	1 blade
H	-	1/-	5/4	-	1	1 flake, 1 notched tool
Topsoil						
Field 1	1	-/-	-/-	-	-	-
Field 5	-	-/-	1/-	-	-	-
Field 6	-	-/-	-/-	-	-	1 flake
Field 9	-	-/-	-/-	-	1	-
Field 11	-	-/-	-/-	-	-	1 flake
Field 14	-	-/-	-/-	-	-	1 flake
Totals:	8	5/4	323/15	1863	26	41

Flint recovered from the watching brief (not illustrated)

AREA F (Fig 1)

A retouched blade, weighing 6 g (SF 317, **505**).

FIELD 1 Harborough Magna, SP 4755 7985 (Fig 1)

The earliest core in the assemblage, a three-platformed blade core (SF 310), weighing 24 g, was recovered from topsoil in Field 1. The small size of the blade scars and the skilled core reduction indicate a Later Mesolithic-Early Neolithic date. However, the coarse type of flint used, frequent hinge fractures observed on the piece and its small size due to being utilised to the point of exhaustion indicate resource stress, that high quality flint was at a premium.

FIELD 5 Harborough Magna, SP 4920 7958 (Fig 1)

One coarse flake (SF 308), weighing 10 g, was recovered from topsoil.

FIELD 6 Harborough Magna, SP 4945 7953 (Fig 1)

One retouched flake (SF 311), weighing 12 g, was recovered from topsoil.

FIELD 9 Wolston, SP 4285 7393 (Fig 1)

A discoidal thumbnail scraper, a distinctive type of scraper prevalent among Beaker-related assemblages (Healy 1986) and generally dated to the Early Bronze Age, was recovered from topsoil.

FIELD 11 Stretton-on-Dunsmore, SP 4220 7213 (Fig 1)

One retouched flake (SF 309), weighing 8 g, the triangular shape of which is suggestive of a preform for a barbed and tanged arrowhead, was recovered from topsoil.

FIELD 14 Long Itchington, SP 3962 6625 (Fig 1)

One retouched flake (SF 312), weighing 3 g, was recovered from topsoil.

CHARRED PLANT REMAINS: METHODOLOGY *by Angela Monckton*

Introduction

Samples were taken for the recovery of charred plant remains from features from seven areas ranging from Neolithic to Romano-British in date and included groups of Neolithic and Bronze Age pits, Iron Age features and Romano-British corn driers and other features. Prehistoric plant remains are important because they are scarce in the region as a whole, while remains from Romano-British corn driers are a priority for study because they can give evidence about crop processing activities.

Methods

Features were sampled if they were datable and had the potential to contain charred plant remains. A total of 40 prehistoric contexts were sampled in 55 sample parts from areas C, D, E and G, in addition samples were taken from 14 contexts of Romano-British date from areas A, B2 and H. Samples were 4 to 117 litres in size, usually about 20 litres, and were wet sieved using a 0.5mm mesh with flotation into a 0.5mm mesh sieve. The residues were air dried and the flotation fractions (flots) packed carefully and assessed before analysis.

Of the samples from the 54 contexts submitted all but four undated samples were sorted for plant remains using a low power stereo microscope, for the large flots a fraction of the flot was sorted. The plant remains were stored in glass specimen tubes and were identified by comparison with modern reference material in the Department of Archaeology, University of Leicester. The remains were counted and tabulated (Tables 15A, 15B & 79). The plant names follow Stace (1991) and the cereals Zohary and Hopf (1993) and are seeds in the broad sense unless stated. The results are described and discussed in phase order in the area sections. For the Romano-British samples recovered from Area B2 samples were compared with each other and with those from other sites. The percentages of chaff (spikelet forks which consist of two glumes joined together), cereal grains and weed seeds were calculated for each sample. The ratios of glumes to wheat grains, and weed seeds to total grains were also calculated because this can give evidence of crop processing activities (van der Veen 1989). This was done for samples with over 50 items recovered because below this number samples can not be interpreted.

CHARCOAL: METHODOLOGY *by Rowena Gale*

Introduction

Bulk soil samples were collected from sites A, B, C, D, E, G and H. Once processed, many of these proved to include charcoal, although this was often poorly preserved and sparse. Forty samples were selected for full analysis:

Area A, Romano-British gullies and ditches – 3 samples
Area C, Neolithic/ Bronze Age pits – 11 samples
Area D, Neolithic/Bronze Age ditch and pits – 17 samples
Area E, Iron Age/Romano-British pit and ditches – 4 samples
Area G, Bronze Age pits – 2 samples
Area H, Romano-British gullies and ditch – 3 samples

Charcoal analysis was undertaken to obtain environmental data and to indicate the economic use and exploitation of woodland resources in the prehistoric and Roman periods, and also to assess the 'ritual' use of wood species in funerary practices at the sites in Areas C, D and G.

Methods

Bulk soil samples were processed by flotation and sieving using 1mm and 0.5mm meshes. The resulting flots and residues were scanned under low magnification and the charcoal separated from plant macrofossils. Some samples were either too small or too degraded to examine. In contrast, Area C sample **224/1/1** was more abundant and a 50% subsample was examined. Charcoal fragments measuring >2mm in radial cross-section were considered for species identification. The condition of the charcoal varied with the area of origin but, in general, it was poorly preserved and friable. A few fragments of vitrified charcoal were present (a condition resulting from exposure to temperatures exceeding 800°C).

The samples were prepared using standard methods (Gale & Cutler 2000). The anatomical structures were examined using incident light on a Nikon Labophot-2 compound microscope at magnifications up to x400. The taxa identified were matched to prepared reference slides of modern wood. When possible, the maturity of the wood was assessed (ie heartwood/sapwood) and stem diameters recorded. It should be noted that charred stems may be reduced in volume by up to 40%.

Results

The taxa identified are presented in Tables 16 and 80. Classification follows that of *Flora Europaea* (Tutin, Heywood *et al* 1964-80). Group names are given when anatomical differences between related genera are too slight to allow secure identification to genus level. These include members of the Pomoideae (*Crataegus, Malus, Pyrus* and *Sorbus*), Leguminosae (*Ulex* and *Cytisus*) and Salicaceae (*Salix* and *Populus*). Where a genus is represented by a single species in the British flora this is named as the most likely origin of the wood, given the provenance and period, but it should be noted that it is rarely possible to name individual species from wood features, and exotic species of trees and shrubs were introduced to Britain from an early period (Godwin 1956; Mitchell 1974).

The anatomical structure of the charcoal was consistent with the following taxa or groups of taxa:

Aceraceae. *Acer campestre* L, field maple
Aquifoliaceae. *Ilex aquifolium* L, holly
Betulaceae. *Alnus glutinosa* (L) Gaertner, European alder; *Betula* sp, birch
Caprifoliaceae. *Sambucus nigra* L, elder
Corylaceae. *Corylus avellana* L, hazel
Fagaceae. *Quercus* sp, oak
Oleaceae. *Fraxinus excelsior* L, ash
Leguminosae. *Ulex* sp, gorse or *Cytisus scoparius* (L) Link, broom
Rhamnaceae. *Rhamnus cathartica* L, purging buckthorn
Rosaceae. Subfamilies:
Pomoideae, which includes *Crataegus* sp, hawthorn; *Malus* sp, apple; *Pyrus* sp, pear; *Sorbus* spp, rowan, service tree and whitebeam. These taxa are anatomically similar; one or more taxa may be represented in the charcoal.
Prunoideae. *Prunus spinosa* L, blackthorn.
Salicaceae. *Salix* sp, willow, and *Populus* sp, poplar. In most respects these taxa are anatomically similar.
Ulmaceae. *Ulmus* sp, elm

The range of taxa identified from such samples is unlikely to represent the complete spectrum of trees and shrubs growing in the locality. In addition, although the procurement of fuel would have been determined by the availability of species in a given locality, the collection of fuel would almost certainly have been biased towards higher grade wood fuels or species of wood/timber not earmarked for other economic purposes. For example, willow (*Salix* sp) and alder (*Alnus glutinosa*), would have grown profusely along stream beds and on flood plains but these species rarely occurred in the fuel debris examined. This may be due the more appropriate use of alder and willow rods/stems for wattlework and basketry than as fuel.

Section 2: Neolithic and Bronze Age

LOCATION AND TOPOGRAPHY

Area C, King's Newnham and Area D, Church Lawford

These two areas lay either side of the River Avon and have been grouped together here because of their spatial-temporal relationship. Area D lay on the south bank at SP 4375 7650 on the shoulder of the 4th gravel terrace. To the south, heavy clays of the Penarth Group, rise almost imperceptibly to the flat plateau of Dunsmore. To the east, the Avon Valley becomes narrower and steeper whilst to the west the 1st and 2nd river terraces broaden to form a flat and level valley bottom. Area C was located on the northern (2nd) terrace gravels at SP 4440 7750. Here, the land surface slopes gently down toward the river and to the north rises slightly to a low ridge before dropping away onto the Mercia Mudstone plain (British Geological Survey 1984).

Area G, Harbury

Area G was located on an undulating shelf of the northern slope of a north-east to south-west aligned ridge that crosses the region at SP 3550 6105. To the north and west the land falls slightly and to the south-east it rises to the hill on which Harbury is built. The underlying geology is Mercia Mudstone with an outcrop of Arden Sandstone recorded immediately to the east (British Geological Survey 1984).

ARCHAEOLOGICAL BACKGROUND

Area C, King's Newnham and Area D, Church Lawford

The Avon corridor through Church Lawford and King's Newnham parishes was undoubtedly a significant location in the earlier prehistoric period. The pipeline passed to the east of a barrow cemetery, Scheduled as an Ancient Monument (Warwicks no 163) that first came to prominence as Site 104 in the seminal aerial survey of the Avon and Severn valleys (Webster & Hobley 1965, 20-1). Parts of the complex have been subject to archaeological investigation on two separate occasions: a research excavation by the Avon and Severn Valley Research Project in 1968 (Simpson 1969), and excavations by the author in advance of gas pipeline construction in 1990 (Palmer 2003b). In both cases attention was focussed on a linked group of circular cropmarks composed of a linear arrangement of two or three ring-ditches of different diameters enclosed within a trapezoidal ditch and a smaller double ring-ditch attached to the south-western side. There are also three other widely spaced ring-ditches in cropmark form, one double ditched and two others with apparent entrances, although they have been rejected as henges by Harding and Lee (1987, 280).

There was some evidence in both excavations to suggest that the locale had been significant prior to the construction of the barrow cemetery. Mesolithic and early Neolithic flints were sealed in relict soils covered by later mounds and a nearby pit contained fragments of earlier Neolithic Grimston Ware pottery. Otherwise datable finds were particularly scarce from both excavations and the overlying construction sequence remains a matter for much speculation (Palmer 2003b, 69-72).

The current pipeline had been routed around a cropmark complex on the north side of the river, discovered during aerial survey in the 1970s (SMR WA 3456). Its

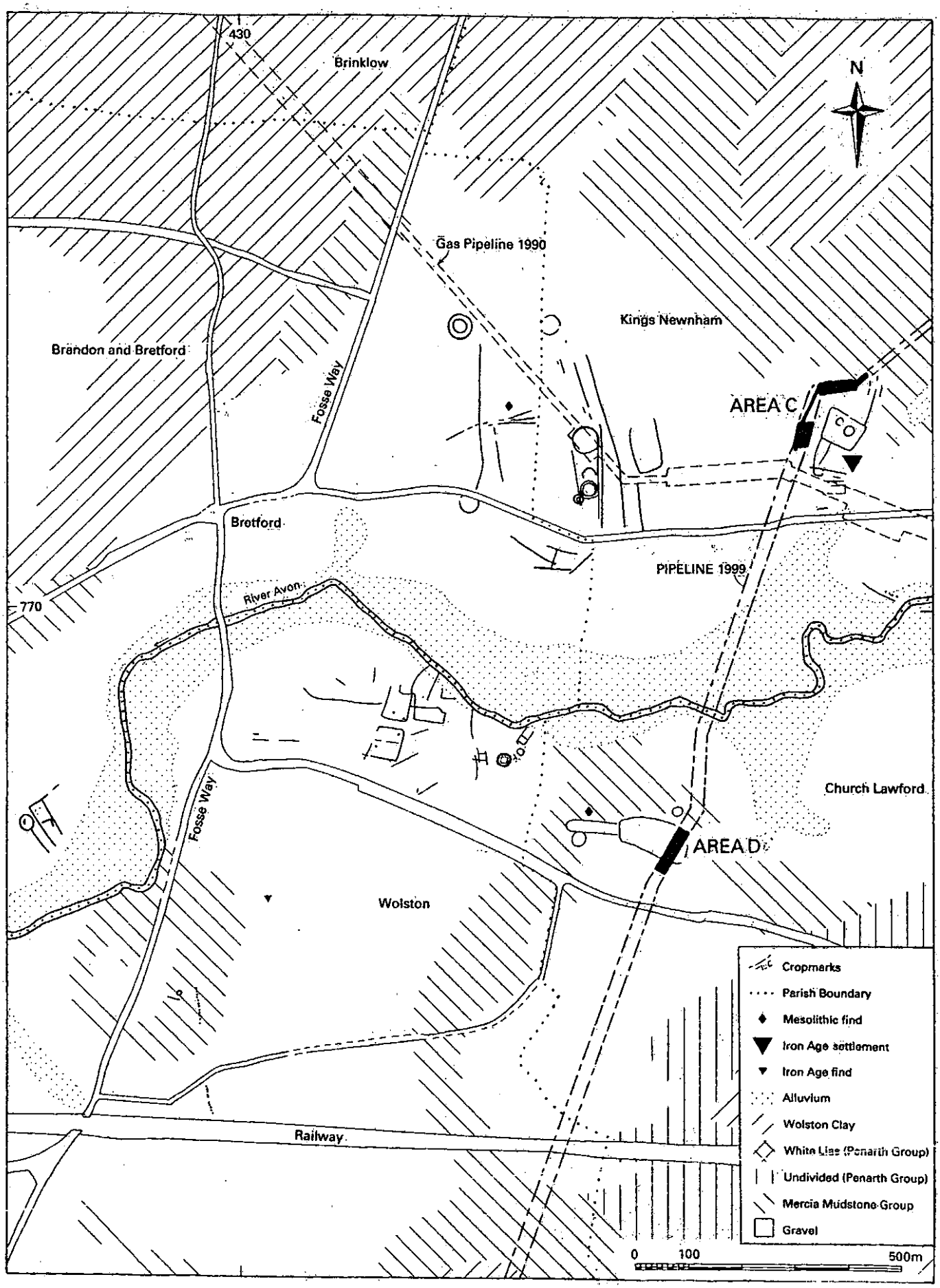


Fig 2: Location of Areas C and D showing local geology, cropmarks and other finds

principal component is a large rectangular enclosure (75m by 55m), with an apparent central entrance on its north-eastern arm. A presumed hut circle and perhaps a subsidiary building are indicated by two well-defined cropmarks in the northern half of the enclosure. This cropmark is morphologically similar to other examples of Iron Age date (cf Hingley 1989, 134; Palmer 2003a, Appendix). Linear cropmarks extend from both the north-east and south-west corners of the enclosure, the latter being crossed at right angles by a further linear cropmark before itself turning a right angle to form a second smaller enclosure (20m x 15m) with an eastern entrance.

A further enclosure at the south end of the complex was examined by the author in advance of the 1990 gas pipeline (Palmer 2003b, Area A). Two phases of a shallow enclosure ditch were examined along with an internal pit group of later Iron Age date: at least one pit ended its useful life as a repository for rubbish including a dump of charred seeds and the remains of a daub superstructure. The enclosure had been disturbed on its western side by a large area of gravel quarrying of medieval or perhaps even Roman date .

A narrow stream that forms a minor tributary of the River Avon flows north-east to south west on the western side of the complex. Examination of a section through this feature in 1990 showed it once to have been wider but despite probable contemporaneity with the enclosure its earlier deposits could not be accurately dated. A further gas pipeline had been driven through the large rectangular enclosure during the 1950s without any archaeological intervention.

On the southern side of the river the pipeline was routed around what was thought at the time to be the eastern edge of U-shaped enclosure some 135m long by 70m at its widest with an open end to the east. This cropmark was first identified by Pickering in 1970 (Warwickshire Museum Aerial Photograph Collection SP4376/C-E). However, re-evaluation of the aerial photographic evidence revealed a further length of ditch curving across the eastern end, albeit leaving two breaks in the circuit, a smaller one to the south-east and a much wider break to the north-east through which the pipeline was routed. The ditch encloses an area of *c* 0.77ha. Its position on the shoulder of the valley slope, following the contour of the hillside, allows both longitudinal arms to be viewed from the north but remain invisible from the south. An oblong enclosure cropmark *c* 20-23m wide extends *c* 100m from its western end. The relationship is far from obvious as there is a narrow gap between the two features that could plausibly indicate the former presence of an outer bank around the larger enclosure. The oblong enclosure appears to post-date a 28m diameter ring-ditch on its southern side. A further ring-ditch cropmark, 18m in diameter lies 15m north of the larger enclosure. This cropmark complex had not previously been subject to any archaeological investigation, although Richard Hingley (1996, fig 4) had highlighted its probable earlier prehistoric date.

Localised flint scatters have been recorded in this part of the valley to the west of the area covered by Fig 2 as well as one in the vicinity of the Area D enclosure cropmark that included a few possible Mesolithic cores (Bateman 1977). The river terraces in this area are otherwise replete with cropmarks which, although largely undated, are likely to represent later prehistoric activity. They include various enclosures as well as a linear pit alignment recorded next to a small ring-ditch.

Area G, Harbury

Prior to the pipeline work no archaeological sites or finds were known in the immediate vicinity of the site (Fig 3). A Neolithic stone axe or adze is recorded 650m to the south and at least two burnt mounds and a pit were recorded *c* 1km to the north (Barfield & Hodder 1989, 8). A number of undated cropmark features

including a double linear example and some enclosures are known to the north-east. An area of natural channels was examined during the pipeline work immediately north of the railway line (Palmer 2000a, Area F).

METHODOLOGY

Area C, King's Newnham

The 5m wide trial trench revealed that archaeological deposits existed over a length of some 230m. The features were rapidly surveyed and a plan drawn to provide information to enable a mitigation strategy for the area to be negotiated. It was agreed that two easement-wide areas would be opened and fully excavated, leaving two areas totalling 100m in length to be protected under bog mats. Subsequent to the areas being opened there was a period of heavy rainfall which obscured many of the pits identified within the initial trench and which were lost to the record.

Area D, Church Lawford

The entire easement through this area was stripped of topsoil apart from the strip along the western edge on which topsoil was bunded. After initial cleaning an area 95m long was identified as containing significant archaeological deposits. A 5m wide strip on the eastern side was used as a haul road for construction traffic but cursory examination before it was used revealed no significant deposits other than the ditch that crossed at the southern end. All pits were subject to 100% excavation but the shortage of time only allowed three sections to be excavated through the ditch.

Area G, Harbury

The deposits in this area were revealed after the 360° machines had cleared topsoil from the end of the easement adjacent to the railway line in preparation for the bulldozers to begin the easement-wide stripping process. Excavation was undertaken during very heavy rainfall and not subject to full cleaning by hand as only two significant deposits were noted.

PHASING

Phasing in these three areas is based on the broad date ranges of the pottery typology augmented where possible with radiocarbon determinations. There are no stratigraphic relationships from which a finer sequence can be established. Phase 1 has a broad date range which has not been subdivided because of the problems of residuality. Phase 4 is undated but could conceivably extend from the earlier Neolithic to the Roman period.

Phase 1: *c* 3800-1700 BC (Early Neolithic-Early Bronze Age) Areas C & D

Phase 2: *c* 1530-1320 BC (Middle-Late Bronze Age) Area G

Phase 3: *c* 1200-600 BC (Late Bronze Age) Area G

Phase 4: Undated, Area C & D

Phase 5: Medieval and modern, Areas C, D & G

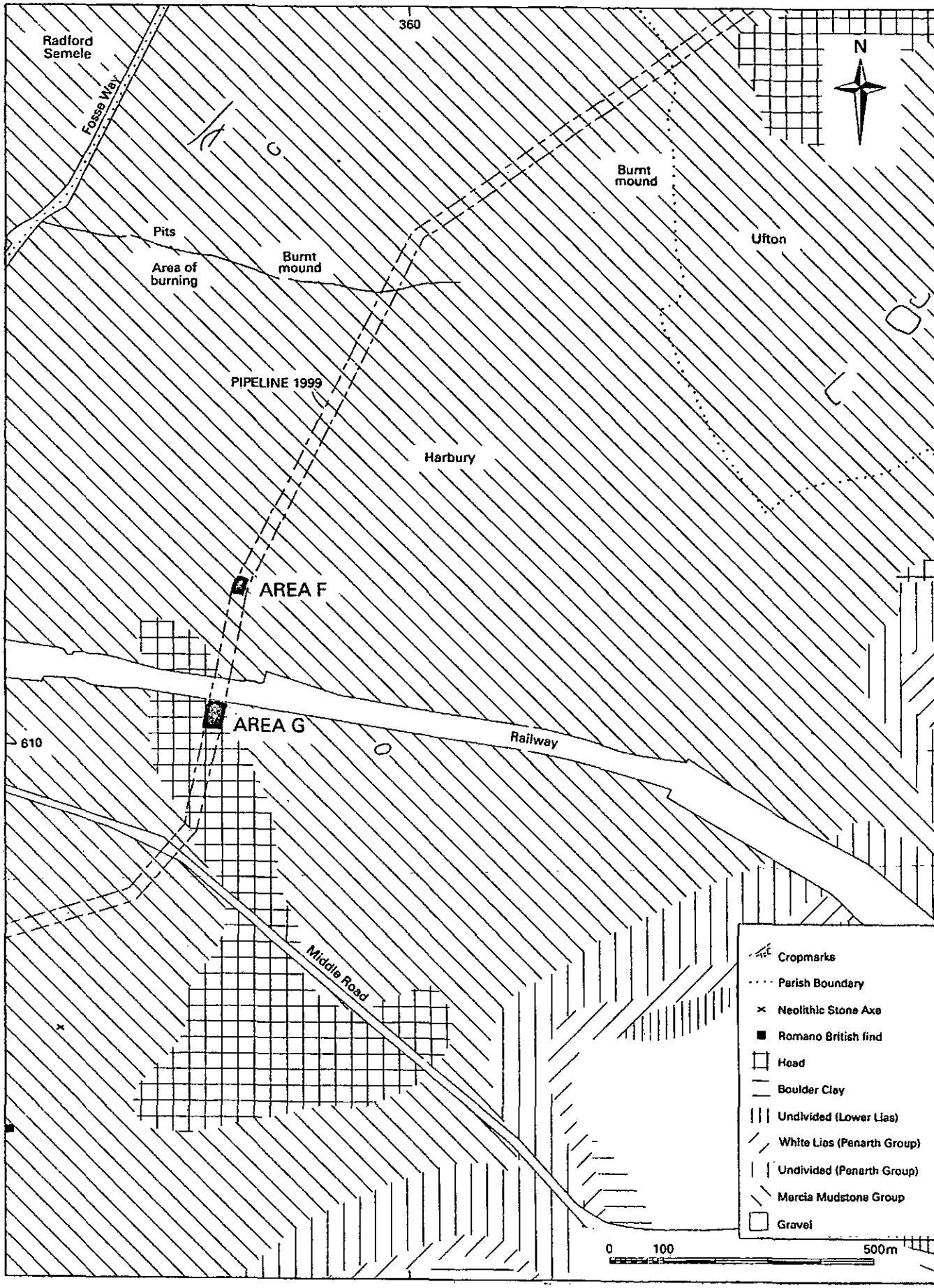


Fig 3: Location of Areas F and G showing local geology, cropmarks and other sites and finds

THE EXCAVATIONS

Area C, King's Newnham (Fig 4)

Natural in this area was yellowish-brown gravel and the site sat on a very slight down-slope to the south.

PHASE 1: EARLY NEOLITHIC - EARLY BRONZE AGE PIT GROUP MWA 8819

A single pit **203** located at the southern edge of the excavated area contained early Neolithic pottery. A further two pits (**237** and **218**) contained Peterborough Ware whilst a further pit (**215**) contained other probable Neolithic pottery. Early Bronze Age Urn sherds were recovered from pit **233** and residually in Phase 4 gully **238**. A further early Bronze Age sherd came from pit **242**.

Table 4: Area C, Phase 1 pit group

Section	Context	Shape	Dimensions	Depth	Description	Finds
Early Neolithic pit						
Fig 5, A	203	Oval	1.75 x 1.50	0.28	Steep sloping sides and a flattish base with bowled depression on W side with 6 fills. **203/6** brown sandy loam with gravel **203/5** dark red (purple) burnt clay **203/4** yellowish-brown sand and gravel **203/3** strong brown sand **203/2** brown sandy loam **203/1** dark grey sandy loam with charcoal flecks and heat-cracked pebbles (hcp)	1 sherd + 1 intrusive Romano-British sherd
Peterborough Ware pits						
Fig 5, B	237	Sub-circular	0.68 x 0.68	0.08	Shallow sloping sides and flat base. Single fill of brown sandy loam	75 sherds
Fig 5, C	218	Oval	1.30 x 0.85	0.20	Sloping sides and flattish base with two fills. **218/2** very dark grey sandy loam with hcp and much charcoal **218/1** dark brown sandy loam with hcp	2 sherds
Possible Neolithic pit						
Fig 5, D	215	Oval	2.05 x 1.00	0.13	Shallow sloping sides with flattish base. Single fill of greyish-brown sandy loam	1 sherd
Urn pit						
Fig 5, E	233	Circular	0.60 x 0.60	0.27	Vertical sides and flattish base. Single fill of dark brown sandy loam	1 sherd, cremated bone, flint, Emmer wheat x 1, Emmer/Spelt wheat x 1, wheat x 1, Barley x 2, cereal x 11, cereal/grass x 3, Emmer/Spelt (glume) x 1, Emmer/Spelt (rachis) x 2, hazel nutshell x 5, Black-bindweed x 1, Docks x 1, Brome grass x 1, indeterminate seeds x 1, stem fragments x 1, buds x 1
Other Early Bronze Age pit						
Fig 5, F	242	Sub-circular	0.38 x 0.35	0.09	Scooped profile. Single fill of very dark greyish-brown clay loam with brown sandy loam mottles and charcoal flecks	7 sherds, flint

Table 5: Area C, Phase 4 undated pits

Section	Cont ext	Shape	Dimensions	Depth	Description	Finds
Fig 5, G	220	Oval	1.10 x 0.75	0.07	Shallow sloping sides and flattish base. Single fill of very dark grey sandy loam with hcp and charcoal flecks	Fired clay, flint, cremated bone, cereal stem x 1, hazel nutshell x 1, indeterminate x 1
	202	Oval	1.20 x 0.80	0.07	Shallow sloping sides and flattish base. Single fill of dark-greyish brown sandy loam	
	204	Sub-circular	1.35 x 1.10	?	Root disturbance. Single fill of dark greyish-brown sandy loam	
Fig 5, H	207	Sub-circular	1.10 x 1.00	0.20	Irregular sloping sides and sloping base. Single fill of dark grey sandy loam	Daub and animal bone Slag?, bread wheat type x 1, Barley x 2, cereal x 3, cereal /grass x 3, hazel nutshell x 1, Campion x 1, Knotgrass x 1, Knotweed x 1, Spike-rush x 1, Brome grass x 1, grasses x 2, thorns x 1, stem fragments, buds x 3
	209	Oval	0.80 x 0.60	0.28	Steep sides and rounded base. Single fill of greyish-brown sandy loam	
	210	Circular	0.50 x 0.50	0.20	Steep sloping sides with flattish base. Single fill of greyish-brown sandy loam	
Fig 5, I	211	Oval	0.60 x 0.50	0.15	Sloping sides and flattish base with two fills. 211/2 medium pebbles 211/1 greyish-brown sandy loam	Flint, Barley x 1, cereal x 1, sedges x 1, root fragments x 1, hammerscale
	212	Sub-circular	1.60 x 1.10	0.10	Sloping sides and flattish base. Single fill of greyish-brown sandy loam	
	213	Sub-oval	1.80 x 1.20	0.10	Possible tree hole with irregular sloping sides and rounded base. Single fill of greyish-brown sandy loam	Hazel nutshell x 3,
	221	Sub-oval	1.10 x 0.60	?	Unexcavated. Dark grey sandy loam with hcp and charcoal at surface level	
Fig 5, J	224	Sub-circular	0.77 x 0.70	0.13	Sloping sides and rounded base with two fills. 224/2 black charcoal covering base with hcp 224/1 black sandy loam	Flint
Fig 5, K	227	Sub-circular	0.38 x 0.30	0.14	Steep sloping sides and rounded base with two fills. 227/2 strong brown sandy loam 227/1brown sandy silt loam	
Fig 5, L	228	Sub-oval	0.40 x 0.30	0.11	Sloping sides and flattish base. Single fill of brown sandy loam	Flint
Fig 5, M	229	Sub-circular	0.30 x 0.25	0.10	Steep sloping sides and flattish base. Single fill of brown sandy loam	
Fig 5, N	230	Sub-circular	0.45 x 0.35	0.16	Steep sloping sides and rounded base. Single fill of brown sandy loam	
Fig 5, O	231	Oval	0.50 x 0.35	0.14	Steep sloping sides and rounded base with two fills 231/2 brown sandy loam with frequent pebbles 231/1 brown sandy loam	
Fig 5, P	232	Sub-circular	1.15 x 0.65 /0.40 /0.45	0.24 0.13 0.19	Three conjoined pits with sloping sides and rounded bases, although middle pit flattish base. Single fill of very dark greyish-brown sandy loam	Flint, cremated bone, Wheat x 1, cereal x 6, Chickweed x 1, Clover type x 1, Brome grass x 1, large grass x 1, indeterminate x 1, root fragments
Fig 5, Q	234	Sub-oval	0.70 x 0,50	0.17	Sloping sides and rounded base. Single fill of brown sandy silt loam	Bone, flint

Table 5: continued

Section	Cont ext	Shape	Dimensions	Depth	Description	Finds
Fig 5, R	235	Oval	0.70 x 0.50	0.24	Sloping sides flared to the rim and rounded base. Single fill of brown sandy loam	Flint, cremated bone, Wheat x 2, Barley x 5, cereal x 3, cereal/grass x 1, Barley (rachis) x 1cf, Vetch/Vetchling x 4, indeterminate x 2, buds x 1
Fig 5, S	236	Oval	0.40 x 0.30	0.17	Steep sloping sides and rounded base. Single fill of brown sandy loam	Barley (hulled) x 1, cereal x 2, cereal (rachis) x 1, indeterminate x 2, root fragments x 2
Fig 5, T	239	Sub-circular	0.23 x 0.20	0.12	Vertical SW side, sloping NE side, rounded base. Single fill of brown sandy loam	
Fig 5, U	240	Circular	0.45 x 0.45	0.10	Sloping sides and flattish base. Single fill of brown sandy loam	
Fig 5, V	241	Circular	0.50 x 0.50	0.11	Sloping sides and flattish base. Single fill of brown sandy loam	
Fig 5, W	245	Sub-circular	0.95 x 0.90	0.20	Sloping sides and flat base with two fills. 245/2 very dark grey sandy loam with charcoal flecks 245/1 brown silty loam with hcp	Flint
Fig 5, X	246	Circular	0.60 x 0.60	0.14	Irregular sloping sides and rounded base. Single fill of brown sandy loam with charcoal flecks	
Fig 5, Y	247	Sub circular	0.50 x 0.45	0.11	Shallow sloping sides with acute pointed base in E side with shallower flat base in W. Single fill of brown sandy loam with dark brown mottles and charcoal flecks	
Fig 5, Z	248	Sub-circular	1.95 x ?	0.14	Shallow sloping sides and gently rounded base, possibly the butt end of a ditch. Single fill of brown sandy loam	
Fig 5, AA	249	Circular	0.29 x 0.29	0.04	Sloping sides and flattish base. Single fill of brown sandy loam	
Fig 5, AB	250	Sub-circular	0.57 x 0.55	0.27	Near vertical sides and rounded base. Single fill of brown sandy loam	Single Romano-British sherd
	251	Sub-circular	0.55 x 0.50	0.15	Steep sloping sides and irregular flattish base. Single fill of brown sandy loam	

PHASE 4: AREA C, UNDATED PIT GROUP AND GULLIES

Pits (Table 5) MWA 3456

The majority of the pits encountered in Area C remained undated although the presence of iron hammerscale in pit **211** and slag in **207** suggests that many of them could be Iron Age or more likely later. Two groups of pits (**227, 228, 229, 230, 231** and **339, 240, 241**) may have held posts, but in no case were post-pipes evident and no structures could be recognised.

Possible field system MWA 10281

Two gullies that were apparently aligned on either side of the large sub-rectangular enclosure cropmark seem likely to represent part of a field system. Gully **238** was aligned north to south in the east to west section of the site and broadly aligned with the north-west corner of the enclosure albeit on a slightly different bearing. Gully **225** was located some 65m to the east and aligned with a linear cropmark that gradually curved to the west to align parallel with **238** at its southern end. These two gullies were by far the deepest and most substantial features on the site, **225**

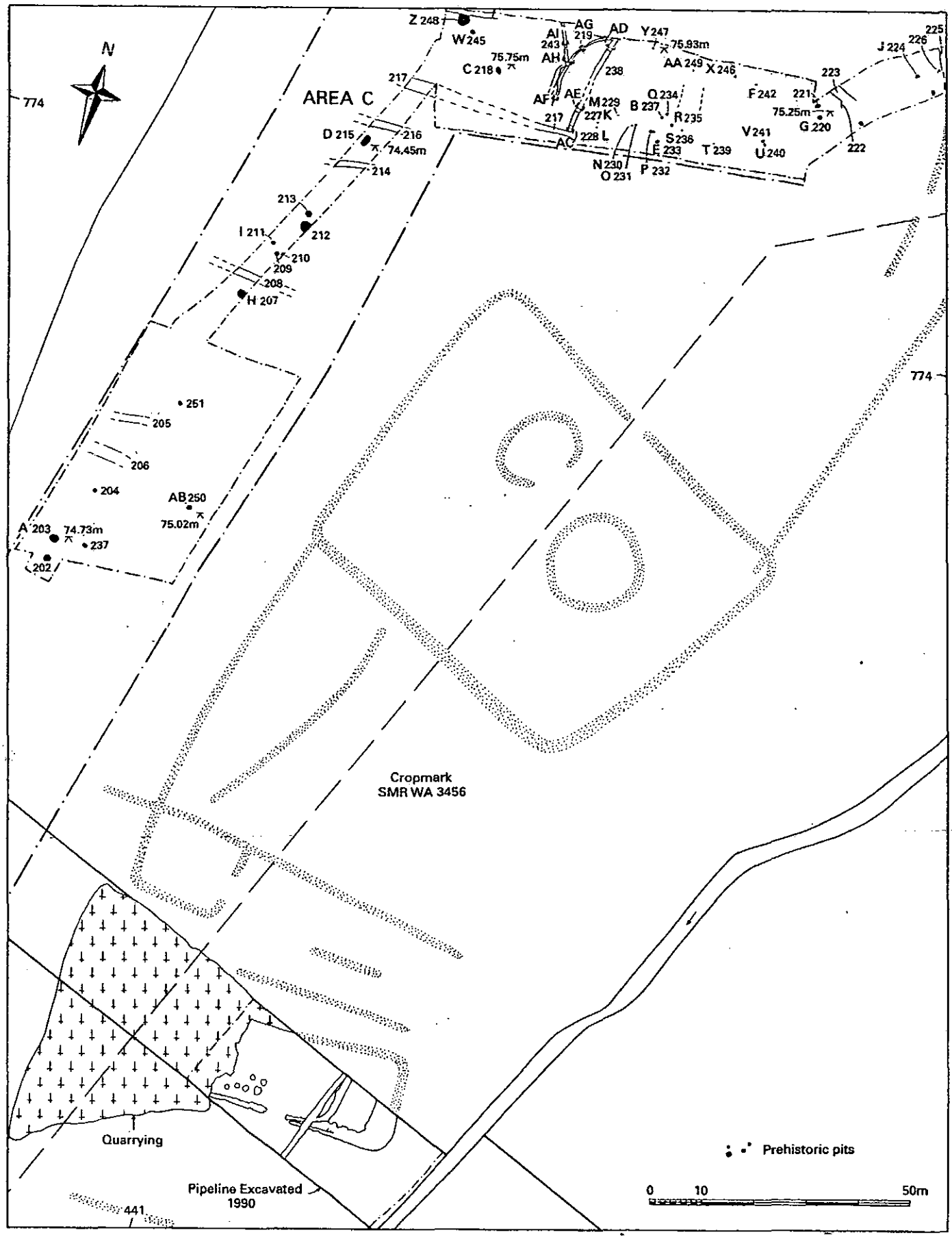


Fig 4: Detailed plan of Area C with adjacent cropmarks and area excavated in 1990

Plate I: Area C, 5m trial trench viewed from the north
(Area D can be seen as the disturbance through the field of oil-seed rape on left horizon)

Plate II: Area C, Peterborough ware during excavation of pit **237**

Plate III: Area C, Peterborough pit **218** *part excavated*

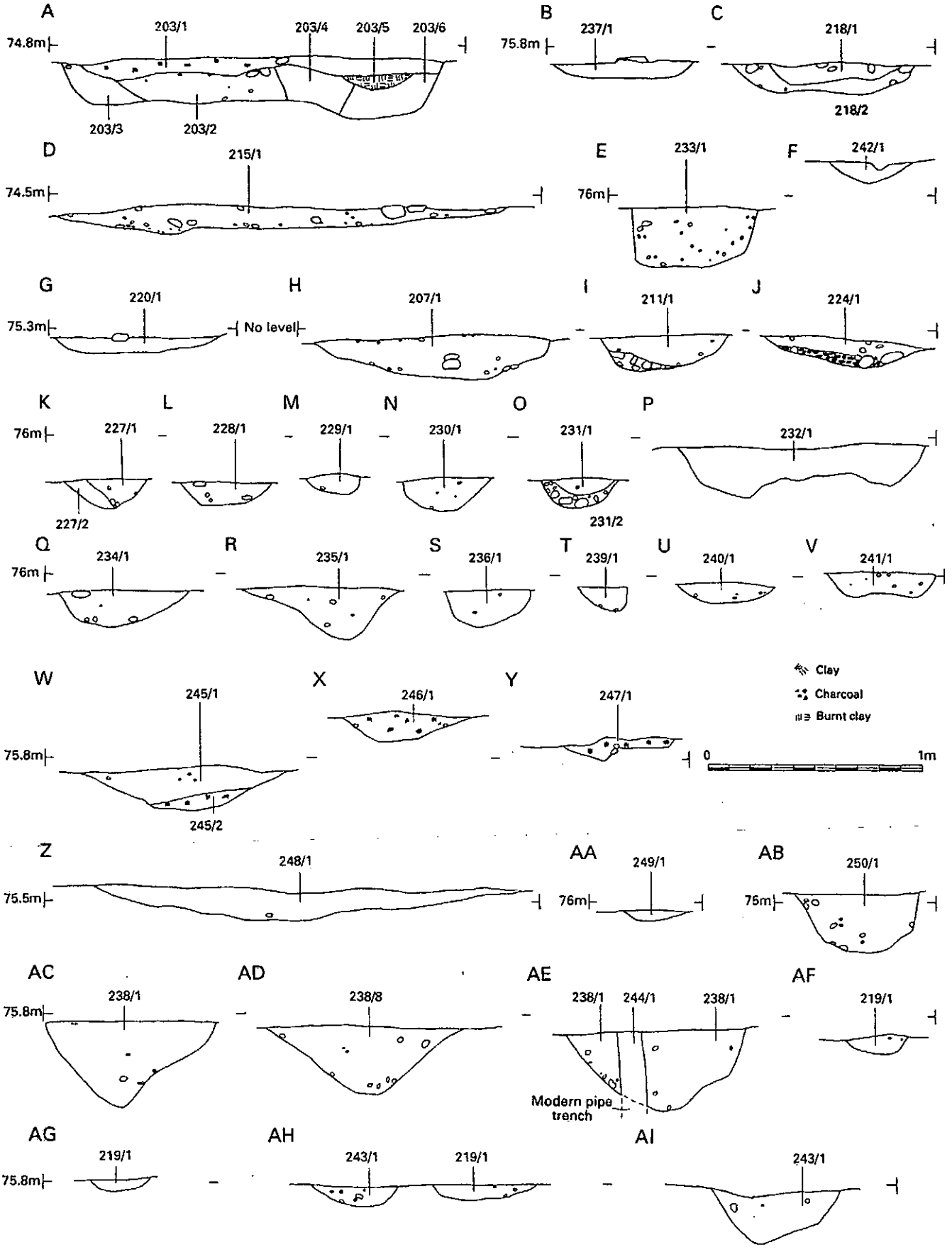


Fig 5: Area C, sections A-AI

measuring 3.20m wide with a 0.30m-0.40m deep also with a V-shaped profile that became more rounded to the north (Fig 5, Sections AC, AD, AE). **225** was filled with greyish brown sandy loam whilst **238** contained brown sandy loam from which a single sherd from a large Early Bronze Age Urn was recovered.

Y-shaped gully arrangement

Gully **219** was aligned broadly north to south albeit curving to the north-east at its northern end and tailing off as a soil stain to the south on the west side of **238**. It had an uncertain relationship with gully **243** that formed a north-westwards spur from the middle part of its length. Gully **219** had sloping sides 0.27m-0.47m wide, a flat base up to 0.07m deep and was filled with greyish-brown sandy loam (Fig 5, Sections AF, AG, AH). Gully **243** was similarly proportioned, 0.40m wide x 0.09m deep, albeit with a more rounded base and it was filled with dark greyish-brown sandy loam (Fig 5, Sections AH, AI).

PHASE 5: MEDIEVAL & MODERN

A series of east-west aligned furrows crossed the site and can be related to the medieval ridge and furrow system. They included **205, 206, 208, 214, 216, 217** and **223**.

A layer of older ploughsoil **201** derived from the ploughed out ridges of the medieval system was 0.20–0.40m thick consisted of greyish-brown sandy loam. Topsoil across the site **200** was dark brown sandy silt loam

Area D, Church Lawford (Figs 6-8)

Natural geology in this area was yellowish-brown gravel that became progressively more clayey toward the southern, higher end of the site. The gravel surface at the southern end was dotted with patches of grey clay, presumably formed within tree throws and, where relationships were available, all earlier than the archaeological features. There was a preponderance of these features on the inner side of the enclosure ditch compared to the southern side. The gravel surface in the southern part of the excavated area sloped gently between 82.85m and 82.65m aod, falling away sharply to the north from the central area to 80.80m aod at the northern end; a drop of nearly 2m within the enclosure area.

PHASE 1: EARLY NEOLITHIC - EARLY BRONZE AGE

The enclosure ditch MWA 3445

Ditch **304** was aligned north-west to south-east at the southern end of the excavated area. A 20m length was exposed and three sections cut through at intervals determined by the presence of furrows which obscured much of the ditch. It was broadly a wide V-shape, 2.15-2.60m wide and between 0.60m and 0.80m deep, and probably the result of a single continuous cut. There was no conclusive proof for an associated earthwork bank, although a concentration of pebbles on the inner edge of the easternmost section (Fig 9, Section AJ) can reasonably be ascribed to the former presence of an inner bank. The earliest fill in this section (**304/11**) strong brown sandy clay loam was very hard and compacted although the significance of this remains uncertain. The base of the western section (Fig 9, Section AK) was filled with **304/3** yellowish-brown sandy clay loam from which a single early Neolithic pottery sherd **D5** (SF 69) was recovered; this was the only ceramic from the eastern section.

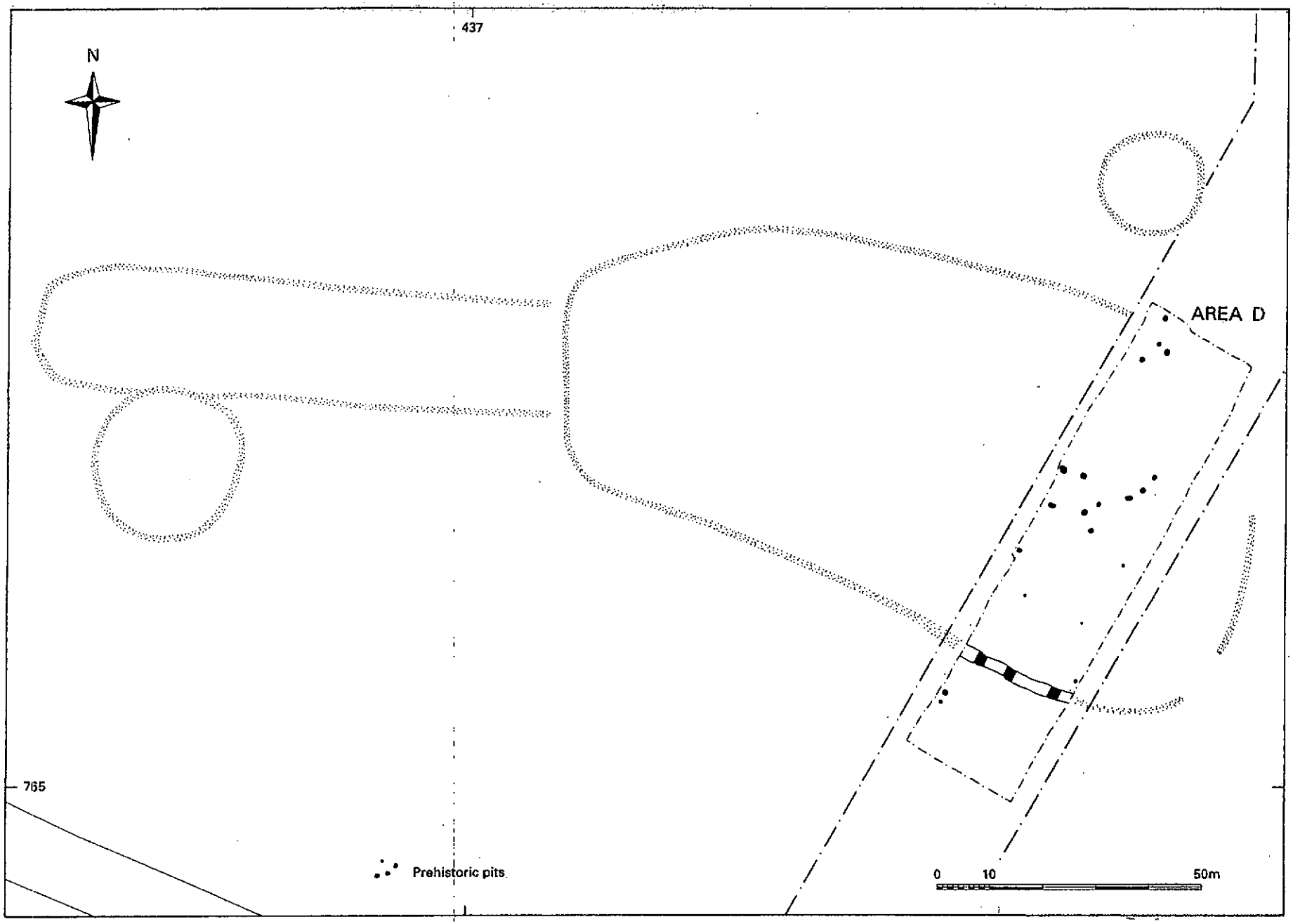


Fig 6: Area D, showing area excavated and enclosure cropmark

These two early layers (**304/11** and **304/3**) were overlaid by a thick deposit of greyish-brown sandy clay loam that filled the bulk of the ditch cut; **304/5** and **304/2** in the central and western sections (Fig 9 Sections AL, AJ) and **304/9** in the eastern section (Fig 9 Section AK). This latter fill was discoloured yellowish-brown on its southern edge (**304/10**). In the same section a centrally placed shallow scoop 0.55m wide was cut 0.10m deep into the top of the grey fill. It was filled with **304/8** a charcoal rich dark grey sandy loam that provided a conventional radiocarbon date of 4834±88 BP (Wk-14819) and an AMS date of 4520±45 BP (SUERC-3385).

The remainder of the ditch was filled with brown sandy loam (**304/1=304/4=304/6**), although in the western section, the lower part of **304/6** was yellowish brown in colour (**304/7**). This fill produced a considerable quantity of Peterborough Ware pottery in the Mortlake style: **D3** (SF nos 236, 127, 134, 140, 142, 147, 152, 157, 158, 163, 164, 166, 255, 150, 155, 180, 181, 182; **D4** (SF nos 61, 65, 67, 139, 145; **D6** (SF no 58); **D7** (SF nos 153, 154); **D8** (SF nos 133, 141, 149). Sherds of Grooved Ware (**D9**) were also recovered from **304/6** (SF 239).

Despite a sustained attempt to locate the northern part of the circuit, no such ditch could be discerned. Given that the substantial pit **315** survived in its approximate location it is unlikely to have been removed by later plough truncation.

Pit group MWA8618

A varied group of pits both within and outside the enclosure was investigated. The entire contents of each pit was removed and many of them produced distinctive and specific assemblages of finds, sometimes backfilled in a matrix of burnt material that included heat-cracked quartzite pebbles. Four pits in the centre of the excavated part of the enclosure were found to contain early Neolithic pottery (**319, 320, 324** and **325**), although it was certainly residual in the latter two. A single pit (**313**) in the north-western corner of the excavation, inside the alignment of the northern arm of the enclosure contained Peterborough Ware pottery but this too appears to have been residual. A total of seven pits within the enclosure contained Grooved Ware pottery (**321, 309, 317, 307, 308, 310** and **324**), although in **309, 307** and **324** it was residual. A further Grooved Ware pit **312** lay outside the enclosure. One pit in the north-west corner of the enclosure (**315**) contained a Beaker sherd, whilst **324** and **325** in the centre of the area contained fragments of urn with residual pottery.

The majority of the pottery-bearing pits were located in the central area of the enclosure, particularly those containing Grooved Ware. Of this cluster, a group of six described an arc extending from the western side of the site (**310, 308, 320, 319, 309** and **321**). If extended the arc conceivably could link to other pits at the north end of the site (Fig 8) to include either Peterborough pit **313** or Beaker pit **315** and undated pit **314**. A medieval furrow cut through the area between the pit clusters and may therefore have obscured other pits in the alignment. If the arc is accepted, the pits might have been part of a circle with a diameter of 32–36m.

PHASE 4: UNDATED PIT GROUP MWA8818

A disparate group of seven pits remained undated (**314, 316, 306, 305, 311, 323** and **318**). Many of the fills produced evidence of burning and it is likely that they also belong in Phase 1.

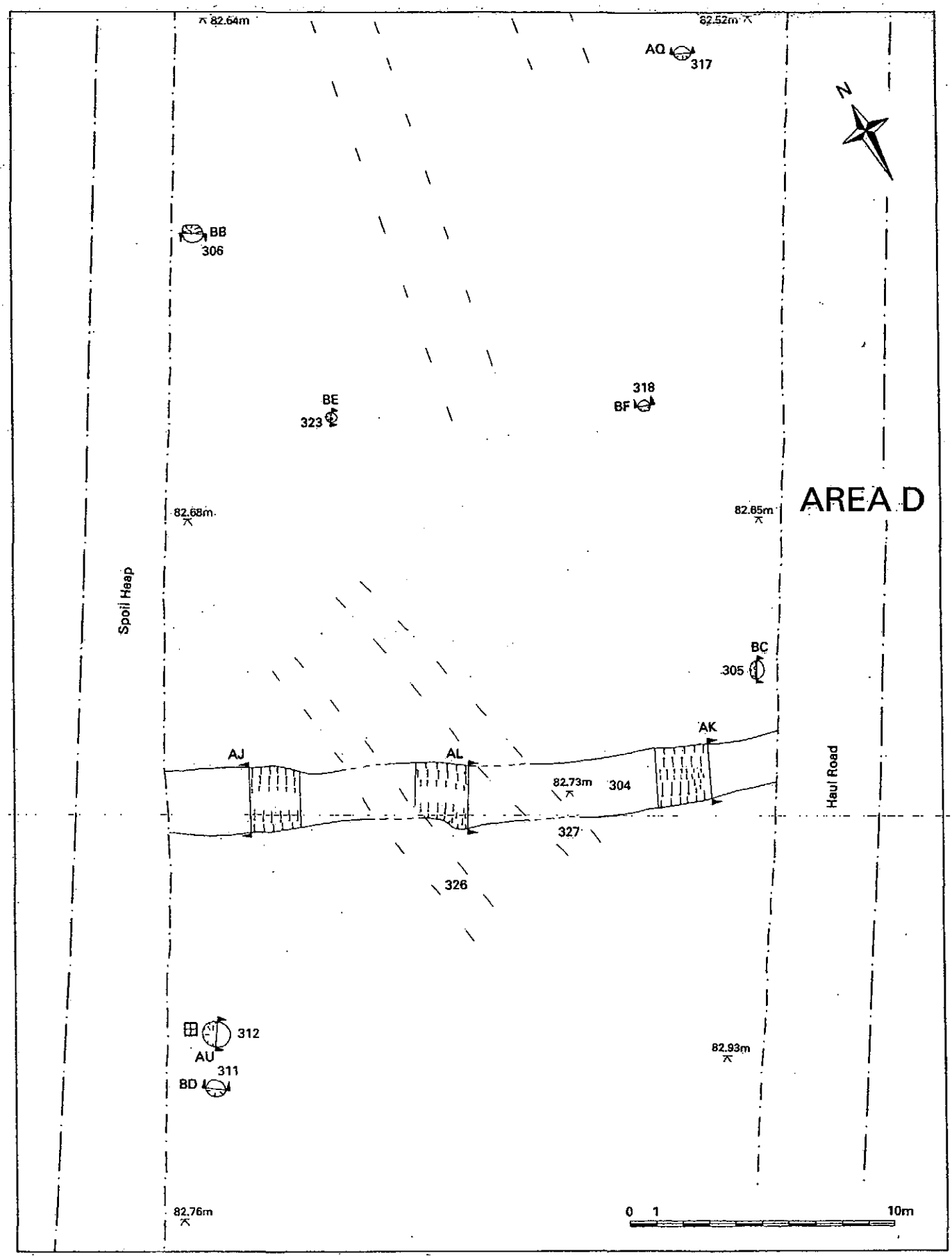


Fig 7: Detailed plan of Area D south (key on Fig 8)

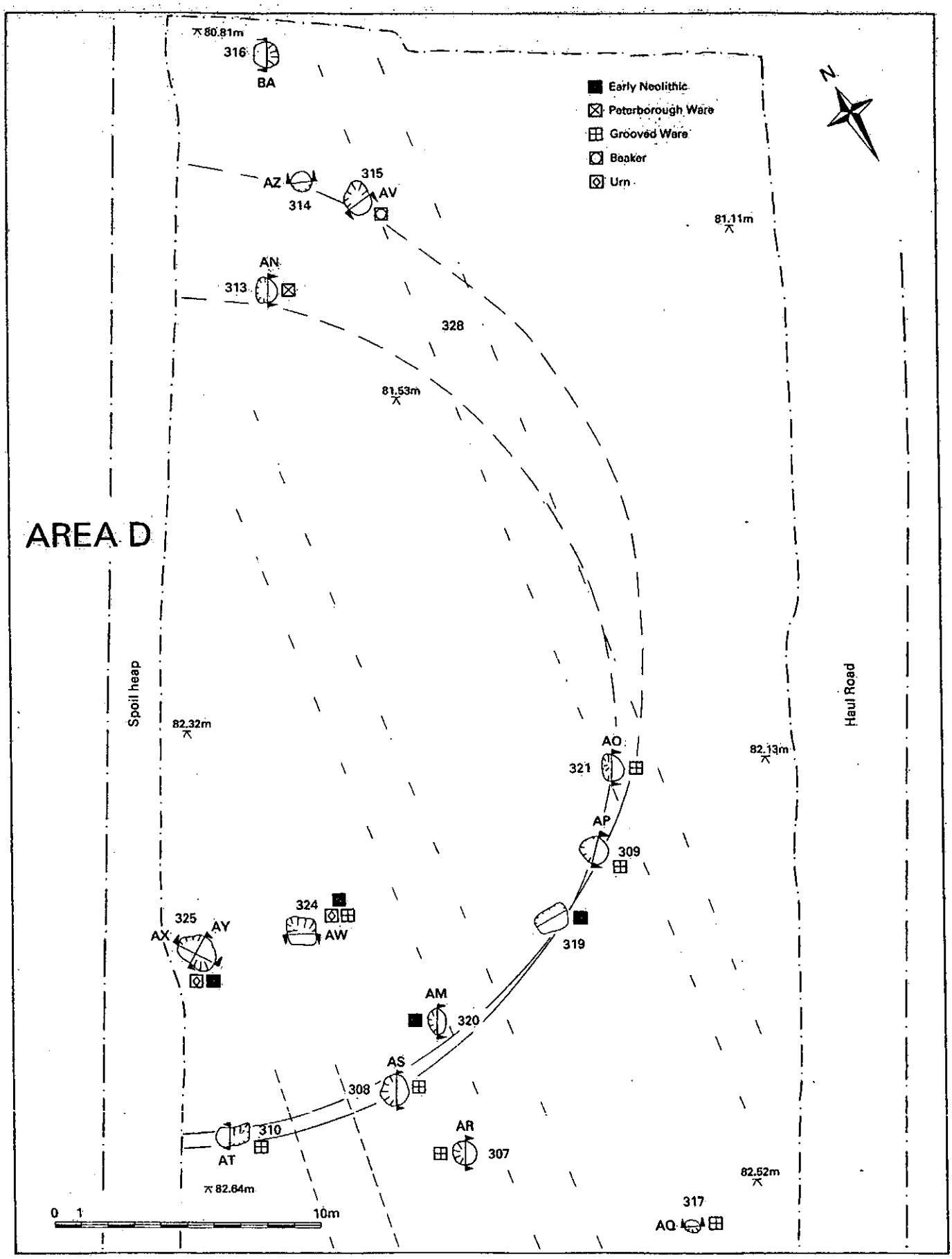


Fig 8: Detailed plan of Area D north showing possible pit circle

PHASE 5: MEDIEVAL & MODERN

The gravel surface was scarred by a number of parallel linear features aligned broadly north to south (**303, 326, 327** and **328**). These are taken to be medieval furrows and their apparent misalignment the result of ploughing over a slope. The natural was covered by a thin (*c* 0.20m) layer of brown sandy loam with occasional small pebbles (**301**) that probably represented an old plough soil derived from medieval ridges. This was sealed by *c* 0.30-0.35m of dark brown sandy loam modern plough soil **300**.

Table 6: Area D, Phase 1 pit group

Section	Cont ext	Shape	Dimensions (m)	Depth	Description	Finds
Early Neolithic pits						
	319	Sub-oval	1.30 x 0.90	0.40	Very steep sloping sides and flat base. Single fill of brown sandy loam	1 sherd
Fig 9, AM	**320**	Sub-oval	0.95 x 0.65	0.23	Sloping sides and scooped base. Single fill of dark brown sandy loam with 13 heat-cracked pebbles (hcp)	1 sherd, flint
Peterborough Ware pit						
Fig 9, AN	**313**	Sub-circular	0.95 x 0.80	0.27	Sloping sides and irregular base. Single fill of dark greyish-brown sandy loam with charcoal flecks and two hcp	1 sherd, flint, Emmer wheat x 1, wheat x 1, cereal x 1, hazel nutshell x 12
Grooved Ware pits						
Fig 9, AO	**321**	Sub-oval	1.05 x 0.80	0.20	Irregular sloping sides and base. Single fill of dark greyish-brown sandy loam	1 sherd of probable Grooved Ware, flint, cremated bone, hazel nutshell x 10
Fig 9, AP	**309**	Sub-circular	1.0 diameter	0.32	Near vertical sides and irregular base with three fills. **309/3** brown sandy loam **309/2** black sandy loam with charcoal **309/1** very dark grey sandy loam	 7 sherds, flint, cremated bone, hazel nutshell x 21, Vetch x 1, Self-heal x 1, indeterminate x 1 8 sherds, flint, cremated bone, Emmer/Spelt x 1, cereal x 1, hazel nutshell x 51, indeterminate x 1
Fig 9, AQ	**317**	Oval	0.60 x 0.50	0.17	Sloping sides and rounded base. Single fill of greyish brown sandy loam	12 sherds, flint, cremated bone, ?fr cereal, 6 x hazel nutshell
Fig 9, AR	**307**	Circular	0.95 diameter	0.10	Sloping sides and flat base. Single fill of dark greyish brown sandy loam	2 sherds & 1 frag of fired clay, flint, cremated bone, 1cf barley, hazel nutshell x 66, grasses x 1
Fig 9, AS	**308**	Sub-circular	1.20 x 1.10	0.30	Sloping sides and flattish base. Single fill of dark greyish-brown sandy loam with strong brown flecks towards base and hcp throughout	13 sherds & 1 frag of fired clay, flint, bone, cf Barley x 1, hazel nutshell x 3, Vetch x 1, indeterminate x 1
Fig 10, AT	**310**	Sub-oval	1.20 x 0.70	0.19	Sloping sides and rounded base. Single fill of dark yellowish brown sandy loam with few hcp	1 sherd, flint, cremated bone, Wheat x 1, Barley x 1, Barley (naked) x 1cf, cereal x 1, glumes (Emmer & Emmer/ Spelt) x 2, cereal stem x 1, hazel nutshell x 6

Table 6: continued

Section	Context	Shape	Dimensions (m)	Depth	Description	Finds
Fig 10, AU	312	Sub-circular	1.0 x 0.90	0.43	Steep sloping sides and flattish base with three fills. **312/3** dark brown sandy loam (pebble free) **312/2** black (charcoal rich) sandy loam with 6 hcp **312/1** dark brown sandy loam	 1 sherd & 4 frags of fired clay, flint, cremated bone, hazel nutshell x 61 flint, hazel nutshell x 12, indeterminate x 2
Beaker pit						
Fig 10, AV	315	Sub-oval	1.30 x 1.05	0.36	Steep sloping sides and irregular but flattish base with five fills. **315/5** redeposited natural gravel **315/4** dark brown sandy loam **315/3** black charcoal rich sandy loam **315/2** redeposited natural gravel **315/1** dark brown sandy loam	 Flint 1 sherd, flint, Barley x 1, cereal x 3, hazel nutshell x 238, Vetch x 1, indeterminate x 2
Urn pits						
Fig 10, AW	324	Sub-circular	1.10 x 1.05	0.36	Steep sloping sides and flattish base with two fills. **324/2** black charcoal rich sandy loam **324/1** dark brown sandy loam	 1 residual E-Neo & 1 Grooved Ware sherd, flint, jet bead, bone, hazel nutshell x 350, Sloe x 1, indeterminate x 1 6 residual Grooved Ware sherds; 4 Urn sherds & 3 frags of fired clay, flint, cremated bone
Fig 10, AX, AY	325	Sub-oval	1.60 x 1.15	0.38	Sloping and steep sides with flat base and two fills. **325/2** red clay with pebbles **325/1** dark brown sandy loam	 1 residual E-Neo sherd, 13 Urn sherds & 1 frag of fired clay, flint, cremated bone, hazel nutshell x 2, indeterminate x 2

Area G, Harbury (Fig 11)

PHASE 2: MIDDLE-LATER BRONZE AGE

Cremation pit 602

MWA 88 22

Pit **602** lay 21m south-west of pit **601** and had shallow sloping sides 0.50m wide and a rounded base 0.12m deep. It was filled with dark grey silty clay that included cremated bone (total sample). Two radiocarbon determinations derived from onion couch grass tubers (SUERC-3492 and SUERC-3491) provide a date range of 1530-1320 Cal BC at 95.4% probability for the cremation.

Plate IV: Area D, viewed from the south looking over the shoulder of the hillside

Plate V: Area D, viewed from the north toward the Dunsmore plateau

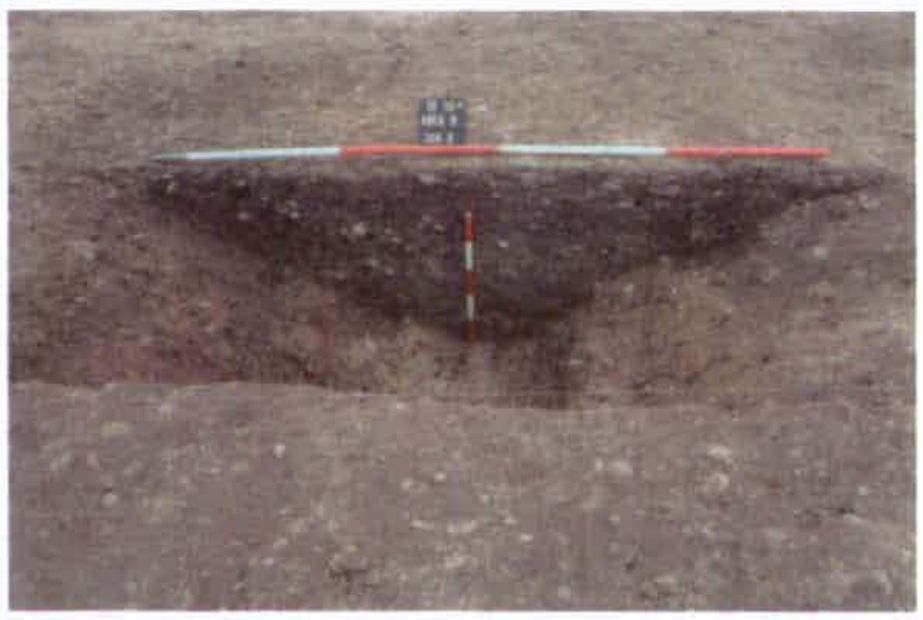


Plate VI: Area D, enclosure ditch ***304***

Plate VII: Area D, Grooved Ware pit ***309***

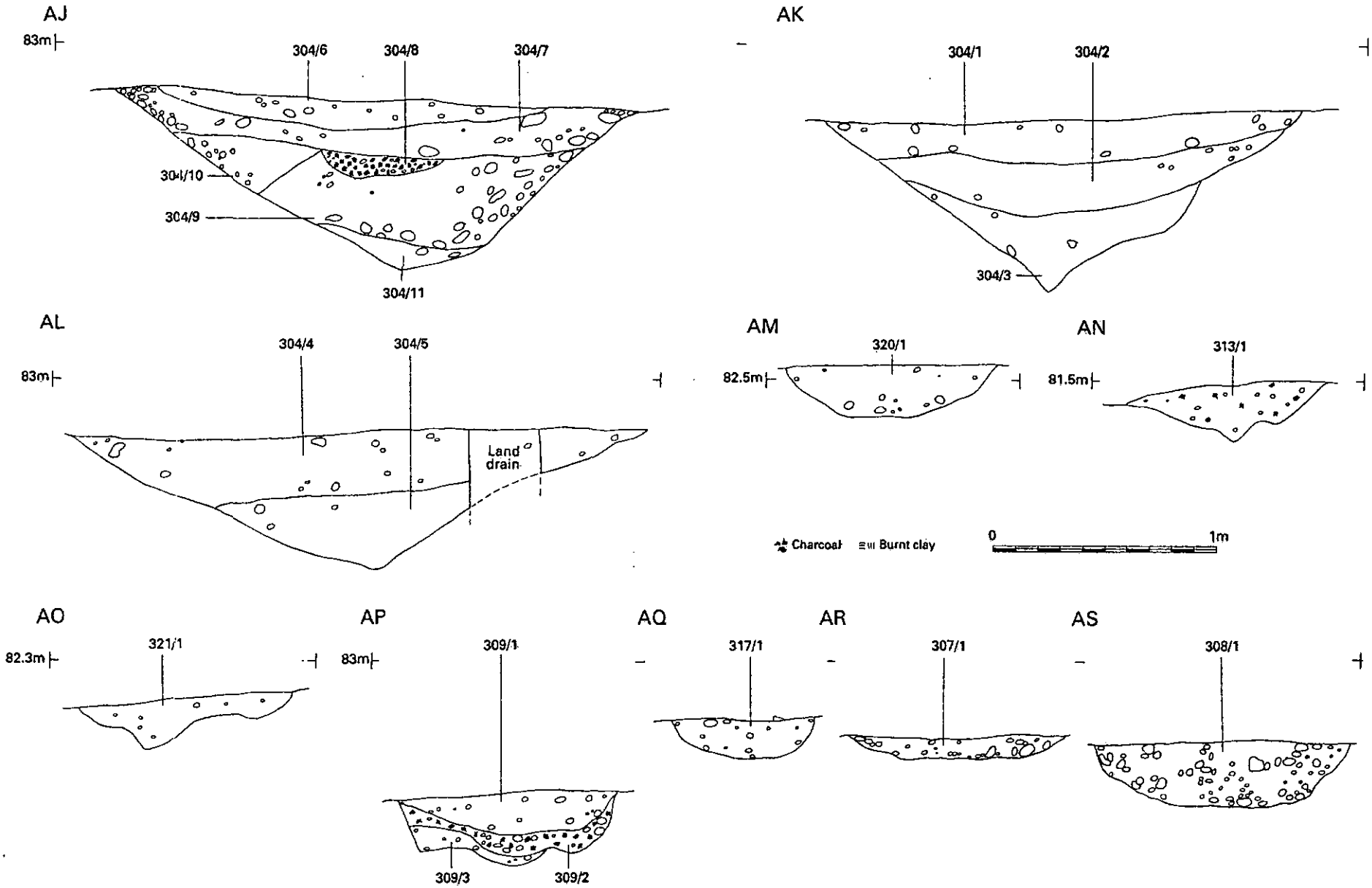


Fig 9: Area D, sections: enclosure ditch AJ-AL; pits AM-AS

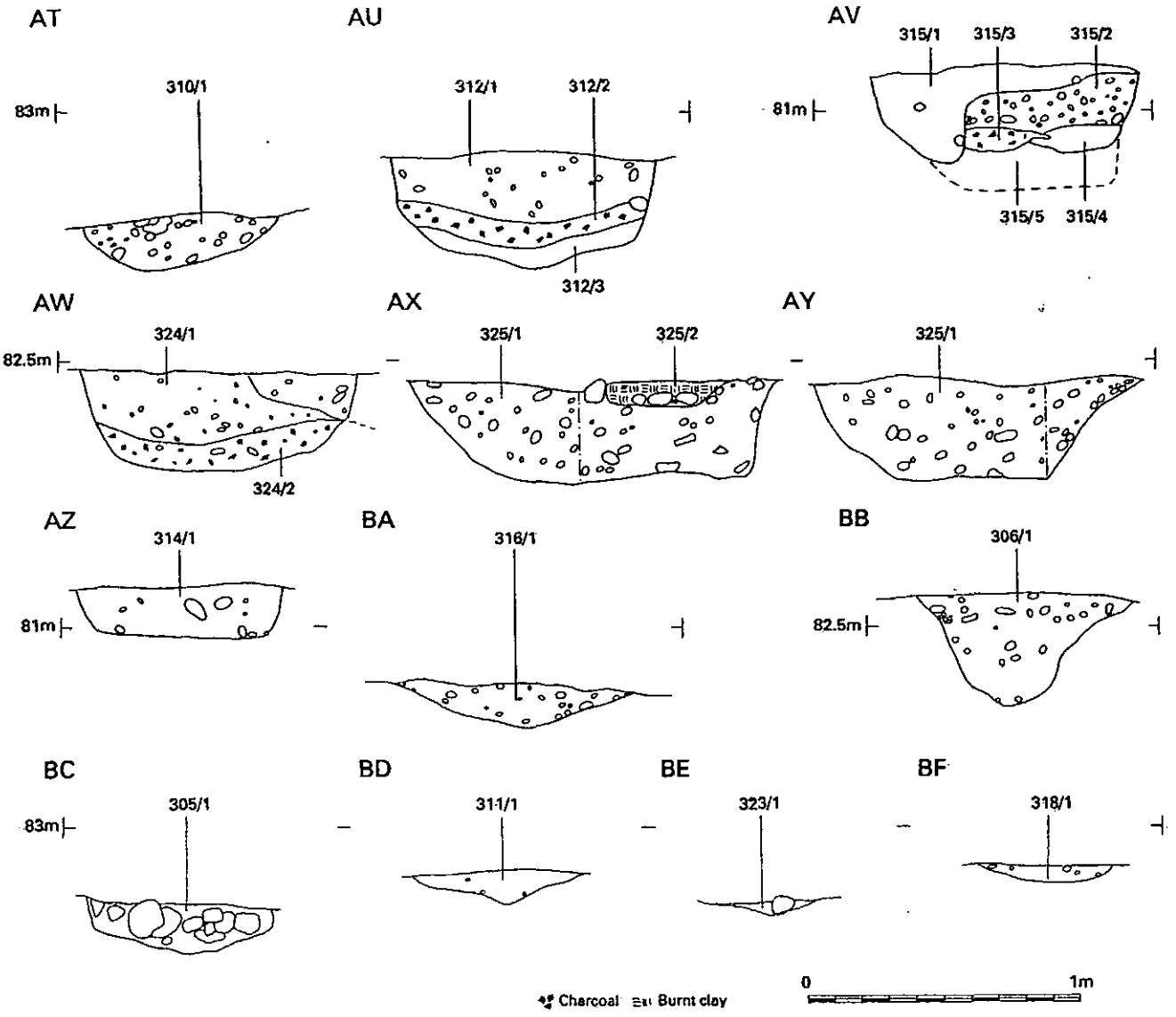


Fig 10: Area D, sections: pits AT-BF

Table 7: Area D, Phase 4 undated pits

Section	Context	Shape	Dimensions (m)	Depth	Description	Finds
Fig 10, AZ	314	Sub-circular	0.80 x 0.70	0.20	Steep sloping sides and flat base. Single fill of greyish-brown sandy loam	1 sherd, Emmer x 2, Barley x 4, cereal x 7, nutshell x 29, bedstraw
Fig 10, BA	316	Sub-circular	1.0 x 0.95	0.17	Sloping sides and scooped base. Single fill of very dark greyish-brown sandy loam	Flint, cremated bone, nutshell x 59, Vetch/Vetchling
Fig 10, BB	306	Sub-circular	0.80 x 0.70	0.43	Flared U-shaped profile. Single fill of very dark greyish-brown sandy loam with hcp	Flint, hazel nutshell x 169
Fig 10, BC	305	Oval	0.70 x 0.50	0.18	Near vertical sides and obtuse pointed base. Single fill of very dark greyish-brown sandy loam with 53 hcp and medium pebbles	Flint, Barley x 1, Vetch/Vetchling x 1
Fig 10, BD	311	Oval	0.70 x 0.60	0.13	Shallow sloping sides with acute angled base. Single fill of very dark greyish-brown sandy loam with 1 hcp	Flint
Fig 10, BE	323	Sub-circular	0.40 x 0.35	0.07	Shallow scoop. Single fill of very dark greyish-brown sandy clay loam with three hcp	
Fig 10, BF	318	Sub-circular	0.45 x 0.40	0.07	Shallow scoop. Single fill of greyish-brown sandy loam	Flint, cereal fr?, hazel nutshell x 6

Plate VIII: Area G, viewed from the north

Plate IX: Area G, cremation pit ***602***

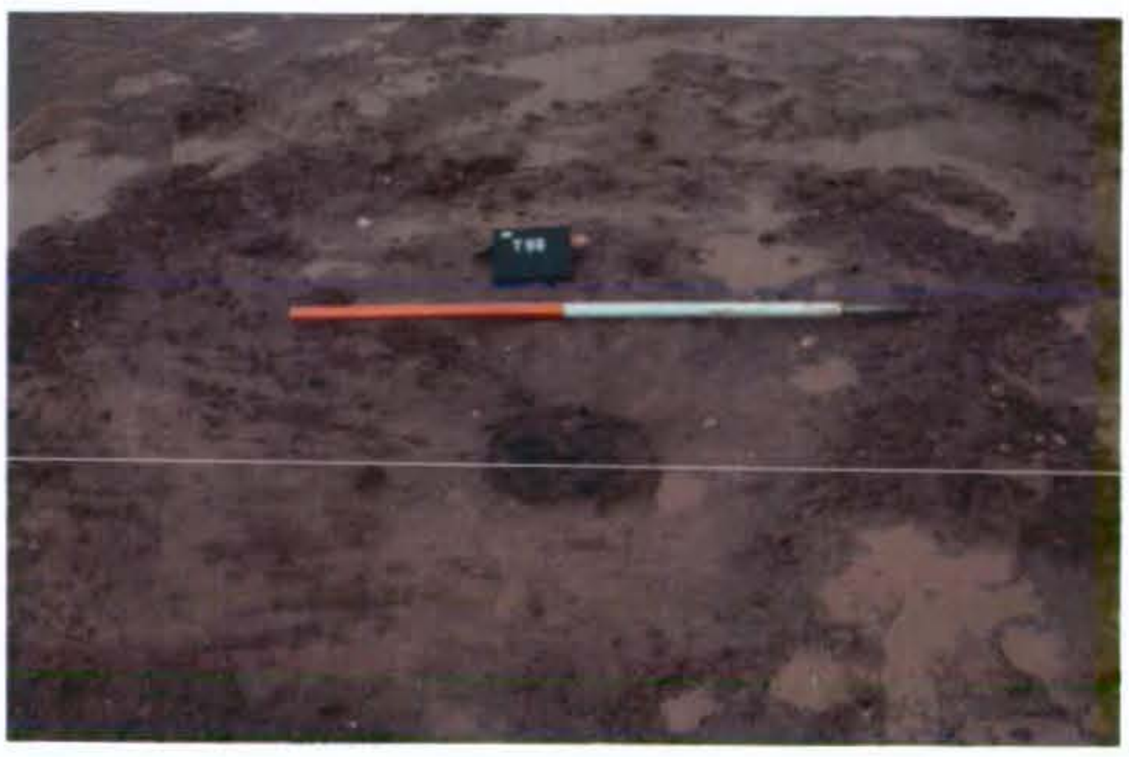


Plate X: Area G, pit ***601***

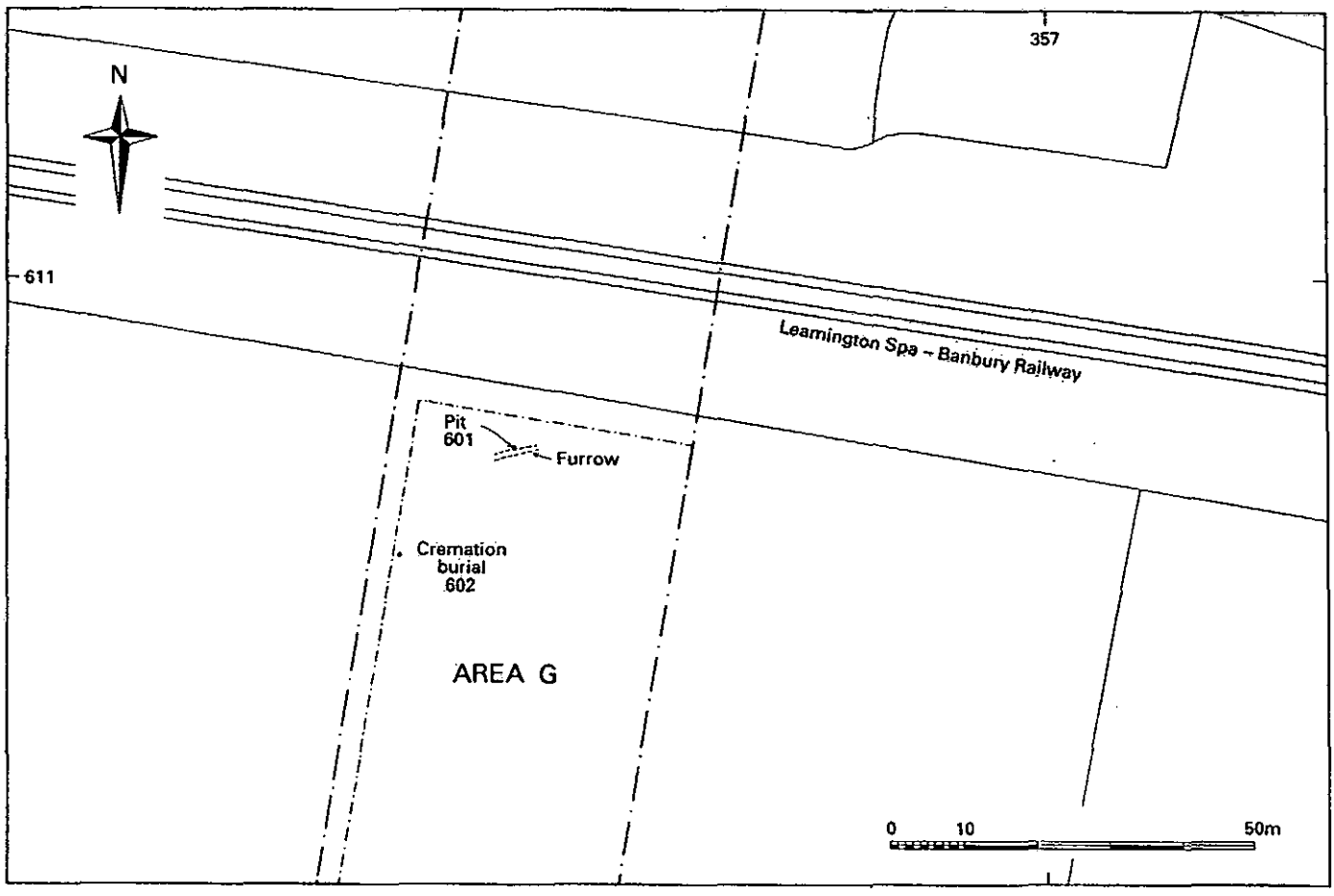


Fig 11: Detailed plan of Area G

PHASE 3: LATE BRONZE AGE

Pit 601 MWA8621

Pit **601** was circular, 0.50m in diameter with a rounded base 0.15m deep filled with dark grey silty sand with occasional charcoal flecks, occasional small pebbles and two large pebbles. The pit was recorded as containing a single albeit truncated pottery vessel with many loose sherds dispersed over an area *c* 3m wide to the east of the pit (Gibson below, G1, G2 and G3).

PHASE 5: MEDIEVAL AND MODERN

A series of unnumbered east-west aligned furrows crossed the area. Topsoil **600** was dark greyish-brown silty clay loam and was 0.15m deep.

FLINTWORK AND JET BEAD *by Lynne Bevan*

Area C, King's Newnham

A total of 152 flints, weighing 147 g, was recovered from Area C (Table 8). The raw material used was indistinguishable from that used in Area D and that recovered from along the pipeline, and shape morphology was also similar, in that flakes tended to be small and squat, typical of Later Neolithic-Bronze Age industries (eg

Pitts 1978). Their size and shape was determined by the fairly small size of the pebbles used and by unskilled knapping techniques, often apparently without formal platform preparation.

Table 8: Flint finds from Area C

Core	*Core frag/ CRF*	*Flake/ Chunk*	*Micro-debitage*	*Scraper*	*Other Retouched*
1	-/-	53/2	95	-	1 arrowhead

There were only two datable items in the stratified collection, one of which was a small flake core of Late Neolithic to Early Bronze Age date (SF 334, **220/1**, not illustrated), which came from the same pit as a large rounded lump of fired clay, possibly a loomweight (see Gibson below). While the fired clay object was undated, other ceramics from this area of the site were dated to the Middle Neolithic and Early Bronze Age (Gibson below). Unfortunately, none of the other contexts from Area C yielding prehistoric ceramics contained more than a few undiagnostic flint flakes.

The only other datable item from Area C was an unfinished arrowhead preform (Fig 13, no 12) that broadly conformed to a tanged Sutton A type of Early Bronze Age date (Green 1980, fig 45 a, 122), found with some unrelated micro-debitage. Its occurrence is unsurprising, since this type was identified 'as the predominant type in the contiguous English regions of the Upper Thames, Cotswold and Midlands' (ibid, 119).

Area D, Church Lawford

The assemblage from Area D comprised 1992 items of worked flint, weighing 1434g. This represents over 87% of the total flint assemblage recovered from all areas along the pipeline. The high incidence of micro-debitage from Area D has biased the assemblage in favour of unretouched flakes, which comprise nearly 98% of the total flint assemblage from all areas combined. However, even when the micro-debitage is removed from the overall total, the percentage of waste remains high, at over 90% of the assemblage.

RAW MATERIAL

As was the case with the total flint assemblage from all areas, the flint tools and waste from Area D were struck from small flint pebbles of a generally unpredictable quality. When present, remnant cortex was thin and compacted and characteristic of pebble flint from secondary deposits, the most probable source being local river gravels. Despite a prevalence of internal voids and crystalline inclusions, which have resulted in a high incidence of hinge fractures, the quality of the flint was generally good and its appearance was almost exclusively glossy and fresh. Very little post-depositional edge-abrasion was noted. Flint colours ranged from light grey and light brown to medium and darker brown and grey, with the majority of pieces being translucent rather than opaque. There was a very low incidence of white recortication (resulting from chemical changes in the soil) and burning noted among the struck flint. Some yellowish chert was noted among the micro-debitage but few items of this material were noted among the larger flakes and artefacts recovered. This material does not appear to have made any significant contribution to the assemblage as a whole.

QUANTIFICATION

Tables 9 and 10 show the quantification of tools and waste categories recovered from Area D.

Table 9: Flint debitage from Area D

Core	*Core frag/ Rejuvenation flake (CRF)*	*Flakes: P/S/T*	*Blade-like flakes*	*Chunk*	*Micro-debitage*
4	2/4	3/112/115	5	3	1707

Table 10: Retouched items from Area D

Retouched Flake	*Serrated blade/flake*	*Fabricator*	*Point*	*Scraper-ovoid*	*Scraper –other*
13	1/2	2	2	9	8

TECHNOLOGY AND CHRONOLOGY

Very few of the unretouched flakes showed any evidence of obvious utilisation, although utilisation was common among the retouched items, especially the scrapers. It is probable that many of the flakes were indeed used, but discernible utilisation might not have occurred if flakes were discarded after single episodes of use. Flakes were small and squat, typical of Later Neolithic/Bronze Age industries (eg Pitts 1978), their size and shape determined by the fairly small size of the pebbles used and by unskilled knapping techniques, often apparently without formal platform preparation. Careful core reduction techniques were evident from some core rejuvenation flakes, which mainly demonstrated systematic blade removal from a prepared striking platform, as well as from the occurrence of facetted butt ends of flakes, a form indicative of platform edge management (Brown 2000).

There was a low incidence of cores and core fragments in the assemblage, with the total number of these items accounting for under one percent of both the total assemblage and the large assemblage from Area D. Although the Area D assemblage was weighted in favour of small flakes, due to a high incidence of micro-debitage, more cores might normally have been expected, especially since larger items such as cores are more likely to be recovered during fieldwalking and excavation.

A pyramidal, mixed blade and flake core of Early Neolithic date from topsoil **300** (SF 294, not illustrated) had been worked to exhaustion. This core had a large crystalline inclusion at its centre, demonstrating the use of poor quality flint. Resource stress, which was observed among tools and waste in flint assemblages from other areas of the site, is not uncommon in Midlands flint assemblages, since the flint being used was often of small size and unpredictable quality (Saville 1979; Bevan 1995a, 1995b and 1996).

This paucity of cores precluded meaningful statistical analysis in terms of average core weights, which would normally be conducted on an assemblage of this size. Moreover, few of the cores recovered were associated with other related debitage, precluding refitting in order to investigate the core reduction process in all but one instance (Fig 12, 2). This low incidence of cores might have resulted from core reduction taking place elsewhere, with perhaps cores being either discarded

elsewhere or reduced to tool preforms, which were then further worked in the excavated areas. That initial decortication was performed elsewhere is supported by there being hardly any primary flakes resulting from initial cortical removal present in the collection. A far greater number of primary flakes was recorded at Wasperton, Warwickshire, for example (Bevan 1996).

There is also a possible chronological explanation for the lack of cores, since later prehistoric assemblages, particularly those dating to the Later Bronze Age, like that recovered from the Riverside Zone at Runnymede Bridge, Egham Surrey, are often derived from smashed pebbles and chunks, instead of formal cores (Bevan forthcoming). This kind of 'smash and grab' approach to material procurement results in a high incidence of smashed chunks and pebbles, many of which show no signs of flint-working. However, a similarly low incidence of smashed chunks and pebbles in this assemblage, as well as the comparative dating of other waste and tool groups discussed below, and the presence of Neolithic and Early Bronze Age ceramics (see Gibson below), would tend to argue against a generally later Bronze Age date for the majority of the assemblage.

TOOL TYPES

Cores

Most of the cores, core fragments and core rejuvenation flakes from Area D dated to the Early-Late Neolithic periods. These include a pyramidal mixed blade and flake core of Early Neolithic date from the topsoil **300** (SF 294, not illustrated) and two core rejuvenation flakes with narrow flake detachments (SF 294, **300**; and SF 36 & 43, **304/1**, not illustrated). A core fragment with narrow blade detachments might be of a similarly early date (SF 41, **301**, not illustrated). A rough pebble core from which broad blades and flakes had been detached (Fig 12, 1), an exhausted multi-platform mixed blade/flake core (Fig 12, 2) and an exhausted flake core (Fig 12, no 3) were all of Later Neolithic date. A core rejuvenation flake with blade detachments (SF 294, topsoil **300**, not illustrated) was also of probable Later Neolithic date. A fragment from a flake core (SF 294, topsoil, not illustrated), similar to the cores from Areas A, C and H, was of Later Neolithic-Bronze Age date.

Flake cores with multiple platforms and pebble cores are both characteristic of later prehistoric flintworking; for example, in the assemblage from the Late Bronze Age Riverside Zone at Runnymede Bridge, Egham, Surrey (Bevan forthcoming). Split pebble cores similar to Fig 12, 1 are also common among Midlands assemblages of Later Neolithic-Early Bronze Age date, including the assemblage from the site at Wasperton, Warwickshire (Bevan 1996, fig 16: 8-9, 36).

Scrapers

A total of 17 scrapers was found. These can be divided into three main stylistic and possibly functional groups. The simplest types are miscellaneous side, end or side/end scrapers, with one retouched edge in the case of the basic side and end forms and two to three retouched edges in the case of the side/end forms. One end scraper, one side scraper and four side/end scrapers were identified. These can be distinguished from retouched flakes by their thickness and generally 'heavier' appearance. However, they are not generally chronologically-diagnostic and are likely to be of Neolithic to Bronze Age date, or even Later Mesolithic date in the case of unstratified examples.

The second type of scraper is an ovoid form (Fig 12, 4-6), worked around up to 90% of its circumference. This form, of which ten examples have been identified (including a small edge fragment), was made on a large primary flake, which was

either de-corticated or often retained a large proportion of cortex on its dorsal surface. The flaking is generally shallower and at a more oblique angle than that of the heavier variety. Used on both Neolithic and Bronze Age sites, this was the most common tool recorded at Mildenhall Fen, West Suffolk where it was described as a 'convex' scraper (Clark 1936, 45). Occasionally, ovoid scrapers were more substantial, with thicker dorsal's and steeper edge retouch, one example of which was recovered from Area D (Fig 12, 6). Such tools might have been used for more heavy-duty tasks such as butchery or woodworking.

The occurrence of Group 1 end and side/end scrapers and Group 2 ovoid scrapers together in the same context, together with Grooved Ware pottery (pit fill **307/1**), demonstrates contemporaneity and a Later Neolithic date for both kinds of scrapers. This dating is also applicable to the more substantial steep-backed ovoid scraper (Fig 12, 6) which was also recovered from a Grooved Ware pit **312**.

The third type of scraper is the discoidal 'thumbnail' scraper, a distinctive type of scraper prevalent among Beaker-related assemblages (Healy 1986), and generally dated to the Early Bronze Age. A small segment from a similar-sized thumbnail scraper to a particularly fine example from Field 9 came from topsoil **300** in Area D (SF 294, not illustrated).

Fabricators

Two fabricators were recovered (Fig 12, 7-8). Fabricators are a class of tool associated with both Earlier and Later Neolithic industries, as well as continuing into the Early Bronze Age (Edmunds 1995, fig 20, 41, fig 65, 95 and 137). They have also been recorded on Late Bronze Age sites such as Runnymede Bridge, Egham, Surrey (Bevan forthcoming). They are generally considered to have been used as strike-a-lights but might also have been used for other purposes, including working leather or stone (ibid, 41). Both examples in this assemblage (Fig 12, 7-8) were recovered from pits containing Grooved Ware pottery, although fragments from an Early Bronze Age vessel were also recovered from the same context (see Gibson below) as the smaller fabricator (Fig 12, 8), in which case it might be of Early Bronze Age date.

Points

Two points were identified, one of which came from **301** (Fig 13, 9) and the other from topsoil **300** (SF 294, not illustrated). While the latter is of a simple triangular form, the illustrated example has notches at either side, probably designed for gripping, and a working end, which is now blunted. It has been extensively retouched and utilised at both ends, where it presumably fulfilled a piercing/boring function, and along one side, where it appears to have fulfilled a scraping function. This tool is similar to the 'multiple tool... a combined scraper and point' identified among Bronze Age material at Grimes Graves (Saville 1981, 25). Harding (1991, 85) has noted the proportional dominance of piercing tools such as these as being typical of late Bronze Age assemblages in southern England (Fasham & Ross 1978; Harding 1992). While a Bronze Age date seems likely for pointed tools such as the illustrated example and the other simpler point recovered from topsoil such tools are not generally chronologically diagnostic and a Bronze Age date cannot be assumed. The low number of such tools may have been connected with site function or perhaps a preference for bone or metal points.

Serrated blades

Serration, the presence of regular, tiny notches along the edge of a struck flint, was noted on four blades, three of which came from Area D, the two most complete

examples of which have been illustrated (Fig 13, 10-11). Current debate on serration centres on whether it was intentional or whether it was caused by edge-damage from being used for a certain function, for example use as a sickle on plant material (Andrew Brown pers comm). At assessment stage, sickle gloss was observed on the serrated pieces from Area D (Brown 2000), two of which came from Grooved Ware pits (Fig 13, 10 and SF 288, **309/1/3**, not illustrated) and one of which came from a pit also containing a possible sherd of Beaker pottery (Fig 13, 11).

ILLUSTRATED CATALOGUE (Figs 12, 1-8 & Fig 13, 9-12)

1 Core, used for broad blades and flakes and made from a split pebble. Light brown flint. L 43mm, W 28mm, Th 17mm, Wt 28g (Enclosure ditch fill D:1:**304/2**, SF 57).

2 Core, used for blades and flakes, multi-platformed, with refitted flake (D:1:**312/2**, SF 106). Mottled medium grey-brown flint. L 44mm, W 45mm, Th 32mm, Wt 50g (Grooved Ware pit fill D:1:**312/2/2**, SF 281).

3 Core, used for small flakes, one main platform, exhausted. Light grey-brown flint. L 33mm, W 30mm, Th 22mm, Wt 22g (Grooved Ware pit fill D:1:**307/1**, SF 161).

4 Scraper, ovoid in shape. Light brown-light grey opaque flint. L 41mm, W 35mm, Th 5mm, Wt 13g (Grooved Ware pit fill D:1:**307/1**, SF 70).

5 Scraper, ovoid in shape, slightly burnt. Dark brown flint. L 44mm, W 35mm, Th 7mm, Wt 14g (Grooved Ware pit fill D:1:**312/2**, SF 106).

6 Scraper, ovoid in shape with steep dorsal. Dark brown flint. L 44mm, W 35mm, Th 15mm, Wt 25g (Grooved Ware pit fill D:1:**312/2**, SF 106).

7 Fabricator. Medium-grey flint. L 67mm, W 15mm, Th 22mm, Wt 28g (Urn pit fill D:1:**324/2**, SF 144).

8 Fabricator. Medium-grey flint, made from a small, cigar-shaped pebble. L 50mm, W 14mm, Th 12mm, Wt 12g (Grooved Ware pit fill D:1:**312/2**, SF 106).

9 Pointed tool/scraper. Speckled medium-brown flint. L 32mm, W 21mm, Th 8mm, Wt 7g (Medieval plough soil D:5:**301**, SF 75).

10 Serrated blade. Light grey flint. L 42mm, W 18mm, Th 3mm, Wt 3g (Grooved Ware pit fill D:1:**307/1**, SF 160).

11 Serrated blade. Light grey opaque flint. L 47mm, W 20mm, Th 3mm, Wt 5g (?Beaker pit fill D:4:**315/1**, SF 119).

12 Arrowhead preform, tanged Sutton A type (Green 1980, fig 45:a, 122). Light grey flint. L 27mm, W 16mm, Th 3mm, Wt 1g (Pit fill C:4:**228/1/1**, SF 397).

OCCURRENCE OF WORKED FLINT IN DATABLE CONTEXTS

Some of the more interesting items from Area D were derived from the enclosure ditch containing Grooved Ware pottery (**304**) and a series of Grooved Ware pits (see Gibson below). These represent the largest flint assemblages hitherto recovered from Grooved Ware contexts in Warwickshire, since such finds are uncommon in the region (Bradley 2000, 27). This assemblage is far larger and of a slightly different composition to assemblages derived from Grooved Ware pits in the

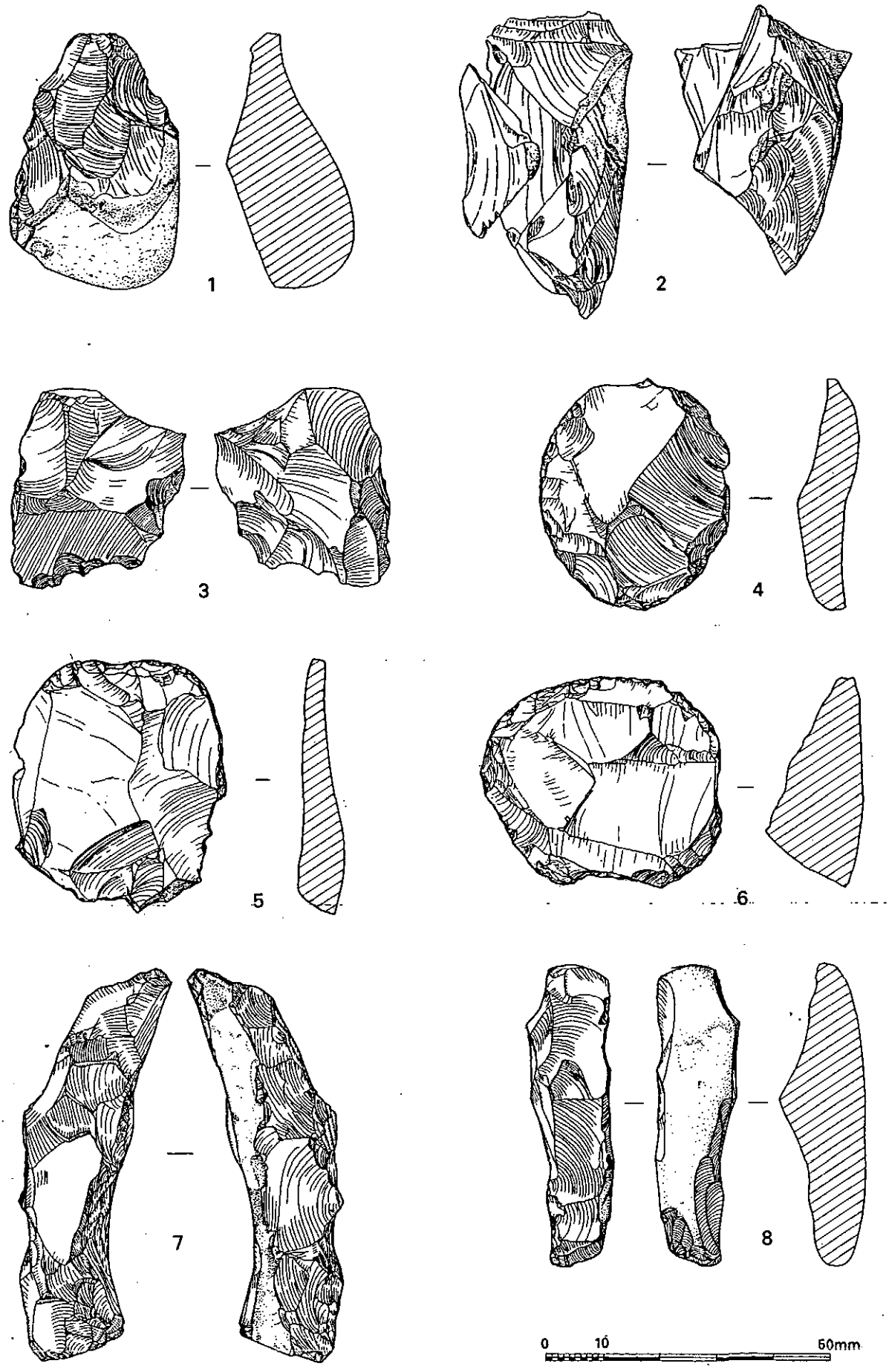


Fig 12: Excavated flintwork Area D: 1-8

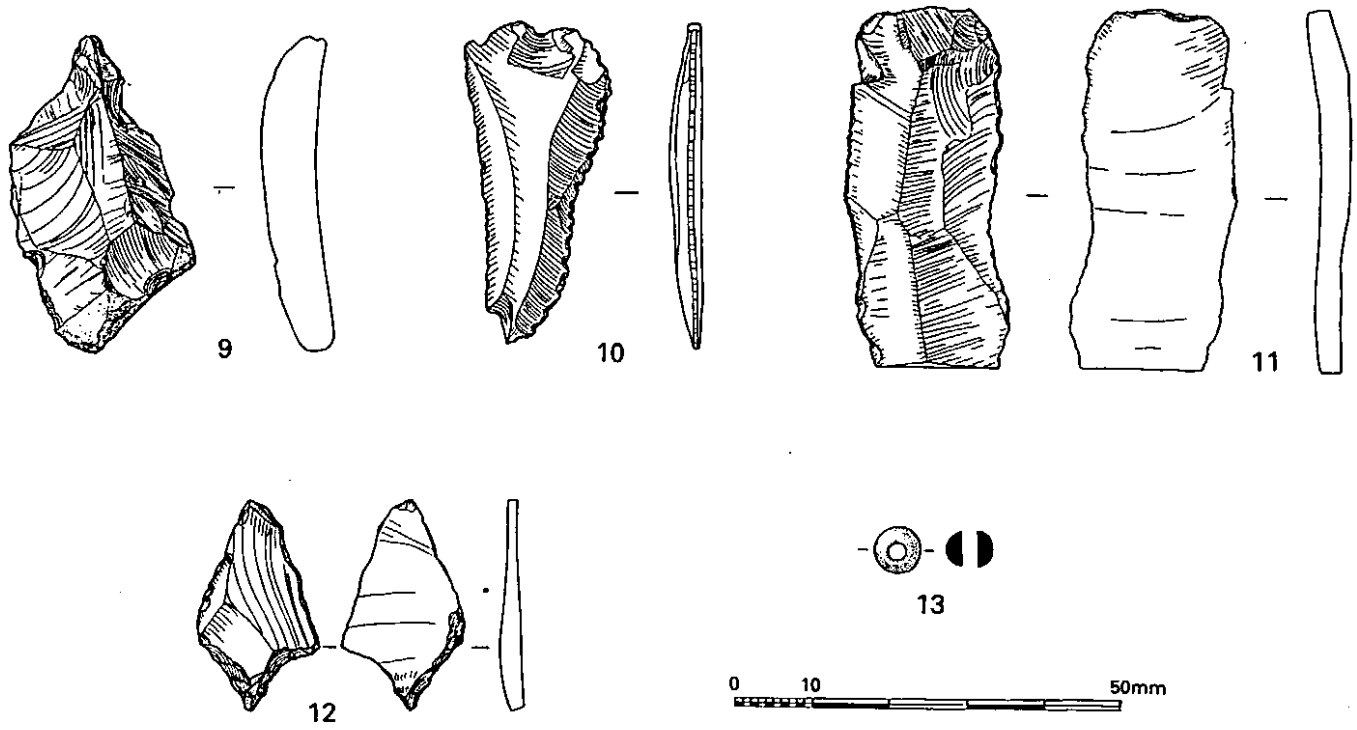


Fig 13: Excavated flintwork Area D: 9-11; Area C, 12, Area D, jet bead 13

Arrow Valley, Warwickshire (Bradley 2000). The composition of flint assemblages by pit is shown in Table 11. The larger and more interesting of the flint groups are discussed individually and compared to the flint assemblage from the enclosure ditch (**304**).

Pit 307

An interesting assemblage comprising a serrated blade (Fig 13, 10), two ovoid scrapers (Fig 12, 4 and SF 160, not illustrated), an exhausted flake core with hinge fractures (SF 161), an end scraper (SF 162), a side/end scraper (SF 163) and 120 unretouched flakes came from pit **307** (Table 11). The material used, which was probably from the same nodule(s), varied in colour between a translucent deeper grey and an opaque lighter grey, the latter similar to that used for a retouched flake from pit **304** (SF 53). This demonstrates that the flint used was mottled in colour, with converging translucent and opaque areas in the same nodule(s), rather than originating from separate flint sources. This mottled flint appears to have been a preferred type of flint during this period, despite being of an unpredictable quality, with crystalline inclusions which led to the hinge fractures noticeable in the core (SF 161). Contemporaneity between the simpler side and side/end scrapers and the ovoid scrapers is also demonstrated, with examples of both types occurring in the same context with Grooved Ware pottery, indicating a Late Neolithic date for these tool types.

Pit 312

A large flake with preliminary flaking, apparently a preform for an ovoid scraper (SF 115, not illustrated), was recovered from **312/1**, together with Grooved Ware pottery. The material used for the preform was a high quality dark grey-brown, semi-opaque flint. Context **312/1** overlay a second pit fill (**312/2**) from which a

number of worked flints and waste were recovered. This group, which comprised 276 items, weighing 291 g, and included a high percentage of micro-debitage, appears to have been geared towards scraper production. Refitting was possible between a flake core and a flake (Fig 12, 2). A pronounced bulb of percussion on the flake and similarly pronounced bulbar scars on the core attested to a hard hammer technique being used. The refitted core/flake was of the same, distinctive, mottled semi-opaque grey-brown flint as a finely-worked, steep-backed ovoid scraper (Fig 12, 6) and all three items appear to have originated from the same flint, possibly the same large nodule, as did several other flakes. The scraper was of almost the same dimensions as two other ovoid scrapers from the same context, one of which was made from an identical semi-opaque dark flint as the scraper preform (SF 115) from **312/1**, and might have originated from the same nodule. There was some damage to this scraper (Fig 12, 5) which was otherwise in a pristine, apparently unused condition, due to burning. The third, thicker scraper had been heavily utilised and a fourth complete scraper of slightly smaller size with some cortical survival, but unused, was also recovered. Such is the extent of standardisation that all of these scrapers, and the preform, might have been made by the same person.

Table 11: Flint from Grooved Ware pits

Pit/context	*Retouched items*	*Waste categories*	*Total flints*
307/1	1 serrated blade, 5 scrapers	1 core, 120 flakes	127
309/1	1 serrated blade, 2 retouched flakes	89 flakes	92
309/2	1 scraper	85 flakes	86
310/1	-	89 flakes	89
312/1	1 scraper preform	-	1
312/2	1 fabricator, 4 scrapers	1 core, 269 flakes	275
317/1	-	37 flakes	37

Table 12: Flint from enclosure ditch 304

Context	*Retouched Items*	*Waste Categories*	*Total Flints*
304/1	1 scraper fragment	2 CRF, 10 flakes	13
304/2	-	1 core, 6 flakes	7
304/3	-	2 flakes	2
304/4	-	1 flake	1
304/6	1 retouched flake	2 flakes	3
304/7	1 retouched flake	-	1
304/8	-	29 flakes	29

Table 13: Flint from other features in Area D with prehistoric pottery

Pit/pottery	*Retouched items*	*Waste categories*	*Total flints*
313 Peterborough Ware	1 retouched flake	68 flakes	69
314 undated sherd	-	123 flakes	123
315 Beaker	1 retouched blade	148 flakes	149
319 E. Neolithic	1 retouched blade	1 flake	2
324/1 Urn/Grooved ware residual E. Neolithic	1 retouched blade	139 flakes	140
324/2 Urn/Grooved ware	1 fabricator, 2 scrapers, 1 retouched flake	58 flakes	62

Also noteworthy from this context was a small fabricator (Fig 12, no 8) made from a cigar-shaped nodule with a thinner cortex than the remnant cortex observed on the other material from **312/2**. The waste flakes and tools appear to represent the remains of up to five different kinds of pebble flint or individual flint nodules. These include the distinctive mottled flint used for the steep-backed scraper and core discussed above and the mixed translucent deep grey and opaque lighter grey flint

recovered from the enclosure ditch **304** and pit **307**. There were also several burnt flakes.

Enclosure ditch 304

The assemblage from the enclosure ditch fill **304/1**, comprised 56 items weighing *c* 61 g, which appears to have originated from a small number of pebble nodules. A small, retouched, carefully worked corner from a broken ovoid scraper (SF 35, not illustrated) appears to have originated from the same grey-brown pebble as a core rejuvenation flake from which five 5mm-wide blades had been detached (SF 36, not illustrated). Although this hypothesis remains unproven, that the scraper appears unused and was perhaps discarded through breakage, might indicate scraper manufacture on site. This is far less certain, however, than among the assemblage from the Grooved Ware pit **312**.

The rest of the debitage, which included another core rejuvenation flake from a blade core (SF 43, not illustrated), appears to have originated from two to three small light brown pebble nodules, although no re-fitting was achieved. A large hinge-fractured flake with a cortical platform and pronounced bulb of percussion attested to a hard-hammer technique being employed, and similarly pronounced bulbs were noted among other waste flakes from this context. Two burnt flakes were also recovered (SF 37 and SF 46), perhaps resulting from flint-working in close proximity to a hearth.

Other material from **304** included a Later Neolithic blade core from **304/2** (Fig 12, 1) from a similar-sized pebble nodule as the material used for the flint from **304/1**, and six unretouched flakes. Context **304/3** yielded two small flakes and **304/4** yielded a primary flake weighing 11 g. A large retouched flake of an opaque light grey flint (SF 53), weighing 15 g, came from **304/6**, together with two unretouched flakes weighing 4 g. Context **304/7** produced a retouched flake (SF 336) weighing 2 g and 29 items of micro-debitage came from **304/8**. Although none of the retouched flakes was particularly diagnostic, all of the material is in keeping with a Later Neolithic date, in common with the cores and core fragments discussed above, as well as with the Grooved Ware pottery recovered from the same feature. There were no discernible differences in flint-working techniques observed among the flint from this assemblage and the smaller groups from the Grooved Ware pits, although the kinds of artefacts recovered from the pits were often of a similarly domestic character. In this respect they differ from the more generalised flint-working debris recovered from enclosure ditch **304**.

DISCUSSION

The 1992 flints from Area D constitute an interesting and significant assemblage within the overall context of prehistoric archaeology in Warwickshire and the broader Midlands region. Study of the assemblage has provided new information for the regional database on tool types, sources of raw materials and technological changes through time. A lack of any microlithic, or diagnostically Mesolithic, waste component in the assemblage is surprising, compared to other Warwickshire assemblages such as the smaller one derived from the King's Newnham gas pipeline (Brown 2003). Although there is some Early Neolithic core material from the present site, the majority of the assemblage dates to the Later Neolithic to Bronze Age period, as do similar Warwickshire assemblages from Wasperton (Bevan 1995b), the Arrow Valley (Bradley 2000) and Tiddington (Barfield forthcoming), and in which a number of parallels of tool types have been found. However, the present assemblage is most significant for the nuanced information it provides through the detailed study of stratified flints found in contexts datable also by the presence of Grooved Ware pottery of the Later Neolithic. As in the Arrow Valley, pottery and

flint were found together in what are termed Grooved Ware pits, whilst at the present site such material was also found in an enclosure ditch. This present pipeline group also provides an opportunity to analyse functional usage of this material and to perhaps identify gendered structured deposition and production during the Later Neolithic. It is on these aspects of the assemblage that discussion will now concentrate.

The flint assemblage does seem weighted in favour of domestic, settlement-related material, as is often the case with flints from Grooved Ware pits (Bradley 2000, 27). Whilst conforming to the general 'domestic' character of Grooved Ware-related flint assemblages (ibid, 27), there are also some important differences between this assemblage and the other broadly Later Neolithic assemblage from the Arrow Valley. Whilst both assemblages featured the deposition of scrapers, serrated and retouched flakes, arrowheads and axes had been deposited in the Arrow Valley Grooved Ware pits (Bradley 2000, table 5, 27). However, these types of artefacts were not present among the flint from the Area D Grooved Ware pits from the site currently under discussion (Table 9) and only one unfinished arrowhead was recorded in this whole assemblage, at some distance from Area D. Arrowheads and axes are generally accepted to be associated with male-related activities and therefore their virtual absence from the present site contrasts with their presence in the Arrow Valley and in other Warwickshire assemblages such as those from Tiddington (Barfield forthcoming) and Wasperton (Bevan 1996; Wise 1995).

In contrast, there is a high incidence of scrapers among the retouched material from Area D, where several of these tools occur in the Grooved Ware pits. Scrapers are interesting in their own right, both as evidence of settlement *foci* (Schofield 1987, 280) and in terms of their use in reconstructing gendered space, since they are usually associated with hearth-based activities carried out by women (Herne 1991, 731; Hayden 1992; Grøn 1995; Bevan 1996 and 1997). However, their occurrence in the Grooved Ware pits is of interest in terms of tool manufacture and selection for deposition, particularly with regard to their association in pits **307** and **309** with serrated blades with silica gloss from being used to cut cereal. Bradley has noted that serrated flakes from the Arrow Valley pits also exhibited silica gloss (Bradley 2000, 27).

One of the two fabricators from the current assemblage was also associated with scrapers in the key group from pit **312**. These recurring tool associations in the pit groups might relate to the presence of elements of a specifically female tool kit, connected with female-related activities such as fire-lighting (Moore 2000 and forthcoming), cereal harvesting (Gibbs 1987) and pottery manufacture and usage for cooking and serving food (eg Hodder 1990). The deliberate deposition of these items perhaps provides evidence of gendered structured deposition, putting the assemblage in a social, rather than strictly technological and chronological context. That one group from pit **312** appears to include items from a scraper-related industry might even show evidence of gendered production, as well as gendered, scraper-related, activities.

In this assemblage the total absence of what are traditionally thought of as male-related flint items such as arrowheads and axes and the presence of tool types such as scrapers and groups of items normally associated with female activities provides an intriguing and interesting contrast. This situates the material in a field of study where social relationships can perhaps be discerned and reconstructed, providing an extra dimension to the study of such groups which are normally considered to be purely domestic and utilitarian in their composition.

JET BEAD

A bead was recovered from Urn pit context **324/2**, which also contained 62 items of worked flint, including a fabricator, two scrapers and a retouched flake (see above). While the material used for the bead is probably jet, this identification remains uncertain without recourse to scientific analysis (see, for example, Allason-Jones & Jones 2001). Other materials such as shale were also used from the Neolithic period onwards for the manufacture of beads and other items (Cox & Mills 1991, 170).

The bead (Fig 13, 13), which is highly-polished and of a regular shape, is possibly a spacer bead, of a type commonly used in necklaces of the Early Bronze Age period (Allason-Jones 1996, fig. 3, 8).

Catalogue

13 Bead, probably made from jet, sub-circular in shape, with a central perforation. The surface is highly-polished. Diam 6mm, ht 5mm (Pit fill D:1:**324/2/1,** SF 337).

Area G, Harbury

Flint finds from Area G comprised 23 items, weighing 2g (Table 14). The majority of this material was micro-debitage derived from soil sample residues (**602/1/1,** SF 384).

Table 14: Flint finds from Area G

Core	*Core frag/ CRF*	*Flake/ Chunk*	*Micro-debitage*	*Scraper*	*Other Retouched*
-	-/-	1/-	22	-	-

NEOLITHIC AND BRONZE AGE POTTERY *by Alex Gibson*

Introduction

The pottery was submitted to the writer in June 2003 for identification and report following an assessment of the material previously undertaken (also by the present writer) in November 1999. The material was unpacked, laid out in good daylight according to the excavation areas and features within those areas. Joining sherds were identified and reconstructed using HMG acetone-based adhesive. The sherds were arranged into fabric groups and individual vessels identified on the basis of fabric type, colour and sherd thickness. Where the same fabric group included sherds from different contexts, these were only ascribed to the same vessel if cross-context conjoining sherds could be identified.

As an assemblage, the pottery represents some 1500-2000 years of ceramic development; however, given the geographical separation of the excavation areas, this material must be treated as separate assemblages from each area. The catalogue has been arranged accordingly.

Fabrics

All fabric identifications were undertaken using a x10 hand lens in daylight. No microscopic analysis was undertaken, therefore there is a certain and inevitable subjectivity to the identification of fabric groups and the allocation of sherds to those groups given the coarseness/variability of prehistoric hand-built ceramics. The fabric groups should be regarded as purely descriptive rather than definitive until refined/redefined by microscopic analysis.

Fabric	*Description*
1	Smooth dense clay. No apparent deliberately added inclusions but contains rounded sand which may well be naturally occurring. The clay oxidises to a light brown colour.
2	Soft, smooth, soapy-textured fabric with a voided surface and containing finely crushed grog. The fabric oxidises to a light grey-brown/buff but is generally dark.
3	Hard, well-fired and slightly brittle fabric containing crushed quartz inclusions measuring up to 4mm across. The fabric may have a leathery feel and the surfaces of the vessel may be lumpy. Oxidises to a fine red.
4	Hard, sandy fabric with a gritty texture. May include some stone up to 5mm across. Oxidises to a rich brown.
5	Grog-filled fabric but not voided like No 2. Oxidises to a light brown-buff colour.
6	Coarse fabric with abundant angular stone inclusions often up to 7mm across. Stones break both surfaces. Oxidises to a reddish-brown.

Technology and economy

All the pottery is hand-built. The outer surfaces are generally oxidised to various shades of red or brown. Inner surfaces tend to be darker. Smoothing marks are noted on many surfaces, particularly the inner surfaces of most sherds. There are darker patches on the outside of some vessels (for example G3) indicative of bonfire firing, or perhaps secondary firing as part of the use history of the pot (for example as a cooking vessel). The fabrics all have dark cores showing that the firing times have been short and at relatively low-temperatures: firings have therefore been economical.

Seed impressions were noted on a single sherd (G3). Carbonaceous residues were noted on three vessels (C7, C12 and D13). These residues were all detected on internal surfaces and consequently would appear to be the remains of food preparation, probably the final use of the pot.

Rim sherds and base sherds are comparatively rare and the overwhelming majority of the material comprises unfeatured and undecorated body sherds. This suggests that the material may well be domestic rubbish derived from a settlement context though the final deposition of this material in pits or ditches may be more structured than the casual disposal of such rubbish.

Area C, King's Newnham (Fig 14)

Twelve vessels (more correctly, fabric groups) were identified from this area plus a large rounded lump of fired clay. Early Neolithic vessels were identified as C2-4, C6 and C7. These sherds are all from open bowls with comparatively simple everted

rims. No sharp carinations were identified and the profiles of some sherds (C6) suggest that they are from round-shouldered bowls. Given these features, this material is unlikely to belong to the primary Neolithic and therefore a date of *c* 3800-3600 Cal BC might be suggested.

Middle Neolithic ceramics are represented by three bowls in the Impressed Ware or Peterborough tradition (C1, C8, C9). Of these, C1 is by far the best preserved and comprises almost a kilogram of sherds. The rim, well-developed neck and the extensive birdbone decoration clearly places this within the Mortlake or developed style of this tradition. C9 is also decorated with birdbone impressions while C8 is decorated with short whipped cord maggots, a technique also common within the Mortlake style. Given the revised dating of Peterborough Ware based on radiocarbon dating, these vessels may be dated to the middle Neolithic, *c* 3600-3000 Cal BC.

The Early Bronze Age is represented by three sherd groups (C10-12). These allocations are generally ascribed by fabric and external surface colouration which are notably unreliable criteria but in the absence of diagnostic sherds, there are few other indicators. The loose, whipped cord impressions on C12 appear to be more in keeping with the Bronze Age use of this technique than with the Neolithic where the impressions tend to be tighter. A date range of *c* 2300-1700 may be suggested for this material.

The sherds, with the exception of C11 (**238**), come from pit deposits. The early Neolithic material comes from the southern part of the site while the Peterborough Ware and Bronze Age fabrics come from the northern part, as does the large clay lump (C13). Context **200** was the most productive feature in terms of vessel numbers containing fragments from four Neolithic bowls. Context **237** contained the Peterborough Bowl C1, the best preserved of all the vessels from this area, which appears to have been a deliberate deposition of a discrete vessel.

The large piece of fired clay (C13) is difficult to interpret. The surviving fragment is well-rounded and has deliberately smoothed surfaces. It is too large and well-formed to be daub and lacks any traces of wattling. It may be part of a weight such as a loomweight though these objects tend to be more elongated than the shape of the surviving fragment might suggest. Furthermore, there is no trace of a perforation that might validate the loomweight identification. Interpretations of this artefact must remain speculative.

With regard to fabrics, one Early Neolithic sherd group occurs in each of fabrics 1 and 2 while the remaining three sherd groups are in fabric 4. The Peterborough bowls of the middle Neolithic are exclusively in fabric 3 while the Bronze Age material also favours fabric 4 (2 vessels) as well as fabric 5 (1 vessel).

Area D, Church Lawford (Figs 15 & 16)

The Earlier Neolithic phase at Area D is represented by six vessels (D2, D5, D24, D28, D29 and D33). These come from a furrow in the southern part of the site (**303**), the base of the enclosure ditch (**304**) and an arc of three pits (**320, 324** and **325**) in the central part of the site. Much of this material is residual and once more, none of these sherds is reconstructable though the presence of slack shoulders and 'S' profiles suggests that the material is of a similar date to the assemblage from Site C. While these vessels do not date to the primary Neolithic they are nevertheless well within the earlier Neolithic period.

Middle Neolithic Impressed Wares, or Peterborough Ware, are represented by eight fabric groups (D3 & D4, D6-D8, D18-D20). These vessels are all from bowls in the

Mortlake style, characterised by their moulded rims, well defined necks and profuse decoration. On base sherd (D19) may be from a flat-based Fengate style pot though the identification is far from certain. Where the impressed decoration survives well enough to be identifiable, it appears to comprise twisted cord impressions. The Peterborough Ware only comes from two main contexts: **313/1** is a pit fill towards the north-western corner of the excavation area, and context **304/8** is in the lower part of the enclosure ditch. The large number of sherds from this feature (D3, D4 and D6-8) suggests that this material is more than residual and that the enclosure does indeed date to the Neolithic.

The overwhelming number of vessel groups from Area D can be attributed to Grooved Ware. Fourteen vessels have been identified (D1, D9-17, D23, D25, D26 and D30) plus three other small fragments. These come from contexts **300, 304, 307-310, 312, 317, 321** and **324**. These features generally lie in the centre of the excavated area though one pit (**311**) lies in the south, outside the enclosure, and **304** is the enclosure ditch. The vessels are predominantly tub or barrel-shaped and are decorated with a variety of cordons, internal rim mouldings and incisions based on filled triangular motifs all of which suggests that these sherds belong to Longworth's Durrington Walls sub-style (Wainwright & Longworth 1971). This is the most widely distributed of the sub-styles but is particularly common in southern and western England. It may be dated to *c* 2800-2000 Cal BC.

One possible Beaker sherd has been identified (D22) from Context **315**, a pit in the north-western corner of the excavated area. Decorated with two triangular impressions, this sherd may be from a sparsely decorated rusticated pot. This identification is, however, tentative given the small size of the sherd.

Three Bronze Age vessels have been identified (D27, D31 & D32) from contexts **324** and **325**. D27 has a T-sectioned rim and fingernail impressions below this. Fingernail impressions also occur on a curved shoulder sherd. D31 and D32 may be from the same vessel, especially given the fingernail decoration on D31, but conjoining sherds were not identified. These vessels probably date to sometime after 2000 Cal BC.

The Early Neolithic vessels are found in fabrics 2-4 and 6 and this recipe variation might suggest that they were made over a considerable period or by different potters. The Peterborough ware is restricted to fabrics 2 (1 vessel), 3 (3 vessels) and 4 (4 vessels). The Grooved Ware exhibits a uniformity of fabric with fifteen of the seventeen sherd groups (including small sherds) all being made in fabric 2. Of the remaining two in fabric 5, D25 is a tentative identification. The Bronze Age vessels are also uniform, all being made in fabric 2 though it has already been stated above that they may well all be from the same vessel.

Area G, Harbury

All sherds are from context **601**. G1 and G2 may be from the same vessel given the similarity of fabric and surface treatment however the outer surface of G2 is a lighter colour than G1 and conjoining sherds were not identified. Both vessels have smooth but uneven surfaces. G3 is in the harder fabric 3 with conspicuous quartz inclusions. It has a flaring rim, rounded shoulder and flat base. This assemblage may best be dated to the later Bronze Age, certainly some time after *c* 1200 Cal BC.

Catalogue

AREA C, KING'S NEWNHAM

C1 Substantial part of a Peterborough Bowl in the Mortlake style. The rim is everted with a flat external moulding, a narrow neck and well-defined shoulder. The fabric is brown externally and generally black internally with quartz inclusions breaking both surfaces. It has a leathery texture. Coil breaks are visible, particularly in the neck and shoulder regions.

Internally, the neck is decorated with a zone of incised cross-hatching to a depth of *c* 25mm after which the neck curves dramatically inwards towards the shoulder. The rim diameter is *c* 240 mm. The internal lip of the rim is decorated with a row of close-set circular 'nicks'. The rim moulding is decorated with up to three encircling lines of crescentic 'birdbone' impressions. There are also some diagonal incisions in places. The upper half of the neck is undecorated, while the lower half has three rows of similar close-set crescentic birdbone impressions leading to the shoulder. Below the shoulder are horizontal lines of roughly figure of eight birdbone impressions. These are closer set towards the upper part of the body and both the impressions and the rows become more widely spaced towards the bottom. Fabric 3 x 75, 957g (Peterborough pit fill C:1:**237/1**, SF 266).

C2 Everted, slightly thickened rim sherd. Possibly from an early Neolithic carinated bowl. Fabric 1, 8g (Topsoil C:5:**200**, SF 265).

C3 Everted rim sherd with external lip and slight internal flattening (not illustrated). Possibly from a carinated bowl. Fabric 4, 8g (Topsoil C:5:**200**, SF 247).

C4 Rounded and everted rim, slightly thickened. From an open bowl. Fabric 4, 7g (Topsoil C:5:**200**, SF 247).

C5 Thick undecorated body sherd (not illustrated). Fabric 4, 16g (Topsoil C:5:**200** SF 247).

C6 Strongly everted simple rim. Dark fabric. Probably from an S-profiled or shouldered bowl. Fabric 2, 3g (Early Neolithic pit fill C:1:**203/1**, SF 253).

C7 Body sherd (2 conjoining sherds) in a fine fabric with extremely smooth outer surface. Carbonaceous residues internally (not illustrated). Neolithic? Fabric 4, 8g (Pit fill C:1:**215/1**, SF 256).

C8 Peterborough Bowl, probably, Mortlake style. Decorated with a herringbone pattern of short, fine whipped cord maggots. Fabric 3 x 2, 18g (Pit fill C:1:**218/1**, SF 259).

C9 Peterborough Bowl, Mortlake style. Decorated with rows of birdbone impressions. Both the rows and the impressions are close-set. Fabric 3 x 12, 145g (Pit fill C:1:**218/1**, SF 259).

C10 Sherd with rich brown outer surface. Undecorated. Probably from a large Early Bronze Age Urn (not illustrated). Fabric 4, 16g (Pit fill C:1:**233/1**, SF 257).

C11 As above (not illustrated). Fabric 4, 2g (Gully fill C:4:**238/1**, SF 290)

C12 Hard and well-fired sherds with good surfaces. Decorated with loosely whipped maggots, probably in a herringbone arrangement (not illustrated). Probably Early Bronze Age. Carbon encrusted internally. Fabric 5 x 7, 22g (Pit fill C:1:**242/1**, SF 258).

C13 Large rounded lump of fired clay. No visible inclusions save for rounded sand, possibly natural. The object has roughly finished surfaces but is not complete. Possibly part of an object such as a loom weight though there is no trace of a perforation on the surviving piece (not illustrated). Fabric 1 x 2, 710g (Pit fill C:5:**220/1**, SF 263).

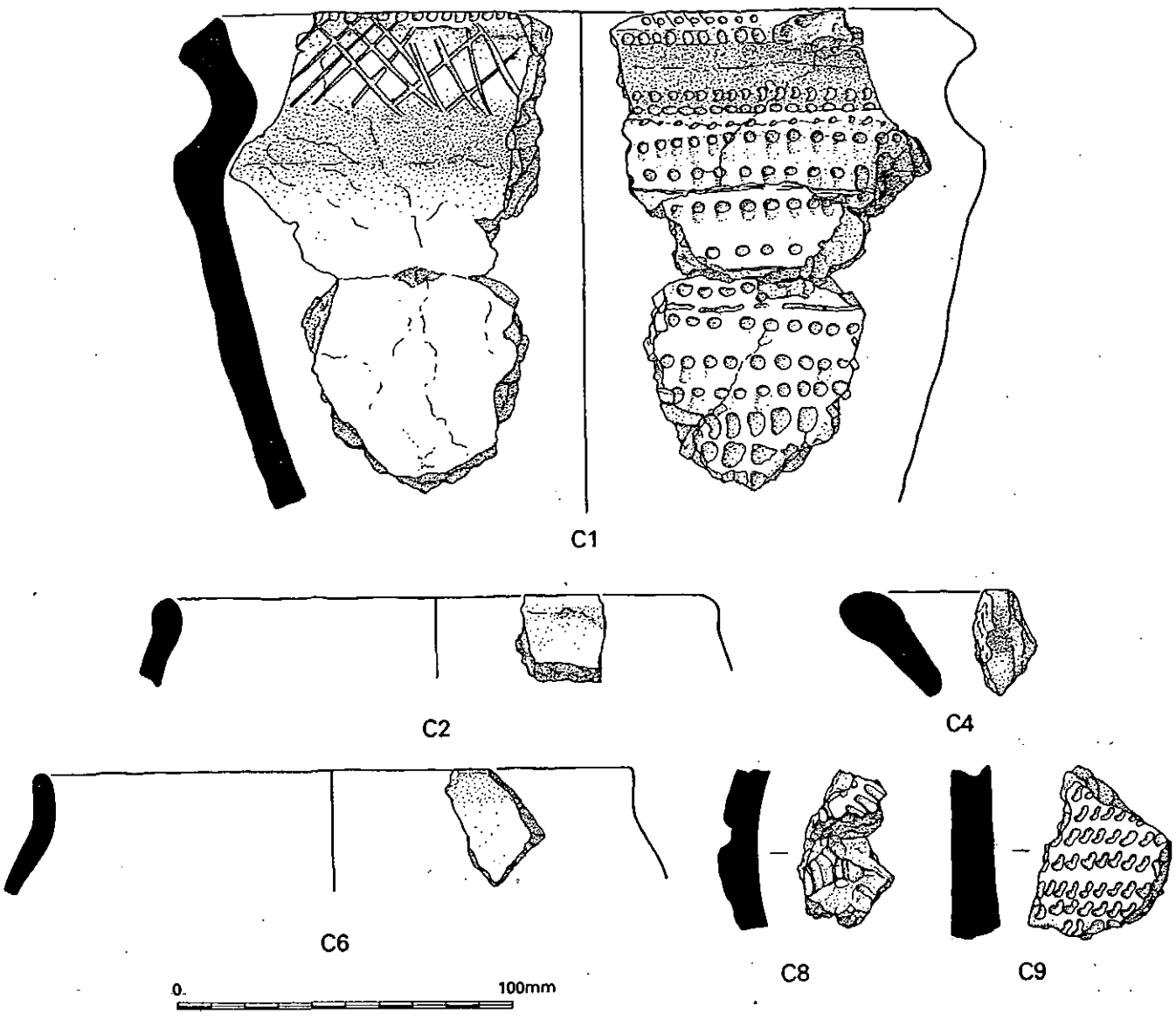


Fig 14: Neolithic pottery Area C: C1, C2, C4, C6, C8, C9

AREA D, CHURCH LAWFORD

D1 Grooved Ware tub-shaped vessel. Dark brown fabric. Rim diameter *c* 100mm. Rim is pointed with an internal bevel. Exterior decorated with at least eight horizontal incised lines. Fabric 2 x 3, 21g (Topsoil D:5:**300**, SF 251).

D2 Open, S-profiled bowl with a thin, simple rim. Possibly Early Neolithic. It is possible that the rim sherds are from a different vessel. Fabric 4 x 8, 57g (Furrow fill D:5:**303/1**, SF 254).

D3 Peterborough Ware. Mortlake style. The rim is pointed with a deep external moulding and small oval 'nicks' on the top. This is decorated with short impressions of coarse twisted cord. Shallow neck. Sparse fingernail impressions on the belly. Rim diameter *c* 160mm. Fabric 4 x 37, 478g (Enclosure ditch fills D:1:**304/1**, SF 236; D:1:**304/6**, SF 127, 134, 140, 142, 147, 152, 157, 158, 163, 164, 166, 255; D:1:**304/7**, SF 150, 155, 180, 181, 182).

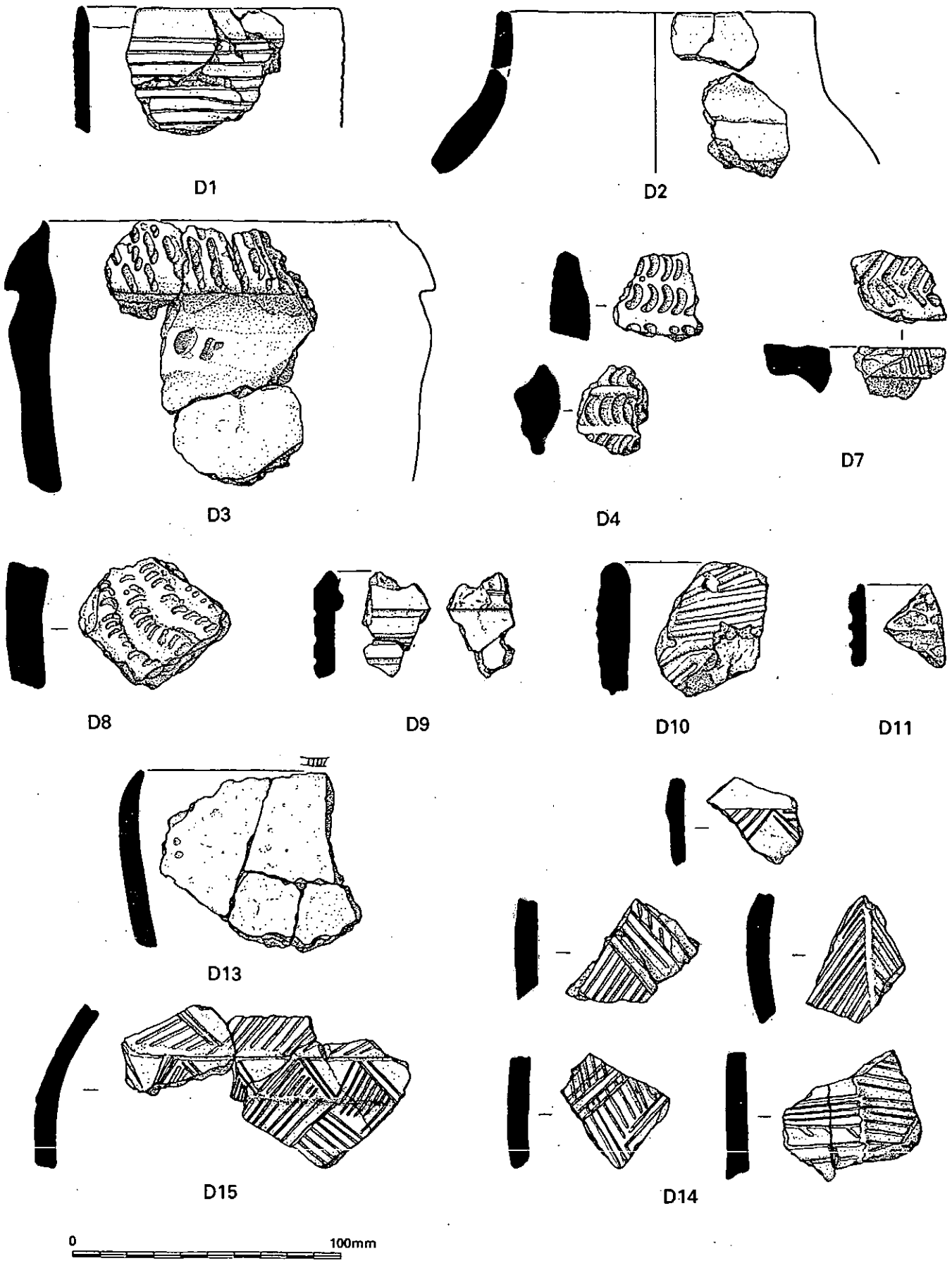


Fig 15: Neolithic pottery Area D: D1-D4, D7-D11, D13-D15

D4 Peterborough Ware. Shoulder and body sherds from Mortlake vessel. The fabric is hard and well-fired. The outside is decorated with lines of deep, close-set crescentic twisted cord impressions. Fabric 3 x 7, 72g (Enclosure ditch fills D:1:**304/1**, SF 61, 65, 67; D:1:**304/4**, SF 139, 145).

D5 Undecorated sherd with a slight carination (not illustrated). Probably the shoulder of an Early Neolithic shouldered bowl. Fabric 6, 17g (Enclosure ditch fill D:1:**304/3**, SF 69).

D6 Peterborough Bowl? Hard well-fired sherds with well-finished outer surface (not illustrated). The striations on the surface are probably the result of finishing rather than an attempt at decoration. Fabric 3 x 8, 120g (Enclosure ditch fill D:1:**304/7**, SF 58).

D7 Peterborough Bowl. Rim sherd from a Mortlake Bowl. Very abraded. Rim bevel decorated with abraded impressions. The top of the rim has a herringbone motif of impressions but they are too abraded to be identifiable. Fabric 2 x 3, 7g (Enclosure ditch fills D:1:**304/6**, SF153, D:1:**304/7**, SF 154).

D8 Peterborough Ware. Sherds from the belly of a Mortlake bowl. Decorated with rows of close-set twisted cord crescents apparently arranged in chevrons. Fabric 4 x 6, 64g (Enclosure ditch fill D:1:**304/4**, SF 133, 141, 149).

D9 Grooved Ware. Sherd from below the rim. Decorated externally with three grooved lines. The rim has been internally moulded and decorated with grooves. Fabric 2, 5g (Enclosure ditch fill D:1:**304/6**, SF 239).

D10 Grooved Ware. Red sherd with two-directional multiple grooves suggestive of opposed filled triangle motif. Fabric 2, 16g (Pit fill D:1:**307/1**, SF 84).

D11 Grooved Ware. Small sherd with multiple deep fingernail impressions. Fabric 2, 1g (Pit fill D:1:**307/1**, SF 238).

D12 Grooved Ware. Small fragments with traces of an impressed rim and short incised lines (not illustrated). Fabric 2 x 7, 4g (Pit fill D:1:**308/1**, SF 91).

D13 Grooved Ware. Thin, rounded rim with shallow 'nicks' on the top. Inturned rim from a barrel-shaped vessel. Undecorated. Traces of carbon encrustations on the inner surface. Fabric 2 x 4, 62g (Pit fills D:1:**309/1**, SF 101; D:1:**309/2**, SF 110, 170, 261).

D14 Grooved Ware. Fragments of a vessel decorated with converging cordons and with a decorative scheme based on incised filled triangles. Fabric 2 x 8, 60g (Pit fills D:1:**309/1**, SF 90, 250; D:1:**309/2**, SF 110, 170).

D15 Grooved Ware. Fragments of a vessel decorated with horizontal cordons and with incised decoration based on filled and open triangle motifs. Possibly the same vessel as above (14) but the decorative motif is sufficiently different to warrant a separate designation. Fabric 2 x 2, 31g (Pit fills D:1:**309/1**, SF 110; D:1:**309/2**, SF 170).

D16 Grooved Ware. Sherd from a bulbous vessel decorated with horizontal incised lines and incised double chevron. The sherd is perforated tangentially. Fabric 2, 11g (Pit fill D:1:**309/2**, SF 110).

D17 Grooved Ware. Thin walled vessel decorated with four horizontal deep, broad grooves with traces of a 5th towards the bottom of the sherd. Fabric 2, 33g (Pit fill D:1:**312/2**, SF 124).

D18 Peterborough Ware. Rim sherd from a collared vessel with flat-topped rim. The top of the rim is decorated with cross-hatching. The rest of the sherd is undecorated. Probably Mortlake style. Fabric 4, 17g (Pit fill D:1:**313/1**, SF 102).

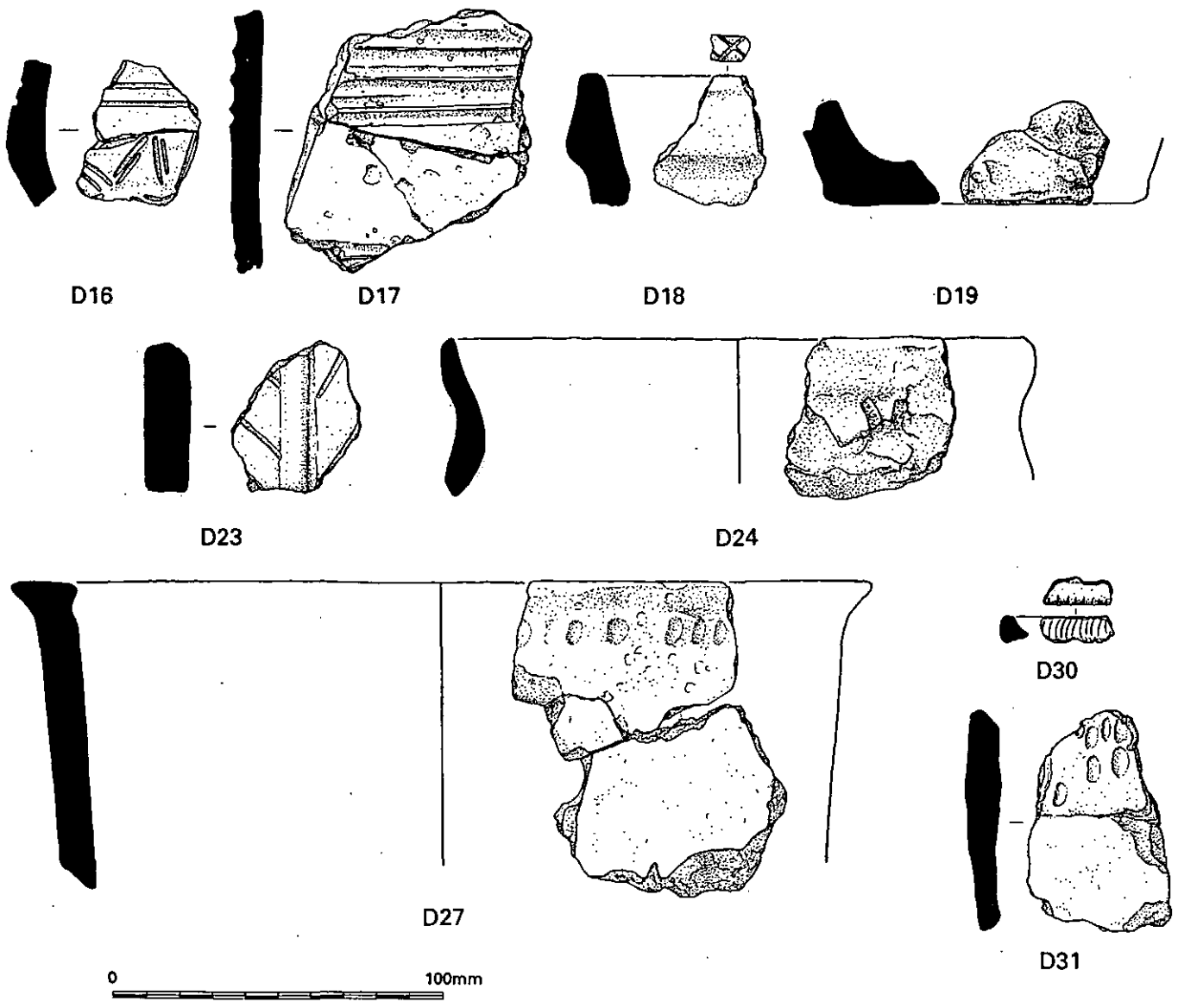


Fig 16: Neolithic and Bronze Age pottery Area D: D16-D19, D23, D24, D27, D30, D31

D19 Peterborough Ware? Flat base sherd, may be from a Fengate vessel or from an Early Bronze Age pot. Undecorated. Base diameter around 100mm. Fabric 4, 31g (Pit fill D:1:**313/1**, SF 104).

D20 Peterborough Ware (not illustrated). Fragment. Fabric 3, 3g (Pit fill D:1:**313/1**, SF 111).

D21 Featureless sherd (not illustrated). Fabric 4, 6g (Undated pit fill D:4:**314/1**, SF 278).

D22 Beaker? Sherd with traces of two triangular impressions (not illustrated). Fabric 4, 9g (Pit fill D:1:**315/1**, SF 122).

D23 Grooved Ware. Fragments from a large, heavy vessel with vertical dot-impressed cordons and sparse diagonal incisions off. Fabric 5 x 12, 179g (Pit fill D:1:**317/1**, SF 109, 117, 118, 237).

D24 Early Neolithic. Rounded rim sherd from everted necked shouldered bow. Coil breaks. Rim diameter *c* 180mm. Fabric 2, 18g (Pit fill D:1:**320/1**, SF 126).

D25 Featureless sherds (not illustrated). Grooved ware? Fabric 5 x 4, 13g (Pit fill D:1:**324/1**, SF 35).

D26 Grooved Ware (not illustrated). Larger sherd decorated with four horizontal incised lines. Fabric 2 x 2, 4g (Pit fill D:1:**324/1**, SF184).

D27 Biconical Urn. Rim and body sherds from biconical urn with everted T-sectioned rim decorated under the rim externally with a row of shallow fingertip impressions. Two other fingertip impressed sherds display slightly curved profiles suggesting that the shoulder of the vessel was also decorated. Rim diameter *c* 260mm. Fabric 2 x 4, 122g (Pit fill D:1:**324/1**, SF 235).

D28 Possibly Early Neolithic. Undecorated featureless sherd (not illustrated). Fabric 4, 9g (Pit fill D:1:**324/2**, SF 143).

D29 Possibly Early Neolithic. Undecorated featureless sherd (not illustrated). Fabric 3, 10g (Pit fill D:1:**319/1**, SF 242).

D30 Grooved Ware? Possibly Pigmy Cup. Small rim fragment decorated on the top and outside with very fine fingernail impressions. Fabric 2, 1g (Pit fill D:1:**324/2/2**, SF 264).

D31 Urn? One curved sherd decorated with shallow, broad fingertip impressions. Fabric and impressions similar to D27 above. Fabric 2 x 3, 47g (Pit fill D:1:**325/1**, SF 171, 172, 174).

D32 Urn? Possibly the same vessel as D27 & D31 above (not illustrated). Undecorated featureless sherds. Fabric 2 x 10, 83g (Pit fills D:1:**325/1**, SF 128, 129, 131, 137, 171, 173, 175, 176; D:1:**325/1/2**, SF 260).

D33 Possibly Early Neolithic. Undecorated featureless sherds (not illustrated). Fabric 2, 3g (Pit fill D:1:**325/1**, SF 129).

D34 Fired clay (not illustrated). 3g (Pit fill D:1:**325/1**, SF 130).

D35 Possibly Grooved Ware (not illustrated). Fabric 2, 6g (Pit fill D:1:**324/1**, SF 76).

D36 Possibly Grooved Ware (not illustrated). Fabric 2, 1g (Pit fill D:1:**321/1**, SF 240).

D37 Possibly Grooved Ware (not illustrated). Fabric 2, 1g (Pit fill D:1:**310/1**, SF 642).

D38 Piece of fired clay (not illustrated). Pit fill D:1:**307/1**, SF 83.

D39 Piece of fired clay (not illustrated). Pit fill D:1:**308/1**, SF 84.

D40 Fragments of fired clay (not illustrated). x 4, 26g (Pit fills D:1:**312/1** & D:1:**312/2**, SF 114, 367).

D41 Fragments of fired clay (not illustrated). 35g (Pit fill D:1:**324/1**, SF 262, 184, 264).

D42 Assorted featureless sherds (not illustrated). Fabric 6, 13g (Pit fill D:1:**308/1**, SF 95, 169, 246).

AREA G, HARBURY

G1 Rim and body sherds from a large slightly closed vessel with a rim diameter in the region of *c* 420mm. The rim is flat-topped and square sectioned. It is also in-turned. The fabric is dark externally and internally. Finishing wipe marks are distinctly visible internally. The outer surface is less well finished and slightly 'bumpy'. A gently diagonal line outside may be a

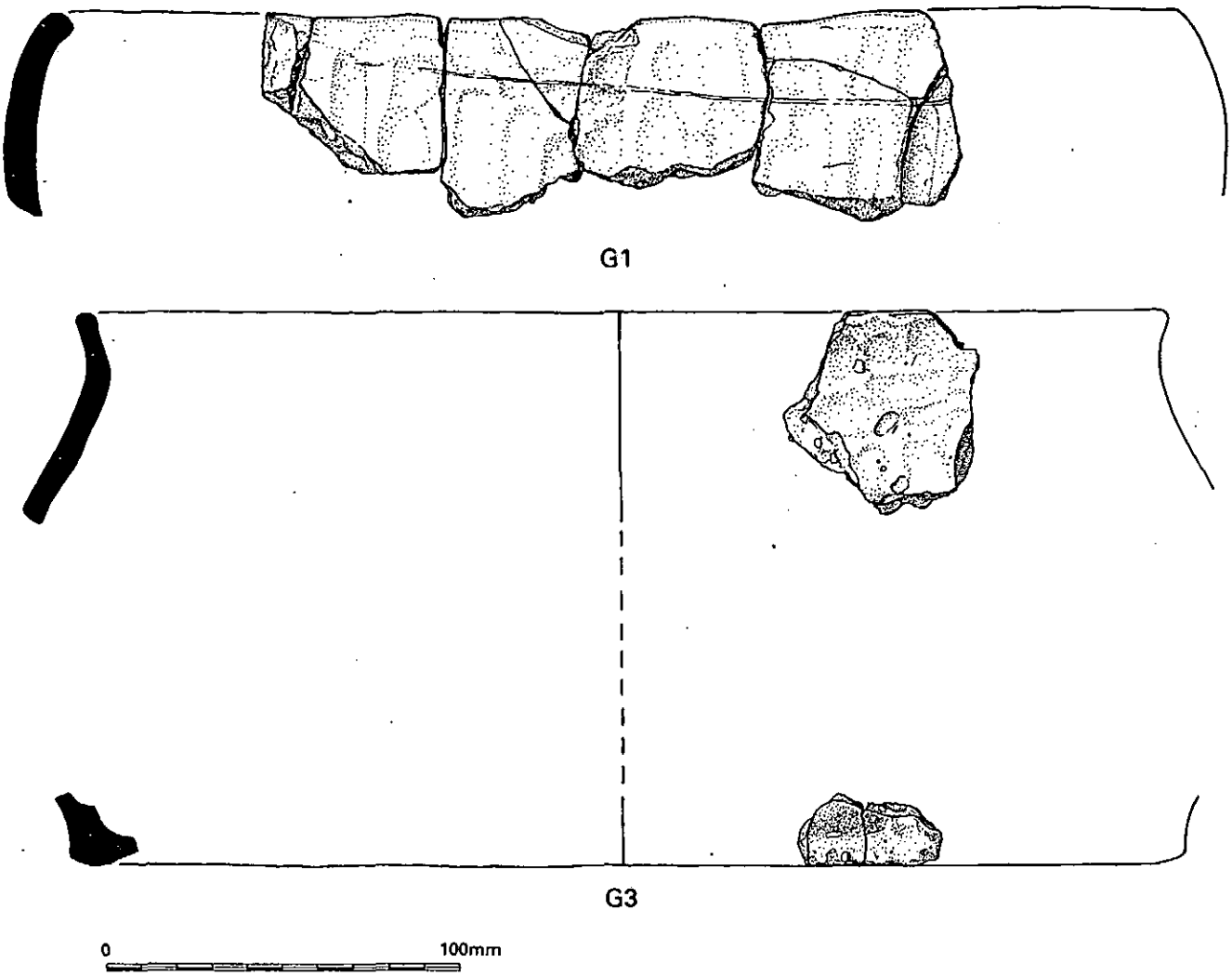


Fig 17: Late Bronze Age pottery Area G: G1, G3

result of manufacture rather than an attempt at decoration. Fabric 2 x 46, 186g (Pit fill G:3:**601/1**).

G2 Body sherds from a large vessel. This may be the same as G1 above, however the outer surface is much lighter in colour and no obvious joins between this vessel and G1 could be detected. There are no decorated sherds, rim sherds or base sherds (not illustrated). Fabric 2 x 47, 309g (Pit fill G:3:**601/1**).

G3 Includes four rim sherds and three base sherds. The rim is simple, slightly flattened on top and everted. It appears that the vessel has had a sinuous S-profile. Quartz inclusions break both surfaces. The outer surface is black at the rim but appears to be red on the body of the vessel and the base. The inner surface is black, almost glossy in places. The rim diameter is difficult to estimate but the base diameter appears to be in the region of 220mm. There is a large seed impression in the outside surface of one rim sherd. Fabric 3 x 129, 578g (Pit fill G:3:**601/1**).

G4 Small sherds belonging to G1/2 above (not illustrated). Fabric 2, 143g (Pit fill G:3:**601/1**).

Discussion

EARLY NEOLITHIC

The earlier Neolithic bowls appear to be sinuous 'S'-profiled, open bowls. Rim forms are few and generally simple, thickened or, in one case (C3) with a slight external lip. The surviving rim sherds are too small to allow estimations of the rim diameters to be made but all indicate open forms. Only one carination was identified (D5) but it is not sharp and therefore does not argue the case for primary Neolithic material.

Earlier Neolithic pottery is rare in the West Midlands though small amounts have been recovered from Baginton, Warwickshire (Hobley 1971), Brook Street, Warwick (Cracknell & Bishop 1992) and Kings Newnham, Warwicks (Gibson 2003b). Recently some earlier Neolithic material has been found (and radiocarbon dated) in Hereford (inf. Keith Ray). Further south and west, small assemblages were recovered from the excavations at the Cotswold-Severn tombs of Hazelton, Gloucestershire (Saville 1990), Gwernvale, Powys (Britnell & Savory 1984), The Whispering Knights, Rollright, Oxfordshire (Lambrick 1988), Eyford Hill, Gloucestershire, Poles Wood East, Gloucestershire, and Ty Isaf, Powys (the last three illustrated in Darvill 1982, 21). The pottery from Brook Street, Warwick is described in the report as of the Mildenhall style (Woodward 1992, 27) though this seems to be purely due to the presence of a rim with incised decoration. It is perhaps better to assign this vessel to a broader 'Early Decorated' style as rims decorated in this way are also common in the west of the country, for example at Hazelton (Saville 1990) and in particular amongst the assemblage at Windmill Hill (Smith 1965, figs 23 & 24). The other vessel from Brook Street has a simpler everted rim and a slack S-shaped profile. Both vessels have quartz inclusions unlike the present material.

The presence of 'baggy' profiled pots as well as vessels with rather slack carinations suggests that the material is early but not primary in the British Neolithic (Herne 1988; Gibson 2002) and a date of *c* 3800-3600 Cal BC might be suggested. The range of carinated and slacker forms also find parallel in the assemblage from the Windmill Hill causewayed enclosure (Smith 1965 figs 17 & 18) and from Gwernvale (Britnell & Savory 1984).

IMPRESSED WARES (MIDDLE NEOLITHIC)

Eleven vessels (8 from Area D and 3 from Area C) represent the middle Neolithic in the form of impressed wares. Once more these finds are rare in the West Midlands though some material has been recorded from pit deposits excavated at Wellington quarry in Hereford (Gibson 2003a), at Bubbenhall in Warwickshire (Gibson forthcoming) and at Barford, Warwickshire (Oswald 1969). This latter vessel is similar to vessel C1 in the use of close set crescentic birdbone impressions in the decorative scheme. Bird bone impressions are also found on Peterborough Ware from pits below a ring-ditch barrow at Meole Brace in Shropshire (Hughes & Woodward 1995) and indeed seem to have been the preferred decorative technique in Wales and the Marches (Gibson 1995). It is also in this region that the internal cross-hatched motif as found on vessel C1 can be closely paralleled. For example there is a Mortlake vessel from a pit within the cursus complex at Sarn-y-bryn-caled, Powys, which carries cross-hatching both within and outside of the neck (Gibson 1995) and at Upper Ninepence, Radnor, Powys, internal cross-hatching was noted on P3 (Gibson 1999a, fig 51). This latter sherd came from the mound material of a round barrow but was probably derived from the concentration of pits beneath. Present radiocarbon evidence suggests that these vessels are datable to the few centuries either side of 3000 Cal BC (Gibson & Kinnes 1997).

GROOVED WARE (LATER NEOLITHIC)

Grooved Ware occurs chiefly in a grog-filled and voided fabric from Site D. The decoration comprises incised lines and raised cordons. Both small tub-shaped and larger vessels are represented and the vessels are chiefly in the Durrington Walls style as defined by Longworth (Wainwright & Longworth 1971). In Warwickshire, Grooved Ware is rare. There was a Grooved Ware presence at Barford (Oswald 1969) and a pit containing ten sherds of Grooved Ware was found at Wasperton (Hughes & Crawford 1995). This assemblage represented the fragmentary remains of two vessels, both in the Durrington Walls style. The larger assemblage from Broom, representing the remains of seven vessels, also came from a pit deposit discovered during excavations in advance of road construction (Palmer 2000b). This material has been identified as being in Longworth's Woodlands style and does not bear close comparison with the present assemblage although the bevelled rim of D1 and the internally moulded rim of D12 find parallels at Broom. The Broom material is, however, similar in fabric to the present material with grog inclusions and with and organic voids giving the sherds a 'corky' appearance. Once more a very similar assemblage of Grooved Ware, also in grog-filled fabrics, has been excavated from a pit complex over the Welsh border at Upper Ninepence in Powys (Gibson 1999a). The filled triangle motif and raised cordons noted on the present assemblage can be directly paralleled at Upper Ninepence as well as at the more classic sites of Wiltshire and Wessex. The dot-decorated cordons of D23 are also paralleled at Upper Ninepence. Radiocarbon dates from Upper Ninepence range between 2900-2500 Cal BC but in England generally secure radiocarbon dates associated with Durrington Walls style Grooved Ware indicate that it was in use from *c* 2900-2000 Cal BC (Garwood 1999).

BICONICAL URN (EARLY BRONZE AGE)

The closest parallels geographically for the Biconical Urns come from Bromfield in Shropshire (Stanford 1982). Vessel 9 from Bromfield matches the strongly everted rim of D27 and also has a row of fingernail impressions around a rather slack, rounded shoulder as suggested for D27 and D31 in the present assemblage. Vessel 45 from Bromfield is a squat vessel, also with an elaborate rim form and this has fingertip impressions both below the rim and on the slack shoulder once again exactly similar to D27. The use of grog tempering is entirely in keeping with the range of Biconical Urn fabric recipes (Tomalin 1984) and the few available radiocarbon dates suggest a date range of *c* 2000-1700 Cal BC.

LATE BRONZE AGE

The sherds from Area G may be later Bronze Age in date. Shape parallels and the coarse quartz fabric of G3 can be paralleled at Park Farm, Barford (Cracknell & Hingley 1994). The uneven surfaces of G1 and G2 as well as the sandy fabric draw comparison with the material from Broom, Warwickshire (Palmer 2000b) where large vessels are represented in both open and closed forms.

CREMATED HUMAN BONE *by Jacqueline I McKinley*

Introduction

Burnt bone from seventeen contexts from three Areas (C, D and G) was received for analysis. The bone from twelve contexts all proved to be animal. The quantities of bone from three other deposits were so small (0.1-0.2gm) and undistinctive that it was not possible to say conclusively whether they were animal or human, though

the former is most likely. Cremated human bone was present in only two deposits, within a Late Neolithic pit from Church Lawford (Area D, **309**) and a late Bronze Age pit from Harbury (Area G, **602**). The former appears to represent redeposited material and the latter the remains of an unurned burial.

Methods

Osteological analysis followed the writer's standard procedure for the examination of cremated bone (McKinley 1994a, 5-21; 2000). Age was assessed from the stage of skeletal and tooth development (van Beek 1983; McMinn & Hutchings 1985), and the general degree of age-related changes to the bone (Buikstra & Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (ibid).

Area D, Church Lawford

A single fragment (0.2gm) of upper limb shaft - from the Grooved Ware pit **309** was recovered from the first of three fills. The bone is in good visual condition. It represented the only fragment of human bone identified from amongst numerous fragments of burnt animal bone.

The significance of the one fragment of human bone amongst the burnt animal bone from the Neolithic pit is open to debate; was its inclusion deliberate or incidental?. The bone appears to have been burnt green (ie whilst fresh) and is likely to represent a fragment of redeposited cremated bone from either a disturbed (?accidental or deliberately manipulated) burial or from amongst discarded pyre debris.

Area G, Harbury

The middle-late Bronze Age grave (**602**) was relatively shallow (0.12m) and since bone was observed as a concentration at surface level it is probable that some was lost as a result of truncation. The bone had a very slightly abraded appearance but was generally in good condition, and the assemblage included fragments of axial skeleton and other trabecular bone. The 441.8g of bone recovered represents the remains of an unsexed adult, *c* 20-45 years old, and a few fragments (0.8gm) of animal bone (pyre goods). No pathological lesions were observed.

The bone was uniformly the buff-white colour indicative of a high degree of oxidation (Holden *et al* 1995a, 1995b). The probability that some bone was lost from the burial precludes much comment on the surviving weight of bone, which represents *c* 28% of the average expected weight of bone from an adult cremation (McKinley 1993). The majority of the bone (*c* 48%) was recovered from the 5mm sieve fraction, and the maximum fragment size was small at 39mm. There are a number of factors which may affect the size of cremated bone fragments (McKinley 1994b) the majority of which are exclusive of any deliberate human action other than that of cremation itself.

DISCUSSION

The disturbed and uncontained nature of the burial is likely to have contributed to the generally small size of the bone fragments, however, some additional fragmentation by way of human manipulation cannot be excluded in this instance. This could include accidental trampling during recovery of bone from the pyre site, overexuberant handling during the collection procedure prior to burial - both resulting in increased fragmentation of the brittle bone – or, possibly, some

deliberate fragmentation prior to burial; though the latter has very rarely been observed in archaeological cremation burials.

Fragments from all parts of the skeleton were included in the burial, with no evidence to suggest deliberate selection of any specific bones. Fragments of tooth roots, and the small bones of the hands and feet were relatively common which may reflect a collection procedure involving bone being raked-off the burnt-out pyre for collection rather than hand recovery of individual fragments, thereby enhancing the chance of recovering such small bones.

The inclusion of animal remains, representative of pyre goods, in cremation burials is relatively common across the temporal range; for example, fragments of cremated sheep or sheep-size animal bone have been recovered from Neolithic cremation burials and *c* 16% of Bronze Age cremation burials have been found to contain cremated animal remains, most commonly parts of sheep and pig (McKinley 1997).

CHARRED PLANT REMAINS *by Angela Monckton*

Area C, King's Newnham

PHASES 1 & 4: NEOLITHIC - EARLY BRONZE AGE & UNDATED

Samples were examined from an Urn dated pit and nine undated pits. These samples differed from those of Area D as they contained only a few fragments of nutshell; five of the samples containing none. Three of the samples contained a moderate number of cereal grains, although very little chaff was found as in Area D. A few more seeds were found than on Area D.

Urn pit **233** was the most productive as it contained nineteen cereal grains including emmer and barley, a wheat glume and two rachis fragments of emmer or spelt, with five nutshell fragments and a few seeds including black bind-weed (*Fallopia convolvulus*), dock (*Rumex* sp) and brome grass (*Bromus* sp).

Undated pits **207** and **235** were the next most productive and similar to the previous pit in contents (Table 15B) except the latter contained no nutshell. Pits with fewer remains included **232, 236** and **211** which contained cereal grains and seeds in small numbers. Pits **220** and **213** produced no cereal grains but a few nutshell fragments while pit **228** contained only a couple of possible seed fragments. Very encrusted charcoal was found in pit **220**.

Discussion

The samples here contain grains of wheat and barley together with a little chaff and weed seeds which can be interpreted as waste from cleaning the cereal before consumption. In the glume wheats, emmer and spelt, the grains are held tightly in the chaff even after initial threshing and this must be removed before consumption. This dehusking was carried out in Late Iron Age and Roman times by parching and pounding, followed by fine sieving to remove the waste chaff and seeds, however burnt chaff is scarce in the earlier periods so cereal cleaning may have been carried out by other methods than heating (Robinson 2000). Barley threshes freely from the chaff, but before consumption both cereals would probably be hand sorted in small batches, to remove seeds, chaff and other contaminants. The waste would tend to include some spilled or spoiled grains together with nutshell and other waste. This appears to be some of this waste which was then burnt in the hearths during food preparation. The seeds could represent the weeds of the crops or plants from the

surroundings of the site which may have included disturbed ground, and grassy vegetation. The samples may compare to one previously found at Kings Newnham which had more cereal grains than nutshell (de Rouffignac 2003), rather than those from Area D.

Area D, Church Lawford

PHASE 1, NEOLITHIC - BRONZE AGE

Samples from all the twenty one datable prehistoric contexts contained charcoal, some of which was impregnated with minerals (Table 15). The most frequent of the charred plant remains was charred shell of hazel nut *(Corylus avellana)*, found in all but two of the samples, with numerous fragments in most of the samples, although the fragments were mainly small. Cereal grains were present in nine contexts but were few in number and only one sample contained chaff in the form of two glume bases of wheat. Wheat was present on the site represented by an emmer grain (*Triticum dicoccum*) in **313/1**, and a glume base in **310/1**. Other wheat grains could not be identified further. Barley grains were also identified although abraded; one grain was of a naked form of barley. Fruits were only represented by a single fragment of sloe stone (*Prunus spinosa*) in sample **324/2**. Occasional seeds included vetch or vetchling (*Vicia* or *Lathyrus*) and grasses (Poaceae). Occasional broken seed fragments were found but could not be identified. Most of the samples contained some roots and uncharred seeds which were probably intrusive, however the charred remains found with the abundant charcoal are likely to be contemporary with the fills of the features.

The features sampled

Neolithic ditch context **304/8** contained mineral impregnated charcoal only. Peterborough Ware pit **313** contained a grain of emmer, a grain of wheat, a cereal grain, 12 hazel nutshell fragments and some charcoal.

All of the seven Grooved Ware pit samples contained hazel nutshell, which was quite abundant in pits **309** and **307**, whilst **312** contained 51-66 fragments. Four of the pits contained cereal remains in single numbers only (pits **309, 307, 308** and **310**). The most were from pit **310** which contained grains of wheat and possibly naked barley and the only finds of chaff from this area in the form of two wheat glumes of which one was identified as emmer. Occasional seeds included vetch or vetchling and grasses. Cereals were not found in the samples from pits **321** and **312** which contained only nutshell.

Beaker pit **315** contained over two hundred hazel nutshell fragments including some larger fragments representing perhaps a dozen nuts. Four cereal grains included barley and indeterminate grains.

Both contexts sampled from Urn pit **324** produced numerous nutshell fragments. The upper context also included a single cereal grain, and the lower context, which included around three dozen nuts also had a sloe stone fragment. Urn pit **325** contained only a couple of hazel nutshell fragments and some indeterminate charred fragments (Table 15A).

Of the six undated pits, three contained quite numerous remains; **316** and **306** contained nutshell only, while **314** contained the most cereal grains from the site; the thirteen grains including emmer and barley with a bedstraw seed (*Galium* sp) and twenty nine nutshell fragments (Table 15B). Pits **305** and **233** contained only single numbers of remains in small flots, whilst pit **311** produced no plant remains.

Discussion

The Neolithic and Earlier Bronze Age samples from Area D are dominated by hazel nutshell fragments, with a few wheat and barley grains in about half the contexts sampled. The greater abundance of nutshell fragments over cereal grains found here has been noted in many samples of this date. It has been pointed out that nutshell is waste for disposal whereas grains are a product to be used, so the waste of grains would have been avoided and deposits may not therefore reflect the availability of foods (Moffett *et al* 1989). Although greater in abundance, the nutshell fragments may only represent a few dozen nuts; however the food value of nuts is greater per unit. Conversely Robinson (2000) has suggested that as the nutshell/cereal ratio in this period is greater than that of subsequent periods it could indicate their greater importance in the diet than in later periods. He has also suggested that the finds of nutshell in pits may perhaps be explained by the storage of nuts in pits which were removed and consumed nearby, or possibly because the deposition of burnt nutshell was a common ceremony associated with pits (ibid).

The grains here are not numerous and are comparable with many deposits of this date. The cereals found included the glume wheat emmer, and barley which was slightly more common than wheat. Only a small amount of chaff and weed seeds were found.

The environmental evidence of this region over time has been reviewed (Moffett 2000) with a consideration of results from other sites. It concluded that local Neolithic subsistence was not without cereals, although cereals are not always found. The presence of cereals has been shown here in Peterborough Ware and Grooved Ware contexts, although some pits lacked cereals as did the Grooved Ware pits at Broom, Salford Priors (Moffett & Ciaraldi 2000). There the following possibilities were considered for the lack of cereals while fruit and nut remains were found: that it was due to a specialised activity; that it represented food waste at a temporary camp; that the features were away from a settlement; that cereals were consumed without becoming charred; that the sites were ritual in nature; or possibly that the remains were not food waste but a deposit of burnt wood with some fruits attached. The former two were favoured (ibid, 32).

At Church Lawford the enclosure ditch contained charcoal but no food remains. Two of the Grooved Ware pits contain nutshell but no cereals like those at Broom, although less variety of fruits were found here. In contrast, five of the dated pits do contain cereals although dominated by nutshell. Of the undated pits **314** contains cereals and nutshell, **316** and **306** contain only nutshell in the samples. It would be interesting to know if pits with and without cereals were contemporary and so may represent different activities, or if they may differ because they are of different dates.

The evidence for major woodland clearance in the region is of Late Bronze Age date, although cereal pollen has been found in advance of this at Late Neolithic levels in a pollen diagram at Cookley, Worcestershire by James Greig (Moffett & Ciaraldi 2000, 34). The charred remains on sites reflect the resources exploited and the common find of hazel nutshell suggests the availability of woodland resources and probable proximity of woodland. Woodland margins and clearings are the most productive for fruits and nuts and it is suggested that these are likely to have been nearby. It is unknown if the cereals were cultivated nearby or brought to the site, but small scale 'garden-like' cultivation of clearings is possible. This type of cultivation need not have been short term in nature (Jones 2000) as gardens can remain productive for many years. More evidence from settlements and local pollen analysis is needed to investigate this. These pits may represent different activities or possibly different phases of activity, for example, some temporary camps and some more permanent occupation with cereal cultivation.

Table 15A: Charred plant remains from Area D

Phase	Neo.	P'boro.	Grooved									Beaker	Urns			
Feature type	Ditch	s-circ	s-oval	s-circ	s-circ	oval	circ	s-circ	s-oval	s-circ	s-circ	s-oval	s-circ	s-circ	s-oval*	
Context	304/8	313/1	321/1	309/1	309/2	317/1	307/1	308/1	310/1	312/1	312/2	315/1	324/1	324/2	325/1	
Sample	1	1	1	1	1-3	1	1	1	1	1	1	1-3	1-3	1	1	
CEREAL GRAINS																
Triticum cf *dicoccum*	-	1	-	-	-	-		-	-	-	-	-	-	-	-	Emmer wheat
Triticum dicoccum/spelta	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	Emmer/Spelt
Triticum sp(p)	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	Wheat
Hordeum vulgare L.	-	-	-	-	-	-	1cf	1cf.	1	-	-	1	-	-	-	Barley
Hordeum vulgare L. naked	-	-	-	-	-	-	-	-	1cf	-	-	-	-	-	-	Barley
Cereal indet grain	-	1	-	1	-	?fr	1	-	1	-	-	3	1	-	-	Cereal
CEREAL CHAFF																
Triticum cf *dicoccum* glume	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	Emmer
Triticum dicoccum/spelta glume	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	Emmer/Spelt
Culm node cereal	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	Cereal stem
WOOD/SCRUB/COLLECTED																
Corylus avellana L.	-	12	10	51	21	6	66	3	6	12	61	238	89	c.350	2	Hazel nutshell
Prunus spinosa L.	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	Sloe
SEEDS OF WILD PLANTS																
Vicia/Lathyrus	-	-	-	-	1	-	-	1	-	-	-	1	-	-		Vetch
? *Prunella vulgaris* L.	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	Self-heal
Poaceae (small)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	Grasses
Indeterminate seed fragments	-	-	-	1	1	-	-	1	-	2	-	2	2	1	2?	Indeterminate seeds
Uncharred seeds	-	+	+	++	++	+	+	+	-	+	+	+	-	-	+	Uncharred seeds
OTHER PLANT REMAINS																
Thorns, Blackthorn/Hawthorn	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	Thorns
Buds	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	Buds
Tuber indet	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	Tuber
Charcoal	++ #	+	+	++ #	++	+	++	+	+	++	++	++	++	+++	++	Charcoal
Charred fragments indet	-	-	(1)	+	+	-	+	+	+	(3)	(2)	+	(2)	-	(7 v.)	Charred fragments
TOTAL	0	15	10	54	25	6	69	7	13	14	61	245	93	351	4	items (967 total)
Flot Vol.	395	15	70	470	330	14	39	14	27	30	115	55	47	620	22	mls
% sorted	All	all	all	50%	50%	all	all	all	all	all	all	all	all	25%	all	%
Sample Vol.	23	36	24	23	30	7	30	13	43	c.10	9 (pt.1)	117	21	15	21	litres
items/litre of soil	0	0.4	0.4	4,6	0.8	0.9	2.3	0.5	0.3	1.4	6.7	2.1	4.4	86	0.2	items/litre of soil

Table 15B: Charred plant remains from Areas D, C and G

Area	D					C								G		
Phase	Undated					Urn	Undated							BA		
Feature type	s-circ	s-circ	s-circ	oval	scoop	circ	oval	s-circ	oval	s-oval	s-circ	oval	oval	Pot*	circ*	
Context	314/1	316/1	306/1	305/1	318/1	233/1	220/1	207/1	211/1	213/1	232/1	235/1	236/1	601/1	602/1	
CEREAL GRAINS																
Triticum cf *dicoccum*	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	Emmer wheat
Triticum dicoccum/spelta	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	Emmer/Spelt wheat
Triticum cf *aestivum*	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	Bread wheat type
Triticum sp(p)	-	-	-	-	-	1	-	-	-	-	1	2	-	-	-	Wheat
Hordeum vulgare L.	1	-	-	1	-	2	-	2	1	-	-	5	-	-	-	Barley
Hordeum vulgare L. hulled	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	Barley
Hordeum vulgare L. hulled, twisted	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Barley
Cereal indet grain	7	-	-	-	fr?	11	-	3	1	-	6	3	2	1	-	Cereal
Cereal/Poaceae	-	-	-	-	-	3	-	3	-	-	-	1	-	-	-	Cereal/Grass
CEREAL CHAFF																
Triticum dicoccum/spelta glume	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	Emmer/Spelt
Triticum dicoccum/spelta rachis	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	Emmer/Spelt
Hordeum sp rachis	-	-	-	-	-	-	-	-	-	-	-	1?	-	-	-	Barley
Cereal rachis	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	Cereal
Culm node cereal	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	Cereal stem
WOOD/SCRUB/COLLECTED																
Corylus avellana L.	29	59	169	-	6	5	1	1	-	3	-	-	-	-	-	Hazel nutshell
SEEDS OF WILD PLANTS																
Stellaria sp	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	Chickweed
Silene sp	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	Campion
Polygonum aviculare L.	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	Knotgrass
Polygonum sp	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	Knotweed
Fallopia convolvulus (L.) L. Love	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	Black-bindweed
Rumex sp	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	Docks
Vicia/Lathyrus	-	1	-	1	-	-	-	-	-	-	-	4	-	-	2	Vetch/Vetchling
Medicago/Melilotus/Trifolium	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	Clover type
Galium sp	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	Bedstraw
Eleocharis sp	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	Spike-rush
Carex spp	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	Sedges
Bromus hordeaceus/secalinus	-	-	-	-	-	1	-	1	-	-	1	-	-	-	-	Brome grass
Poaceae (large)	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	Large grass
Poaceae (small)	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	Grasses
Indeterminate seed fragments	-	1	-	-	-	1	1	-	-	-	1	2	2	-	3	Indeterminate seeds
Uncharred seeds	++	+	++	+	-	++	-	++	+	+	-	++	+	-	++	Uncharred seeds

Table 15B continued

Context	314/1	316/1	306/1	305/1	318/1	233/1	220/1	207/1	211/1	213/1	232/1	235/1	236/1	601/1	602/1	
OTHER PLANT REMAINS																
Arrhenatherum elatius (L.) tuber	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	Onion couch grass
Poaceae culm bases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	Grass stem bases
Culm node small	-	-	-	-	-	-	-	-	-	-	-	-	-	-	++	Grass stem
Thorns, Blackthorn/Hawthorn	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	Thorns
Stem fragments	-	-	-	-	-	1	-	+	-	-	-	-	-	-	-	Stem fragments
Root fragments	-	-	-	-	-	-	-	-	1	-	+	-	2	-	+	Root fragments
Buds	-	-	-	-	-	1	-	3	-	-	-	1	-	-	3	Buds
Tuber fragments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	Tuber fragments
Charred fragments, large	+	+	+	+	-	-	-	-	+	+	+	-	-	-	++	Charred fragments
Charcoal	+	+	++	+#	+	++	++#	++	++	++	++	++	-	-	++	Charcoal
TOTAL	43	61	169	2	6	33	3	22	4	3	12	19	6	1	20	items
Flot Vol.	40	14	29	12	12	25	25	100	47	30	12	24	12	12	55	mls
% sorted	All	all	all	all	all	all	all	all	all	all	all	all	all	all	all	%
Sample Vol.	47	19	30	8	5	23	7	16	8	4	15	15	8	c.10	c.10	litres
items/litre of soil	0.9	3.2	5.6	0.3	1.2	1.4	0.4	1.4	0.5	0.8	0.8	1.3	0.8	0.1	2.0	items/litre

Key to 15A and 15B

oval = oval pit, s-oval = sub-oval pit, circ = circular pit, s-circ = sub-circular pit, * = cremation deposit, # = mineralised charcoal, + = present, ++ = abundant.
Remains are seeds in the broad sense unless described otherwise.

Notes:
Area D: All samples sorted entirely or partially (except 2 parts of **212/2** parts 2 and 3), nothing found in **311/1** so omitted from table.
Area C: Nine samples sorted, **218/1** omitted from table as only contained a couple of indet. charred fragments, (samples from **224, 227, 230** and **234** not sorted).

Area G, Harbury

PHASE 2: MIDDLE-LATE BRONZE AGE

The sample from the cremation pit **602** contained a number of tubers of onion couch grass (*Arrhenatherum elatius*) together with charred root fragments, charred grass stem fragments and seeds. The seeds included sedges, chickweed (*Stellaria* sp), docks, bedstraw, vetches and clover type plants (Table 15B).

Discussion

In the cremation deposit **602** the bulk of the remains other than charcoal were tubers and stem bases of grasses; five tubers of onion couch grass were found. These tubers are known to be edible and this has been discussed by Robinson (1988) at Rollright where they are described as coarse and probably requiring much preparation to extract anything edible. However, onion couch grass grows on ungrazed grassland and abandoned arable land (ibid) which may reflect the site of the pyre. However, Robinson goes on to suggest that the frequent presence of these tubers in cremations may be because the stems were gathered as kindling for the pyre, the moist tubers being more likely to survive charring than the dry stems (ibid). The seeds present in this deposit are also those of grassy vegetation perhaps gathered with kindling, or possibly the grassy vegetation represented by the seeds, tubers and grass stem bases may be from the site of the pyre. This material could perhaps have been collected together with the pyre remains and so included in the deposit. It is therefore suggested that the pyre was made on ungrazed grassland or perhaps abandoned arable land, or that kindling gathered from such land may also be included.

PHASE 3: LATE BRONZE AGE

The sample from pit **601** contained only a single cereal grain.

Conclusions

This rare find of groups of Neolithic and Bronze Age pits (Areas C & D) adds significantly to the evidence for prehistoric subsistence in the region. A Neolithic pit containing Peterborough Ware produced evidence for emmer wheat with hazel nutshell as foods of the period. Grooved Ware pits dominated by hazel nutshell fragments also produced evidence for glume wheat and barley possibly including naked barley. This was thought to suggest the proximity of woodland and ready availability of woodland resources, and it was thought possible that cultivation of cereals, perhaps in clearings may have been carried out by garden-like methods in the vicinity. However, more evidence is required to investigate this possibility. If this was the case these pits may represent some longer term occupation, while the pits without cereals may represent other activities exploiting woodland resources perhaps at temporary camps or as winter stores of food.

The Bronze Age pits may represent some waste from food preparation from occupation in the area, less nutshell was present perhaps suggesting decrease of woodland resources. The cereals emmer and barley were cultivated and consumed, although remains were few in number.

CHARCOAL *by Rowena Gale*

Area C, King's Newnham

The charcoal was mostly degraded and usually rather sparse. It was not clear whether the charcoal originated from cremation deposits (pyre fuel) or from other sources, e.g. domestic hearths. No charcoal was recovered from the Neolithic pits. Small fragments of charcoal associated with Phase 1 urn pit **233** included field maple (*Acer campestre*), hazel (*Corylus avellana*), blackthorn (*Prunus* spinosa) and the hawthorn/ *Sorbus* group (Pomoideae). Charcoal was also examined from a cluster of Phase 4 undated pits, **228, 230, 232, 234** and **235**, sited close by and identified as predominantly oak (*Quercus* sp) and hazel (*Corylus avellana*), although other species including birch (*Betula* sp), ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), blackthorn (*Prunus spinosa*), the hawthorn/ *Sorbus* group (Pomoideae) and willow (*Salix* sp) and poplar (*Populus* sp) were also present (Table 16).

Pit features appeared to be relatively common at the site. Charcoal from the fills of five further (undated) pits, **207, 211** and **213** (in the central part of the site), and **220** and **224** (close to the north-eastern boundary of the site) was similarly dominated by oak (*Quercus* sp); other taxa identified included hazel (*Corylus avellana*), alder (*Alnus glutinosa*), blackthorn (*Prunus spinosa*), elm (*Ulmus* sp) and possibly the hawthorn/ *Sorbus* group (Pomoideae). Hammerscale in pit **211** could imply that the charcoal in this context was from industrial fuel.

Area D, Church Lawford

Charcoal was examined from a total of sixteen pits and indicated the more or less consistent use of oak (*Quercus* sp), hazel (*Corylus avellana*), the hawthorn/ *Sorbus* group (Pomoideae) and blackthorn (*Prunus* spinosa). Other taxa were infrequent but included field maple (*Acer campestre*), alder (*Alnus glutinosa*), holly (*Ilex aquifolium*) and gorse (*Ulex* sp) and broom (*Cytisus scoparius*) (see Table 16).

The ditch feature **304** contained a large quantity of very poorly preserved charcoal (**304/8/1**), which was identified mainly as either alder (*Alnus glutinosa*) or hazel (*Corylus avellana*), with small representations of oak (*Quercus* sp) and the hawthorn/ *Sorbus* group (Pomoideae).

Area G, Harbury

Charcoal from the Late Bronze Age pit fill **601/1/1** was very sparse but included oak (*Quercus* sp) and ash (*Fraxinus excelsior*). Nearby, charcoal (pyre fuel) from the middle-late Bronze Age cremation pit **602** consisted entirely of oak (*Quercus* sp). Such deliberate selection has occasionally been recorded at Bronze Age cremation burials elsewhere. Examples include Broughton Barn Quarry and Gayhurst Barrow Cemetery both in Buckinghamshire (Gale unpub a & b), Westhampnett, West Sussex (Gale forthcoming), Coton, Warwickshire (Gale unpub c), Eye Kettleby, Leicestershire (Gale unpub d) and Risely Farm, Berkshire (Gale 1991-3). The significance of this custom is little understood but seems to denote a special tree symbolism, particularly associated with oak. This may have been linked to either status, age or gender (Smith 2002).

Table 16: Charcoal from Neolithic and Bronze Age features

Area/ Phase	Feat/con/ Sample	*Acer*	*Alnus*	*Betula*	*Corylus*	*Fraxinus*	*Ilex*	Pomoideae	*Prunus*	*Quercus*	Salicaceae	*Ulex/ Cytisus*	*Ulmus*
C:1	233/1/1	1	-	-	2	-	-	2	2	-	-	-	-
C:4	207/1/1	-	3	-	-	-	-	-	-	25h,16s	-	-	-
C:4	211/1/1	-	-	-	-	-	-	?1	-	1h, 1s	-	-	1
C:4	213/1/1	-	-	-	11	-	-	-	1	16h,3s	-	-	-
C:4	220/1/1	-	-	-	7	-	-	-	1	10h	-	-	-
C:4	224/1/1	-	-	-	3	-	-	-	-	41h,1s	-	-	-
C:4	228/1/1	-	-	-	cf 1	1	-	-	-	2	-	-	-
C:4	230/1/1	-	-	-	2	-	1	-	-	7	-	-	-
C:4	232/1/1	-	-	-	1	-	-	-	1	3	-	-	-
C:4	234/1/1	-	-	1	4	-	3	1	-	17	1	-	-
C:4	235/1/1	-	-	-	-	-	-	-	1	11h	-	-	-
D:1	304/8/1	-	56*	-	56*	-	-	2	-	4	-	-	-
D:1	324/2/1-3	-	-	-	4	-	-	1	2	25h, 4s	-	-	-
D:1	325/1/1	-	-	-	-	-	-	2	2	3	-	-	-
D:1	325/1/2	-	-	-	-	-	cf1	2	2	1h	-	-	-
D:1	307/1/1	-	-	-	cf 4	-	-	-	2	1h	-	-	-
D:1	308/1/1	-	-	-	cf 2	-	-	2	-	1h, 1s	-	-	-
D:1	309/2/1	-	-	-	38	-	1	5	4	8h,4s,1r	-	-	-
D:1	310/1/2	1	-	-	4	-	-	1	2	1	-	-	-
D:1	317/1	-	-	-	1	-	-	1	-	3	-	-	-
D:1	321/1	-	-	-	22	-	-	3	1	10h, 1s	-	-	-
D:1	315/1-3	-	-	-	2	-	-	13	2	2	-	-	-
D:4	305/1/1	-	1, 3*	-	3*	-	-	-	-	-	-	-	-
D:4	306/1/1	-	-	-	10	-	-	5	-	5h	-	-	-
D:4	311/1/1	-	-	-	1	-	-	2	2	-	-	-	-
D:4	314/1/1	-	-	-	5	-	-	3	1	3h	-	1	-
D:4	318/1/1	-	-	-	1	-	-	-	-	4h	-	-	-
D:1	312/2/2	-	-	-	11	-	-	2	3	26h,21s,2r	-	-	-
G:3	601/1/1	-	-	-	-	1	-	-	-	4s	-	-	-
G:2	602/1/1	-	-	-	-	-	-	-	-	18h	-	-	-

Key to Table 16: h = heartwood; r = roundwood (diameter <20mm); s = sapwood (diameter unknown) *Charcoal very degraded – either *Alnus* or *Corylus*. The number of fragments identified is indicated

Discussion

In Area C, charcoal was examined from a cluster of undated pits, **228, 230, 232, 234** and **235**, sited close to an urn pit **233**. These pits contained a range of domestic waste including charred cereal grain and hazel nutshell, flints, fired clay and cremated animal bone probably deriving from hearths.

The charcoal from the Urn pit **233** included the use of shrubby species such as hazel (*Corylus avellana*), blackthorn (*Prunus spinosa*) and the hawthorn/ *Sorbus* group (Pomoideae), and also field maple (*Acer campestre*).

Charcoal from the pit cluster and five more discretely located pits, **207, 211, 213, 220** and **224**, included a range of other taxa in addition to oak (*Quercus* sp) (see Table 16). The charcoal deposits in most of these pits were typically similar in character and, apart from the common use of oak, fuel was supplemented with a variety of other species, probably provisioned from any accessible source in the neighbourhood. Interestingly, hammerscale was recorded in pit **211** and could implicate the charcoal as smithing fuel

In Area D, charcoal was more abundant and occurred in a large number of pits categorized as Grooved Ware pits (**307, 308, 309, 310, 317** and **321**); beaker pit (**315**); urn pits (**324** and **325**); and undated pits (**305, 306, 311, 312, 314** and **318**). Cremated animal bone was recorded in the Grooved Ware and Urn pits and it is probable that this charcoal derived from very hot fires. The similarity of these deposits suggests that there was little or no distinction between fuels for any particular event and that the provision of fuel was probably determined by the availability of species in the area. There was no evidence to indicate the 'ritual' use of single species of wood at this site.

Although the topography and soils differed slightly on either side of the river, the taxa identified from areas C and D indicated ready access to a very similar range of trees and shrubs. Climax woodland appears to have consisted of oak (*Quercus* sp) and hazel (*Corylus avellana*) and there was abundant evidence of marginal woodland or scrub of blackthorn (*Prunus spinosa*) and the hawthorn/ *Sorbus* group (Pomoideae). Other species included elm (*Ulmus* sp), birch (*Betula* sp), field maple (*Acer campestre*), ash (*Fraxinus excelsior*) and holly (*Ilex aquifolium*). Despite the proximity of the river there was only slight evidence of the use of wetland species, such as alder (*Alnus glutinosa*) and willow (*Salix* sp).

RADIOCARBON DETERMINATIONS

A series of samples was sent to the Scottish Universities Environmental Research Centre AMS Facility for radiocarbon determinations. The samples comprised individual charred hazel nutshells or short-lived species of wood charcoal which were deemed suitable to reduce the error margin that is possible from long-lived wood. A single control sample for Area D **304/8** was also sent to The University of Waikato Radiocarbon Dating Laboratory, New Zealand.

Discussion of the results *by Stuart C Palmer*

AREA C URN PIT FILL **233/1**

The date from this hazel nutshell is within an acceptable range for this type of ceramic.

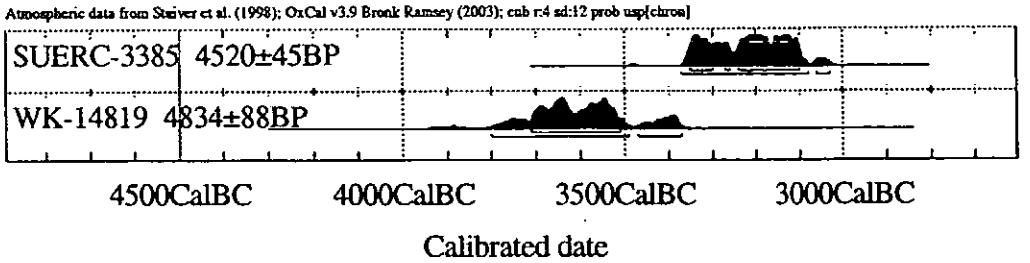
Table 17: Radiocarbon determinations from Areas C, D and G

Lab No	*Context*	*Material*	*Radiocarbon Age BP*	*Calibration 68.2%*	*Calibration 95.4%*
Area C					
SUERC-3493 (GU-12021)	Urn pit fill 233/1	Hazel nutshell	3420±35	1860BC (1.7%) 1840BC 1770BC (61.2%) 1680BC 1670BC (2.9%) 1660BC 1650BC (2.4%) 1640BC	1880BC (9.4%) 1840BC 1830BC (3.3%) 1790BC 1780BC (82.7%) 1620BC
Area D					
SUERC-3385 (GU-12011)	Enclosure ditch fill 304/8/1	Alnus/Corylus charcoal	4520±45	3350BC (16.4%) 3300BC 3270BC (0.9%) 3260BC 3240BC (50.9%) 3100BC	3370BC (93.4%) 3080BC 3060BC (2.0%) 3030BC
Wk-14819	Enclosure ditch fill 304/8/2	Alnus/Corylus charcoal	4834±88	3710BC-3510BC	3800BC(82.6%)3490BC 3470BC(12.8%)3370BC
SUERC-3480 (GU12013)	Grooved ware pit fill 307/1/2	Hazel nutshell	4435±35	3310BC (14.5%) 3230BC 3170BC (2.1%) 3160BC 3110BC (42.0%) 3010BC 2980BC (3.9%) 2960BC 2950BC (5.7%) 2920BC	3330BC (26.3%) 3210BC 3180BC (4.0%) 3150BC 3130BC (65.1%) 2920BC
SUERC-3386 (GU-12012)	Grooved ware pit fill 307/1/1	Hazel nutshell	4270±45	2920BC (56.6%) 2870BC 2810BC (9.3%) 2780BC 2770BC (1.6%) 2760BC 2720BC (0.8%) 2710BC	3020BC (71.3%) 2850BC 2820BC (18.8%) 2740BC 2730BC (5.3%) 2690BC
SUERC-3484 (GU-12015)	Grooved ware pit fill 309/2/1	Hazel nutshell	4330±35	3020BC (24.6%) 2980BC 2970BC (5.3%) 2950BC 2930BC (38.3%) 2890BC	3030BC (95.4%) 2880BC
SUERC-3483 (GU-12014)	Grooved Ware pit fill 309/1/1	Hazel nutshell	4215±40	2890BC (18.3%) 2860BC 2810BC (37.5%) 2750BC 2730BC (12.4%) 2700BC	2910BC (26.4%) 2830BC 2820BC (67.8%) 2660BC 2650BC (1.2%) 2630BC
SUERC-3487 (GU-12018)	Beaker pit fill 315/1/1	Hazel nutshell	4135±35	2870BC (20.1%) 2800BC 2760BC (15.6%) 2720BC 2710BC (32.5%) 2620BC	2880BC (26.7%) 2800BC 2790BC (68.7%) 2580BC
SUERC-3485 (GU-12016)	Peterborough ware pit fill 313/1/1	Hazel nutshell	3985±40	2570BC (39.0%) 2510BC 2500BC (29.2%) 2460BC	2620BC (1.2%) 2610BC 2590BC (90.9%) 2400BC 2380BC (3.3%) 2350BC
SUERC-3486 (GU-12017)	Peterborough ware pit fill 313/1/2	Hazel nutshell	3835±35	2400BC (4.3%) 2380BC 2350BC (63.9%) 2200BC	2460BC (92.8%) 2190BC 2170BC (2.6%) 2140BC
Area G					
SUERC-3491 (GU-12019)	Cremation pit fill 602/1/1	Charred onion couch grass tubers	3185±35	1500BC (64.3%) 1425BC 1420BC (3.9%) 1410BC	1530BC (95.4%) 1400BC
SUERC-3492 (GU-12020)	Cremation pit fill 602/1/2	Charred onion couch grass tubers	3170±35	1500BC (18.2%) 1470BC 1465BC (50.0%) 1405BC	1520BC (93.5%) 1390BC 1330BC (1.9%) 1320BC

Radiocarbon age BP (Before 1950 AD) uses the half life of 5568 years. Calibrations use the University of Oxford Radiocarbon Accelerator Unit calibration programme OxCal PROGRAM v3.9 (Bronk Ramsay 2003) and the 1998 calibration curve (Stuiver et al 1998).

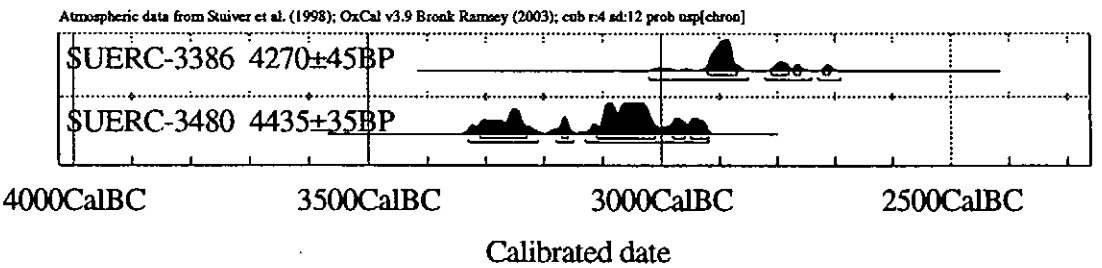
AREA D ENCLOSURE DITCH FILL **304/8**

The two dates from charcoal recovered from ditch fill **304/8** are inconsistent and too far apart to be explained by dating different parts of the hazel/alder tree. The Wk-14819 result may be derived from a mix of different wood and may therefore represent an average. Although the SUERC-3385 date is from a single piece of wood charcoal it cannot be certain that it was the most recent of them and therefore only provides a *terminus post quem* for the deposit.



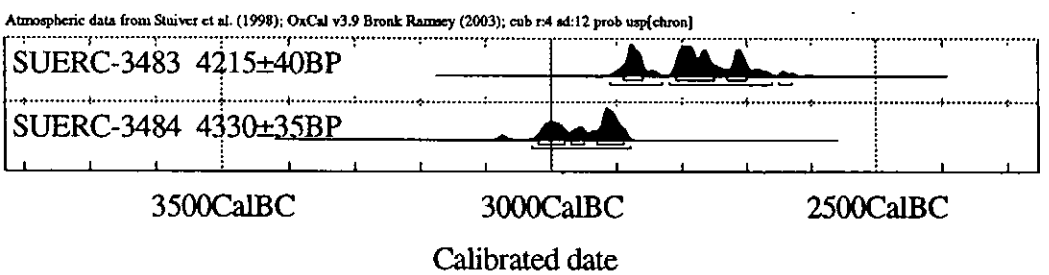
AREA D GROOVED WARE PIT **307/1**

The two dates from hazel nutshells recovered from pit fill **307/1** are inconsistent and must therefore be derived from two separate episodes of burning. They cannot therefore be used to date either the pottery or the deposit but do indicate that charred hazel nutshells were residual on site. Given that the SUERC-3386 is the later, it provides a more reliable *terminus post quem*. However, the dates (as with those from **309** below) do overlap with the accepted dates for Grooved Ware from the Amesbury chalk plaque pit (OxA 3316 & 3317) and Barholm (UB 457 & 458), although these are amongst the earliest dates for Grooved Ware in England (Alex Gibson pers comm).



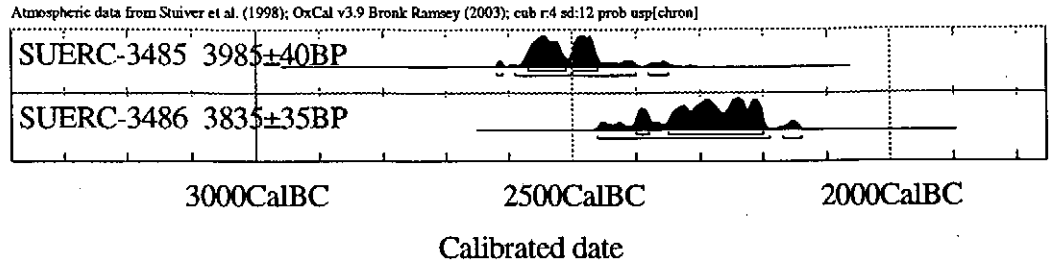
AREA D GROOVED WARE PIT FILLS **309/1** AND **309/2**

The two results from hazel nutshells recovered from pit fills **309/1** and **309/2** are also inconsistent. Although these were two separate contexts and the later date comes from the later fill, the results are more likely to reflect the residuality of the hazel nutshells than the time difference between the two episodes. Given that SUERC-3483 is later, it provides a more reliable *terminus post quem*.



AREA D PETERBOROUGH WARE PIT FILL **313/1**

The two results from hazel nutshells recovered from pit fill **313/1** are again inconsistent. Given that SUERC-3486 is later, it provides a more reliable *terminus post quem* and in addition given that it is rather too late for Peterborough Ware it suggests that the pottery is also residual.

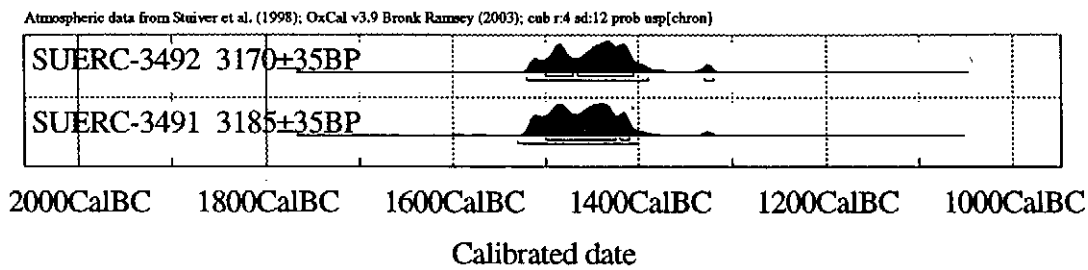


AREA D BEAKER PIT FILL **315/1**

The result from a hazel nutshell in Beaker pit fill **315/1** is one of the earliest Beaker dates in Britain. Although it agrees with Radley 919 (OxA 1874 & 1875) it is difficult to see Beakers in Britain much before 2500 BC and must therefore indicate that the nutshell is residual.

AREA G CREMATION BURIAL PIT FILL **602/1**

The results from these onion couch tubers are consistent and probably relate to the cremation event. As such they provide an accurate date range.



Conclusions

The results from the radiocarbon dating program are disappointing. Only the sample results from Area G can be used with any confidence as a date range within which a functional event took place. The Area C sample may be accurate but without corroboration it must remain uncertain. The two dates from the Area D enclosure ditch samples are inconsistent and can therefore only provide a *terminus post quem* for the deposit as a whole. The remaining dates from the Area D pit group clearly show that charred material was residual on the site so even the calibrations that are within an acceptable timeframe for the particular ceramic assemblages such as the dates from pit **307**, can not be used to date the deposit.

AVON VALLEY FIELD SURVEY: SECOND PRELIMINARY REPORT ON THE SURFACE FLINT COLLECTED IN THE UPPER AVON VALLEY

by Lawrence H Barfield, Maurice Deakin and Timothy Deakin

Introduction

Over a period of six years M and T Deakin have been collecting surface flint from fields mainly in King's Newnham, Church Lawford and adjacent parishes in the upper Avon valley (Deakin & Deakin 2000). This survey also covered the excavation Areas C and D, both before and after pipeline construction. This report presents a summary of the material found during the first period of survey until 2003 (Fig 18). A fuller report, including the material from more recent collections, will be published at a later date. What mainly concerns us here is the comparison between

the flint from the surface collection and that from the excavated areas. Some 423 pieces of worked flint were collected during the survey.

Raw material

This mainly comprises poor quality materials probably derived from the local gravel or boulder clays. A few flakes of a mottled, grey-brown flint are probably from further afield. Some are in a hard, white, irregular crystalline flint, which, in the West Midlands, is usually associated with Mesolithic assemblages.

Tools

Few finished tools were found. These comprise:
- fragmentary blade /flake with a unilaterally, bifacially polished edge
- plano-convex or slug knife with bilateral invasive flaking
- broken fabricator
- three flake scrapers
- blade with marginal retouch
- blade-like flake with unilateral marginal retouch

Of these the scrapers and fabricator belong to a general period of time between the Neolithic and the Early Bronze Age. The well-made plano-convex knife is Late Neolithic to Early Bronze Age in date (Pickin 1987). It shows abrasion at the end suggesting that it had been re-used as a strike-a-light (fabricator).

The polished knife with a straight, marginally polished edge is unusual and of a type more common in eastern England. It can be compared, for example, with a more complete example published by May (1976, fig 51, 1).

Debitage

Most of the assemblage is of poor quality and is hard-hammer struck. A few pieces, especially cores, are anvil struck or even just smashed. The soft hammer is used in very few instances, mainly for blades. Hard hammer flakes have frequently been struck from a cortex or a thermally fractured platform surface, rather than from a prepared platform, while the flakes themselves are usually short.

There are several examples of better quality 'blade-like flakes' struck from the end of small cylindrical nodules, sometimes with a prepared platform and sometimes from a natural broken end or even a cortex surface. These were also always struck with a hard hammer technique. Sometimes only one blade-flake has been removed in this process.

Some true blades are present. These are always of a good quality flint and usually patinated. They are soft hammer or punch struck. One opposed platform bladelet core and two bladelets in this group appear to be Mesolithic.

Cores

The 121 cores represent a large proportion of the collected flint material (28%). Most were made from local, poor quality, flint nodules with single platform cores and producing only a few short irregular flakes. Of these 17% had thermal striking platforms, 10% cortical striking platforms and 10% were anvil struck. The thermal platforms often show incipient cones from inaccurate and unsuccessful striking.

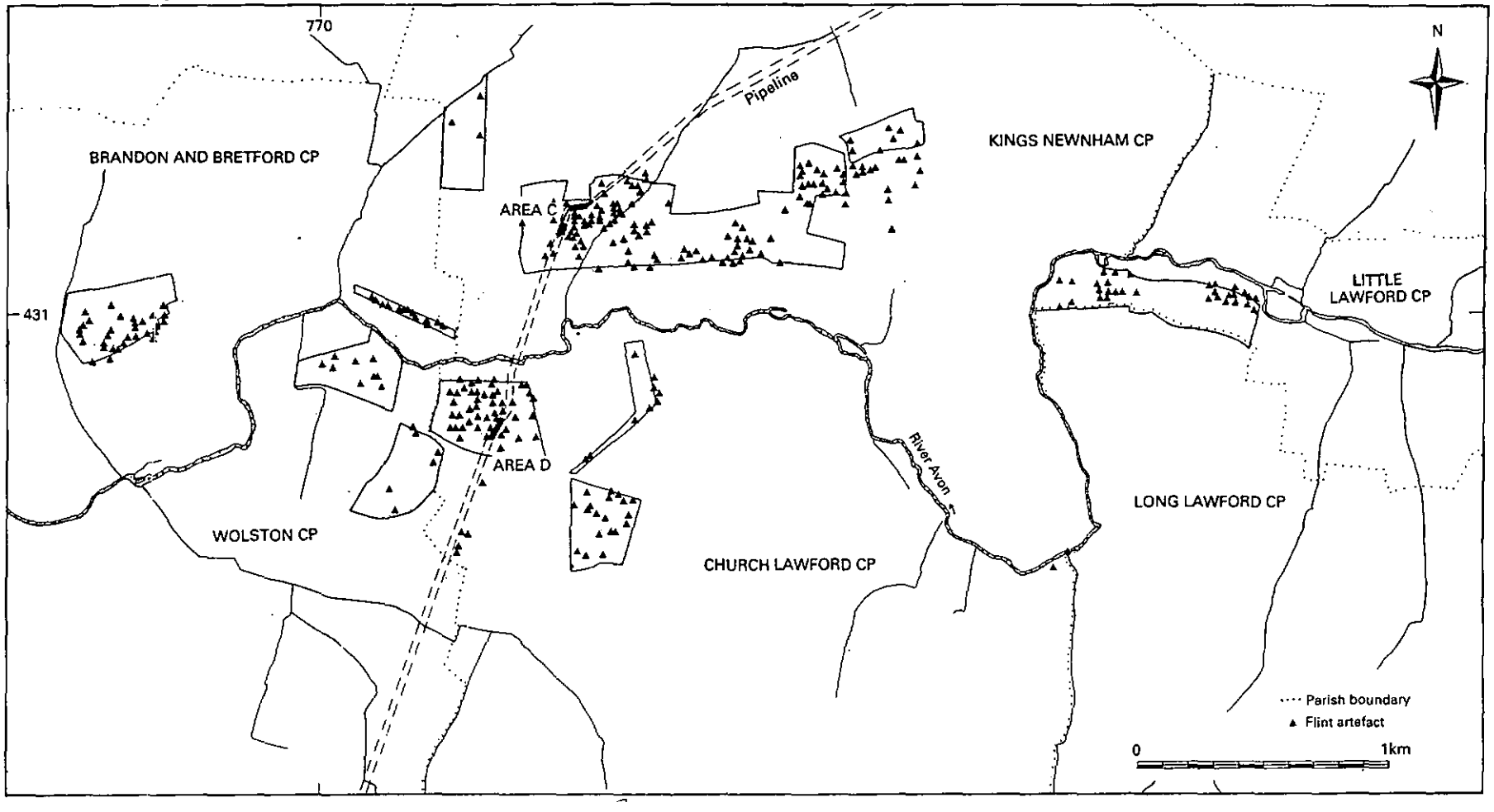


Fig 18: Flintwork recovered and plotted in the Avon Valley after Deakin & Deakin 2000

Cores relating to the blade-like flakes, mentioned above, were not recorded. Some 'globular' rotated cores for the striking of flakes may be Late Neolithic; one with two platforms was of a, probably imported, mottled grey and brown flint.

Discussion

The distribution of the flint over the fields appears to represent a widespread and general scatter of material with no specific clustering. While this is a mixed assemblage covering a period from the Mesolithic to the Bronze Age, the great majority of the collection appears to be late in date and characterised by a paucity of skilled lithic technology and typologically datable pieces. Only three pieces can be relatively confidently attributed to the Mesolithic on the grounds of technology and raw material and only two to specific periods of the post-Mesolithic. The stone 'battle axe' of probable Early Bronze Age date can also be mentioned here (Deakin 2001). Only a few flakes and blades of a quality matching those expected in the Neolithic, or indeed comparable to that found in the Area D excavation (see Bevan above), were present.

The dominant poor quality flint work representing the bulk of the collected material is undated. A comparable poor quality assemblage, found at the Reading Business Park, was associated with later Bronze Age pottery (Brown 1992, 90-3). Here again there was a marked difference between the Later Bronze Age assemblage and a Neolithic one. The late Bronze Age flint was in local gravel flint contrasting with the chalk flint of the Neolithic flint. Flakes were struck from split pebbles and, as in our assemblage, usually only a few short, irregular flakes were detached from the cores by inaccurate hammering, leaving incipient cones of percussion on the striking platform.

In the present collection thermally split pebbles were usually selected from the gravel as cores for the 'Later Bronze Age' assemblage. Anvil-struck cores are probably of the same date and they are found usually associated with poor quality, pebble flint or other types of rock and are associated with the Beaker to Early Bronze Age industries, but the technique could also be utilized in later Bronze Age assemblages - as in the Netherlands (Van Guijn & Neikus 2001). We can thus tentatively date the bulk of our material to the 'Later Bronze Age'.

The high percentage of cores relative to the total assemblage (28%) contrasts with the lower ratios generally found on West Midland flint sites, where examples from the Mesolithic are from 5.2% (Repton) to 17% (Burton Dassett) and the mainly Neolithic 3.7% (Tiddington) or the mixed Wroxeter Hinterland Survey 3.2%. This can be explained by the *ad hoc* nature of the 'Later Bronze Age' flake production with few flakes being produced from each core.

The rarity of Neolithic flint in the surface collection contrasts with the evidence from the excavation of the Neolithic enclosure in Area D (see Bevan above), which was within the area covered by the Deakins' survey. The excavated flint from these features was almost exclusively of high quality, probably largely imported, flint with evidence of *in situ* tool production. The interpretation of such a marked discrepancy is not easy. It might suggest that good quality Neolithic flint working was restricted to the excavated structures and did not get into the surface record and that the later 'Late Bronze Age' activity was far more extensive and intensive than that of the Neolithic.

It should be stressed that such 'Later Bronze Age' flint assemblages are rare in the West Midlands, so far they have only been only recognised locally here and extensively at Abbey Farm, Nuneaton, Warwickshire (unpublished) as well as in the Arrow Valley (Bradley 2000).

GENERAL DISCUSSION

Areas C & D, King's Newnham and Church Lawford

THE ENCLOSURE

The Church Lawford enclosure cropmark is some 135m long x 75m wide and therefore at the smaller end of the range for causewayed enclosures (Oswald *et al* 2001). However, morphologically it has much in common with the similarly proportioned oval enclosure with a broken circuit at Beckhampton, Wiltshire (Gillings *et al* 2000). This enclosure was also segmented and had a very wide circumferential break on its north-east side (Fig 19). Its ditch was also relatively slight, although being cut through chalk it could retain steeper sides than the Church Lawford gravel cut ditch. The fundamental difference from the Church Lawford enclosure ditch is the flat base, upon which were placed spreads of butchered animal bone, Grooved Ware and worked flint. However, this placing of deposits was largely limited to the area closest to the main eastern entrance (ibid, 13), diametrically opposite the section of ditch examined at Church Lawford. It would not be unreasonable to suppose that similar deposition could have occurred in the ditch adjacent to the entrance at this site. In fact only a few worked flints and a fragment of antler that derived from the base of the upper fill (ibid, 8) were found in the ditch section opposite the entrance at Beckhampton.

The Church Lawford ditch does not have the distinctive U-shaped profile common among the classic causewayed enclosures and although comparable in width and depth to Beckhampton, it is comparatively slight in comparison to enclosures such as Abingdon, Briar Hill and Hembury etc (Oswald *et al* 2001, fig 3.8). At just over 2m wide and with a shallow V-profile Church Lawford is more akin to the partially excavated Wasperton enclosure located some 26km to the south-west on the 2nd Avon gravel terrace (Hughes & Crawford 1995). This site was known from a semi-circular cropmark *c* 100m in diameter and approximately 50% of the visible extent was excavated. Rightly or wrongly it has been assumed to represent half of a circular feature but this remains a matter of conjecture.

Elsewhere in the region there are no other comparable excavated enclosures (Ray u.d) although some cropmark sites do bear comparison. A pear-shaped double ditched enclosure at Ettington, Warwicks, crossed internally by a double linear ditch has previously been interpreted as a henge and cursus, as well as a defended Iron Age enclosure (Warwickshire Museum Sites and Monuments Record WA 1258). A smaller and less regular enclosure at Longbridge (Warwick) lies immediately adjacent to a major cursus (Webster & Hobley 1965, site 81, pl II B) and a similar relationship can be seen between a very irregular enclosure and oblong ditch at Norton and Lenchwick, Worcs (ibid, pl II A). None of these sites has convincing causeways but it is being increasingly recognised that there is a growing corpus of Neolithic uninterrupted ditched enclosures throughout Britain (Darvill & Thomas 2001, 10-11).

At Church Lawford the cropmark evidence perhaps suggests that the enclosure antedates the oblong enclosure that extends from its eastern arm, albeit with a narrow gap adjacent to the outside of the enclosure. This arrangement can be paralleled at Godmanchester, Cambs (McAvoy 2000), albeit at a much larger scale (Fig 19). In fact there is a striking similarity in the arrangement of open-ended enclosure, ring-ditch and the cursus that extends from the closed end of the enclosure at this site. There are also however major differences: not least its massive scale. The Godmanchester enclosure was geometrically designed and was associated with an array of posts set inside the enclosure ditch that may well have

had a correlation with cosmologically significant events (ibid, 53). In addition, the complex was constructed on a floodplain as opposed to the shoulder of a valley side. Whereas it was concluded that the cursus post-dated the enclosure at Godmanchester, the relationship between the two enclosure forms at Church Lawford remains uncertain. It is quite conceivable for an open ended linear enclosure, similar for instance to the Stonehenge lesser cursus (Richards 1990, 72-93) to have antedated the large enclosure.

The enclosures at Church Lawford, Beckhampton and Godmanchester have in common a wide break in the north-east parts of their circuits, although only Godmanchester with its distinctively geometrical shape had an otherwise unbroken ditch. There appears no reason to associate the north-eastern openings at Church Lawford and Beckhampton with significant cosmological events as has been outlined at Godmanchester but nevertheless this feature may well have been significant on both sites.

Both the Godmanchester and Beckhampton enclosures were also the immediate focus for a later linear feature, the Beckhampton avenue being aligned over the enclosure and the Godmanchester cursus terminating against that enclosure. This linear association, which is also clearly evident with some Welsh enclosures (Gibson 1999b), may also have been witnessed in a different form at Wasperton where four probable Neolithic feature groups extend over 730m from a point just south of the segmented enclosure (Hughes & Crawford 1995, fig 5). Such referencing of the past seems to have been an important aspect of monumentality in the Neolithic (Last 1999, 93; Whittle 2003, 119), and is clearly evident with the placement of the processional routes at the Godmanchester cursus (Harding 1999; Johnston 1999) and the Beckhampton avenue. Whether the same can be said for the Church Lawford complex is however questionable given the ambiguity of the oblong enclosure. It is also worth noting that at Church Lawford, Beckhampton and Godmanchester the linear feature appears to align on the break in the enclosure circuit.

Oblong enclosures remain a matter for much speculation. That they are related to the development of long barrows, bank barrows, long mortuary enclosures and cursuses is widely accepted (Case 1982, 69; Loveday 1989, 74; Oswald *et al* 2001, 78), but too few have been sufficiently excavated to demonstrate their character and those that have been provide an inconsistent dataset. An example at Brampton (Cambs), that may have been palisaded, had narrow openings in its terminal ends and a small penannular ring-ditch inside the eastern end. It has been suggested that this feature was the focus for a cursus and dates before 2580-2149 Cal BC (Malim 1999, 80-82). A further undated example at West Cotton (Northants) was aligned on a partially exposed ditched enclosure that was overlaid by a large barrow (Windell 1989, 88-9).

The Church Lawford cropmark has hitherto revealed no evidence for internal features or a mound and the nearby oblong enclosure at Charlecote in south Warwickshire which was also constructed on gravel exemplifies the problems of interpretation even on excavated sites (Ford 1969a, 1969b, 2003). This feature was at least partially mounded and had massive portal posts set either side of one of its two entrances, but there remain many questions as to its date and development (Loveday 2003). The Church Lawford oblong enclosure cropmark may have entrances between it and the larger enclosure but the gaps may also indicate the former presence of an earthwork bank against which an internal mound was thrown. However, given the current uncertainty surrounding such sites it is doubtful if even more detailed survey or excavation would be able to establish whether its linearity reflects a processional function.

Establishing the likely date of the Church Lawford enclosure's construction must be reliant on more definate evidence than that of its morphology, or associated

cropmarks. The absence of suitable dating material in the base of the ditch is unhelpful and prevents precision dating. The probable early Neolithic sherd recovered from the primary silt **304/3** could be residual and is therefore of little use in this respect. The charcoal rich hollow fill **304/8** deposited mid-way through the infilling of the ditch implies a *terminus post quem* of 3370-3030 Cal BC (SUERC-3385) for that deposit but not the ditch construction. The layers overlying the charcoal contained significant quantities of Impressed Ware in the Mortlake style and Grooved Ware in the Durrington Walls sub-style. If viewed as a contemporaneous group, an acceptable date for the assemblage would fall in the early 3rd millennium BC (*c* 2900-2700 BC). However, residual ceramic material forms a high proportion of that in the pit group and it cannot be certain if the pottery in the upper ditch fills is not similarly antique. Estimating the original ditch cutting date is therefore reliant on determining the rate of ditch silting prior to the charcoal deposition in **304/8** and given that the ditch was cut through relatively loose gravel, it would be unreasonable to assume that any great length of time passed between these events. The weight of evidence therefore would suggest initial construction of the enclosure at the end of the 4th millennium BC.

Currently available radiocarbon determinations suggest the Beckhampton ditch dates between 2800-2600 Cal BC (Pollard pers comm) whilst the Godmanchester post array falls between 4000-3375 Cal BC, concurring with the few sherds of early-middle Neolithic bowls found in the primary fills of the ditch (McEvoy 2000, 51). Given that the enclosing ditch could post-date the array as henge ditches post date some post circles (A Gibson pers comm), a date in the 3rd millennium BC is also possible for this ditch. At Wasperton middle Neolithic Ebbsfleet pottery was recovered from the terminal of one of the ditch segments adjacent to the larger of its two visible causeways and fragments from early Bronze Age urns were recovered from later fills (Hughes & Crawford 1995, 19). Despite the fact that no absolute dates were acquired from the ditch segments it has been suggested that the form of the circuit could indicate an earlier origin (Oswald *et al* 2001, 156).

The Church Lawford enclosure's location on the shoulder of a hill provided commanding views over the river and the valley to the north and east, particularly the terraces on the north bank. Conversely this site would enable the interior of the circuit to be viewed from across the river but not from the slightly higher plateau to the south or from the east. Such a situation seems unlikely to have been chosen to emphasise its role as the centre of a dispersed community (cf Bradley 1998, 80-2), but it is equally difficult to see it as a liminal place located on the edge of a territory (cf Pryor 1998, 364), given that access, both physical and visual, was from the river's side.

This particular debate may well hinge on whether the river itself was a social as well as a physical boundary, a question that is unlikely to be resolved without further investigation and survey in the surrounding landscape. There was certainly activity on the opposite bank from the earlier Neolithic both in Area C and more directly opposite in the form of a pit containing Grimston Ware (Palmer 2003b). Parts of the Dunsmore landscape to the south have been extensively excavated and although a limited Mesolithic presence has been noted (Palmer 2002a), the recent find of a Grooved Ware pit and residual sherds of Early Bronze Age urns represent the only finds that predate the early/mid-Iron Age land division (Palmer forthcoming a).

The Church Lawford enclosure then does not neatly fit into an established category of Neolithic monument, but may represent a more varied class of mid-late Neolithic monument. Certain of its attributes, such as its location on the shoulder of a hillside (Edmonds 1999, 86) and the broken nature of the ditched circuit have clear affinities

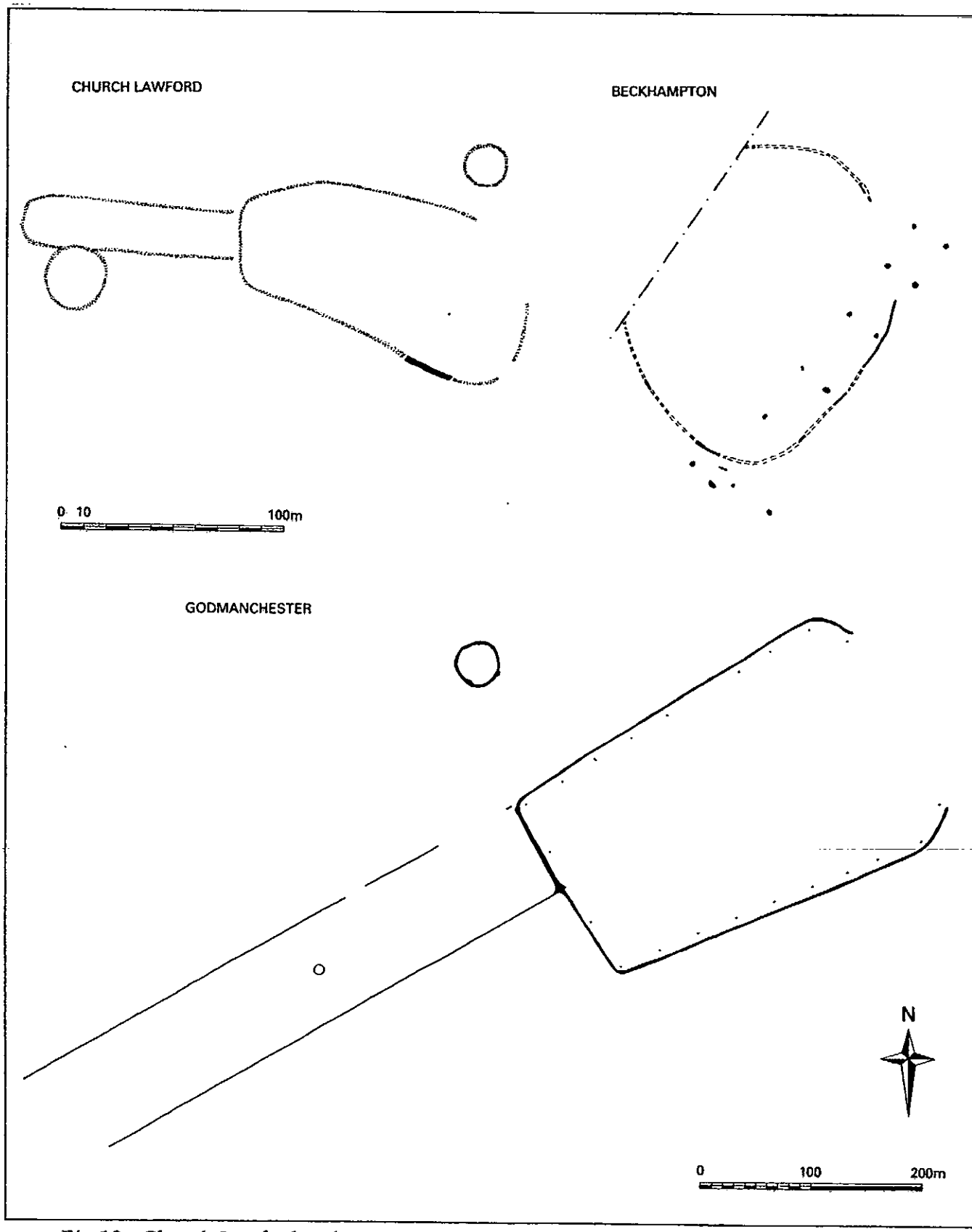


Fig 19: Church Lawford and comparative enclosures (Beckhampton after Gillings et al 2000 and Godmanchester after McAvoy 2000)

with causewayed enclosures of the 4th millennium BC. The evident diversity of such enclosures (cf Oswald *et al* 2001) has required the recognition that they may each have held meanings and performed functions different to even their nearest neighbours (Bradley 1998; Darvill & Thomas 2001). The Church Lawford enclosure may represent a derivative that extends the corpus even further.

THE PIT GROUPS

The deposition of structured deposits in earlier prehistoric pits is now a widely recognised phenomenon in the archaeological record (cf Thomas 1991, 62-88; Pryor 1998, 354) and such pits are not necessarily viewed as evidence for the otherwise absent ephemeral settlements of the third and fourth millennia BC. They have been shown to mimic the deliberate deposition process encountered in the ditches of causewayed enclosures and henges and as such reflect a way of fixing a connection between people and a place. The act of digging and deposition is thought by some to have been part of a formal tradition (Thomas 1999, 87).

The pit groups in Areas C and D are not necessarily representative of settlement on either site. Some of the smaller pits in Area C could have held earth-fast posts but given that no sensible structures could be picked out, not one showed evidence for a post-pipe and not one was securely dated, there seems little point in further speculation. Neither of the two possible Neolithic houses that have been suggested in Warwickshire were particularly substantial constructions (Darvill 1996, 106) and the interpretation of both is debatable. However, this need not preclude settlement from existing at either Church Lawford or King's Newnham. Postholes, hearths and other domestic features could have been removed by later cultivation or they could exist outside the area excavated. However, the evidence from Church Lawford accords with the majority of Neolithic enclosure sites and the majority of pit group sites, which are also devoid of distinctive evidence for settlement (Oswald *et al* 2001, 125-6).

Other pits containing Neolithic or Early Bronze Age pottery have been excavated in the region although generally not in mixed groups. To the west of Area C at King's Newnham an elongated pit contained Grimston ware associated with hazel nutshells (Palmer 2003b), whilst Mildenhall style pottery (Woodward 1992, 26-7) was found in up to 50 pits in Warwick. Further small groups of 'Neolithic' pottery emanated from a single pit within a ring-ditch at Baginton (Hobley 1971) and from a pit at Alcester (Taylor 1969). Peterborough Ware in the Mortlake style was recovered from one pit at Wasperton whilst a further pit produced Grooved Ware in the Durrington Walls style (Hughes & Crawford 1995, 19-21). A single isolated pit on Dunsmore has recently yielded Grooved Ware, some 2km south-east of Area D. A pit group at Broom, Salford Priors contained Grooved Ware in the Woodlands style with two polished stone axes, flint tools including a scraper, a retouched blade, a serrated flake and an arrow head. The pits also contained a range of carbonised wild plant remains which included crab apple seeds, sloe stones, fruit fragments and hazel nutshells which produced dates between 2930–2610 Cal BC (OxA-6284, OxA6285) (Palmer 2000, 22-36). Nearby at Oversley a pit contained Beaker and Collared Urn sherds with flintwork, charred apple and four wheat seeds whilst a second contained Collared Urn (Jones *et al* 1997, 85). A probable Late Neolithic sherd also came from a pit at Barford (Site B) (Oswald 1969, 17).

More recently a pit group at Meriden yielded a group of Early Bronze Age Urns and small accessory vessels that were stylistically related to the Cordoned Urn series of northern Britain and the Biconical Urn tradition of southern England probably dating to *c* 1800-1600 Cal BC. This pit group was the more significant in that it was found in association with an undated double concentric posthole group suggestive

of a contemporary structure (Woodward 2002), similar to a single ringed post circle and pit group at Wasperton (Hughes & Crawford 1995, fig 11).

There clearly is a growing corpus of such pits and pit groups in the region and they are found both within monument complexes (Church Lawford, King's Newnham, Wasperton, Barford) and elsewhere (Salford Priors, Oversley, Alcester, Meriden, Warwick), although the Baginton examples remain somewhat ambiguous. At nearby Bubbenhall, *c* 8km south-westwards along the Avon, Mortlake pottery was found residually in an Iron Age ditch cut and there seems little doubt that it derived from a former pit or group (Elders *et al* forthcoming).

The timeframe within which the pits at Church Lawford were dug is difficult to ascertain given there is so much evidence for residual material within the pit fills. Nevertheless the ceramic evidence suggests a continuity of presence, if not of activity, spanning the early Neolithic to the early Bronze Age. This undoubtedly overlaps the timeframe within which the enclosure ditch was open, possibly beginning before and continuing after the enclosure had fully silted. Pits were found to post-date the enclosure at Etton, Cambs, and it was suggested by the excavator that the later pits were dug in relation to those that were contemporary with the enclosure ditch segments (Pryor 1998, 370-1). Some of the grouping at Church Lawford may be similarly explained.

The pit group in King's Newnham (Area C) did not have the same complement of inclusions as those from Area D but need not necessarily reflect a more mundane process of deposition. Of particular relevance is the range of styles present in the ceramic group, which aside from Grooved Ware mimic those across the river. The absence of Grooved Ware, which may have been a memorial deposit in pits (Thomas 2004) like those in Area D, could merely reflect the different type of activity involved on this site but could equally reflect the restricted nature of the excavation so too much will not be read into it here.

Other pit group sites that have produced ceramic evidence for multi-period or successive use of the same locale are not common, although pit groups at the Norfolk sites of Spong Hill, North Elmham (Healy 1988) and Redgate Hill, Hunstanton (Bradley *et al* 1992) and in the Thames Valley (Hey & Barclay 2004) have very similar ceramic parallels. Both the Norfolk sites were located overlooking valleys and appear to have been locales repeatedly visited by small groups over a long period. Otherwise long-term site use with ceramic parallels to Church Lawford is a feature of communal monuments like Coneybury Henge, Wiltshire (Richards 1990, 123-158), causewayed enclosures such as Etton, Cambs (Pryor 1998) and within monument complexes such as Barrow Hills, Radley, Oxon (Barclay & Halpin 1999).

At Church Lawford (Area D) the small number of seeds present in the pit group can reasonably be ascribed as intrusive, a consequence of translocation or lessivage of the seeds by worm sorting or via soil cracks. Without exception the seed bearing contexts were the latest fills in each pit and therefore open to intrusion from the overlying ploughsoil. However, their presence in the later Neolithic and Early Bronze Age pits is overshadowed by the quantity of hazel nutshells from the same contexts, at least some of which were certainly residual. The absence in the enclosure ditch of these otherwise ubiquitous nutshells is puzzling. If they were so common on the site why did they not find their way into such a large feature that was open for such a comparatively long time? Notwithstanding that pit digging may have occurred after the ditch had silted, or that the pits were dug in areas where residual burnt material lay on the surface and was accidentally incorporated into the fills, it is also possible that their inclusion within the pits was deliberate and structured. If we accept this and the accuracy of the radiocarbon dates, we could assume that they were redeposited from a curated supply such as an accumulation

midden, which, included burnt remains as well as pottery. The inclusion of such 'fresh' flint though seems to imply a complex procedure of using curated material as well as new. However, the disparity found in the excavated and fieldwalked flint assemblages does little to support the idea of a midden. Durable elements such as flint should surely be present at surface level even after protracted ploughing. Nevertheless a survey over a large tract of land immediately to the west of Avebury henge has similarly produced little in the way of surface lithics giving rise to the suggestion that some areas may have been unsuitable or prohibited/taboo for settlement activities because of their proximity to a significant monument complex (Pollard 2004).

Neolithic middens have until recently received little attention. An example recorded near Etton, Cambs, was seen as a dumping area for charcoal-rich rake-out from low-heat domestic fires (French 1990, 308-9, cited by Richmond 1999, 50). More recently a group of long-used middens that have been examined in the Thames Valley have been suggested as part of a domestic landscape (Hey & Barclay 2004). Here the excavators have implied that the middens were created from material set aside to be used at a later date and that associated pit groups were the repositories for the paraphernalia of household rituals or closing down ceremonies. Other middens are known from the area around Avebury, Wilts, and have been interpreted as symbols of belonging that were later monumentalised (Pollard & Reynolds 2002, 75-77). The recent work at the earlier Neolithic pit group site at Kilverstone, Norfolk has however effectively demonstrated that the pits were dug and filled with pre-pit accumulations of material, contained within demarcated zones at irregular intervals, over a long period of time (Garrow *et al* forthcoming).

With so few grain seeds present at Church Lawford there is little chance to quantify the scale of production, if any, and/or the circumstances of its use. The problem is twofold: nationally there is so little evidence of cereal management that it is reasonable to suppose that access to it was limited, perhaps for special occasions such as feasting (Thomas 1999, 24). Alongside this is the fact that the permanent settlement of farms and fields that is supposed necessary for the production and tending of the crops is near impossible to find (Richmond 1999). Whittle (1999) suggested that the answer lies in a form of tethered mobility whereby communities of mobile herders include stands of crops in their seasonal round. He has though refined this model to one of short-term sedentism whereby temporary settlement may have been longer–lived (Whittle pers comm). Research has yet to determine if the seeds that produced these hypothesised crops were sown naturally, encouraged, or stored and then scattered on ploughed fields, or the timeframe in which the process evolved. On current evidence it is just as likely that cereals were imported from coastal areas where permanent settlement is thought more feasible, or even from abroad (contra Kinnes 1998, 184).

The infrequency which cultivars are found in pit groups (Richmond 1999, 50-1) certainly points toward them being special or restricted and the Church Lawford enclosure may be just the sort of community site where the consumption of such exotics was appropriate or perhaps possible. This may also explain the absence of such evidence at the pit group site at Broom, Salford Priors, a site that is not associated with communal or ceremonial monuments (Palmer 2000b).

There remains a possibility that some of the pits in the northern part of the Area D enclosure formed part of a circle of similar features. The pits contained artefacts and feasting debris possibly derived from a curated midden. Two pits within the putative circle contained fragments of early Bronze Age urns with either early Neolithic sherds or Grooved Ware. Two of the aligned pits contained only early Neolithic sherds. Pit circles are a feature of the 3rd millennium BC, often found in ceremonial contexts and often repositories for burials and other structured deposits. The relative positioning of the Area D pits seem to suggest that they were either

contemporary or that their locations were marked at surface level. If the former is accepted it must also be accepted that the two early Neolithic examples contained curated pottery. If the latter is the case it would seem likely that they encircled some form of upstanding feature or that the area was fixed in group memory as a place to be respected. Either way it is worth noting that the opening through the pits was to the north-east and in alignment with a gap in the enclosure. Pit circles are well attested in the literature although they generally have a 'designed' appearance (Garwood pers comm) not matched by the Church Lawford example. Within the corpus of 'hengiform' pit circles, north-eastern openings are common but in general they have a much smaller width and have little or no practical gap between pits or segments. There is no suggestion that any of the Church Lawford pits ever held posts and the status of the possible pit circle remains unclear.

There is little doubt that the Church Lawford enclosure was a significant place in the valley and that some status was achieved prior to the construction of the enclosure. Similarly other excavated Neolithic enclosures have exhibited pre-enclosure activity and comparable activity has often continued within the lifecycle of the enclosure (Darvill & Thomas 2001, 9). The barrows on the hillside could have formed such a focus, although as a place used for the consumption of special kinds of artefacts (Bradley 1998, 73-82) such a site could have replaced domestic settlement or even perhaps have been the location of early agriculture. If the site was a field that was later enclosed, as was propounded for the causewayed enclosure at Etton (Scaiffe 1985, 292), it could provide an explanation for the presence of cereals. The few Mesolithic flints recovered from the area however, suggest an attraction of greater antiquity, of which there is no other evidence.

COMPARISON OF THE AREA D GROOVED WARE PITS WITH THOSE FROM BROOM, SALFORD PRIORS

Table 18 demonstrates both similarities and differences in the structured deposits in the two pit groups. The presence of cultivated seeds in the Church Lawford pits (Durrington Walls style) if not intrusive or residual, could indicate a different local tradition or social requirement to those from Broom (Woodlands style), which it was argued were associated with portable gathered foodstuffs (Palmer 2000b). There is a striking similarity in the wood charcoal from each site with only field maple and holly available at Church Lawford but not at Broom, and gorse/broom evident at Broom and not Church Lawford. Both sites produced cremated human bone although cremated animal bone was present in nearly all the Church Lawford pits but absent at Broom. The far higher proportions of flint flakes (and cremated animal bone) from Church Lawford can be attributed to much more specific sorting of soil samples but there is a similar proportion of tools and retouched pieces. Although much larger proportions of pots were recorded at Broom, a similar number of vessels per pit are represented at Church Lawford.

The major differences are in the type of tools deposited and the occurrence of cultivars at Church Lawford. Here the occurrence of barley may lend some credence to theories that Grooved Ware was associated with beer brewing (Dineley 1996) although it was no more common than wheat, which was also present in the residual Peterborough pit. The 'female' related flintwork may hold the key to this conundrum but there is little comparable published data available to pursue this argument further.

THE AREA C BOUNDARIES

The two possible field boundaries in Area C seem unlikely to antedate the cropmark enclosure to the north but may well have been contemporary with its use. Recent large scale, open area excavation at nearby Ling Hall Quarry, Church Lawford has encountered a very similar arrangement of Iron Age field boundaries aligned on the corners of an enclosure. These boundaries represent the earliest evidence for fields

Table 18: Grooved ware pits from Church Lawford and Broom, Salford Priors

Site	Pit No	Min No Grooved Ware vessels	Flint flakes and cores	Flint tools and retouched pieces	Animal bone	Human bone	Wood charcoal	Charred plant remains	Other
Church Lawford	321	1			cremated frags		Hazel, *pom, blackthorn, oak	hazel nutshell	
Church Lawford	309	2/3	174	4	cremated frags	Cremated sub adult ulna	Hazel, holly, *pom, blackthorn, oak	hazel nutshell vetch self-heal emmer/spelt	
Church Lawford	317	1	37		cremated frags		Hazel, *pom oak	cereal hazel nutshell	
Church Lawford	307	1	121	5	cremated frags		Hazel, blackthorn, oak	Barley hazel nutshell grasses	fired clay
Church Lawford	308	1			cremated frags		Hazel, *pom, Oak	barley hazel nutshell vetch	fired clay
Church Lawford	310	1	89		cremated frags		field maple, hazel, *pom, blackthorn, oak	wheat barley naked barley emmer emmer/spelt hazel nutshell	
Church Lawford	312	1	270	6	cremated frags		Sample not ident	hazel nutshell	fired clay
Broom	822	1	31	5	frags		hazel , ash, *pom, *pru, oak, *ulex	hazel nutshell crab apple sloe	2 x Grp. I axes
Broom	833	1	19	1			Oak	hazel nutshell goosefoot crab apple	
Broom	839	3	7	2	frags	frags immature	hazel *pom *pru oak	apple or pear	

*pom = pomoideae either hawthorn, apple, pear, rowan, service tree or whitebeam although the occurrence of apple fruit in pit 822.may favour apple wood. *pru = prunus which could be either cherry or blackthorn. *ulex = ulex/cytisus which could be either gorse or broom.

in the county being the first definitive evidence of pre-Roman field systems in Warwickshire. Some of the field boundaries identified beneath the deserted medieval village of Coton, near Rugby may have been established in the Iron Age but this was not proven (Maull 2001). Further comparison can be made with an enclosure at Marsh Farm Quarry, Salford Priors which was abandoned at the end of the Iron Age but incorporated as a field with a trackway aligned on it in the 1st century AD (Palmer forthcoming c). The Y-shaped gully configuration at King's Newnham may likewise belong to an early field system. The iron slag and hammerscale found in the pit fills in this area certainly suggests that some of the pits were open in the later prehistoric or Romano-British periods and it is possible that some could be contemporary with the boundaries. The two Romano-British sherds found in pit fills could however suggest the latter date is more likely.

Area G, Harbury

The pottery vessels found in an isolated pit which date from after *c* 1200 Cal BC seem unlikely to represent evidence for the location of a permanent settlement, yet the estimated size of the larger vessel would seem to preclude its transportation any great distance for its final deposition. At Broom, Salford Priors, a 'set' of vessels including an equally large example was recovered from a single pit and was

thought to be have been deposited in a meaningful way after feasting (Palmer 2000b, 54), but there is little corroborative evidence from Harbury to suggest such an event.

The proximity of the cremation deposit, securely dated 1530-1320 Cal BC (SUERC-3491/3492) to the pit confirm that the locale was a significant place. Its location on the shoulder of a ridge that overlooks the valley to the north may have been a favoured aspect for ceremony and display in the same manner that barrows often appear sited for maximum impact from down-slope or distant vantages. The Late Bronze Age pit at Broom was similarly found close by a mid-1st millennium BC cremation pyre site in an elevated position, but no direct association could be shown.

There does however seem little doubt that the site lies within an area of Bronze Age activity. The burnt mounds and burnt areas recorded *c* 1km to the north at Sharmer Farm (Ellis & Shotton 1973) have Middle Bronze Age radiocarbon determinations (BIRM-371, 1450BC (95.4%) 900BC; BIRM-344, 1450BC (95.4%) 900BC). The relationship of the small sub-rectangular enclosure cropmark to the burnt mound remains unknown but its location adjacent to the former stream may reflect some function related to water management. Burnt mound sites are becoming increasingly evident in the region (Barfield & Hodder 1989) but it has still not been possible to link them with contemporary occupation sites and no confirmed settlement sites of this date have been found in the county (Palmer forthcoming b). Of perhaps equal interest is the observation of the former farmer of the land (Neville Ellis pers comm), who upon visiting the pipeline after the insertion of the pipe was able to distinguish a narrow shaft *c* 0.50m in diameter and in excess of 2.2m deep cutting the clay subsoil. Although this feature could not be recorded in detail it is possible that it relates to the other features and cropmarks in the area.

The ungrazed grassland habitat implied by the charred plant remains recovered from the cremation burial implies that the landscape had been cleared and may even have supported an area of arable in the vicinity. This is a significant addition to the Bronze Age database in Warwickshire as direct evidence for early cereal cultivation in the county is known only from a very few charred seeds from Neolithic pits in Area D, and from Beaker pits at Oversley in the Arrow Valley (Jones *et al* 1997). In neither of these cases can it be proven that the seeds were harvested in their respective vicinities rather than traded from elsewhere or that cereal was the preserve of an elite or used only for special occasions such as feasting. Warwickshire has yet to reveal the proliferation of settlement sites and field systems otherwise common in the Bronze Age over much of Britain (Richmond 1999, 80-110), current evidence for agricultural settlement is restricted to a possible grain silo pit at Wolston (Palmer forthcoming b). Even the extensive later Bronze Age pottery scatters of south Warwickshire (ibid) cannot yet substantiate an underlying agricultural system, although there is some evidence that parts of the Arrow and Avon Valleys were subdivided into individual estates at this time (Palmer 2000b, 217-8). The evidence from Harbury is all the more significant because the site is neither in a river valley nor on the supposedly favoured gravels.

There is also reason to suppose that the area continued to be used into the latest prehistoric period if the cropmarks enclosures to the east indicate settlement sites. Additionally a small assemblage of Romano-British pottery found in fields adjacent to the Fosse Way hints at continuation of settlement into the historic period.

Section 3: Iron Age, Romano-British and Anglo-Saxon

LOCATION AND TOPOGRAPHY

Area E, Frankton

Area E was located toward the western edge of the Dunsmore plateau at SP 418 711 at the back of a spur that juts into the valley etched by the confluence of the Rivers Leam and Itchen (Fig 20). The plateau extends as far west as Rugby and is bounded to the north and south by the Avon and Leam valleys. It is made up of glacial gravels along with outcrops of stoneless Wolston Clay (British Geological Survey 1984).

Area B, Long Itchington

This extended site was located on the east bank of the River Itchen equidistant between the modern villages of Long Itchington, Marton and Hunningham at SP 3955 6680 (Fig 21). It has been divided into four sub-areas based on four concentrations of features spread along the easement. This part of the Itchen valley is a broad, predominantly flat plain, the river itself part of the drainage system of a low undulating landscape formed by a broad band of Blue and Lower Lias clay to the south and east (British Geological Survey 1984). The River Itchen joins the River Leam 2.5km to the north of the site.

The composite site straddles the 1st gravel terrace and an outcrop of Mercia Mudstone. The northernmost part, Area B1, was located on a low plateau of relatively stiff reddish-brown clayey gravel. Further to the south Area B4 extended over a low crest onto the gravel terrace. Area B2 to the south again, lay on a gentle down-slope over yellowish-brown sand and gravel. The southernmost sub-site Area B3 lay further down the slope where the geology was markedly more sandy.

Area A, Harborough Magna

The site was located mid-way between the villages of Easenhall and Harborough Magna at SP 4685 7925 on a level shelf mid-way down a south facing, shallow sloping hillside at *c* 100m a o d (Fig 22). The surrounding landscape is characteristically undulating, the low hills to the north clawed by narrow valleys that provide drainage to the south and the Avon watershed. The site lay on a tongue of alluvium associated with a narrow stream that drained the hillside on the western side of the excavation area. The surrounding geology is Wolston Clay fringed to the north by Wolston sands and gravel, which to the north still are capped by Oadby Till (British Geological Survey 1994).

Area H, Chesterton and Kingston

Area H was located to the west of Chesterton village at SP 333 598 on a broad, flat, low-lying plain composed of Mercia Mudstone (Fig 23). The area is delimited on three sides by meandering streams that conjoin to the west of the site before draining north-westwards to the River Avon and its wide flood plain. The land rises to the east to a ridge of low hills that extend to the edge of Dunsmore (British Geological Survey 1984).

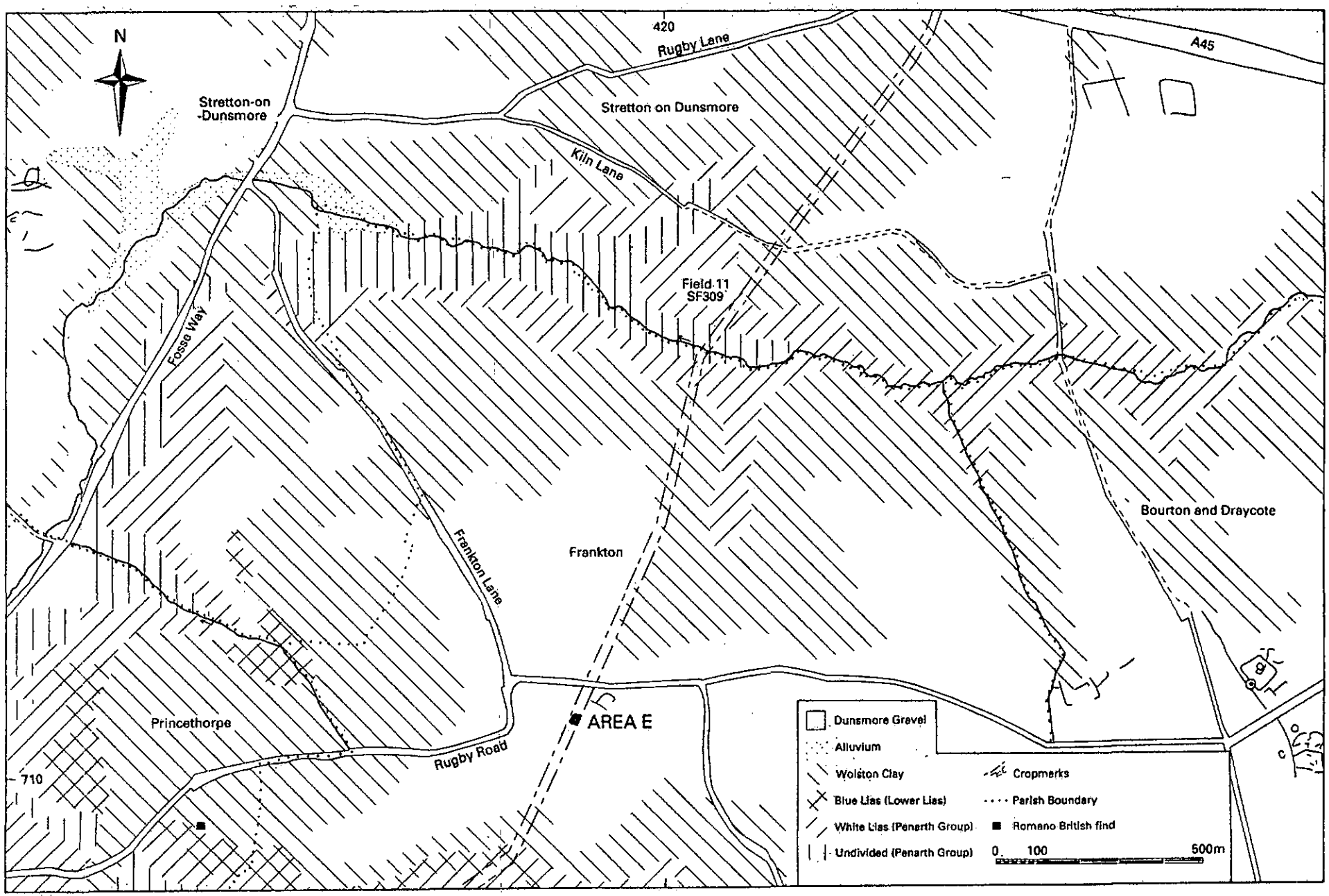


Fig 20: Location of Area E showing local geology and cropmarks

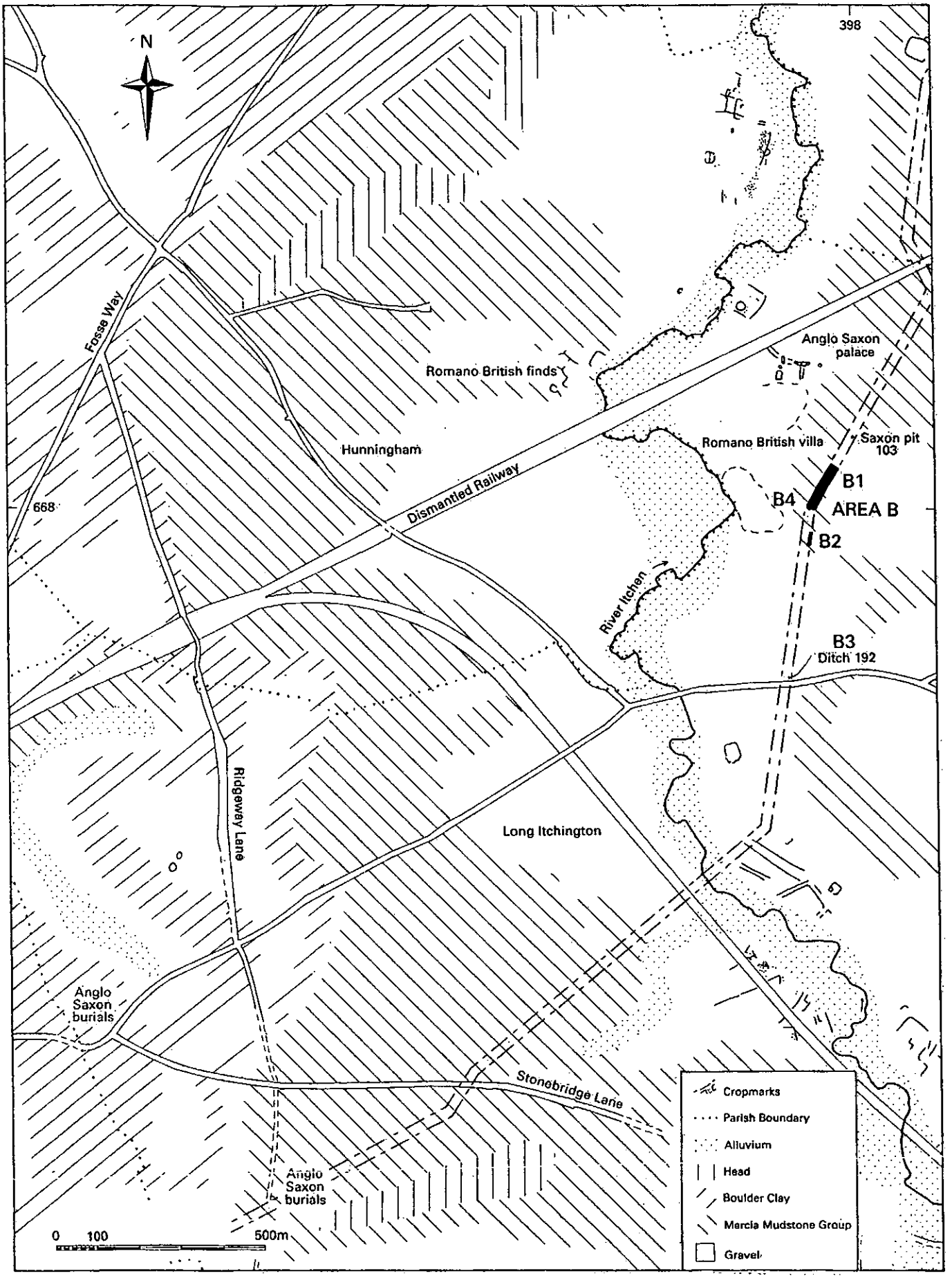


Fig 21: Location of Area B showing local geology, cropmarks and other finds

ARCHAEOLOGICAL BACKGROUND

Area E, Frankton

The Dunsmore plateau contains extensive evidence of later prehistoric settlement in cropmark form, of which a small but significant proportion has been excavated over the last fifteen years in advance of mineral extraction. The evidence suggests that earlier prehistoric activity was concentrated on the Avon valley to the north but the central area was largely devoid of earlier prehistoric activity until a series of estates or land units were laid out in the early to middle 1st millennium BC, divided by linear pit alignments. There then followed a period of intense settlement focused on enclosures aligned on the early boundaries that increased in density until the early Roman period. Environmental evidence suggests that the removal of the forest cover from the acid soils of Dunsmore prompted the development of a heathland habitat concomitant with the settlement record (Palmer 2002a).

Prior to the current work, archaeological evidence in the immediate vicinity of the site was restricted to a single enclosure cropmark recorded on aerial photographs of 1976 and 1978 (Fig 24). This sub-rectangular feature does not follow the same orientation as any of the known complexes on Dunsmore.

Area B, Long Itchington

The Itchen valley is replete with cropmarks (Fig 21), no doubt a result of the gravel in the geology of the area, although no detailed fieldwork has been undertaken to resolve issues such as date and function. Two possible ring-ditches in the area may suggest a Neolithic or Bronze Age presence in the valley, but both examples could as easily be later, especially as the former lies within a rectangular enclosure. Similar enclosures can be seen throughout the valley and are most likely to represent farmsteads of later prehistoric or Romano-British date, although other functions associated with ceremony and ritual are also possible. One such cropmark enclosure was skimmed by the pipeline, although nothing was detected in the 5m wide trial trench or during the topsoil removal process.

That there was a Romano-British villa in the locality of the excavation has been known since the late 19th century (VCH 1904, 238). Fragments of building materials and 3rd-century pottery were recorded after an excavation by schoolboys *c* 1925 and further building material and Roman pottery was recorded in 1951. In 1959 buildings dated to the 4th-century were noted (Hemsley 1959) and in 1979 more pottery, building materials and box-flue tile was recorded from the site (Wilson 1980). Further field survey has confirmed that the Roman settlement spread over an extensive area (Jones & Wise 1997). Romano-British finds were also recovered from a small trial trench positioned in the field on the west side of the river (Ratcliffe 1981).

The Fosse Way passes the site aligned north-east to south-west some 1.75km to the west, albeit on the opposite side of the river and the modern parishes through which the road passes are likely to represent estates or land units that predate the road.

Some level of continuity through to the early medieval period has been suggested by cropmarks that have been interpreted as those of an Anglo-Saxon palace. The *Snaw* Ford is mentioned in an early medieval charter and probably equates with the location of the present Snowford Bridge.

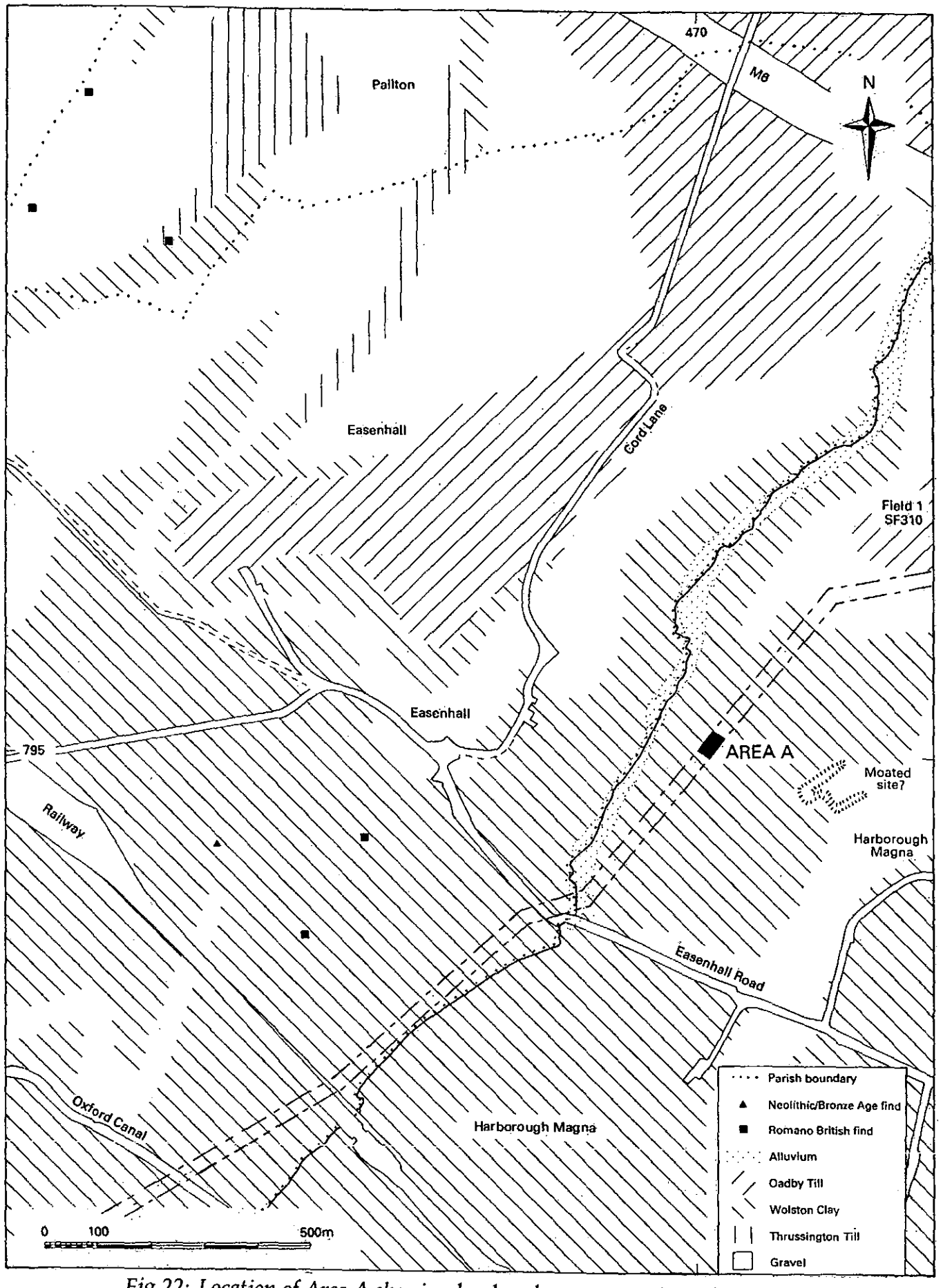


Fig 22: Location of Area A showing local geology, cropmarks and earthworks

Area A, Harborough Magna

The area is generally devoid of cropmarks, although this could be a consequence of survey bias towards more productive areas of the Avon Valley as much as to unresponsive soils in the locality. However, a number of chance finds of prehistoricand Romano-British date have been made in the fields to the south of Easenhall which hint at early land use (Fig 22).

The excavated area does however lie adjacent to an earthwork recorded variously as a moated site and fishponds. Its true function and indeed date remains unknown, as it has not been the subject of any detailed work.

Area H, Chesterton and Kingston

The Fosse Way passes close by on the east side of the site and was undoubtedly the impetus of the Roman town that emerged on its flanks. The town is known to have extended to the south and east but the presumed early part of it was defended with earthen ramparts that were replaced by a wall and massive ditch in the 4th century (Taylor 1967). The rather impressive earthworks of this later defended stage can still be seen straddling the Fosse. A number of burials were disturbed on the south side of the earthwork ditch and other human bone has been found in the bank of the stream to the west of the defended area suggesting the location of a cemetery. An extensive geophysical survey of the area has shown that the town extended over a large area to the west of the defences (Adams pers comm)

Cropmarks are rare in the immediate vicinity of the site (Fig 23) although a number of chance finds reveal at least a low level of prehistoric activity in the area. These finds are supplemented by a small group of 'pre-Roman' cooking pits and an adolescent crouched burial that were recorded with no further details during exploratory excavations in the Roman town (ibid). Two hearths with broken pottery found overlying the robbed out town wall were taken to indicate casual Anglo-Saxon occupation of the site but no further information is available.

METHODOLOGY

Area E, Frankton

Deposits in this area were observed in the 5m wide trial trench and the area was extended in order that they could be excavated. A 30m long and 22m wide strip was protected from plant traffic with a 5m wide strip on the western side of the area used as a haul road that could not be examined archaeologically prior to its use. The remaining area was cleaned by hand and excavation undertaken over the course of a weekend.

Area B, Long Itchington

Area B was identified in the initial environmental review and geophysical survey, and Areas B1 and B4 had been earmarked for total excavation in advance of pipeline construction. A large 360° tracked excavator was dedicated to removing the topsoil under archaeological supervision over an area 160m long and 25m wide with a 5m wide strip on the west side used for spoil storage and the eastern 5m strip used for plant access. It was after this stage was completed that Transco became aware that the full excavation would not be concluded in time for the pipe-laying operations. They therefore requested that the site be re-covered with topsoil and the archaeology protected by bog-mats. It was therefore agreed that a basic plan of the site would be

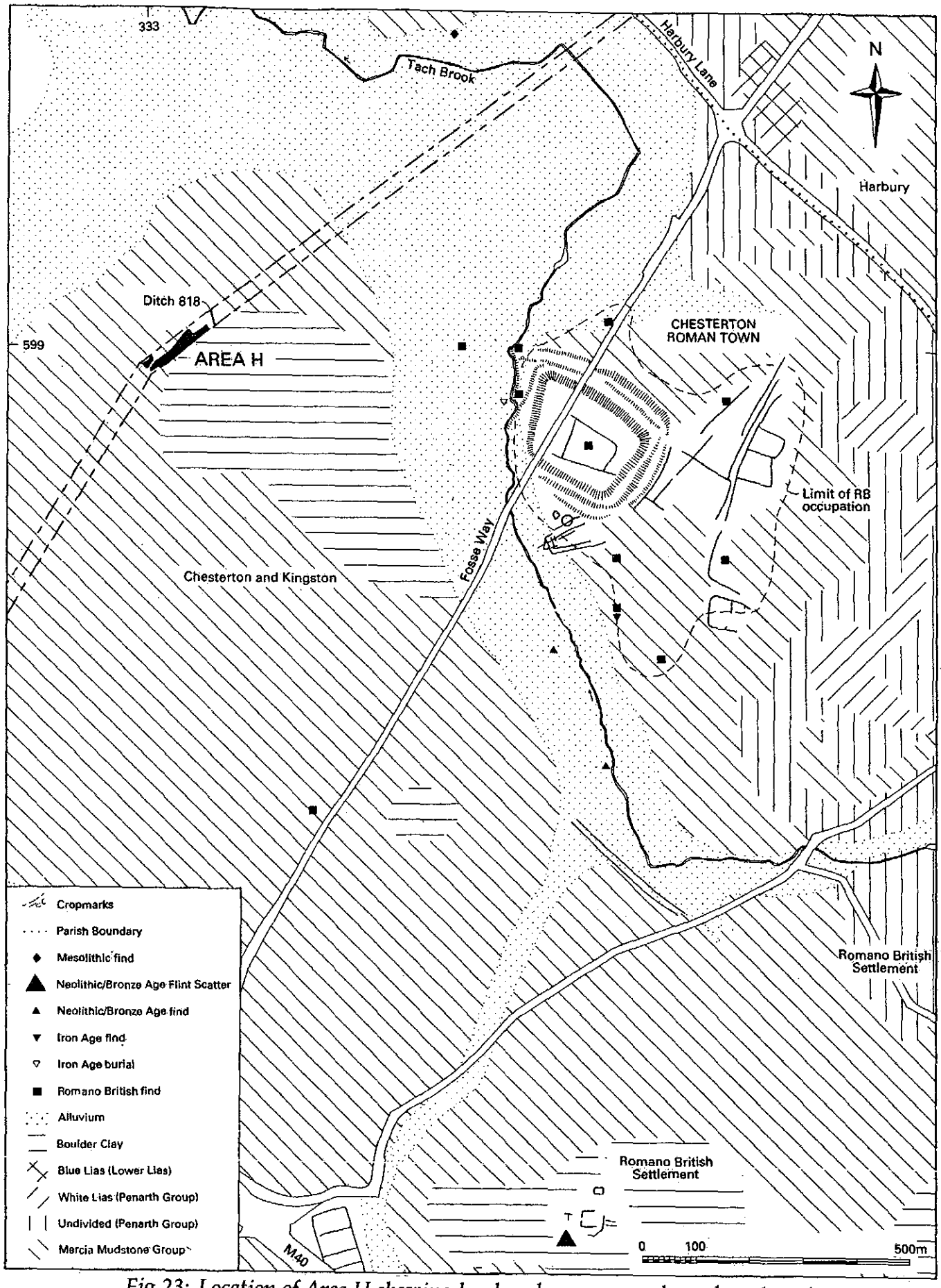


Fig 23: Location of Area H showing local geology, cropmarks and earthworks

produced before returning the topsoil and only the features immediately under threat by the actual pipe trench were to be excavated.

Topsoil stripping within the 5m wide pipe trench was continued to the south of the opened area and almost immediately encountered a dense spread of deposits deemed significant (Area B2). The deposits were evident over a 30m length of the trench and undoubtedly extended over a considerable part of the easement. It was therefore agreed that it was essential to protect these deposits in favour of the less important features evident in Area B4 to allow a normal working space between the restricted areas. Little other of interest was observed to the south of the area apart from a single ditch in Area B3.

Area A, Harborough Magna

Archaeological deposits were initially observed over a 40m length of the easement during topsoil stripping prompting the protection of an area 50m long by 26m wide for the purposes of excavation. A 5m strip on the west side of the excavation was not recorded in detail, as it was necessary as a haul road. Here the underlying deposits were protected by bog-mats during pipeline construction. Excavation was conducted in two phases as heavy rainfall caused widespread flooding and temporary abandonment of the site. Stratigraphic relationships were few and dating evidence sporadic but there was sufficient of each to produce a basic sequence of phasing although it is likely that deposits existed outside this area

Area H, Chesterton and Kingston

The deposits in this area were spread over an area of some 110m and were first observed during the machine removal of the topsoil over the entire easement. After negotiations it was agreed that a substantial part of the site would be re-covered with topsoil and only a limited area including the 5m wide strip needed for insertion of the pipe excavated by hand. Some basic recording of surface deposits was undertaken prior to the replacement of the topsoil and the laying of bog-mats but little of this could be related to the excavated deposits, not least because the entire area was scored by the parallel furrows of a ridge and furrow system. It was not possible within the time allowed by the development to remove any of the furrow fills and thereby produce a complete plan of the deposits. A period of heavy rainfall and subsequent site flooding hindered appropriate excavation in certain parts of the site.

THE EXCAVATIONS

Area E, Frankton

SUMMARY OF PHASING

Phase 1 Iron Age D-shaped enclosure
Phase 2 Romano-British circular enclosure

UNDATED NATURAL FEATURES

Tree holes

Two features, probably formed as tree throws, predated the main complex. On the east side of the easement **403** was sub-circular with sloping sides over 1.5m wide and

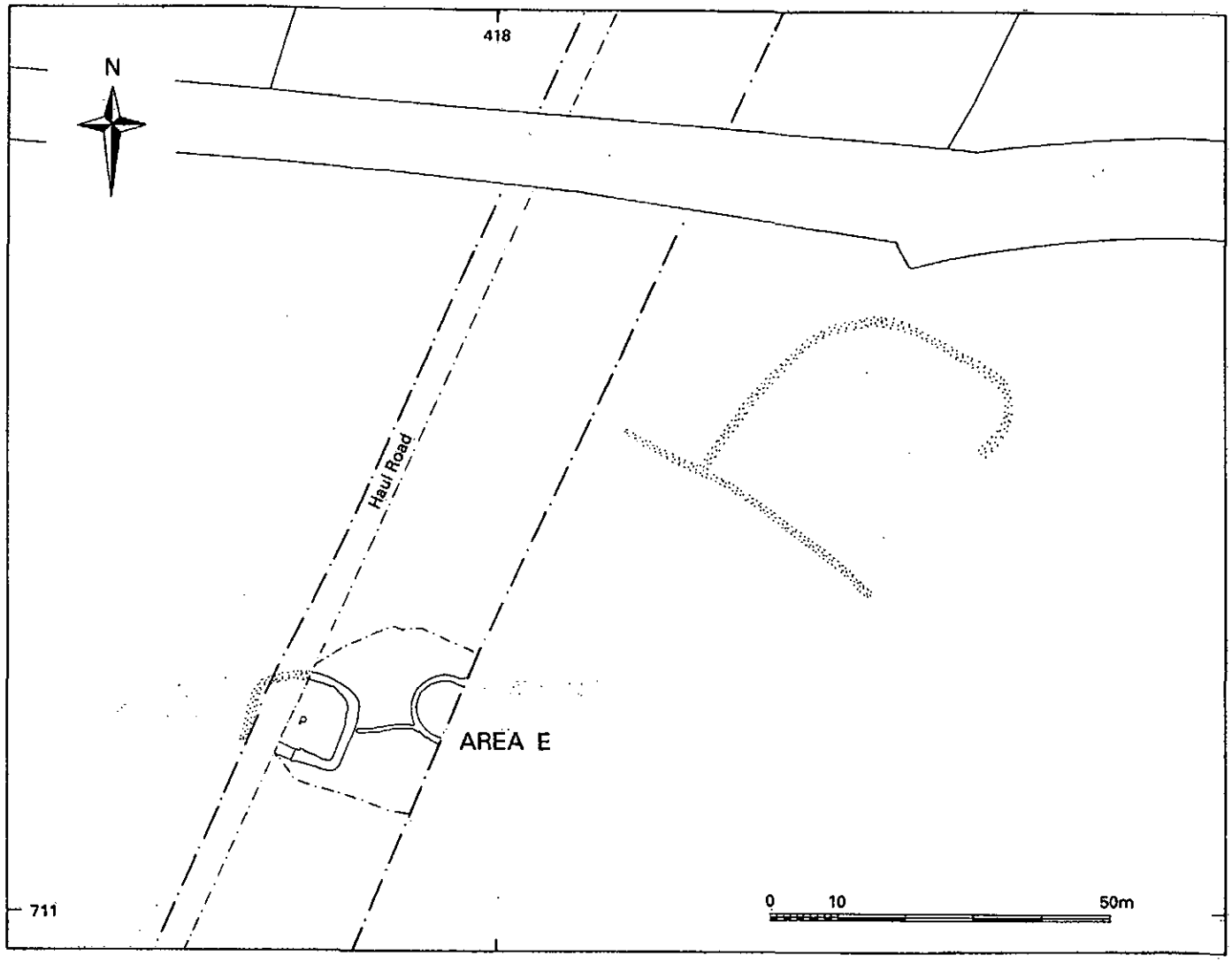


Fig 24: Area E showing excavation area and adjacent cropmarks

an uneven base 0.20m deep. The earliest of its two fills **403/2** yellowish-brown sandy loam with brownish-yellow sandy loam flecks was overlaid by **403/1** greyish-brown sandy loam. Located under the eastern edge of the D-shaped enclosure **411** was inexcess of 1.2m long and 1.7m wide with irregular sloping sides a flattish base and filled with dark greyish-brown sandy loam.

PHASE 1: IRON AGE (Figs 24-5)

The D-shaped enclosure MWA8820

A D-shaped enclosure orientated north-east to south-west was partially exposed on the western side of the excavation area (Pl XI). Internally it was 10.50m wide and approximately 13m in breadth (given accurate plotting of the cropmark) with over 7.5m exposed and excavated; the remaining interior area probably destroyed under the haul road. The enclosure appeared to have been the result of two separate cuts. An initial cut **404** was V-shaped 1.10m to 1.65m wide with a slightly rounded base 0.60m to 0.75m deep, with an entrance in the centre of the southern arm (Fig 25, Sections C, D, E; Pl XII).

This cut probably housed a palisade fence that was most clearly evident in the southern terminal as **409** (Fig 25, Section C), possibly as this was a more substantial portal post than those around the rest of the circuit. Posthole **409** was 0.40m wide and 0.22m deep (0.80m from the level of the natural gravel surface). A post-pipe was represented by **409/1** greyish-brown pebble-free sandy loam, with **409/2** post-packing greyish-brown sandy gravely loam. .A cluster of heat-cracked pebbles sealed the feature. The remainder of the cut contained yellowish-brown sandy loam **404/2** although this overlaid intermittent patches of greyish-brown sandy loam **404/3**, presumably representative of degraded wooden posts.

PHASE 1a

In this phase the entire circuit of the D-shaped enclosure was recut as ditch **408**, which had shallow sloping sides 1.75m wide and a flattish base 0.22m deep across the former entrance. It was filled with dark greyish-brown sandy loam **408/1=404/1** from which seven sherds of Iron Age pottery were recovered.

Internal features

Two features lay within the enclosure but cannot be ascribed to either Phase 1 or 1a with confidence. The larger of the two, pit **406** was sub-circular, 0.88m in diameter with shallow sloping sides and an irregular base 0.15m deep (Fig 25, Section B). Adjacent posthole **407** had a flared rim and near vertical sides 0.11m wide by 0.18m deep (Fig 25, Section A). Both features were filled with dark greyish-brown sandy loam.

PHASE 2: ROMANO-BRITISH (Figs 24-5)

The circular enclosure MWA8820

Part of a presumed circular gully **402** was exposed on the eastern side of the excavated area (Pl XIII). It had an internal diameter of 8.5m within which were no internal features. A total of nine sections were cut through the ditch revealing a generally U-shaped cut with a slightly flared rim becoming wider and deeper toward the south, 0.60m to 1.00m wide and 0.25m to 0.40m deep (Fig 25, Sections G, H, I, J). An earlier fill **402/2** (yellowish-brown sandy loam) was visible at the base of the cut in three of the sections on the northern side of the circuit. The remainder of the fill **402/1** was an homogenous layer of dark greyish-brown sandy loam from which a single sherd of greyware and an abraded Iron Age sherd were recovered. The ditch appeared to have been contemporary with a spur gully **410** that extended somewhat sinuously 11m to the west toward the D-shaped enclosure ditch **404**.

Gully **410** was U-shaped 0.62m wide with a flat base 0.36m deep (Fig 24, Sections F, I) and filled with brown sandy loam, albeit indistinguishable from **402/1** at its eastern end.

PHASE 3: MODERN

The area was crossed by a series of land drains (**405, 412-416**). Topsoil across the site (**400** and **401**) was very dark greyish-brown sandy loam on average 0.30m deep.

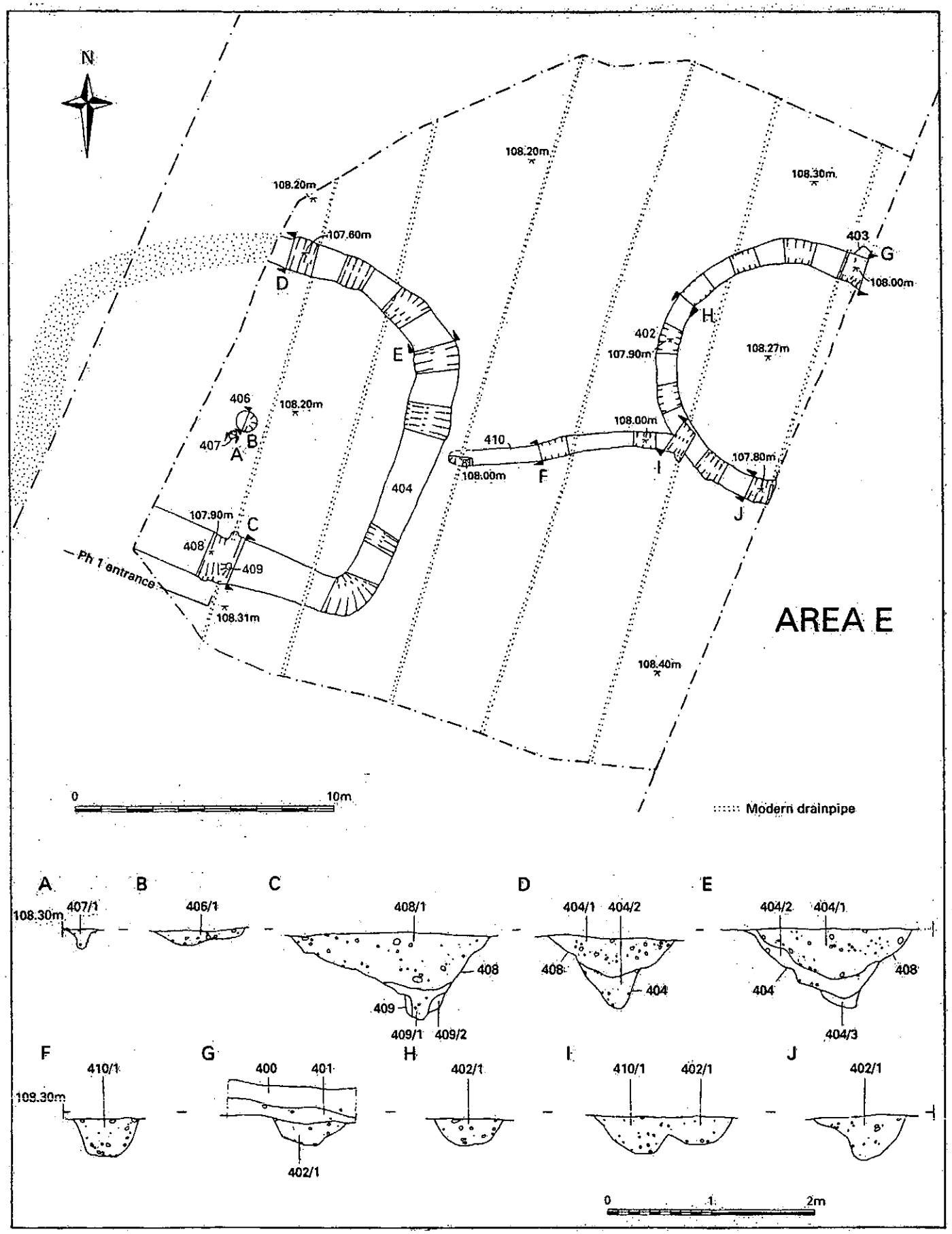


Fig 25: Detailed plan of Area E and sections

Plate XI: Area E, viewed from the south

Plate XII: Area E, D-shaped enclosure ditch **404**

Plate XIII: Area E, circular enclosure gully **402**

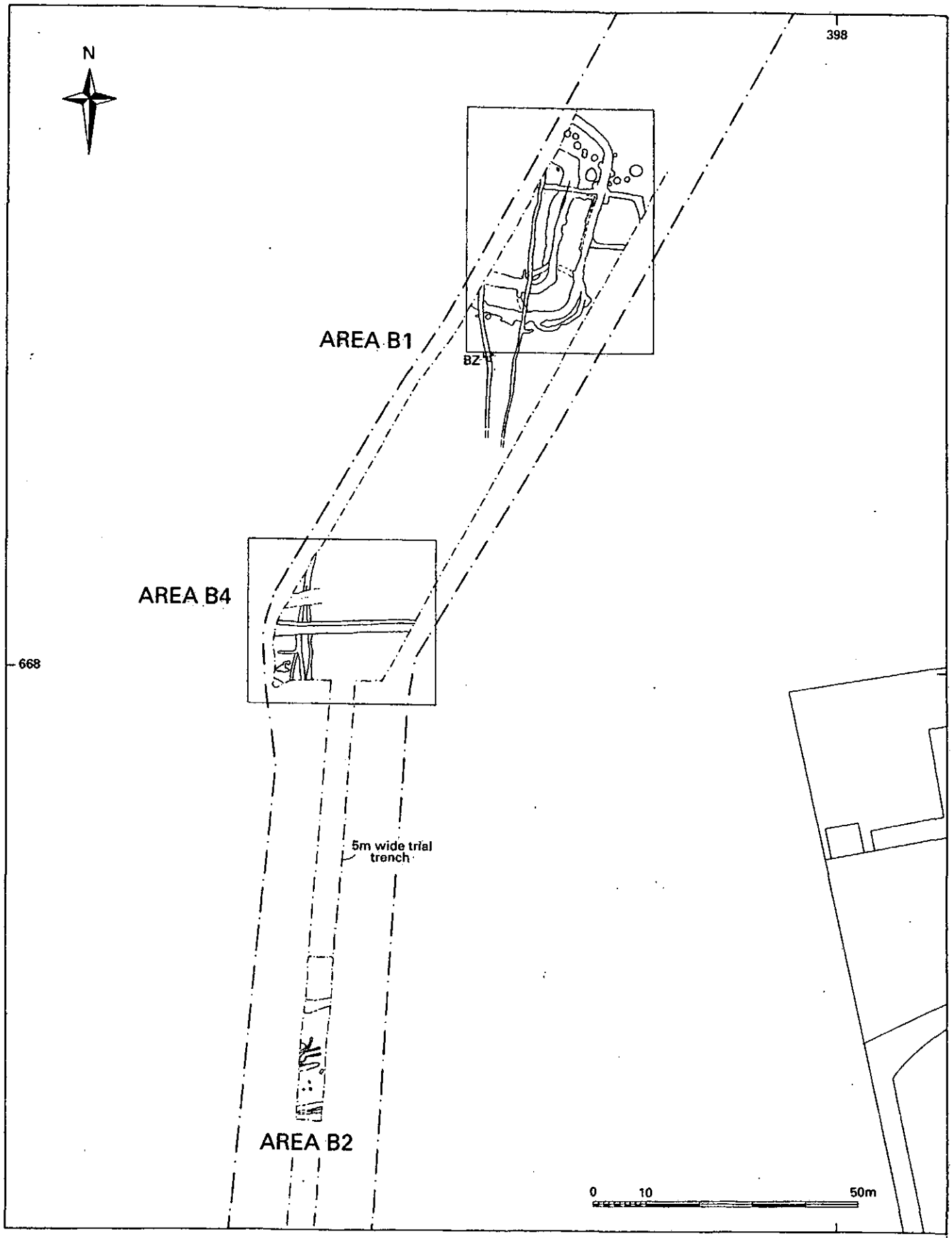


Fig 26: Overall plan of Areas B1, B2 and B4

Area B, Long Itchington

SUMMARY OF PHASING

Phase 1	Iron Age inner sub-rectangular enclosure and external pit group	Area B1
Phase 1a	Iron Age circular structure	Area B1
Phase 1b	Iron Age inner enclosure ditch recut and outer sub-rectangular enclosure	Area B1
Phase 2	Early Roman (Late 1st-to 2nd-century) small sub-square enclosure	Area B1
Phase 2a	Later Roman (Late 3rd- to 4th century) field boundaries	Area B1, B4 & B3
Phase 2b	Later 3rd- to 4th-century boundary features	Area B2
Phase 2c	Later 3rd- to 4th-century corndriers	Area B2
Phase 2d	Mid-late 4th-century destruction layers	Area B2
Phase 2e	Late 4th-century levelling/abandonment	Area B2
Phase 2f	Very late/post-Roman post pads	Area B2
Phase 3	Anglo-Saxon pit	Area B1
Phase 4	Medieval furrows	Area B4
Phase 5	Modern field boundary	Area B4

AREA B1 PHASE 1: IRON AGE (Figs 26-8) MWA6678

Inner sub-rectangular enclosure ditch

Ditch **155** remained undated and made an enclosure with a minimum north-south internal dimension of 23m and no obvious signs of an entrance or causeway within the exposed length. In the single section excavated through the ditch it measured over 1.50m wide and had irregular sloping sides and a rounded base 0.51m deep (Fig 28, Section BG). A basal fill **155/2** of reddish-brown sandy loam was overlaid by **155/1** dark reddish-grey sandy loam with red clay mottles. This feature was probably, but not certainly contemporary with a pit group located outside its north-eastern corner, although no internal features could be attributed to this phase.

External pit group

A group of pits was located outside the north-eastern corner of the inner enclosure ditch (Table 19). Only pit **134** produced datable evidence the remainder being grouped here by association and morphological characteristics such as their vertical sides and flat bases. Pit **134** was also unique in having a posthole (**158**) in its base. A group of eight pits loosely formed a north-west to south-east alignment with a further nine offset either side of that line. Nine of the pits that fell on the line of the proposed pipe trench were subject to partial excavation. Two pits **121** and **124** were little more than soil stains and given their locations adjacent to the outer edge of the outer enclosure ditch, might more rightly be included in the same phase as that ditch (Phase 1b). If so, pits **139** and **140** on the south side of the enclosure ditch and some of the otherwise unexplained undulations along the outer edge of the ditch might also belong to this later group although their function remains uncertain. Pit **164** located off the south-eastern corner of the outer enclosure was cut by the Phase 1a possible structure so clearly belongs in Phase 1.

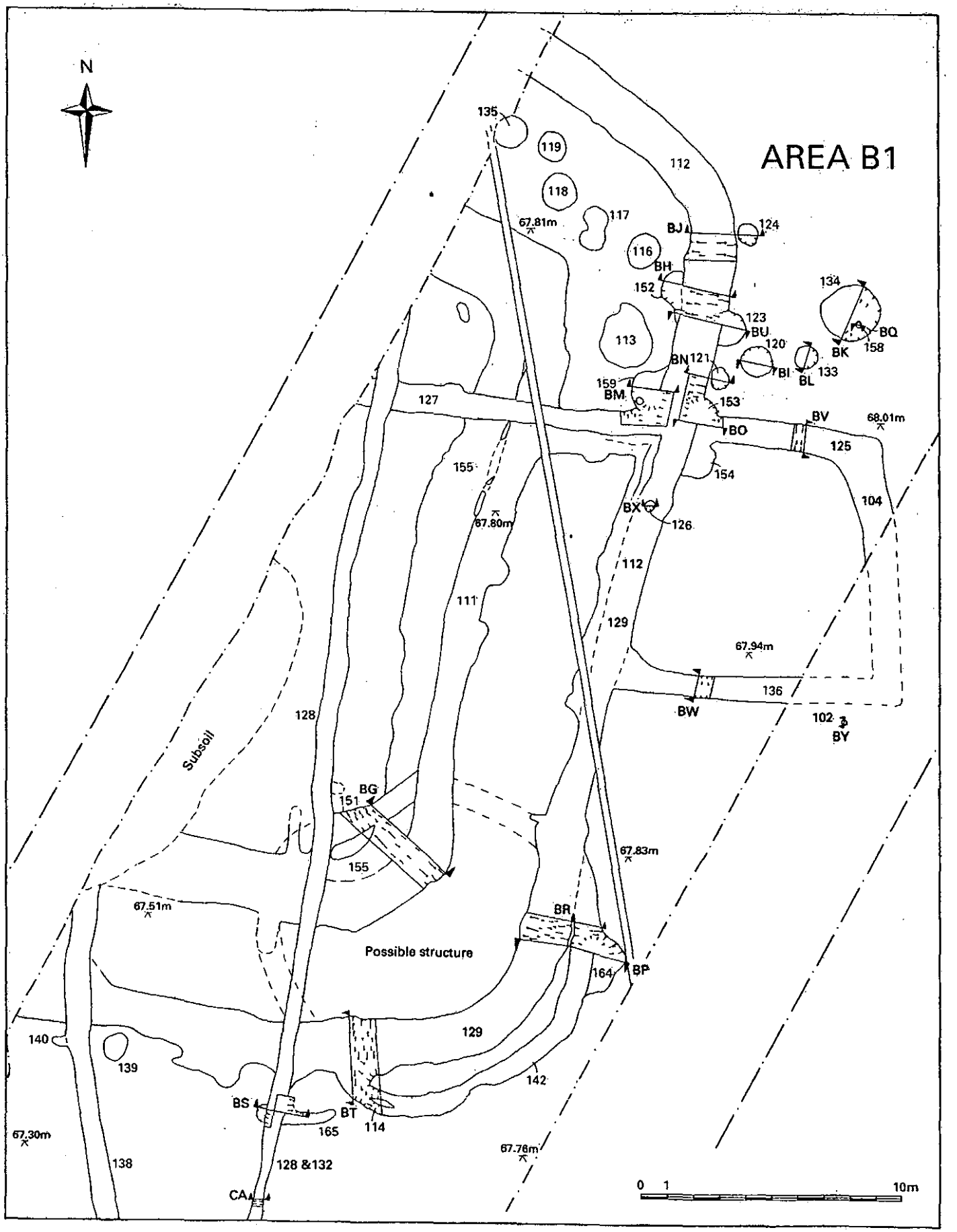


Fig 27: Detailed plan of Area B1

Table 19: Area B1, Phase 1 pits

Section	*Context*	*Shape*	*Dimensions (m)*	*Depth*	*Description*	*Finds*
Linear group of eight pits						
	135	Circular	1.25 wide	?	Unexcavated. Surface fill dark reddish-grey sandy clay loam	
	119	Circular	1.10 x 1.10	?	Unexcavated. Surface fill dark reddish-grey sandy clay loam	
	118	Circular	1.40 x 1.40	?	Unexcavated. Surface fill dark reddish-grey sandy clay loam	
	117	Double pit	1.75 x 0.95	?	Unexcavated. Surface fill dark reddish-grey sandy clay loam	
	116	Sub-circular	1.40 x 1.20	?	Unexcavated. Surface fill dark reddish-grey sandy clay loam	
Fig 28, BH	152	Sub-circular	1.35 wide	0.36	Vertical sides and flat base. Single fill of reddish-grey sandy clay loam	
Fig 28, BU, Pl XVI	123	Sub-circular	1.40 wide	0.21	Vertical sides and flat base. Single fill of reddish-brown sandy clay loam	
Fig 28, BI	120	Sub-circular	1.38 x 1.15	0.22	Vertical sides and flat base with slight depression in E side with two fills. 120/2 red clay lens 120/1 reddish-brown sandy clay loam	
Other pits						
Fig 28, BJ	124	Sub-circular	0.80 x 0.73	0.03	Very shallow depression. Single fill of reddish-brown sandy clay loam	
Fig 28, BK	134	Sub-circular	2.25 x 2.15	1.10	Vertical sides and flattish base with three fills: 134/1 redeposited dump of natural clayey gravel, 161 yellowish-brown sandy clay 160 reddish-brown sandy clay loam with yellowish-red clay mottles and charcoal flecks	1 IA body sherd from surface
Fig 28, BL, Pl XVII	133	Sub-circular	1.38 x 1.26	0.21	Vertical sides and flat base. Single fill of reddish-brown sandy clay loam	
	113	Sub-circular	2.35 x 2.05	?	Unexcavated. Surface fill dark reddish-grey sandy clay loam	
Fig 28, BM	159	Sub-circular	>1.30 x >0.90	0.50	Vertical sides and flat base. Single fill of reddish-brown sandy clay loam	
Fig 28, BN	121	Sub-circular	0.85 x 0.70	0.03	Very shallow depression. Single fill of reddish-brown sandy clay loam	
Fig 28, BO	153	Sub-circular	>0.90 wide	0.50	Vertical sides and flat base. Single fill of reddish-brown sandy clay loam	
	154	Sub-circular	1.45 wide	?	Unexcavated. Surface fill dark reddish-grey sandy clay loam	
Fig 28, BP	164	Sub-circular	2.25 x 1.95	0.65	Irregular stepped sides and flat base. Single fill of reddish-brown sandy clay loam	
	139	Sub-circular	1.00 x 0.90	?	Unexcavated. Surface fill of dark reddish-brown clay loam with charcoal flecks	1 IA sherd from surface
	140	Oval	0.60 x 0.30	?	Unexcavated. Surface fill of dark reddish-brown clay loam with charcoal flecks	
Posthole						
Fig 28, BQ	158	Circular	0.23 wide	0.06	Steep sloping sides and rounded base. Single fill dark reddish-brown sandy silt	

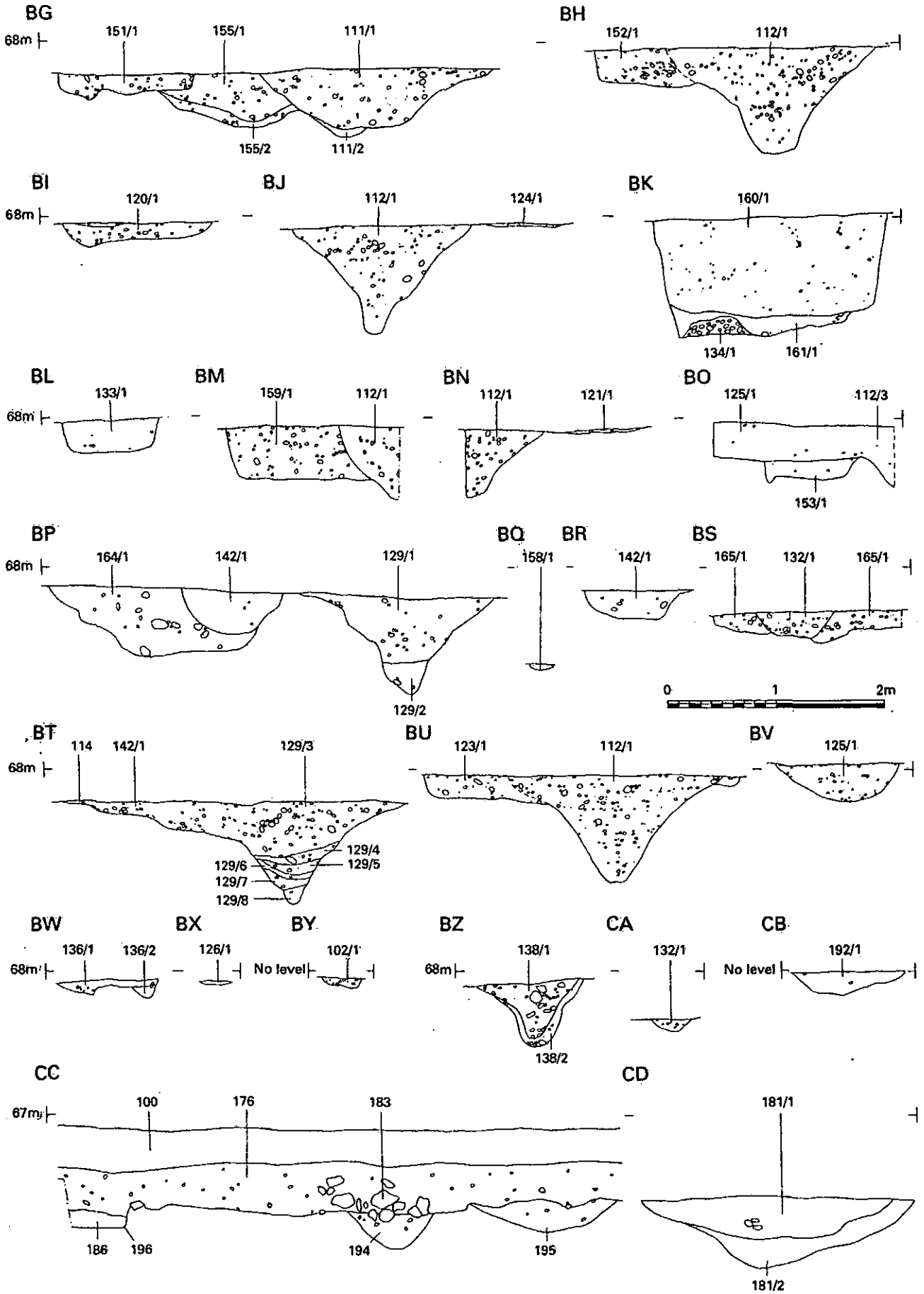


Fig 28: Area B1, sections BG-CA; Area B3, section CB; Area B2 sections CC-CD

AREA B1 PHASE 1a: IRON AGE (Figs 27-8)

Possible circular structure

An undated, near circular gully/slot sequence was constructed over the south-eastern corner of the inner sub-rectangular enclosure after it had completely silted. It consisted of curving gully/slot **151** that extended to the south and east as **142** and **114**, although, the features were not continuous. Gully **151** was steep sided and had an irregular base, possibly the result of three separate cuts, in total a maximum of 1.25m wide and from the outside inwards 0.22m, 0.17m and 0.15m deep (Fig 28, Section BG). Each cut was filled with an homogenous reddish-brown sandy clay loam albeit with a concentration of pebbles at surface level. Gully slot **142** (Fig 28, Sections BP, BT) and **114** (Fig 28, Section BT) were both 0.40m wide and up to 0.25m deep with equally steep sloping sides and flat bases, and filled with the same homogenous reddish-brown sandy clay loam.

Given the absence of postholes associated with these slots and the relatively sharp angles of their sides (in the admittedly stiff clayey gravel) it seems likely that they were infilled relatively quickly after construction. Such a sequence could imply that they were foundation slots for sleeper beams or for upright posts given their curved plan. Such a structure would have had an internal diameter of between 10.5m and 11m. A single external gully (**165**) could be associated with the structure, possibly forming an alignment or spur eastward from its southernmost point. This feature also had very sharp sloping sides (0.50m wide) albeit with a rounded base 0.29m deep and it was filled with reddish-brown sandy clay loam (Fig 28, Section BS).

The structure's entrance was either to the north-east or to the south-west and given the position of the gully spur **165**, the south-west is probably the more likely.

AREA B1 PHASE 1b: IRON AGE (Figs 27-8)

Inner sub-rectangular enclosure recut

The inner sub-rectangular enclosure was recut along its outer edge as ditch **111**. This ditch was a wide U-shape with flared sides 2.15m wide and a flattish base 0.55m deep (Fig 28, Section BG) and produced four handmade shelly sherds. A further four internally burnished base and body sherds were recovered from the top of the fill. A narrower rounded slot (0.07m deep) at the base of the ditch may have represented an earlier cut but this could not be established with any certainty. The rounded slot was filled with a lighter shade of reddish-brown sandy clay loam (**111/2**) than the overlying ditch fill **111/1**.

Outer sub-rectangular enclosure

Enclosure ditch **112=129** was constructed around the circuit of the inner ditch cutting through the earlier pit group. Within the excavated area it measured a minimum of 32m long internally (north-south), although, given that the enclosure was not square, it could have been as much as 45m on the western, unexcavated side. If contemporary with the inner ditch its position would provide a berm of 4m between the ditch cuts, ample room for a raised earthen bank. It was V-shaped with a flared rim up to 2.00m wide and 1.05m deep (Fig 28, Sections BH, BJ, BP, BT, BU, Pl XVI). Handmade shelly sherds were recovered from this feature and an internally burnished base sherd and a rim sherd were recovered from the surface of the ditch. In all but one of the six sections cut through this feature only a single fill of reddish-brown sandy clay loam could be recognised, with no indication of a preferential direction of deposition. However, in the southernmost section six fills were recognised, albeit without any suggestion of a preferential direction of infill and all an homogenous reddish-brown or reddish-grey sandy clay loam (**129/3-8**).

Plate XIV: Area B1, viewed from the north (Area B2 in the background)

Plate XV: Area B1, during excavation

*Plate XVI: Area B1, ditch **112** and pit **123***

*Plate XVII: Area B1, pit **133***

AREA B1 PHASE 2: EARLY ROMAN (LATE 1ST- TO 2ND-CENTURY) (Figs 27-28)

Small sub-square enclosure

In this phase east-west gully **125=127** was cut across both the enclosure ditches and at its eastern extent turned south as **104** possibly to conjoin with gully **136** before returning north to form a small sub-square enclosure with internal dimensions of 8m x 9m. Gully **125** had a scooped (rounded) profile 1.15m wide and 0.35m deep (Fig 28, Section BV) and was filled with reddish-brown sandy clay loam. In contrast gully **136** appeared to be the result of at least two smaller V-shaped cuts a total of 0.95m wide by 0.13m and 0.16m deep (Fig 28, Section BW). The earlier cut was filled with yellowish-red sand **136/2**, whilst the latter contained dark reddish-grey sandy clay loam **136/1**.

Posthole **126** cut through the top of Phase 1b outer enclosure ditch **129** between **125** and **136** and is likely to have been a structural element associated with this enclosure although it remained undated (Fig 28, Section BX). A small pit or posthole **102** was located to the south of the enclosure and has been allocated to this phase by association. It was sub-circular with irregular sloping sides 0.36m by 0.28m, an irregular stepped base 0.08m deep (Fig 28, Section BY) and filled with very dark greyish-brown sandy loam.

AREA B1 PHASE 2a: LATER ROMAN (LATE 3RD- TO 4TH-CENTURY) (Figs 27-8)

Field boundaries

Two gullies **138** and **128=132** both aligned broadly north-south crossed the excavation area. They were not parallel or similarly proportioned but seem likely to represent field drainage gullies. The western example **138** was V-shaped with a flared rim 1.0m wide and a rounded base 0.55m deep (Fig 28, Section BZ). Its primary fill reddish-brown sandy clay loam **138/2** was overlaid by dark reddish-brown sandy clay loam **138/1**. **128=132** had a rounded profile 0.85m wide and only 0.24m deep with a single fill of dark reddish-grey sandy clay loam (Fig 28, Sections BS & CA).

AREA B4 PHASE 2a: LATER ROMAN (LATE 3RD- TO 4TH-CENTURY) (Figs 26, 29)

Field boundaries

Three north-south gullies in this area (**143, 144** and **145**) to the south of Area B1 all remained unexcavated but are likely to have represented field boundaries contemporary with those in Area B1 as they followed a similar alignment. When combined with those to the north they seem to infer fields or paddocks *c* 35m wide. An east-west spur **146** protruded *c* 3.3m to the west from the point that **144** divided from **145**. Other east-west gullies were observed as soil stains after initial machining but could not be distinguished after the site had weathered.

AREA B3 PHASE 2a: LATER ROMAN (LATE 3RD- TO 4TH-CENTURY) (Fig 21)

Field boundary

A single feature (192) in this area 300m to the south of B2 was recognised within the 5m wide trial trench. It probably relates to the field system identified in Areas B1 and B4 although it remained undated and had an unusually dark fill. Gully **192** was aligned ENE to WSW was 1.05m wide with shallow sloping sides and an irregular

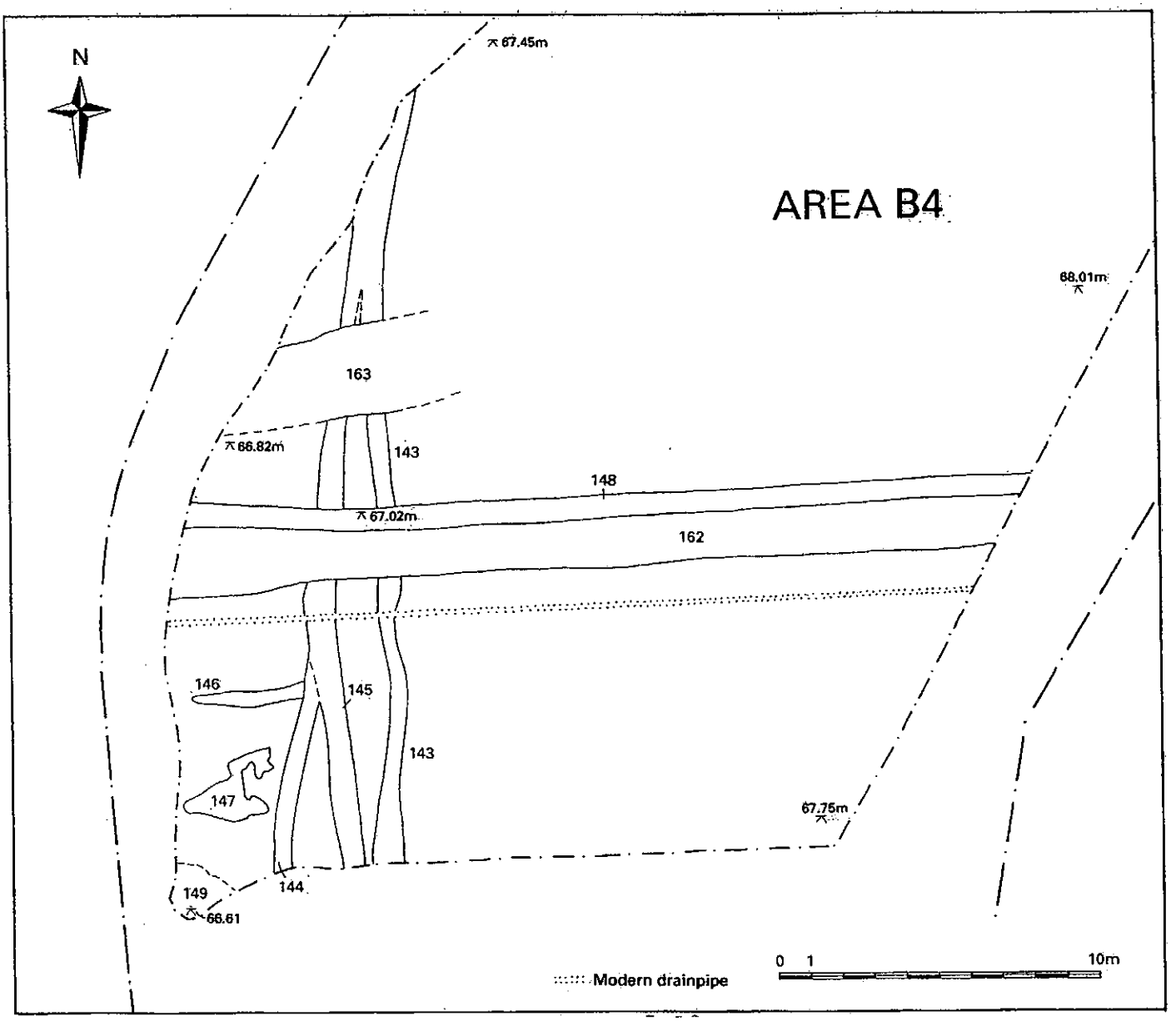


Fig 29: Detailed plan of Area B4

base 0.21m deep (Fig 28, Section CB) and filled with dark greyish-brown sandy loam.

AREA B2 PHASE 2b: LATER 3RD- to 4TH-CENTURY (Figs 28, 30-1) MWA1701

The focus of this phase was gully **194** which extended from under the western edge of the excavation to butt end some 4.5m to the north-east. It had steep sloping sides 0.40m wide, a rounded base up to 0.30m deep and was filled with very dark greyish-brown sandy loam with moderate limestone rubble (Fig 28, Section CC; Fig 31, Sections CF, CG). It was dated by two sherds of colour-coat, one Nene Valley with white paint, the other from Oxford and dating later than 240AD.

Ditch **107=181** probably delineated the northern extent of the area, perhaps as the northern boundary of an enclosure. It had irregular sloping sides 2.5m wide and a

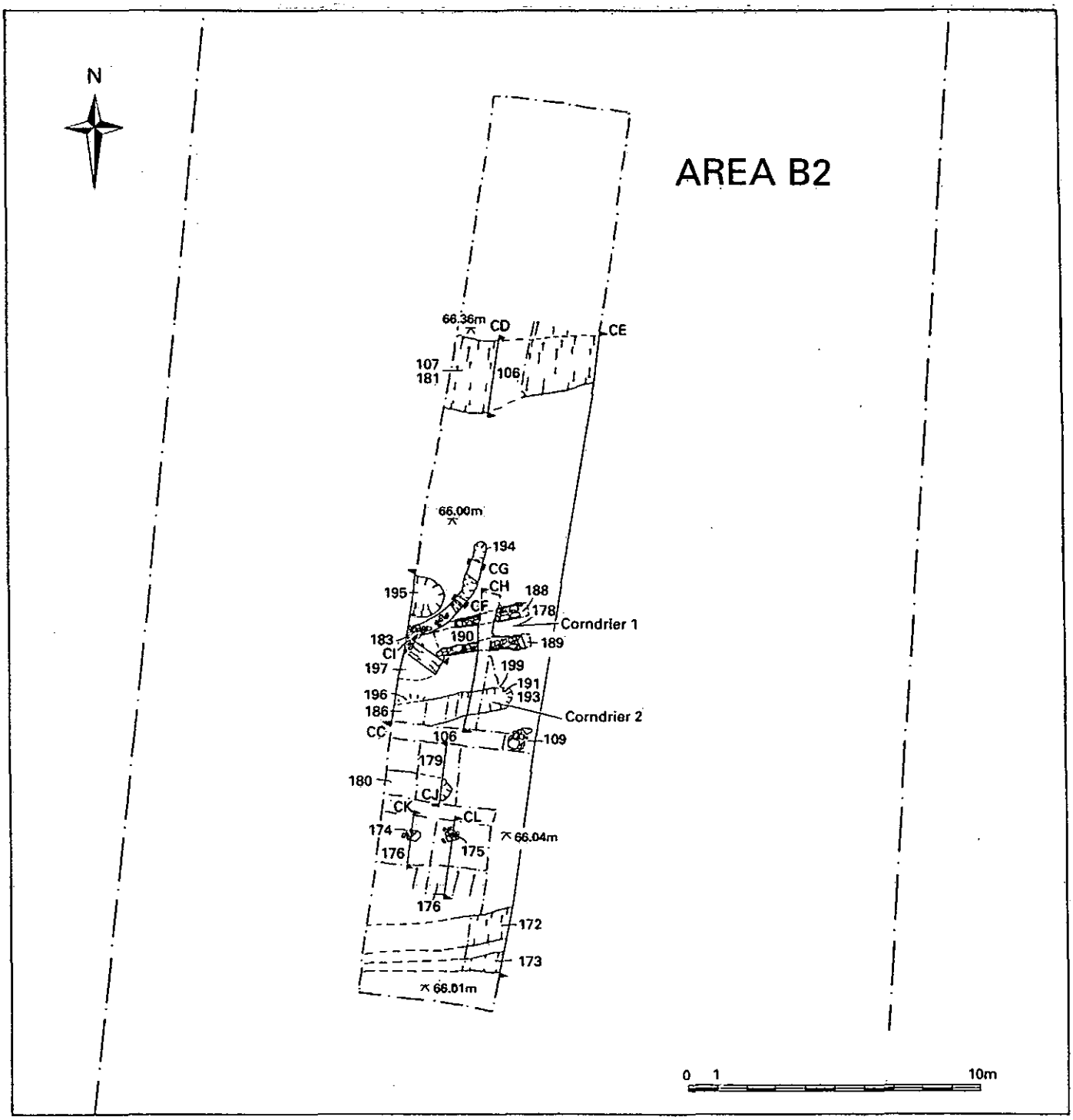


Fig 30: Detailed plan of Area B2

rounded base 0.65m deep (Fig 28, Section CD; Fig 31, Section CE). An earlier fill **181/2** brown sandy loam was overlaid by **181/1** very dark grey sandy loam with occasional heat cracked pebbles.

Two further features which although not directly datable have also been allocated to this phase. Pit **196** lay to the south of **194** and was almost totally removed by later slot **198** (Fig 28, Section CC). Feature **195** may either have been a pit or the end of a ditch protruding from under the western edge of the excavated area. It had shallow

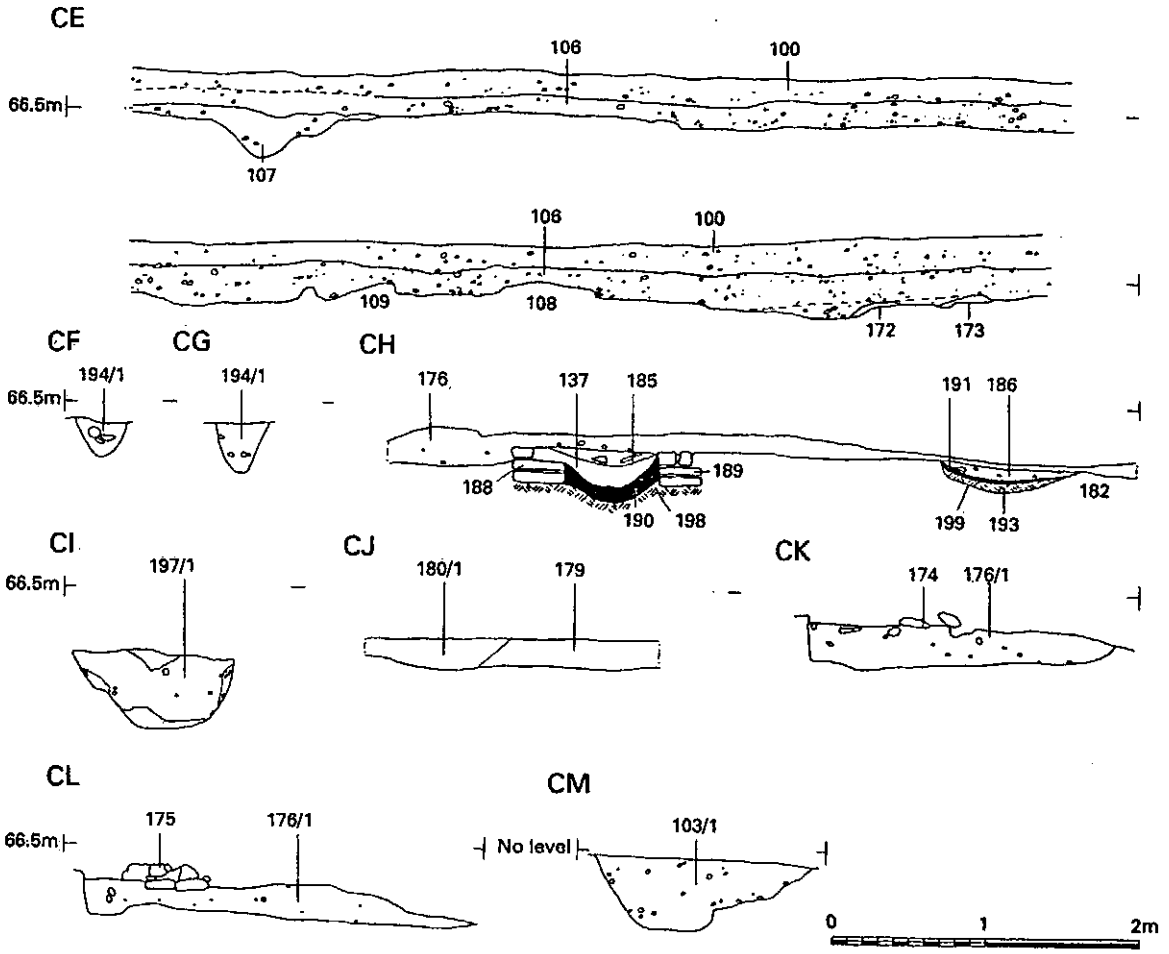


Fig 31: Area B2, sections CE-CM

sloping sides 1.4m wide and a rounded base 0.30m deep and was filled with brown sandy loam.

AREA B2 PHASE 2c: LATER 3RD- TO 4TH-CENTURY AD (Figs 30-1)

Corndrier 1

This phase of activity could not be precisely dated other than falling later than Phase 2b and earlier than Phase 2d. Its principal component was corndrier 1, constructed as a linear channel **198** aligned roughly east-west, flanked by two stone walls **188** and **189** that were a maximum of 2.95m long and 0.60m apart. Both walls comprised irregular limestone blocks and occasional sandstone rubble bonded with and laid on a shallow bed of reddish-brown clay (Fig 31, Section CH). Both walls tapered from 0.40m wide at the eastern end to 0.30m wide at the western end where they probably had originally merged with rubble **183**. This relatively loose and irregular rubble appeared to form the western terminal of the corndrier, which was presumably robbed of its faces. It flanked pit **197** that probably formed as a stoke hole pit in the soft sand at the west end of the drier, therefore **183** may have been the remains of a former lining. This pit had steep sloping sides 1.05m wide and a flattish base 0.55m deep (Fig 31, Section CI). The central length of the stone-lined channel was

hollowed out below the level of the stonework and the clay floor was covered by **190**, a 0.10m thick layer of black sand and charred material (Fig 31, Section CH).

Corndrier 2

This corndrier consisted of gully/slot **199**, dug parallel to and some 1.4m south of corndrier 1. This corndrier was without a superstructure of any kind. The surviving slot had a very shallow, scooped profile 0.90m wide and 0.15m deep. The base of reddish-brown clayey sand (**193**), similar to that of corndrier 1, was overlaid by 20mm of blackened sand and charred material (**191**) (Fig 31, Section CH). A wider depression **196** at the west end of the drier may have been the stoke hole.

AREA B2 PHASE 2d: MID-LATE 4TH-CENTURY (Figs 30-1)

This phase is represented by deposits that must have formed during the destruction or collapse of the corndriers. The central blackened deposits and the two stone walls of corndrier 1 were overlaid by 0.15m thick reddish-brown clay layer **137** that was presumably the remains of the bonding of its robbed-out superstructure. A further dark brown sandy loam layer **185** had formed in the resultant depression (Fig 31, Section CH). Corndrier 2 layer **191** was sealed by a layer of reddish-brown clay (**186**). Both these layers were sealed by layer of red pebbly clay with charcoal flecks **176=179=182=184** (Fig 28, Section CC; Fig 31, Section CH) that extended to the north as far as ditch **107**. A further pebble spread **110** lay to the east of **176=179** (not on plan).

To the south of corndrier 2, layer **179** was cut by a shallow gully **180** that extended from the western edge of the excavation and was filled with brown sandy loam with limestone fragments.

Two otherwise undated gullies to the south may belong to this phase. Gullies **172** and **173** were aligned broadly east-west at the southern end of the area (Fig 31, Section CE). The northernmost gully **172** had shallow sloping sides 1.0m wide and a flattish base 0.20m deep. Upcast from it (**172/1** brown sandy loam) had been placed outside its southern lip to form a low bank that had later slumped back down the southern edge of the gully. The southern gully **173** lay parallel some 0.40m to the south and survived as little more than a shallow scoop 0.40m wide and 0.10m deep. This feature also had a southern bank that had slumped back down the southern edge (**173/1** brown sandy loam). The relationship between the two gullies remains unknown.

AREA B2 PHASE 2e: LATE 4TH-CENTURY AD (Figs 30-1)

Levelling/abandonment

The entire area was sealed by a 0.20m-0.40m thick layer of dark brown sandy loam **176=106=108=187** (Fig 28, Section CC; Fig 31, Sections CE, CK, CL) from which produced a large majority of finds recovered from the area, including a coin of Constans (Coin 2) dated 348-50 AD.

AREA B2 PHASE 2f: VERY LATE/POST ROMAN (Figs 30-1)

Post pads 109, 174, 175

This phase was represented by a group of three stone post pads. Post pads **109, 174** and **175** were roughly circular single layer concentrations of limestone rubble, respectively 0.60m, 0.60m and 0.50m in diameter (Fig 31 Sections CK, CL).

Plate XVIII: Area B2, corndriers, viewed from the west

Plate XIX: Area B2, gully **194,** *viewed from the north*

Plate XX: Area B2, during excavation, viewed from the south

Plate XXI: Area B2, prior to removal of layer **106,** *viewed from the north-west*

AREA B1 PHASE 3: ANGLO-SAXON (Fig 21) MWA10316

A single pit could be ascribed to this phase. Pit **103** was located on the eastern edge of the easement *c* 80m to the north of the enclosures. It was sub-circular with irregular sloping sides 1.40m by 1.20m with a flat base 0.47m deep (Fig 31 Section CM). It was filled with very dark greyish-brown sandy loam and four Anglo-Saxon sherds were recovered from the interface with the overlying ploughsoil **101**.

In addition a number of Anglo-Saxon sherds were recovered from the top of features of earlier phases of B1 prior to excavation (**112, 129, 132**).

AREA B4 PHASE 4: MEDIEVAL (Fig 29)

A series of furrows crossed the site on an east-west axis. Recorded examples included **163, 162, 166-171**).

AREA B4 PHASE 5: MODERN (Figs 27, 29)

Modern field boundary ditch **162** crossed Area B4 from east to west. Two service trenches **148** to the north and a thinner slot to the south ran parallel to it. The area was covered in a layer **101** of older ploughsoil presumably derived from the medieval ridge and furrow field system. This was overlaid by topsoil **100**.

Area A, Harborough Magna

SUMMARY OF PHASING

Neolithic	Residual flint
Phase 1	Undated hollow
Phase 1a	Later 1st-to mid 2nd-century boundary gullies
Phase 1b	Mid 2nd-century boundary gullies
Phase 2	Late 2nd- to early 3rd-century boundaries
Phase 3	Mid-late 3rd-century boundaries
Phase 3a	3rd- to early 4th-century boundary
Phase 3b	4th-century boundary
Phase 3c	4th-century boundary
Phase 4	undated silt layers
Phase 5	modern drainage

NEOLITHIC PHASE MWA8823

A small assemblage of flint was residual in Roman period features.

PHASE 1: UNDATED (Fig 32)

A large hollow (**15**) in the south-east corner of the excavated area that due to localised flooding could not be excavated seemed to be cut by later features despite the recovery of a later 4th-century coin from its surface. This feature could have formed as a working hollow or perhaps as a livestock wallow.

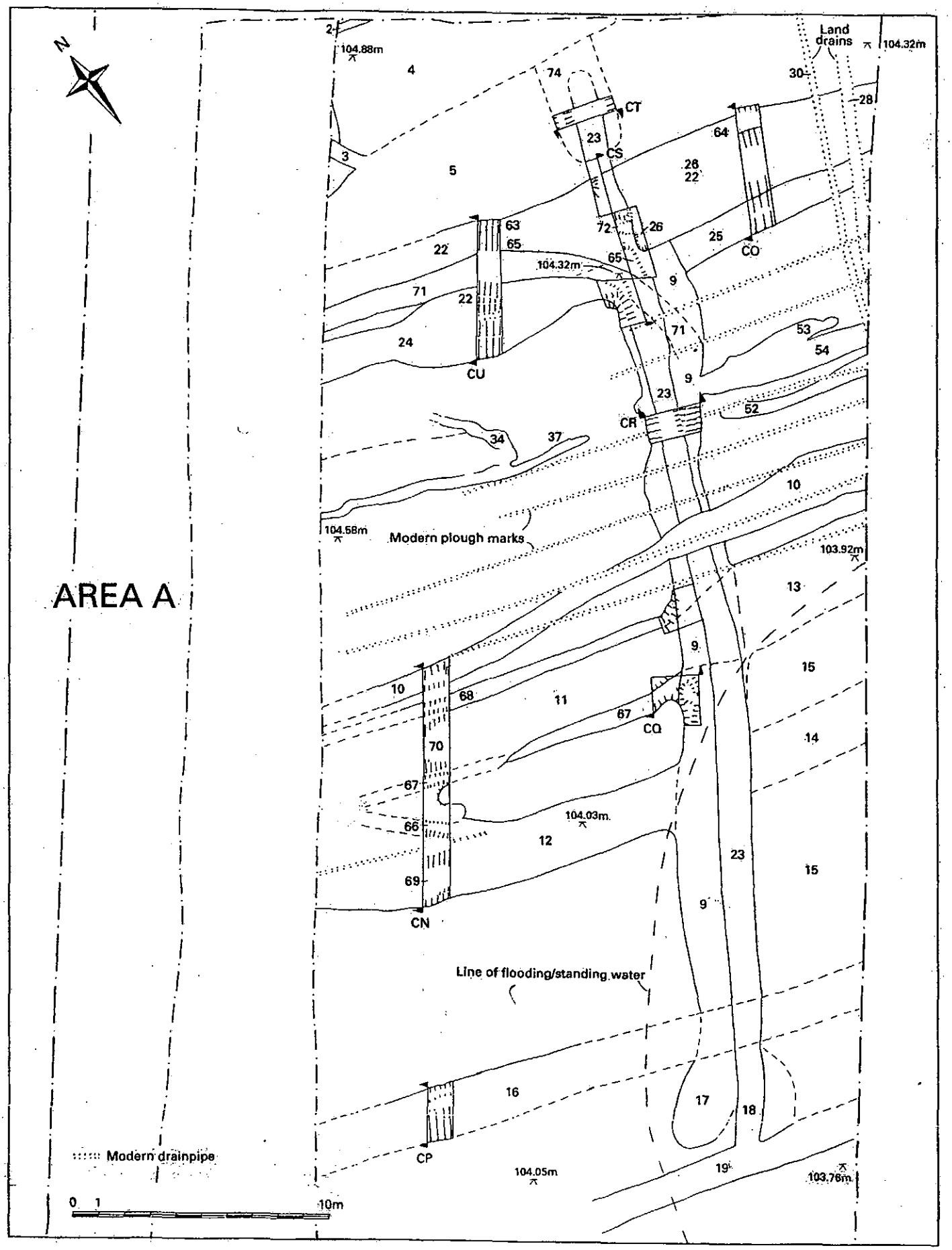


Fig 32: Detailed plan of Area A

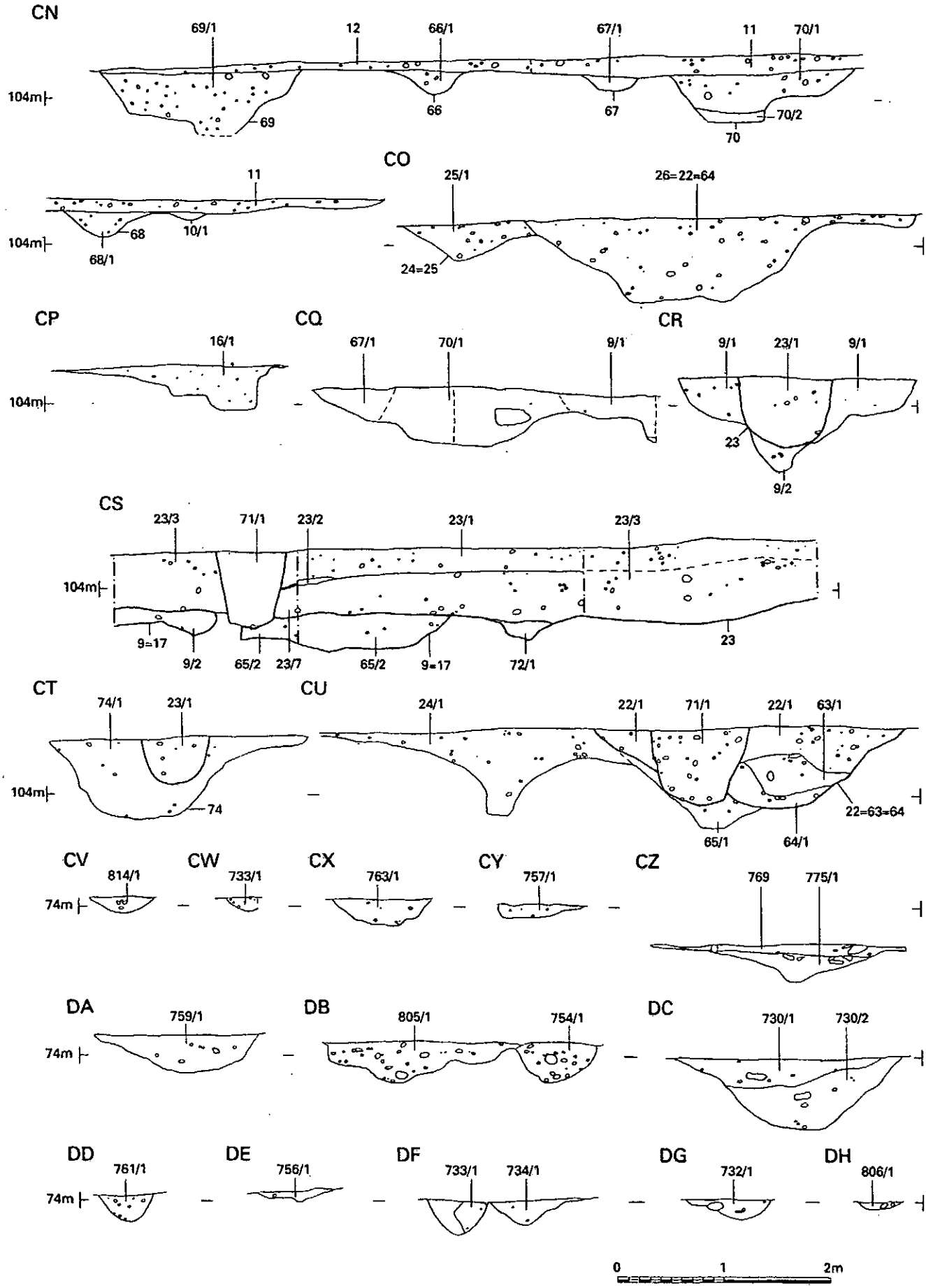


Fig 33: Area A, sections CN-CU; Area H, sections CV-DH

PHASE 1a: LATER 1ST- TO MID 2ND-CENTURY AD (Figs 32-3) MLA5824

The earliest datable features on the site were a pair of narrow WNW-ESE aligned gullies **67** and **68**, and a further north-west to south-east aligned gully **66**. Although similarly proportioned, their relative spacing was unequal. A sondage cut across them on the west side of the excavated area revealed that each had a sloping side 0.5m-0.7m wide and a rounded base 0.12m-0.20m deep (Fig 33, Section CN). They were each filled with very dark grey sandy silt loam. Both **67** and **68**, and to a lesser extent **66**, appeared to curve sharply to the north-east at their eastern ends suggesting that they continued at right angles along the long axis of the excavation area where they were fully truncated by later cuts. The gullies probably represented successive cuts of a boundary feature perhaps enclosing an area to the north-east.

PHASE 1b: MID 2ND-CENTURY AD (Figs 32-3) MLA5824

Gullies **16** and **24=25** lay 28m apart at either end of the excavated area. They both had wide V-shaped profiles (2m-3m wide) and narrow slotted bases, although **24=25** (Fig 33, Section CO) was over twice the depth of **16** which was 0.40m deep (Fig 33, Section CP). They both contained single fills, respectively, dark greyish-brown sandy silt loam and very dark grey sandy silt loam. If contemporary these features may have represented the boundaries of a single field.

PHASE 2: LATE 2ND- TO EARLY 3RD-CENTURY AD (Figs 32-3) MLA5824

Ditch **70=13** and undated ditch **69=14** were aligned parallel to the earlier phase gullies. Both had irregular, stepped sides 1.80m-1.90m wide and a narrow slotted base 0.44m-0.60m deep, one apparently a mirror image of the other. However, whilst **69** (Fig 33, Section CN) was filled entirely with very dark grey sandy silt loam, **70** contained two fills; the earliest **70/2** very dark greyish-brown sandy silt loam being overlaid by **70/1** very dark grey sandy silt loam (Fig 33, Sections CN, CQ). At *c* 3m apart, it seems unlikely that they were contemporary as there would be little need to drain both sides of a boundary. They must therefore have been successive and related to a new arrangement of fields or paddocks.

A layer of dark greyish-brown silt (**11** & **12**) overlay gullies **69, 66, 67**, and **70**, and possibly relates to an episode of colluviation derived from the slope to the north-east (Fig 33, Section CN).

PHASE 3: MID-LATE 3RD-CENTURY AD (Figs 32-3) MLA5824

In this phase a large ditch **9**, cut across all the earlier ditches and gullies on a north-east to south-west alignment. At the south-western end it butt ended as **17** and turned 90° to the north-west at the north-eastern end of the site as **65**. It had an irregular stepped-U-shaped profile 2.4-2.9m wide and a rounded base up to 0.90m deep. Grey clay **9/2=65/2** lay in the base of the cut on the north-east to south-west length (Fig 33, Sections CR, CS) and this was sampled for macrofossils and pollen (see Greig below **9/2/1**). This material had dried out in the north-western length, being strong brown sandy silt loam **65/1** (Fig 33, Section CU). The earlier fill was overlain by very dark grey sandy silt loam **9/1** in the north-east to south-west length.

Ditch **74** formed a butt end on the north-eastern side of the point where ditch **9** turned to the north-west. Although undated its proximity to and alignment with ditch **9** suggests contemporaneity although it could likewise be contemporary with Phase 3a ditch **26**. It had sloping sides *c* 2m wide and a flattish base 0.75m deep and was filled with dark greyish-brown sandy silt loam **74/1** (Fig 33, Section CT).

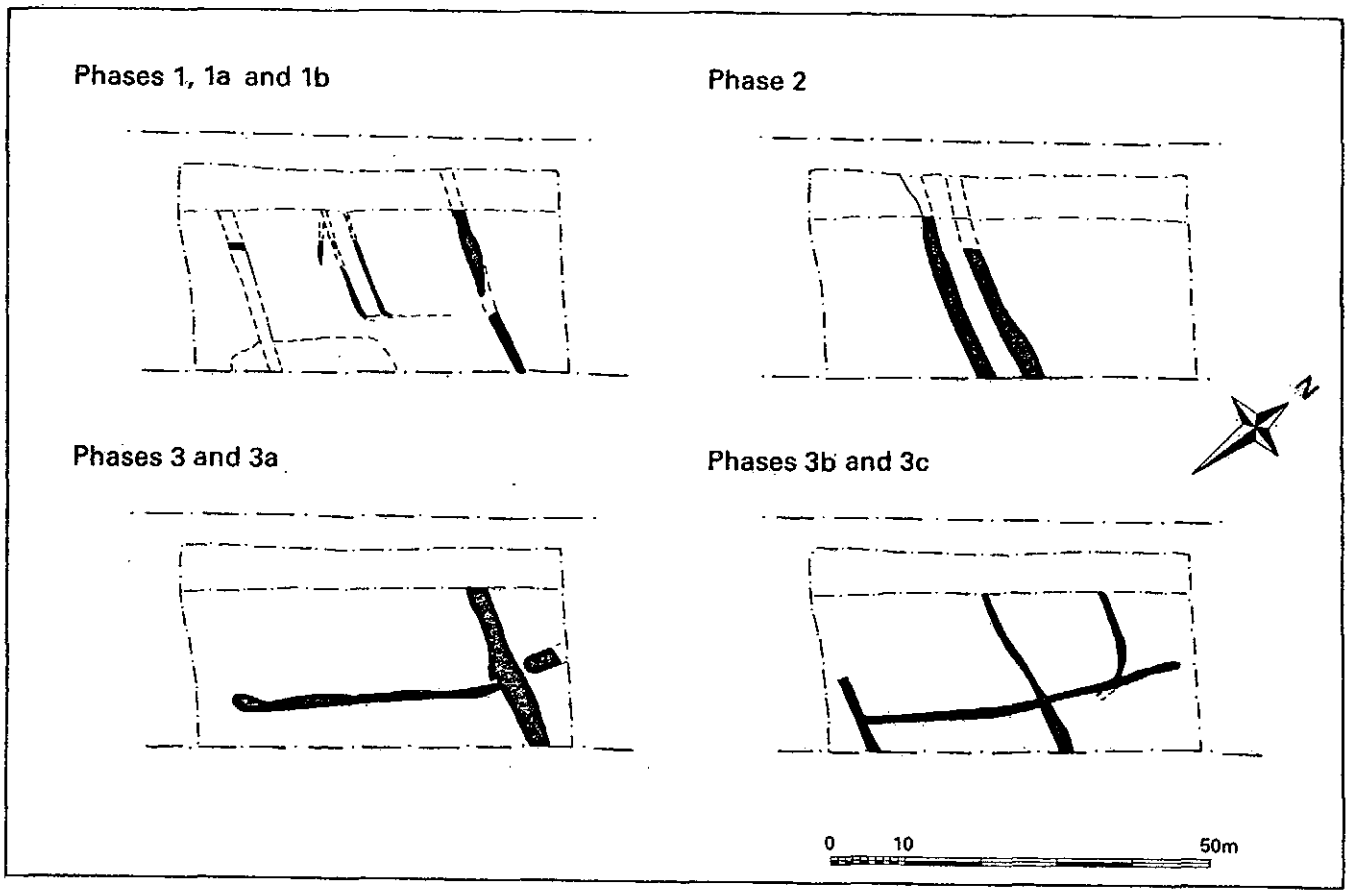


Fig 34: Phase plan of Area A

Two partially visible features were observed to the north-east of the point where **9=17=65** turned north-westwards. Only the basal part of ditch **72** survived (Fig 33, Section CS), but it was demonstrably aligned north-west to south-east and had sloping sides 0.60m wide, a flattish base and extended from the north-western side of **26**, the squared end of a ditch that abutted the corner of **9=17=65** (not shown in section). **72** was filled with dark grey sandy silt loam whilst **26** contained very dark grey sandy silt loam.

PHASE 3a: 3RD- TO EARLY 4TH-CENTURY AD (Figs 32-3) MWA8824

Ditch **22=26=63=64** was cut north-west to south-east across the north-eastern end of the excavated area. It had sloping sides *c* 3m wide and a flat base 0.75m deep and was filled with very dark greyish-brown sandy silt loam (**64/1** & **63/1**) overlaid by **22/1** dark grey sandy silt loam (Fig 33, Sections CO & CU).

PHASE 3b: 4TH-CENTURY AD (Figs 32-3) MWA8824

Gully **23=18** was cut along the length of ditch **9=17**, which had entirely silted by this time, extending outside the north-eastern end of the excavated area and conjoining with **19** at the south-western end of the site which remained unexcavated and ran perpendicular to this alignment. It was U-shaped, 0.8m wide and up to 0.75m deep (Fig 33, Sections CR, CS, CT). The earliest of its three fills **23/3** was dark greyish-brown sandy silt loam. This was overlaid by **23/2** a lens of black (charcoal rich) sandy silt loam that in turn was sealed by **23/1** very dark grey sandy silt loam.

Plate XXII: Area A, during excavation, viewed from the south-west

Plate XXIII: Area A, during excavation after heavy rainfall

PHASE 3c: 4TH-CENTURY AD (Figs 32-3) MWA8824

Gully **10** cut north-west to south-eastwards through the middle of the site on the north side of Phase 2 ditch **70**. It was up to 2m wide and had a rounded profile filled with very dark grey sandy silt loam (Fig 33, Section CN). Gully **71** was aligned parallel some 13m to the north, albeit curving southward at its eastern end within the fill of earlier ditch **9**. It was U-shaped 0.92m wide by 0.71m deep and filled with very dark grey sandy silt loam (Fig 33, Sections CS, CU).

PHASE 4: UNDATED (Fig 32)

The area in the northern corner of the site was not recorded in detail due to localised flooding but appeared to contain silty layers that obscured the boundary feature alignments (layer **5**). Further soil stains in the north-western corner of the site were covered by bog mats and therefore not excavated (**2, 3, 4**).

A number of other features cannot be securely related to a particular phase and have been grouped here for convenience. They are linear soil stains (**34, 37, 52, 53, 54**) that could represent the bottoms of shallow gullies aligned north-west to south-east with the majority of the features within the area.

PHASE 5: MODERN (Fig 32)

Two land drains (**28** and **30**) aligned north-east to south-west were recognised in the north-eastern corner of the site although they remained unexcavated. A network of plough marks approximately 1.5m apart thought to have been caused by a modern mole plough crossed the entire area. A thin layer of subsoil or older plough soil (**8=20=73**) covered the site and was composed of greyish brown sandy silt loam. Topsoil (**1**) was dark grey sandy silt loam.

Area H, Chesterton and Kingston

Geological natural across the site was reddish-brown clay (Mercia Mudstone). A relic soil was noted in some parts of the site **719=721** although its relationship with the majority of features remained uncertain.

SUMMARY OF PHASING

Phase 1	Early-mid 2nd-century Enclosure A
Phase 2	Late 2nd-century Enclosure A divisions
Phase 3	Early-mid 3rd-century additions to Enclosure A
Phase 4	Mid 3rd-century final additions to Enclosure A
Phase 5	Late 3rd- to early 4th-century Enclosure B
Phase 6	4th/Late 4th-century Enclosure C
Phase 7	Unstratified/undated deposits
Phase 8	Medieval furrows
Phase 9	Modern drainage

PHASE 1: EARLY-MID 2ND-CENTURY AD (Figs 23, 33, 35, 37-8) MWA8825

Enclosure A

This earliest phase was represented by a series of narrow gullies at the south-western end of the site that appeared to define the junction of a sequence of small rectilinear plots on a north-east to south-west alignment (Fig 35), parallel to the Fosse Way. In the southernmost corner of the site gullies **814** and **733=812** were aligned north-west to south-east, whilst gullies **763** and **757** were aligned north-east to south-west. Gully **814** may in fact have represented the remains of an initial cut of Enclosure A, in which the remainder of the gully sequence was constructed.

Other features

Ditch **818** was aligned north-south at the north-easternmost end of the site (Fig 23) and probably represented the limit of occupation. North-south aligned gully **775** was overlaid by Phase 6 rubble spread **769** in the northern end of the site (Fig 33 Section CZ; Fig 37) but could not be associated with any other features.

Table 20: Area H, Phase 1 features

Shown on Section	Feature	Type	Size (m)	Depth (m)	Comments
Fig 33, CV	814	Gully	0.62 wide	0.16	Sloping sides and rounded base filed with 814/1 brown sandy clay loam
Fig 33, CW Fig 38, DN	733=812	Gully	0.55 - 0.75 wide	0.30-0.25	Sinuous gully with sloping sides and rounded base filled with 733/1 very dark grey sandy clay loam and 812/1 dark greyish brown sandy clay loam.
Fig 33, CX	763	Gully	0.90 wide	0.24	Sharp sloping sides and rounded base filled with 763/1 dark grey sandy clay loam
Fig 33, CY	757	Gully	0.79 wide	0.14	Steep/sloping sides and flat base filled with 757/1 dark grey sandy clay loam
	818	Ditch	1.9 –2.0	0.40	Shallow sloping sides and flat base filled with 818/1 very dark greyish-brown sandy clay
Fig 33, CZ	775	Gully	0.80 wide	0.27	Steep sloping sides and rounded base filled with 775/1 very dark greyish brown sandy clay loam

PHASE 2: LATE 2ND-CENTURY AD (Figs 33, 35-6, 38) MWA8825

At the southern end of the site (Fig 35) this phase was represented by ditch **759** which replaced Phase 1 gully **814** as the southernmost corner of Enclosure A. It is conceivable that it conjoined with ditch **805** some 26m to the north-east (Fig 36), which would then have formed the northern arm of the enclosure. Ditch **759** was in Turn replaced by ditch **730** which represented the southernmost feature on the site for the remainder of the occupation.

Further additions to the gully sequence divided Enclosure A into individual plots (Fig 35). Gully **761** was aligned adjacent to Phase 1 gully **733** and formed a right angle with north-east to south-west gully **756**. Gully **732** similarly formed a right angle with gully **734**. The narrow gap between these two opposed corners may indicate the position of a north-west to south-east aligned barrier such as a hedge.

Gully **806** extended eastward from the south-eastern corner of Enclosure A (Fig 36) and probably ran into gully **804** which was aligned north-west to south-east although neither could be related to any other features.

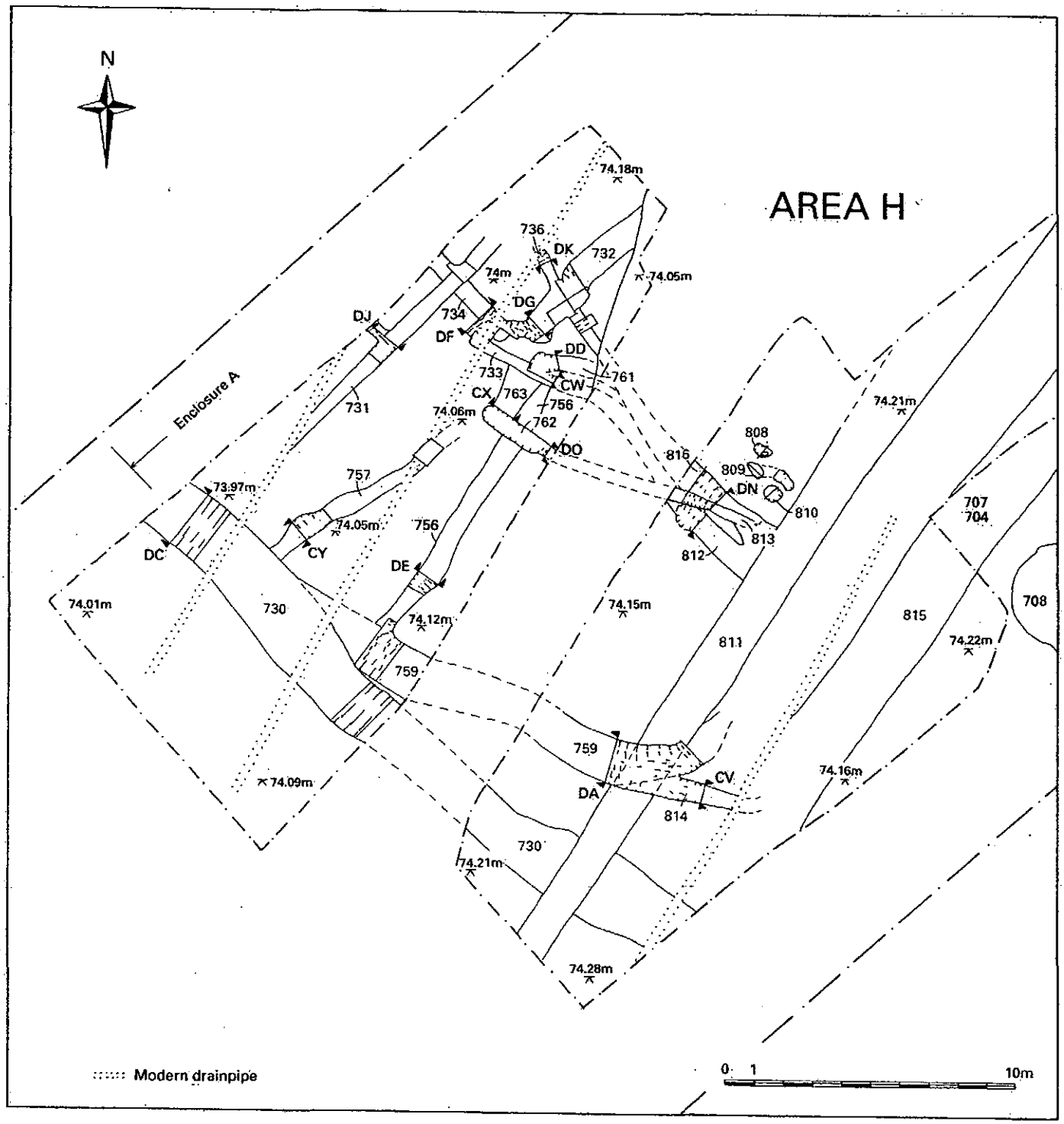


Fig 35: Detailed plan of Area H (south-west end)

PHASE 3: EARLY-MID 3RD-CENTURY AD (Figs 33, 35-8)

This phase included further additions to the gully sequence in Enclosure A representing internal rearrangement of the enclosure (Fig 35). Gully **731** was aligned north-east to south-west along the north-western edge of the excavated area whilst gully **736=816** formed a right angle extending to the south-east.

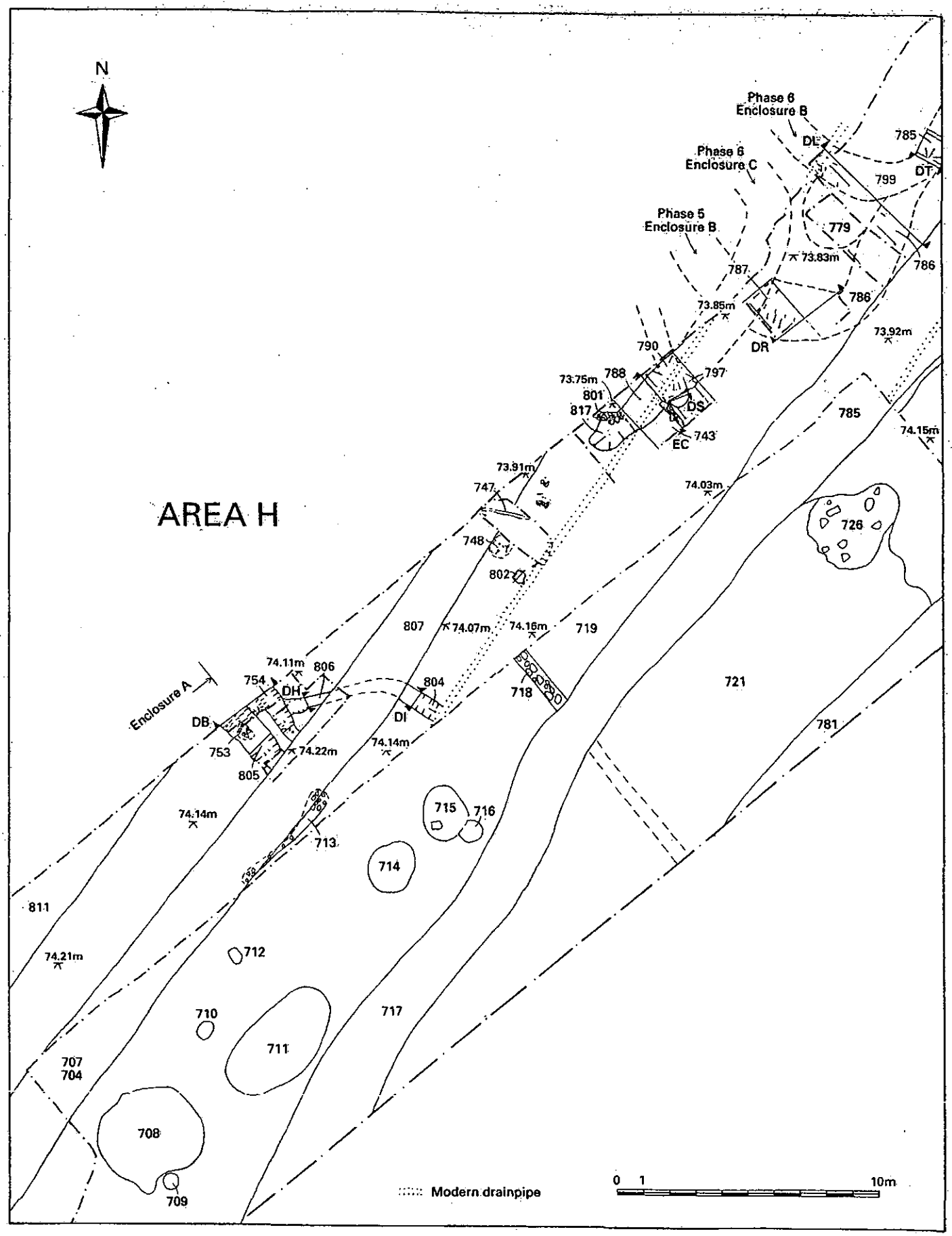


Fig 36: Detailed plan of Area H (central area)

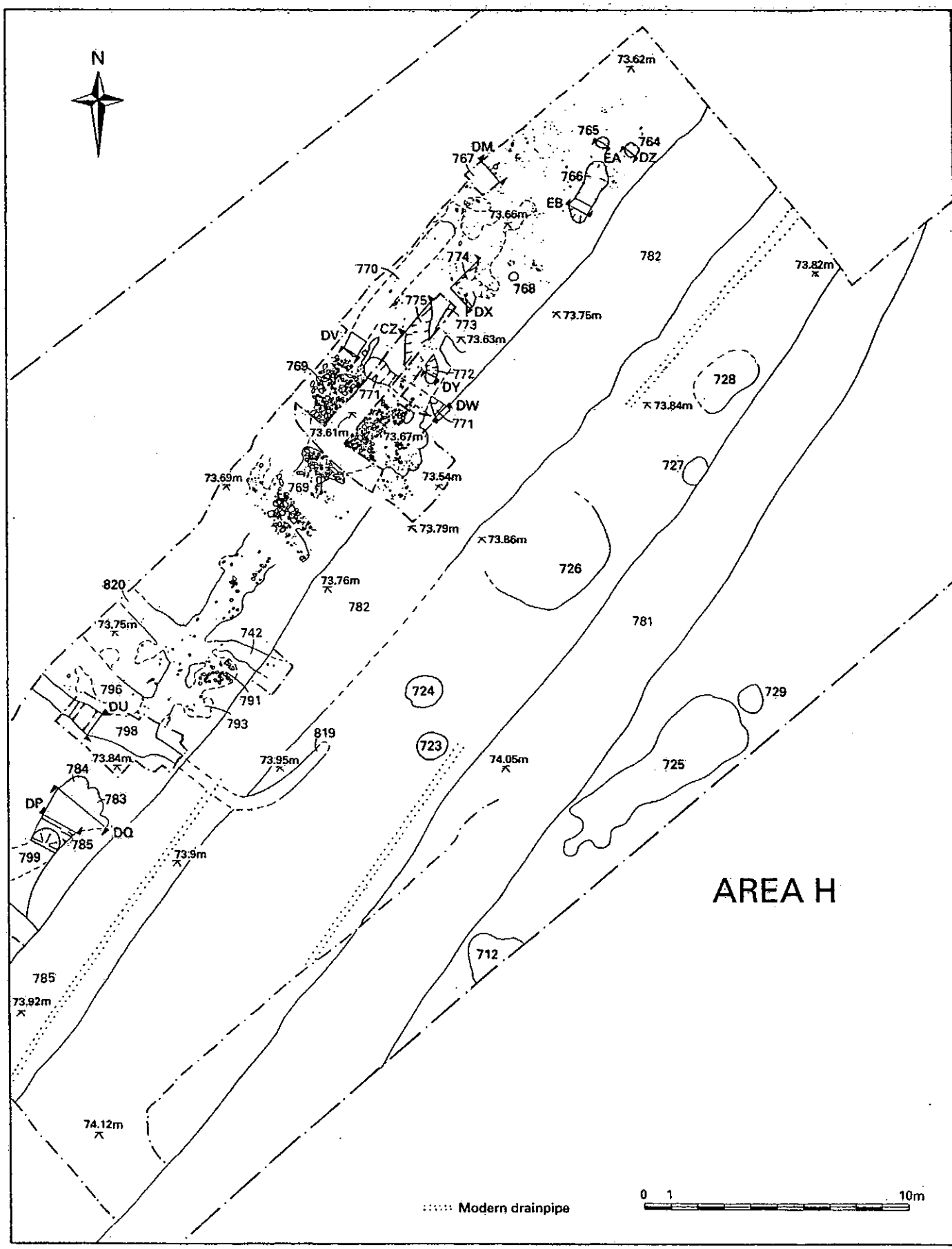


Fig 37: Detailed plan of Area H (north-east end)

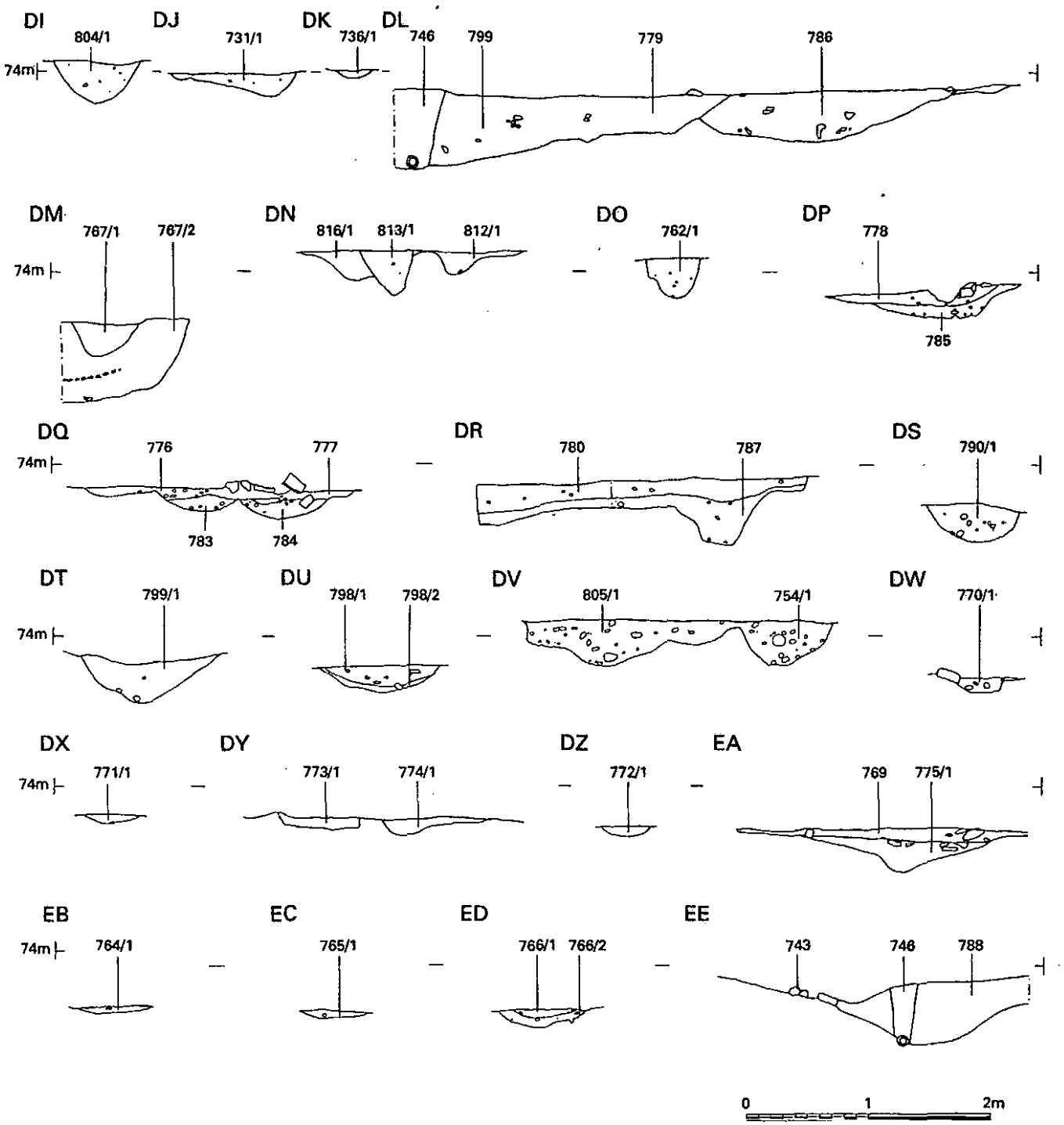


Fig 38: Area H, sections DI-EC

Pit 779 was located in the central part of the site (Fig 36) and was relatively large, being in excess of 2.4m wide although its complete dimensions could not be ascertained and it could not be related to any other features of this phase.

At the north end of the site (Fig 37) a sondage was cut through a pit or ditch 767, although its extent remained uncertain and no other features could be related to it.

Plate XXIV: Area H, south-west end during excavation

Plate XXV: Area H, south-west end after excavation

Plate XXVI: Area H, north-east end during excavation, viewed from the north

Plate XXVII: Area H, north-east end during excavation, viewed from the north

Table 21: Area H, Phase 2 features

Shown on Section	Feature	Type	Size (m)	Depth (m)	Comments
Fig 33, DA	759	Ditch	1.6 wide	0.35	Sloping sides and rounded base filled with 759/2 reddish brown clay overlaid by 759/1 very dark greyish brown sandy loam
Fig 33, DB	805	Ditch	1.85 wide	0.40	Sharp sloping sides and rounded base filled with 805/1 dark brown sandy clay loam
Fig 33, DC	730	Ditch	2.14 wide	0.80	Sharp sloping sides and rounded base filled with 730/2=730/4 reddish brown sandy clay overlaid by 730/1=730/3 very dark greyish brown sandy loam
Fig 33, DD	761	Gully	0.51 wide	0.24	Sharp sloping sides and flattish base filled with 761/1 dark greyish brown sandy clay loam
Fig 33, DE	756	Gully	0.74 wide	0.11	Shallow sloping sides and rounded base filled with 756/1 brown sandy loam
Fig 33, DF	734	Gully	0.92 wide	0.22	Irregular sloping sides and rounded base filled with 734/1 very dark grey sandy clay loam
Fig 33, DG	732	Gully	1.00 wide	0.18	Irregular sloping sides and rounded base filled with 732/1 =732/2 very dark grey sandy clay loam
Fig 33, DH	806	Gully	0.42 wide	0.08	Sloping sides and rounded base filled with 806/1 dark brown sandy clay loam
Fig 38, DI	804	Gully	0.74 wide	0.36	Very sharp sloping sides and rounded base filled 804/1 with very dark greyish-brown sandy clay loam

Table 22: Area H, Phase 3 features

Shown on Section	Feature	Type	Size (m)	Depth (m)	Comments
Fig 38, DJ	731	Gully	0.60 wide	0.19	Sharp sloping SE side and shallow sloping NW side with a rounded base filled with 731/1 dark grey sandy loam
Fig 38, DK	736	Gully	0.44 wide	0.24	Shallow sloping sides and rounded base filled with 736/1 dark grey sandy loam
Fig 38, DN	816	Gully	0.76 wide	0.19	Sloping sides and flattish base filled with 816/1 dark greyish-brown sandy clay loam
Fig 38, DL	779	Pit	?	0.65	Uncertain function and dimensions filled with 779/1 very dark grey sandy clay loam
Fig 38, DM	767	Pit/ditch	>1.06	0.68	Near vertical sides and flattish uneven base filled with 767/4 redeposited red clay, overlaid by 767/3 a lens of charcoal, in turn sealed by 767/2 more redeposited red clay and finally sealed by 767/1 dark greyish brown sandy clay loam

PHASE 4: MID 3RD-CENTURY AD (Figs 35, 38) MLA8815

The final additions to the gully sequence in Enclosure A occurred in this phase. Gully **813** was aligned north-west to south-east and cut across the earlier similarly aligned gullies and butt ended as **762** (Fig 35)

PHASE 5: LATE 3RD- TO EARLY 4TH-CENTURY AD (Figs 35-8) MLA8825

Enclosure B

This phase sees the development of a further probable enclosure (B) in the northern third of the site. It was represented by the recut southern terminal end of a gully sequence and may have been related to either or both of the two unexcavated gullies **796** or **820** that were aligned north-west to south-east although it is possible that the other side lay to the north-east of the area excavated. Gully **786=785** (Figs 36-7) was aligned north-east to south-west and butt ended as both **783** and **784** (Fig 37) although the actual sequence was not established. It seems likely that both cuts extended to the south before turning north-westwards as 787 albeit in a much deeper

form. The re-cuts must have occurred relatively quickly in succession, as the individual cuts had not silted before a replacement was dug. These re-cuts were overlaid by a layer of very dark grey sandy clay loam **776=777=778** (Fig 38, Sections DP, DQ) and **780** (Fig 38, Section DR)

Table 23: Area H, Phase 4 features

Shown on Section	Feature	Type	Size (m)	Depth (m)	Comments
Fig 38, DN	813	Gully	0.44	0.36	Near vertical sides and rounded base filled with 813/1 dark greyish brown sandy clay loam
Fig 38, DO	762	Gully	0.60	0.35	Near vertical sides and a rounded base filled with 762/1 very dark grey sandy clay loam

Gully **790** extended from the north-west to butt end just inside the excavated area in the central part of the site (Fig 36). It has been allocated to this phase because the bulk of the fill was removed as Phase 6 ditch **788** that contained no finds datable to earlier than the mid 3rd century. No other features could be related to this feature with certainty.

Table 24: Area H, Phase 5 features

Shown on Section	Feature	Type	Size (m)	Depth (m)	Comments
Fig 38, DL	786	Gully	?	?	Filled with 786/1 yellowish brown sandy clay loam
Fig 38, DP	785	Gully	1.40 wide	0.23	Combination of gullies 783 and 784 filled with 785/1 yellowish brown sandy clay loam
Fig 38, DQ	783	Gully	0.65 wide	0.25	Scooped profile filled with 783/1 yellowish brown sandy clay loam overlaid by 776 very dark grey sandy clay loam
Fig 38, DQ	784	Gully	0.95 wide	0.40	Scooped profile filled with 784/1 yellowish brown sandy clay loam overlaid by 777 very dark grey sandy clay loam
Fig 38, DR	787	Gully	0.60 wide	0.27-0.58	Uncertain dimensions filled with 787/1 yellowish brown sandy clay loam overlaid by 780=776 very dark grey sandy clay loam
Fig 38, DS	790	Gully	0.75 wide	0.33	Sloping sides and rounded base filled with 790/1 reddish-brown sandy clay

PHASE 6: 4TH / LATE 4TH-CENTURY AD (Figs 33, 35-8)

Enclosure C

This phase included the construction of Enclosure C to the south-west of Enclosure B, which necessitated the realignment of Enclosure B. Ditch **797=817** extended from the north and terminated as a butt end between Enclosures A and B, although no contemporary terminal was recognised.

Enclosure B was realigned to the north-east as ditch **799** which butt ended within the earlier Phase 5 terminal alignment (Figs 36, 37). Once again it was not possible to identify the other side of the enclosure, but it could again have been one of the unexcavated gullies **796** or **820** to the east. Alternatively it may have formed an annexe to the west of gully **798**, some 6m wide with a 4m wide entrance. Gully **798** (Fig 37) curved sharply to the north-east aligned with **799** and may have continued a further 13m under the later rubble **769** but this was not certain. The enclosure may have been extended in a much slighter form as indicated by the unexcavated gully **819** which formed an L-shape to the south-east.

Other features

Gully **754** was aligned north-west to south-east immediately adjacent to the northern side of Enclosure A gully **805** although the significance of this remains unclear.

A small group of features located at the northern end of the site may have represented an activity area, perhaps but not certainly, associated with an otherwise undefined structure. Gully **770** was 6.20m long and was aligned north-east to south-west along the north-western edge of the excavated area. It appeared to form a right angle with gully **771** at its south-western end extending to the south-east. To the east of the right-angle two narrow gully slots **773** and **774** conjoined together although their relationship remained obscure and their relative extents unknown, although **773** may have curved at its south-western end to conjoin with gully slot **772**. Alternatively **772** may have connected with north-south aligned elongated pit **775**. This feature was similar in proportions to a further elongated pit **766** some 7m to the north-east, although this example was aligned north-east to south-west. This pit could have been associated with two further sub-circular pits **764** and **765**.

Table 25: Area H, Phase 6 features

Shown on Section	Feature	Type	Size (m)	Depth (m)	Comments
Fig 38, DT	799	Ditch	1.14 wide	0.65	Sharp sloping sides and flattish uneven base filled with 799/1 dark brown sandy clay loam
Fig 38, DU	798	Ditch	0.96 wide	0.21	Sloping sides and rounded base filled with 798/2 reddish brown sandy clay overlaid by 798/1 very dark greyish brown sandy clay loam
Fig 38, EC	797=817=788	Ditch	1.45 wide	0.40	Steep sloping sides and rounded base filled with 797/1 black sandy clay loam and 817/1 reddish brown sandy clay loam both overlaid by 788=789 very dark grey sandy clay loam
Fig 33, DB	754	Gully	0.77 wide	0.37	Sharp sloping sides and rounded base filled with 754/1 dark brown sandy clay loam
Fig 38, DV	770	Gully	0.68 wide 6.20 long	0.12	Steep sloping sides and uneven base filled with 770/1 dark greyish-brown sandy clay loam
Fig 38, DW	771	Gully	0.46 wide	0.07	Bulbous ended, concave profile filled with 771/1 dark greyish-brown sandy clay loam
Fig 38, DX	773	Gully	0.40 wide	0.13	Steep sloping sides and rounded base filled with 773/1 very dark greyish-brown sandy clay loam
Fig 38, DX	774	Gully	0.40 wide	0.13	Steep sloping sides and rounded base filled with 774/1 very dark greyish-brown sandy clay loam
Fig 38, DY	772	Gully	0.44 wide	0.09	Sloping sides and rounded base filled with 772/1 very dark greyish-brown sandy clay loam
Fig 38, CZ	775	Pit	0.88 wide	0.27	Steep sloping sides and rounded base filled with 775/1 very dark greyish-brown sandy clay loam
Fig 38, DZ	764	Pit	0.50 diam	0.06	Circular with flattish base filled with 764/1 very dark greyish-brown sandy clay loam
Fig 38, EA	765	Pit	0.56 x 0.40	0.08	Sub-circular with flattish base filled with 765/1 very dark greyish-brown sandy clay loam
Fig 38, EB	766	Pit	2.46 x 0.75	0.18	Linear pit with steep sloping sides and flattish base filled with 766/2 redeposited red clay overlaid by 766/1 dark greyish-brown sandy clay loam

This phase also included a limestone rubble spread **679=769=800** that had been dumped in the top of earlier features in the northern half of the site, presumably to form a surface along the edge of the individual enclosures. It extended from gully **771** in the north to cover Enclosure C ditch **817** and was composed of small and medium irregular rubble in a matrix of very dark grey sandy loam. The rubble spread was probably originally far more extensive, the majority of it having been removed by later plough action although it may have survived in isolated patches such as **753** and **748**. At its southern extremity was a fragment of a possible east-west aligned wall **801** composed of a few limestone blocks with a dressed edge

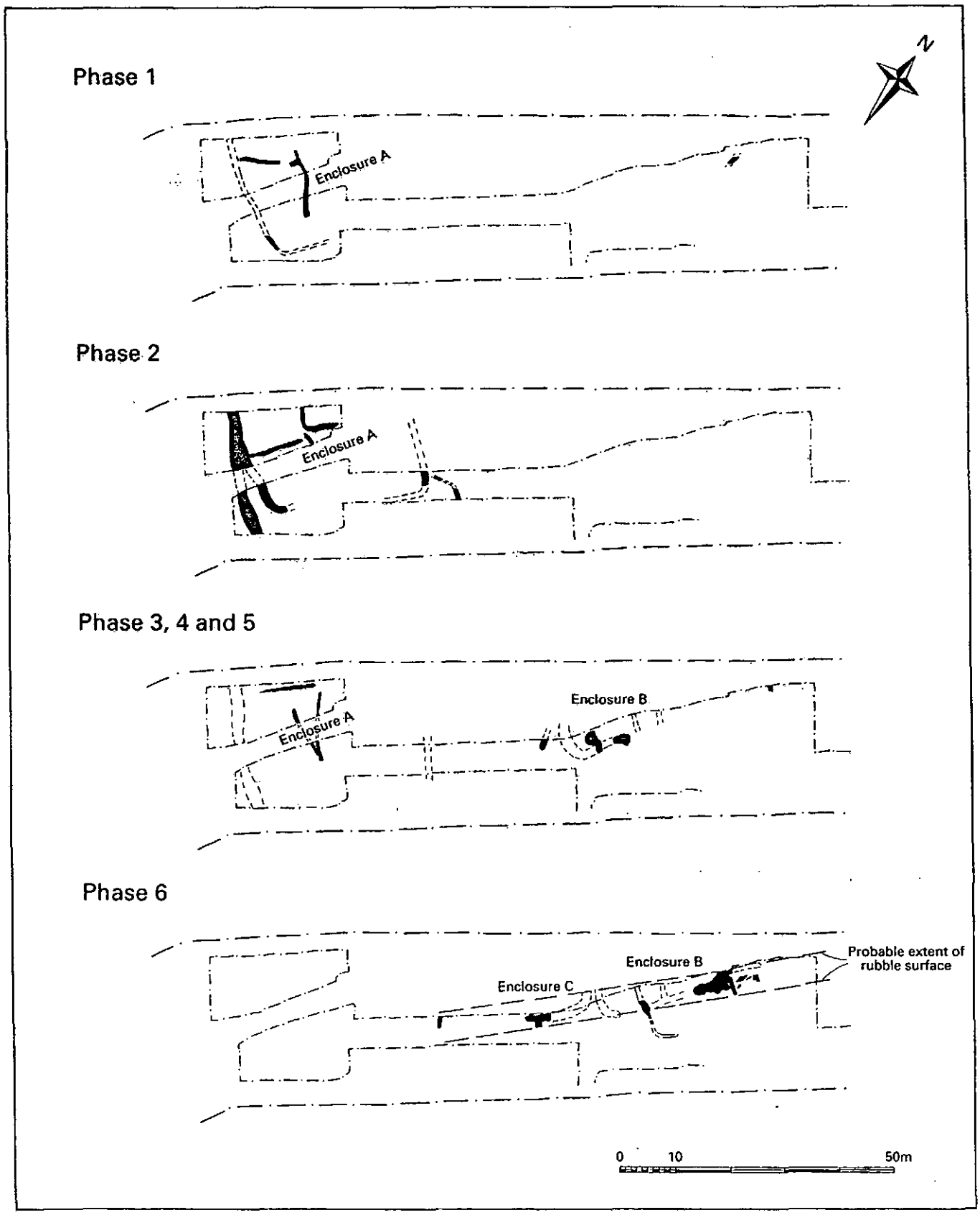


Fig 39: Phase plan of Area H

protruding from the western bulk. No further features could be related to this wall, which was overlaid by rubble spread **743** (Fig 38 Section EC).

PHASE 7: UNSTRATIFIED (Figs 35-7)

This phase includes those unstratified and unexcavated features recorded on the surface prior to the replacement of the topsoil. Pottery and other finds were attributed to some of these features whilst other are likely to have been tree throws or root disturbance (**708, 709, 710, 723, 724, 725, 727, 728, 729, 802, 809, 810**).

Table 26: Area H, Phase 7 unstratified/undated deposits

Shown on Section	Feature	Type	Size (m)	Depth (m)	Comments
	808	Pit	0.64 x 0.35	0.08	Sub-circular with shallow sloping sides and a flat base filled with dark greyish-brown sandy clay loam
	718	Drain	0.30 wide	?	Unexcavated rubble filled drain aligned NW/SE with a matrix of brown clay
	711	Rubble patch	5.0 x 2.3	?	Small and medium limestone rubble in a matrix of dark greyish brown clay loam
	712	Poss PH	0.20 x 0.30	?	Unexcavated possible posthole defined by very dark grey silty loam with pebbles
	714	Poss pit	2.0 x 1.8	?	Unexcavated possible pit defined by dark greyish-brown clay loam with few limestone fragments and pebbles
	715	Poss pit	1.8 x 1.8	?	Unexcavated possible pit defined by very dark greyish-brown clay loam with few limestone fragments and pebbles
	716	Poss pit	0.80 x 0.80	?	Unexcavated possible pit defined by very dark greyish-brown clay loam with few limestone fragments and pebbles
	719=721	Layer			Very dark grey clay loam with limestone fragments, some burnt
	720	Layer			Concentration of limestone fragments (possible wall?)
	726	Rubble patch			Very dark grey clay loam with limestone fragments
	713	Rubble patch			Very dark grey clay loam with limestone fragments
	747	Gully	0.12 wide	?	Unexcavated soil stain

PHASE 8: MEDIEVAL

Four medieval furrows were recorded crossing the area on a north-east to south-west alignment (**811, 815=707=704=807, 782=785** and **781**). A layer of older ploughsoil associated with these furrows (**738, 739**) was dark brown clay loam.

PHASE 9: MODERN (Figs 35-8)

A series of ceramic land drains (including **746**, Fig 38 Section EC) were laid parallel to the ridge and furrow suggesting that the ridge and furrow was still extant when the drains were laid. Topsoil across the site (**700**) was very dark brown silty clay loam on average 0.30m deep.

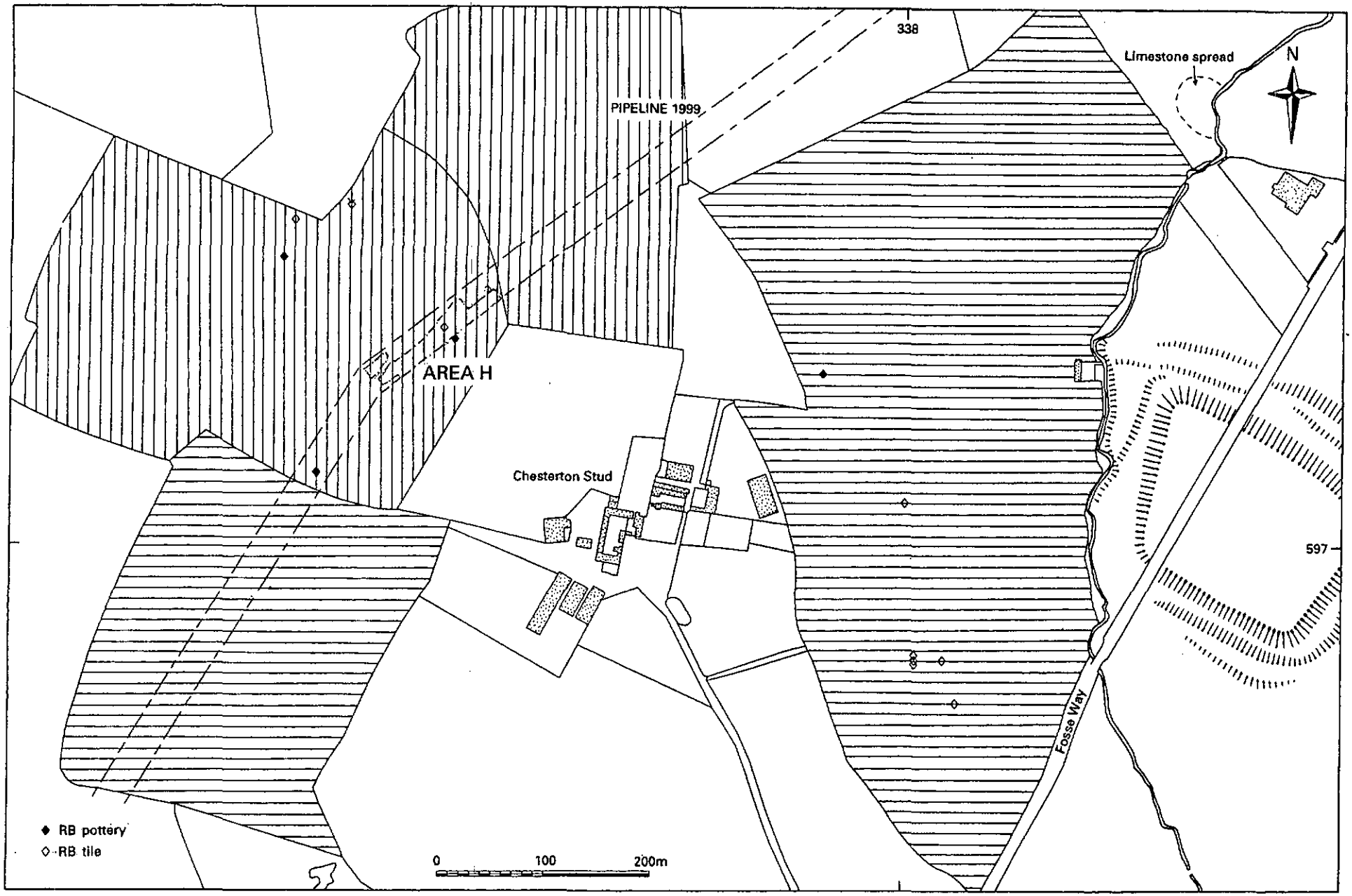


Fig 40: Surface survey between Area H and Chesterton Roman town

Surface survey undertaken between Area H and Chesterton Roman town MWA8825

After the completion of the excavations it was thought useful to attempt to establish the extent of the occupation by means of a surface survey. It was hoped that the distribution of pottery and building materials scattered over the surface of the fields in the vicinity of Area H and adjacent to the Roman town could determine whether the site was a discrete settlement or perhaps even a suburb of the town.

The survey was limited in scope as much of the surrounding landscape was in pasture (Fig 40). However, a total of four arable fields were in a suitable condition for fieldwalking, having been recently ploughed. Each of these fields was surveyed by individuals walking along 10m transects with finds collected in 60m stints.

The survey recorded a very thin scatter of Romano-British pottery and tile. The assemblage of pottery and tile is no more than one could expect from any field in the environs of a Romano-British site and is certainly less than one might expect from fields adjacent to a Romano-British town. Neither does it appear to highlight the extent of the excavated site itself.

In the vicinity of the site, the results of the survey appear to suggest that little material is currently being ploughed up from the underlying deposits and by inference therefore can be stated with any certainty, either the extent of the site, nor its spatial relationship with the town.

FLINTWORK by Lynne Bevan

Area B, Long Itchington

A total of 23 flints, weighing 78 grams was recovered from Areas B1 and B2 (Table 27).

Table 27: Flint finds from Areas B1 and B2

Area	*Core*	*Core frag/ CRF*	*Flake/ Chunk*	*Micro-debitage*	*Scraper*	*Other Retouched*
B1	-	2/-	4/1	-	3, including denticulate	2 blades, 2 flakes
B2	-	-/-	1/1	5	1	1 flake

AREA B1

A Later Neolithic date is probable for two small flake core fragments from Area B1 (SF 319, **166/1** and SF 318, **100**, not illustrated), one of which (SF 318) exhibited cones of percussion indicative of a hard-hammer technique usually associated with later prehistoric flint working. Other potentially datable material from Area B1 included an extensively worked and utilised side/end scraper with a denticulated edge, which was notched like a saw blade. This example had been worked from two different directions and utilised to the point of exhaustion, indicating resource stress. It might also post-date the other scrapers from the site since denticulates are common on late Bronze Age sites (Stone 1937, Plate vi, No 3; Harding 1991, fig 45, 84-85) and the denticulate scrapers from Grimes Graves were also 'a distinctively Bronze Age type' (Saville 1981, 21). The two other scrapers were both ovoid forms (SF 268, U/S and SF 318, **100**, not illustrated) similar to those from Area D.

In addition there were two retouched blades (SF 318, **100** and SF 320, **125/1**, not illustrated) and two retouched flakes (SF 341, **138/2** and SF 350, **730/1**, not illustrated), none of which was datable.

AREA B2

A discoidal thumbnail-type scraper with a particularly high-backed dorsal came from Area B2 (SF 376, **179**, not illustrated). This type of scraper is prevalent among Beaker-related assemblages (Healy 1986), and generally date to the Early Bronze Age. However, this particular example might have been a Later Mesolithic 'button' scraper, as observed in Later Mesolithic Midlands industries (Saville 1972/3, 19 and 1973/4, fig 16:7, 198-199; Bevan 1995a, fig 18:1, 99-101 and 1995b) rather than a thumbnail form. The only other retouched item was a retouched flake (SF 323, **137**, not illustrated).

Area A, Harborough Magna

The assemblage comprised 75 items of flint weighing 315 grams (Table 28, unillustrated). The waste material was similar in its quality and composition to the debitage from other sites along the pipeline, such as Areas C and D.

Table 28: Flint finds from Area A

Core	Core frag/ CRF	Flake/ Chunk	Micro-debitage	Scraper	Other Retouched
2	-/-	23/4	34	3	7 flakes, 1 serrated blade, 1 knife

Both flake cores (SF 2, **4** and SF 10, **73**) were typical flake cores of Later Neolithic to Bronze Age date. One of the cores (SF 2, **4**) was of a particularly fine dark grey flint and its general shape was suggestive of a preform for an ovoid scraper. This appears to have been part of the same knapping episode and flint nodule as several flakes from the same context. Retouched items included a flake knife, which might have been a reaping knife but was lacking any traces of sickle gloss, from topsoil (SF 314) and a serrated blade (SF 315, **26/1**). There were also three scrapers in the collection, one of which was a side/end scraper (SF 272, **67/1**) and the others were side scrapers, both of which came from topsoil (SF 34).

Area H, Chesterton and Kingston

Flint finds from Area H comprised 13 items, weighing a total of 66 grams (Table 29, unillustrated). The only datable item was a fragment from a small flake core of Late Neolithic to Early Bronze Age date (SF 339, **737**), which conforms to the same general type as a small flake core from Area C (334, **220/1**). Tools were restricted to a simple side scraper (SF 232, **759/1**), an extensively-retouched notched flake/blade (SF 231, unstratified) and a retouched flake (SF 338, **738**).

Table 29: Flint finds from Area H

Core	*Core frag/ CRF*	*Flake/ Chunk*	*Micro-debitage*	*Scraper*	*Other Retouched*
-	1/-	5/4	-	1	1 flake, 1 notched tool

IRON AGE, ROMANO-BRITISH AND ANGLO-SAXON POTTERY
by Jeremy Evans

Introduction

Iron Age, Roman and a little Anglo-Saxon pottery from five individual areas along the pipeline was presented for recording and reporting. Table 30 shows the quantities of stratified pottery and tile from each area.

Table 30: Quantities of stratified pottery and tile by area

Area	*Pottery*	*Tile*
A	210	28
B1	131	201
B2	695	617
E	9	-
H	1985	699
Total	*3029*	*1545*

The collection is complete and well-collected. The pottery is generally in good condition, with fairly large sherds and not seriously eroded.

Chronology of the sites

AREAS C & D, KING'S NEWNHAM AND CHURCH LAWFORD

An intrusive sherd of Fabric R18 came from Area C Neolithic pit **203** and another sherd of R18 came from undated pit **250**. Two unstratified sherds in Fabrics R32 and R55 came from the topsoil in Area D.

AREA E, FRANKTON

This very small collection contains seven sherds of Iron Age pottery from context **404/1**, and a Roman greyware sherd and a residual Iron Age sherd from context **402/1**.

AREAS B1 & B2, LONG ITCHINGTON

Area B1 produced a mixture of material. Small quantities seem to be later Iron Age/early Roman. The small amount of samian is all Hadrianic-Antonine Central Gaulish material. There are also small amounts of late Roman material, and one context appears to be of Anglo-Saxon date. A relatively large quantity of Roman tile comes from the site, as at Area B2, although it would appear all to be roofing material. The high level of tile on both these sites, relative to the quantity of pottery, would seem to reflect the presence of nearby high-status buildings.

Area B2 produced the second largest group of pottery. 1st- to 2nd-century material is notably absent, as is samian, and nearly all the material would fit in a later 3rd- to 4th-century range and is probably 4th-century. The few samian sherds are Central and East Gaulish of 2nd- to mid 3rd-century date. This area also produced a relatively large quantity of tile, most of it roofing material, but with some box-flue tile also present. The quantity of tile and the presence of box-flue tile would seem to reflect the presence of a high-status, hypocausted building nearby.

Phase 1

This contained a single sherd of Iron Age fabric P12 from unexcavated pit context **139/1**.

Phase 1a

This contained no pottery.

Phase 1b

This contained a single sherd of Iron Age fabric P54 from ditch fill **112/1**.

Phase 2

This contained nine sherds, seven being handmade Iron Age fabrics (P14, P40 and P55), one being a 'Belgic' jar rim fragment (E20) dated AD 1-60/70 and a single sherd of Central Gaulish samian ware, a Dr 18/31 base sherd, dated AD 120-150.

Phase 2a

This contained 30 sherds, including a Mancetter reeded hammerhead mortarium rim dated to after *c* AD 220, a Young (1977) type C51 dated AD 240-400 and a developed beaded and flanged bowl (R18.27) dated to after *c* AD 270 from gully fill **138/1**. This suggests a later 3rd-century or later date for this phase.

Phase 2b

A much larger collection, 218 sherds, comes from this phase. Datable material included a BB1 developed beaded and flanged bowl (B01.4) dated to after *c* AD 270, two Oxfordshire colour-coated ware bowls of Young type C45, AD 240-400, and a colour-coated mortarium of Young type C97, AD 240-400. Also a greyware beaded and flanged bowl (R01.13) dated to after *c* AD 270, and two others in R18 (R18.27), all from ditch fill **107/1**, and another of the latter from gully fill **194/1**. Overall a 4th-century date seems most appropriate for this group.

Phase 2c

There is no pottery recorded from this phase.

Phase 2d

Some 86 sherds were recovered from this phase. Rimsherds of shell-tempered ware jars with undercut rims (C11.2), dated to the later 3rd century or later came from demolition layers **179** and **105**. A bodysherd of Oxfordshire colour-coated ware (F51) date *c* AD 240+ came from demolition layer **182**. Since this phase succeeds Phase 2b it must date to the 4th century and presumably to the mid-later 4th century.

Phase 2e

Some 389 sherds were recovered from this phase, significant sherds all deriving from levelling layer **176=106**. These included three undercut rimmed shell-tempered ware jars (C11.2) dated to the later 3rd century or later, a number of sherds of Oxfordshire colour-coated ware, date AD 240+, including sherds from a C8 disc rimmed flagon and a bowl of form C51. Nene Valley colour-coated ware is also well represented including a 4th-century jar type (F52.1). Two Oxfordshire mortaria of

Young's type M22 and a colour coated type C97, mortarium all date AD 240+. Also three greyware developed beaded and flanged bowls (R01.13, R01.14 and R19.2) dated *c* AD 270+ and a cordoned collared constricted necked jar (R55.1), probably of 4th-century date. Since this phase succeeds Phases 2b and 2d it seems likely it dates to the late 4th century.

Phase 2f

No pottery was recovered from this phase.

Phase 3

This contained four Anglo-Saxon bodysherds of 5th- to 7th-century date from pit fill **103/1**.

AREA A, HARBOROUGH MAGNA

This area produced a range of material that may date from the 1st to 4th centuries. The small amount of samian from the site is entirely 2nd- to early 3rd-century, and suggests good 3rd-century deposition here. The assemblage includes very little fineware and is probably a basic rural site. Little tile was recovered from this site, mostly tegulae and imbrices, although, surprisingly, one fragment of box-flue tile is present.

Phase 1a

This contained eight sherds, one being Iron Age and the others mainly Roman greyware. The single identifiable rimsherd (R18.11) is perhaps of 1st- or 2nd-century date.

Phase 1b

This contained 17 sherds including an intrusive(?) BB1 bodysherd with obtuse lattice decoration of 3rd-century or later date, and a channel-rimmed shell-tempered jar rim in fabrics C15 (C15.1) of later 1st- to early 2nd-century date both from **24/1**.

Phase 2

Some 78 sherds were recorded from this phase. Ditch fill **70/1** included a Central Gaulish Dr 37, dated AD 150-200 and an East Gaulish Dr 31R dated AD 160-225 and layer **12** a wide-mouthed Severn Valley ware type jar of 2nd- to earlier 3rd-century date (O36.1). The pottery would seem to suggest a later 2nd- to earlier 3rd-century date range.

Phase 3

This phase contained 67 sherds. These included a BB1 obtuse lattice decorated bodysherd of 3rd-century or later date, an Oxfordshire colour-coated ware sherd (F51) dating to after AD 240, and a Oxfordshire Young type M11 mortarium (M23.3), dated AD 180-240, all from ditch fill **9/1**. Perhaps this phase has a mid-later 3rd-century (or later) date range.

Phase 3a

Only four sherds of pottery come from this phase. The only datable piece is a lid-seated jar in fabric G12, of later 1st- to early 2nd-century date.

Phase 3b

This contained 34 sherds, including two sherds of Oxfordshire colour-coated ware (F51) dating to after AD 240, a Mancetter reeded hammerhead mortarium (M22.3) dating to after *c* AD220, and two Rheinzabern East Gaulish samian sherds dated AD 150-225, all from gully fill **23/1**.

Phase 4

Only eight sherds of pottery were recovered from this phase. The latest datable material were two Severn Valley type tankards (O36.2 and O36.3) of 2nd- to 3rd-century date.

AREA H, CHESTERTON AND KINGSTON

This site produced the largest collection of material on the pipeline. It would appear to be rural in nature, with fairly low fineware levels, and jar dominated. The lack of decorated ware amongst the samian assemblage tends to confirm the rural nature of the site (Willis 1998).

There is a reasonably sized collection of samian from this site. Only one sherd is South Gaulish, of 1st-century date, and only four are East Gaulish, with the vast bulk being Central Gaulish, suggesting little 1st-century pottery deposition but strong 2nd-century deposition. Although few contexts seem to date to the 2nd century there seems to be a consistent element of this date in the collection, most of the material seems to come from 3rd- to 4th-century contexts with particular emphasis on the later 3rd to early 4th century. Given low fineware levels, determining how far the assemblage extends into the 4th century is difficult. However, there is little evidence of fabric C11, which might be expected in large quantities in the last quarter of the 4th century elsewhere in the region, but this could be because the local greyware industries were still in production. The unstratified material contains 29 sherds of Anglo-Saxon pottery in fabric AS1.

Phase 1

Some 153 sherds were recovered from this phase. Sherds of BB1 come from gully fills **757/1** and **733/1**, giving these a Hadrianic *terminus post quem* and **757/1** also includes a greyware bead rimmed dish with basal chamfer which is probably a Hadrianic-Antonine BB copy. Fabric G12, which has a later 1st- to early 2nd-century range comes from ditch fill **818/1**, whilst there appears to be an intrusive sherd of fabric G11, usually of later 3rd- to 4th-century date, from gully fill **733/1**.

Overall a Hadrianic-Antonine date range is the closest which can be suggested, although given the dating evidence from Phase 2 it may be that a date in the earlier part of the range is most appropriate.

Phase 2

Some 189 sherds are recorded from this phase. Most sherds are greywares and not very closely datable, but there is a flange rimmed bowl, a Hadrianic-Antonine BB copy in R52 (R52.31) from gully fill **732/1** and five sherds of Central Gaulish samian ware from contexts **730/3**, **732/1**, **734/1** and **805/1**, dating, respectively, AD 120-200,

AD 120-175, AD 120-150 and AD 130-200. There appears to be an intrusive sherd of fabric G11, usually of later 3rd- to 4th-century date, from context **730/3**. Given that this succeeds Phase 1 perhaps an Antonine date might be appropriate.

Phase 3

Some 131 sherds were recorded from this phase. The BB1 from this phase included an obtuse lattice decorated bodysherd from pit/gully fill **767/1** and a jar rim both dated to after *c* AD 200/20. There is also a simple rimmed dish with intersecting arc decoration (B01.7) dated to after AD 160/80 and a jar (B01.2) of early to mid 3rd-century date from pit fill **779/1**. Flange rimmed bowls (R01.15) of Hadrianic-Antonine date come from **767/1** and **779/1**. There was an East Gaulish Dr 38 from Chemery dating AD 160-250/60 from gully fill **731/1**.

Overall the dating evidence tends to suggest an early to mid 3rd-century date for this phase.

Phase 4

94 sherds were recovered from this phase. The limited dating evidence includes a Mancetter reeded rimmed, hammerhead mortarium dating after *c* AD 220 from context **762** and a Central Gaulish Dr 31 dated AD 150-200 also from gully fill **762**. As Phase 4 succeeds Phase 3 it presumably dates to around the middle of the 3rd century.

Phase 5

There is a very large assemblage from this phase, some 373 sherds. Context **787/1** contained Oxfordshire colour-coated ware dating to after *c* AD 240. Context **787** contained Pink Grogged ware (G11), probably dating to the later 3rd century or later, whilst context **780** contained a sherd of possible South-West Brown Slipped ware which would seem to have a mid-later 4th-century date, which could be intrusive, if correctly identified. Greywares included a developed beaded and flanged bowl (R18.27) dated to after *c* AD 270 from context **787**. Phase 5 would seem to cover the later 3rd century and might extend into the earlier 4th.

Phase 6

Some 1030 sherds were recorded from this phase. Oxfordshire colour-coated ware, dated to after AD 240 comes from contexts **764/1, 769, 770/1, 771/1, 773, 788, 789 798/2**, and **817** including two Young type C51s and three type C45s, whilst Pink Grogged ware dating to after the later 3rd century comes from context **766/1, 769** and **789**. A flange rimmed constricted-necked jar (R18.5) probably of 4th-century date comes from context **754/1** and a collared rimmed constricted-necked jar perhaps of similar date (R52.3) comes from context **769** - this latter is definitely a waster. A developed beaded and flanged bowl (R19.2) dated to after *c* AD 270 comes from context **769** and another three (R52.32) from context **798**.

Context **788** included a BB1 developed beaded and flanged bowl (B01.4) dated to after c AD 270 and a shell-tempered ware jar (C11.3) perhaps of later 3rd- or 4th-century date, along with a sherd of possible South-West Brown Slipped ware which would seem to have a mid-later 4th-century date. Greywares included a developed beaded and flanged bowl dated to after *c* AD 270 from context **788** (R55.32). Phase 6 is presumably 4th-century and possibly extends into the later 4th century, but cannot be closely dated.

Taphonomy

Table 31 shows the occurrence of pottery by context type for each area and average sherd weight and average percentage of rim represented (RE/MV) for each context type. Most of the sites fall into what appears to be the typical rural site pattern, with the vast majority of the pottery coming from ditches and gullies (A - 96.3%, B1 - 98%, B2 - 36.1%, H - 84.3%), and little from any horizontal stratigraphy. Little pottery comes from pits, the highest level being 5.5% on Area H.

Table 31: Occurrence of pottery by context type for Areas A, B1, B2 and H

Context type	% Nosh	% Wt	Av sherd Wt	% MV	%RE	Av % of rim
Area A						
Layers	3.7	5.4	24.4g	16	20	11.8%
Ditches	68.1	65.7	16.2g	45	40	8.2%
Gullies	28.2	28.9	17.2g	39	41	10.2%
N	*216*	*3631g*		*31 rims*	*301%*	
Area B1						
Layers	-	-	-	-	-	-
Pits	2	1	7g	*	*	*
Ditches	13	1	1.2g	*	*	*
Gullies	85	97	12.7g	*	*	*
N	*46*	*511g*		*11 rims*	*70%*	
Area B2				* too few to be meaningful		
Layers	63.2	54.4	18.0g	71.8	61.3	9.3%
Demolition layers	0.7	0.7	21.4g	-	-	-
Pits	-	-	-	-	-	-
Ditches	23.8	29.9	26.3g	21.8	27.9	14.0%
Gullies	12.3	14.9	25.5g	6.4	10.8	18.4%
N	*693*	*14494g*		*110 rims*	*1199%*	
Area H						
Layers	1.6	0.7	7.2g	0.5	0.2	5%
Yard/Road. hard-standing	8.5	7.6	14.7g	10.2	7.3	8.7%
Pits	5.5	3.8	11.4g	8.3	4.8	7.1%
Ditches	36.6	44.4	20.0g	31.9	42.9	16.6%
Gullies	47.7	43.4	15.0g	49.0	44.9	11.3%
N	*1968*	*32437g*		*204 rims*	*2511%*	

In comparison at Little Paxton, Cambs (Evans forthcoming a) most of the pottery, 68%, comes from ditch fills, which are by far the commonest feature type on the site, with the second largest quantity coming from pits, 22%. These data compare with 79% from ditches at Haddon, Cambs (Evans forthcoming b) and 8% from pits. The massive predominance of pottery from ditches seems to be a regular feature from rural sites. Martin (forthcoming a-b), who has pioneered this type of analysis, has produced similar data from three Essex sites; Ship Lane, Aveley, Great Holts Farm, Boreham and Bulls Lodge Dairy, Boreham, with pottery proportions from ditches and gullies of 65%, 68% and 68% respectively and 10% 3% and 22% from pits. (The Little Paxton figure for pit fills is distinctly on the high side compared with Haddon, two of the Essex sites and these Warwickshire sites, and may re-enforce the suggestion of some ritual aspect to the deposition there in phase 8.)

What is clear is that Area B2 produces an unusual assemblage with much of the pottery coming from layers, most of these are of Phase 2e, dating to the later 4th century, and described as levelling layers. There is a villa building within 300m, but

this is also true for Area B1. The survival of these deposits probably owes to their being over a corndrier, but that does not in itself explain the quantity of pottery from them. The tile report suggests that tile from this area originated from a nearby bathhouse. It would seem likely that the pottery is associated with this as well and presumably reflects levelling after its remodelling or demolition.

Table 32: Contexts in Area H with significant or largely complete profiles

Area	*Phase*	*Context*	*Context type*	*Fabric*	*Form*	*Comments*
H	5	786	Gully fill	R55	-	Complete base
H	5	787	Gully fill	R18	R18.25	Complete profile and largely complete vessel
H	5	787	Gully fill	R18	-	Largely complete jar missing rim
H	6	788	Ditch fill	F59	indented beaker	29 sherds from the wall of an indented beaker.
H	6	788	Ditch fill	C15	C15.2	A largely complete jar with an everted rim.
H	6	817	Ditch fill	B01	B01.4	A largely complete BB1 beaded and flanged bowl.

Despite the fact that no other finds groups from these features appear to be of a 'ritual' nature, it does seem likely that these vessels do represent structured deposition and could therefore be considered as ritual deposits.

Fabric supply

Table 33: Fabric proportions from the total stratified collections from Areas A and B1

	Area A			Area B1	
Fabric	*% Nosh*	*% Wt*		*% Nosh*	*% Wt*
AS1	-	-		0.7	1.0
AS3	-	-		0.7	0.2
AS4	-	-		2.0	1.0
B01	3.9	1.5		0.7	0.3
C11	1.8	5.8		-	-
C15	1.8	0.9		-	-
E241	-	-		0.7	0.3
E42	1.8	0.6		-	-
F51	1.8	1.3		0.7	0.5
F52	0.9	2.5		-	-
G11	0.4	3.7		6.0	30.2
G12	1.3	1.6		-	-
M22	4.4	17.2		1.3	3.9
M23	0.9	1.9		-	-
M26	0.4	0.5		-	-
O12	0.4	0.4		1.3	0.2
O13	1.8	0.5		-	-
O36	2.2	2.1		-	-
P12	-	-		38.7	30.1
P14	-	-		0.7	0.3
P40	-	-		0.7	0.2
P52	-	-		8.0	3.4
P54	-	-		4.7	0.6
P55	-	-		4.0	2.2
P71	0.4	0.2		-	-
R01	6.1	4.3		-	-
R18	42.5	40.1		13.3	8.7
R19	2.6	1.6		2.0	2.0

R41	1.8	1.0		-	-
R52/55	20.2	10.0		12.7	14.2
S20	1.8	2.4		1.3	0.9
S32	0.9	0.1		-	-
N	*230*	*4.444 Kg*		*150*	*1.947 Kg*

Table 34: Fabric proportions from stratified groups

Area B2 Phase 2b					
Fabric	*% Nosh*	*% Wt*	*% MV*	*% RE*	*% BE*
B01	6.9	6.5	13.8	14.9	5.2
C11	8.3	2.3	6.9	2.0	1.6
F51	2.8	1.8	6.9	2.0	-
F52	0.5	0.0	-	-	-
F53	0.5	0.1	-	-	-
G11	3.2	4.5	-	-	-
M71	0.5	1.2	3.5	4.4	-
O13	0.5	3.5	-	-	13.9
O14	0.5	0.1	-	-	-
O16	0.9	0.3	-	-	-
R01	5.5	8.2	6.9	3.5	2.6
R18	34.6	32.6	34.5	32.2	30.5
R41	2.3	2.0	-	-	2.5
R52/55	32.2	36.0	27.5	41.0	43.7
R83	0.5	0.1	-	-	-
S20	0.5	0.5	-	-	-
N	*218*	*5.949Kg*	*29 Rims*	*451%*	*613%*
Area B2 Phase 2d					
Fabric	*% Nosh*	*% Wt*	*% MV*	*% RE*	*% BE*
C11	10.3	6.6	33	26	6.2
F51	1.1	0.6	-	-	-
M22	1.1	1.5	-	-	-
M23	1.1	0.1	-	-	-
O11	2.3	3.3	-	-	12.4
R01	11.5	15.7	11	10	8.4
R18	40.2	35.3	22	28	33.1
R19	2.3	6.4	-	-	-
R41	2.3	2.7	-	-	-
R52/55	25.3	25.4	22	25	39.9
R83	1.1	0.1	-	-	-
S36	1.1	2.1	11	11	-
N	*87*	*1.564Kg*	*9 Rims*	*102%*	*178%*
Area B2 Phase 2e					
Fabric	*% Nosh*	*% Wt*	*% MV*	*% RE*	*% BE*
B01	1.0	0.7	2.7	1.4	5.5
C11	7.2	4.6	9.6	9.2	2.7
F51	2.1	0.8	2.7	1.7	1.6
F52	1.3	0.8	1.4	3.2	-
F53	0.3	0.1	-	-	-
M22	1.3	2.6	4.1	3.9	-
M23	1.5	2.5	4.1	3.9	-
M71	0.3	0.1	-	-	-
O11	0.5	0.1	-	-	-
O12	0.3	0.1	1.4	0.9	-

O51	0.3	0.0	-	-	-
O52	0.3	0.2	-	-	-
R01	6.2	9.8	6.8	5.4	7.0
R111	0.3	0.6	1.4	1.1	-
R18	38.8	42.6	38.4	42.1	58.4
R19	6.1	5.2	1.4	5.1	3.2
R41	4.4	3.5	2.7	2.7	11.6
R52/55	27.5	25.2	20.5	17.1	10.0
W15	0.5	0.5	1.4	1.4	-
Z20	0.3	0.1	1.4	0.9	-
N	*390*	*6.993Kg*	*73 Rims*	*662%*	*697%*
Area H Phase 1					
Fabric	*% Nosh*	*% Wt*	*% MV*	*% RE*	*% BE*
B01	3.9	1.8	-	-	-
G11	0.7	3.3	-	-	-
G12	0.7	1.9	-	-	19
O12	12.4	2.8	-	-	-
O13	0.7	0.2	-	-	-
P72	0.7	0.3	-	-	-
R01	29.4	22.9	43	31	21
R18	16.3	23.1	29	35	-
R19	0.7	0.4	-	-	-
R32	8.5	10.0	14	12	35
R52/55	26.2	33.1	14	22	26
N	*153*	*1.681kg*	*7 Rims*	*49%*	*78%*
Area H Phase 2					
Fabric	*% Nosh*	*% Wt*	*% MV*	*% RE*	*% BE*
B01	6.9	5.3	13	6.2	6.3
F52	0.5	0.1	-	-	-
G11	0.5	0.9	-	-	2.6
G12	1.1	2.7	-	-	-
M22	0.5	5.5	-	-	12.0
O11	0.5	0.7	-	-	-
O12	3.2	1.4	-	-	-
O36	0.5	0.1	-	-	-
R01	18.0	17.5	31	51.2	3.1
R18	25.4	25.6	19	13.9	38.9
R19	0.5	0.1	-	-	-
R32	0.5	0.5	-	-	-
R41	0.5	0.3	-	-	-
R52/55	33.3	33.2	31	26.7	8.4
S20	2.6	3.4	6	1.9	11.8
W12	5.3	2.9	-	-	16.8
N	*189*	*3.483Kg*	*16 Rims*	*209%*	*416%*
Area H Phase 3					
Fabric	*% Nosh*	*% Wt*	*% MV*	*% RE*	*% BE*
B01	8.4	4.8	15	8.1	-
C11	0.8	0.8	5	2.9	-
C15	3.8	1.9	-	-	-
O12	0.8	0.5	-	-	-
O36	0.8	1.1	-	-	-
O51	0.8	1.1	-	-	-
R01	12.2	9.6	20	16.8	-
R18	32.8	32.9	30	46.2	23.5
R19	3.8	1.6	5	6.4	-

R32	5.3	14.2	-	-	14.8
R52/55	26.6	29.0	25	19.7	47.8
S37	0.8	1.3	-	-	-
W22	0.8	0.1	-	-	-
W23	1.5	1.0	-	-	13.9
W34	0.8	0.1	-	-	-
N	*131*	*1.428Kg*	*20 Rims*	*173%*	*115%*
Area H Phase 4					
Fabric	*% Nosh*	*% Wt*	*% MV*	*% RE*	*% BE*
B01	3.2	7.6	18.8	11.7	22
C15	1.1	0.2	-	-	-
G12	1.1	2.7	-	-	-
M22	1.1	0.8	6.3	2.3	-
O36	1.1	0.2	-	-	-
R01	16.8	21.1	25.0	49.2	31
R18	18.9	11.8	12.5	4.7	-
R41	1.1	0.8	-	-	-
R52/55	51.6	47.4	37.6	32.0	-
R83	1.1	0.3	-	-	-
S20	2.1	6.7	-	-	47
W12	1.1	0.2	-	-	-
N	*95*	*0.88Kg*	*16 Rims*	*128%*	*64%*
Area H Phase 5					
Fabric	*% Nosh*	*% Wt*	*% MV*	*% RE*	*% BE*
A01	0.3	2.5	-	-	-
B01	5.6	3.4	19.5	11.6	1.2
C11	2.4	1.2	2.4	1.5	-
C15	1.1	0.7	-	-	3.0
F51	0.5	0.5	-	-	2.7
F52	1.6	0.4	-	-	16.7
F53	0.3	0.8	-	-	16.7
F59	0.3	0.1	-	-	-
G11	1.2	8.9	-	-	-
M22	0.3	0.6	2.4	1.0	-
M23	0.3	0.4	-	-	-
O12	2.1	2.0	-	-	2.5
Q27	0.3	0.1	-	-	-
R01	11.8	7.1	22.0	19.5	-
R18	41.8	31.2	31.7	46.5	13.6
R32	0.5	0.4	-	-	-
R52/55	30.0	39.4	19.5	17.2	37.3
S20	0.8	0.4	2.4	2.6	6.4
N	*373*	*6.333Kg*	*41 Rims*	*389%*	*598%*
Area H Phase 6					
Fabric	*% Nosh*	*% Wt*	*% MV*	*% RE*	*% BE*
B01	6.0	7.9	9.5	9.7	12.7
C11	0.6	0.2	-	-	-
C15	13.6	6.2	2.9	6.0	3.2
F51	2.0	1.9	4.8	1.4	-
F53	0.2	0.1	1.0	0.4	-
F59	2.8	1.8	-	-	-
G11	1.6	3.3	-	-	-
G12	0.2	0.7	-	-	1.0
M22	0.2	0.4	1.9	0.8	-
O12	3.1	2.1	-	2.4	0.7

O13	0.1	0.0	-	-	-
O36	0.6	0.8	1.0	0.6	-
O51	0.1	0.0	-	-	-
O81	0.1	0.0	-	-	-
P38	0.1	0.0	-	-	-
R01	4.6	4.8	8.6	13.2	1.9
R18	25.9	21.2	24.8	19.6	25.0
R19	0.2	0.1	1.0	0.4	-
R32	0.1	0.0	-	-	-
R41	0.3	2.2	1.0	0.6	6.2
R52/55	36.8	45.6	40.0	43.2	46.5
S20	0.9	0.8	2.9	1.7	2.8
N	*1030*	*18.935Kg*	*105 Rims*	*1600%*	*1602%*

CLASS A, AMPHORAE

Amphorae are almost completely absent from the pipeline sites. There is but a single sherd of Dressel 20 oil amphora from Area H Phase 5. This is unsurprising given the general pattern in the region of amphorae being absent or only present as a few sherds on basic level rural sites. The only site which is of higher status, Long Itchington, mainly produced deposits of later Roman date which would be less likely to include amphorae.

CLASS B, BLACK BURNISHED WARES

BB1 is present in small quantities on all the sites, 3.9% at Area A, 1.5% at Area B1 and 1-6% at Area B2 and 3-8% at Area H. At Area B2 BB1 is commonest at 6.9% in Phase 2b, 4th-century, but is absent from the subsequent Phase 2d, and is only present at a 1% level in the final Phase 2e. This may suggest that BB1 had ceased to be supplied in the area by the beginning of Phase 2d. Evidence elsewhere in Warwickshire suggests BB1 had ceased to be available before the last decade of the 4th century (Evans 1996) and it had probably ceased to be available sometime in the period AD 350-70 (cf Webster 1993).

At Area H BB1 levels rise from 3.9% in Phase 1 (early-mid 2nd-century) to 6.9% in Phase 2 and peak at 8.4% in Phase 3 (early 3rd-century). After that there is a decline in Phases 4 to around 3%, rising to around 6% in Phases 5 and 6. A rise in BB1 levels from fairly low levels in the 2nd century to a peak in the later 3rd is a pattern seen at Alcester (Evans 1996) and more widely is seen across northern England (Evans 1985).

At Area H this is mirrored until the later 3rd century, when there is a surprising dip. The peak in Phase 6 must suggest that most of this material arrived earlier rather than later in the 4th century. Local fabrics could clearly provide good competition with BB1 as cooking pots here, and in many ways it is surprising that BB1 was used here at all.

That local reduced wares provided strong competition with BB1 is partly shown by Table 35, which provides a functional analysis of BB1 from the pipeline sites. Tablewares dominate this, particularly dishes, with jars being a mere 24%, whereas usually jars represent around 50% (cf Evans forthcoming d, Tables 9 & 10).

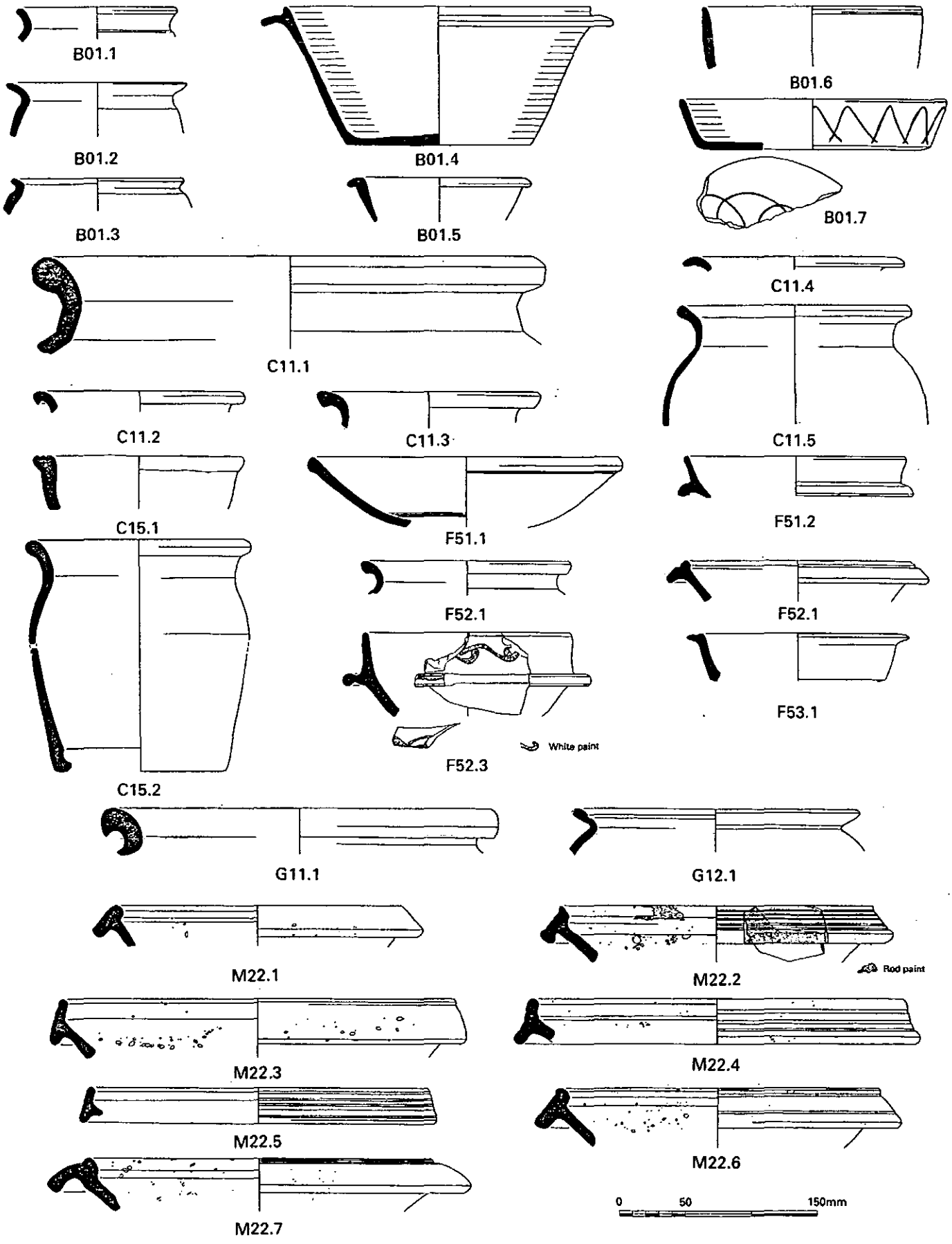


Fig 41: Romano-British pottery, class B Black Burnished ware, class M Mortaria

Table 35: Functional analysis of BB1 vessels from the pipeline sites.

Jars	*Bowls*	*Dishes*	*N*
24.2%	21.2%	57.6%	33 rims
11.5%	50.3%	38.2%	340%

Table 36 shows the comparative functional compositions of the BB1 assemblages at the mid-Warwickshire rural site with a kiln at Glebe Farm, Bubbenhall, a rural site in the Arrow Valley at Salford Priors (A46 Area C), and from the town at Alcester. The data from Alcester conform to the usual national pattern with about half the assemblage being cooking pots, but the Bubbenhall and Salford Priors data are quite different, with few cooking pots and high levels of tablewares.

Table 36: Function composition of BB1 at Bubbenhall, Glebe Farm, Salford Priors and Alcester, Gas House Lane

Site	*Jars*	*Jugs*	*Bowls*	*Dishes*	*Beakers*	*Lids*	*N*
Bubbenhall, Glebe Farm	21	-	58	21	-	-	10 rims
Salford Priors, A46 Area C	19.4	-	48.4	32.3	-	-	31 rims
Alcester, Gas House Lane	41.3	0.5	20.1	36.4	1.4	-	368 rims

It is clear that few tablewares were produced by the central/north Warwickshire kilns supplying most of the greywares to the pipeline sites, whereas cooking pots were in considerable quantities, and this competition presumably accounts for this pattern. It is of note that a similar pattern is seen in Buckinghamshire and Cambridgeshire (Hancock *et al* 1998) on the eastern limit of BB1 distribution.

The date distribution of the BB1 from the sites is dominated by the Area H, Chesterton assemblage because it is by far the largest. Most vessels are of 3rd-century or later date (16) compared with just five of clearly Hadrianic-Antonine date. As discussed elsewhere BB1 is almost the only Roman coarseware for which there is evidence of urban marketing (Evans forthcoming e). The data from the pipeline sites and others in northern Warwickshire fit well within this pattern.

Running north towards Leicester across the county urban levels of BB1 supply are *c* 15% at Stretton-on-Fosse and *c* 10% at Chesterton, whilst at Leicester BB1 provided 20% (by maximum vessel count) of BB1 from the Hadrianic-early Antonine group at Bath Lane site 1 (Clamp 1985, 42, Table 1) and 6.3% from a Hadrianic-early Antonine group from the West Bridge area (Pollard 1994, 78, Table 8.II). To the south-west the Alcester, Baromix sites produced levels of around 9% in the 2nd century and Alcester, Gas House Lane (Evans 1996) 20-40% in the 3rd century.

In comparison at Princethorpe (Evans 1998) in the two largest groups, 1006 and 1011, BB1 levels are 0.1% and 0.6% respectively. Whilst at Bubbenhall BB1 appears on the site from phase 2 onwards, although levels of the fabric are low, 2.8% in phase 2, 2.5% in phase 2-3, 1.2% in phase 3a and 0.7% in phase 3b. Whilst as noted above the pipeline sites produce levels of 3.9% at Area A, 1.5% at Area B1, 1-6% at Area B2 and 3-8% at Area H.

This again reinforces the picture seen in the vicinity of Alcester (Evans forthcoming e) of higher urban BB1 levels than rural ones, not investigated by Allen and Fulford (1996), which is very probably explained by the urban marketing of BB1 (Hancock *et al* 1998; Evans forthcoming e). The comparatively high levels of BB1 as far north as Alcester and Leicester would seem to relate to land transport along the Fosse Way (Allen & Fulford, 1996, fig 1, and 244).

Form catalogue (Fig 41)

Fabric B01

B01.1 A jar with a slightly everted rim, cf Gillam (1976) nos 1-3, Hadrianic-Antonine. H:6:**773**

B01.2 A jar with an everted rim, cf Gillam (1976) nos 7-8, early-mid 3rd-century. H:6:**798**

B01.3 A globular jar with a stubby, everted rim, cf Gillam (1976) nos 30-33, 2nd/(3rd)-century. H:8:**738**

B01.4 A developed beaded and flanged bowl cf Gillam (1976) nos 45-49, *c* AD270-350/70. H:6:**817**

B01.5 A flange rimmed bowl, Hadrianic-Antonine. H:5:**787**

B01.6 A dish with a slightly grooved rim, cf Gillam (1976) nos 69-73, Hadrianic-Antonine. B2:2b:**107**

B01.7 A simple rimmed dish, Hadrianic-mid 4th-century, mainly 3rd/4th-century. H:2:**761**

CLASS C, CALCAREOUSLY TEMPERED WARES

Shell-tempered wares make up fairly small elements of the pipeline assemblages. Two fabrics have been defined, C11, wheelmade shell-tempered ware which probably mostly comprises products of the Harrold kilns, and C15, a handmade shell tempered ware group. The latter may well have more than one source at this site.

Fabric C11 occurs in the Area A overall assemblage at a level of 1.8%, but is absent from Area B1. At Area B2 it comprises 8.3% of Phase 2b, 10.3% of Phase 2d and 7.2% of Phase 2e. These relatively high figures reflect the late date of these groups, however, local sandy wares which were clearly used as cooking pots would appear to have restricted the potential market for these products, which may also have had an urban marketing mechanism in the late Roman period (Evans forthcoming e). It may be of note that Area B2 which was clearly deriving material from villa deposits (see Tile report, Mills below, and Taphonomy above) is the pipeline site with the highest levels of this fabric.

At Area H fabric C11 does not occur until Phase 3 (3rd-century) at 0.8% and then appears again in Phase 5 (late 3rd- to 4th-century) at 2.4% and Phase 6 (4th-century) at 0.6%. The lack of a late peak of this fabric here might reflect a lack of really late 4th-century deposition here. It is of note that C11 occurs at much higher levels of around 8% at the town of Chesterton and 10% at Stretton-on-Fosse (Booth 1991, fig 2). The late 4th-century (*contra* the published caption) distribution of this fabric on generally urban and military sites is indicated in Booth *et al* 2001, fig 7.55.

Fabric C11 is represented on the pipeline sites by 14 jars and one storage jar, most of which are of later Roman date.

Fabric C15 occurs on Area A at 1.8% and is absent from Areas B1 and B2. At Area H the fabric first appears in the 3rd century Phase 3 at 3.8 %, it is then present at 1.1% in Phase 4, 1.1% in Phase 5 and 13.6% in Phase 6. The 13.6% in Phase 6 is largely accounted for by a largely complete vessel from context **788** (see Table 34 above).

Four jars are represented in this fabric, a channel rimmed jar from Area A, which must be of later 1st- to early 2nd-century date and almost certainly originates in Northamptonshire or Bedfordshire, and an everted rimmed jar with slightly beaded rim from Area H of uncertain, but probably later Roman date. It seems quite likely that the material in this group at Area H falls into the fabric group C13 at Alchester (Booth *et al* 2001) which in turn is probably the fabric 44b 'prickly-shell' group at Towcester (Woodfield 1983).

Form catalogue (Fig 41)

Fabric C11

C11.1 A necked storage jar with a beaded, rising rim. A:3:**9/1**

C11.2 A necked jar with an undercut, triangularly-sectioned rim, cf Brown (1994) no 310, 4th-century. B2:2e:**106**

C11.3 A necked jar with an everted, triangularly-sectioned rim, cf Brown (1994) nos 74 and 241, later 2nd-century or later. B2:2e:**106**

C11.4 A necked jar with an everted, slightly undercut, near horizontal rim. B2:2b:**107**

C11.5 A necked jar with an everted, rising, thickened rim. B2:2e:**176**

Fabric C15

C15.1 A channel-rimmed jar with multiply grooved rim, later 1st- to early 2nd-century. A:1b:**24**

C15.2 A necked jar with an everted, slightly beaded rim, possibly cf Alchester (Booth *et al* 2001, fig 7.53, no 14a). H:6:**788**

CLASS E, 'EARLY/BELGIC' WARES

Early 'Belgic' type fabrics are almost completely absent from all the sites. There is a single jar rim fragment from Phase 2 at Area B1 and another from Phase 3 at Area A. This absence suggests that none of the sites had any substantial activity in the early-mid 1st century.

CLASS F, FINEWARES

Three finewares are represented on the pipeline sites, Oxfordshire colour-coated ware (F51), Nene Valley colour coated ware (F52 on parchment ware fabric F53 on oxidised fabric) and possible South-Western Brown Slipped ware (F59). All are fairly poorly represented, as might be expected on rural sites.

Oxfordshire colour-coated ware occurs in the Area A collection at 1.8% and at B1 at 0.7%. At Area B2 it is the major fineware, but only comprises 2.8% of Phase 2b, 1.1% of Phase 2d and 2.1% of Phase 2e. At Area H it does not appear before Phase 5 where it amounts to 0.5% of the assemblage rising to 2.0% in Phase 6. Three identifiable forms are represented in the pipeline assemblages; six Young (1977) type C45 bowls, five Young (1977) type C51 bowls and a flagon rim fragment, all dating to after *c* AD 240.

Nene Valley colour coated ware is represented in the Area A collection at 0.9% but is absent from that from Area B1. At B2 it comprises 1.0% of Phase 2b, is absent from Phase 2d and comprises 1.6% of Phase 2e, always coming second to Oxfordshire colour-coated ware. Despite its much earlier production than Oxfordshire colour-coated ware Nene Valley ware does not appear at Area H before Phase 5, appearing at the same time as Oxfordshire ware, when it comprised 1.6% of the group and it is absent in Phase 6. All the Nene Valley form types represented are of 3rd- or 4th-century date. They comprise a 4th-century jar, a 4th-century Dr38 copy bowl and developed beaded and flanged bowl, and a 3rd-century incipient beaded and flanged dish.

The third fineware represented only appears at Area H. There is a single sherd from phase 5 (0.3%) and much of the body of an indented beaker from Phase 6, in possible South-West Brown Slipped ware (fabric F59) a tentatively identified fabric, of perhaps Gloucestershire origin and mid-later 4th-century date.

Form catalogue (Fig 41)

Fabric F51
F51.1 A Young (1977) Dr 31 copy type C45 bowl, AD 240-400+. B2:2b:107
F51.2 A Young (1977) Dr 38 copy type C51 bowl, AD 240-400+. H:U/S

Fabric F52
F52.1 A necked jar with a triangularly-sectioned rim, cf Howe *et al* (1980) no 77, 4th-century. B2:2e:176
F52.2 A developed beaded and flanged bowl, cf Howe *et al* (1980) no 79, 4th-century. A:U/S
F52.3 A Dr 38 copy bowl with white paint decoration, cf Howe *et al* (1980) no 83, later 3rd/4th-century. A:U/S

Fabric F53
F53.1 An incipient beaded and flanged dish, perhaps early-mid 3rd-century. H:8:737 & H:6:769

CLASS G, GRITTED WARES

Two gritted wares are present on the pipeline sites, G11, Milton Keynes Pink Grogged ware (Booth & Green 1989) and G12, another grogged fabric found in northern Warwickshire, perhaps of a Northamptonshire origin. Fabric G11 occurs at 0.4% in the total Area A assemblage and at 6.0% in the total Area B1 group. At Area B2 it appears at 3.2% in Phase 2b and is absent from Phases 2d and 2e. At Area H it appears surprisingly at 0.7% in Phase 1 and 0.5% in Phase 2 and is then absent until it amounts to 1.2% of Phase 5 and 1.6% of Phase 6.

This fabric is generally not found in Warwickshire until the later 3rd-4th centuries, but these pieces are not necessarily intrusive. It appears first at Towcester, Alchester Road (Woodfield 1983) in period 2, dated to the later 2nd-early 3rd centuries, and it is believed to originate around the beginning of the 2nd century (Booth & Green 1989). It is also found at Tiddington in 2nd-century contexts so its appearance in the vicinity of Chesterton at this date would not be so surprising. Only a single rimsherd is represented in G11, an unstratified storage jar rim from Area H.

Fabric G12 appears on a number of central Warwickshire sites in small quantities and from its forms and occurrence would seem to have a later 1st- to early 2nd-century date range. On the pipeline sites it is found in the Area A collection at 1.3%, but is completely absent from B1 and B2, reflecting their generally later date. At Area H it comprises 0.7% of Phase 1, 1.1% of Phase 2, is absent from Phases 3 and 5, but present at 1.1% and 0.2% in Phases 4 and 6 respectively. Two jars are represented by rimsherds, both later 1st- to early 2nd-century lid-seated jars from Area A.

A source to the east, perhaps Northamptonshire seems likely, and it may well fall into the range of Towcester (Woodfield 1983) fabric 35a. It might be noted that this fabric is found in very small quantities on sites in the north-west, along King Street, its most northerly occurrence being at Walton-le-Dale (Evans & Ratkai forthcoming).

Form catalogue (Fig 41)

Fabric G11
G11.1 A necked storage jar with a squared rim, heavily undercut, later 3rd- to 4th-century, cf Booth & Green 1989, nos 4-7. H:8:738

Fabric G12
G12.1 An everted rimmed lid-seated jar, later 1st- to early 2nd-century. A:3a:22/1

CLASS M, MORTARIA

Mortaria are fairly scarce on all the pipeline sites, Area A having 5.7%, B1 3.0%, B2 2.2%, and Area H 1.7%. Four fabrics are represented from three production sites; Mancetter-Hartshill (M22), Oxfordshire whiteware (M23), Oxfordshire colour-coated ware (M71) and a Midlands(?) oxidised ware (M26). Table 37 shows the frequency of these fabrics in the total assemblages from the three largest site collections. As might be expected Mancetter mortaria (M22) are generally the commonest type, unsurprisingly given that Mancetter is by far the nearest kiln site. However, it is notable that Mancetter products are quite heavily outnumbered by Oxfordshire ones at Area B2. This might be because the vast bulk of the deposits here are of late Roman date. It has been noted elsewhere in the county, eg at Alcester Gas House Lane (Evans 1996) that during the course of the 3rd century Oxfordshire overtakes Mancetter as the dominant industry. It would seem that by the 4th century even at sites as far north as Long Itchington Mancetter had lost market dominance to the Oxfordshire industry.

Table 37: Relative frequency of mortaria from the larger site assemblages.

Fabric / *Site*	*M22*	*M23*	*M26*	*M71*	*N*
A	77%	15%	8%	-	13
B2 – late Roman	40%	47%	-	13%	15
H	69%	31%	-	-	35

However when the date distribution of Mancetter and Oxfordshire forms types from all the sites is examined they are quite similar. Mancetter vessels dated before the later 2nd century are absent, two Mancetter pieces date in the period *c* AD 160-200, the remainder all date after *c* AD 220. There is one Oxfordshire vessel dated AD 180-240, two dated AD 240-300, and five dated to after AD 240.

Form catalogue (Figs 41-2)

Fabric M22

M22.1 A straight, unreeded, hammerhead mortarium with a slight bead at the distal end, AD 200-300? B2:2e:**176**

M22.2 A straight, reeded, hammerhead mortarium with a bead at the distal end, AD 220-350+. B2:2e:176

M22.3 A straight, unreeded, hammerhead mortarium with a fairly vertical wall, AD 220+. A:3b:**23/1**

M22.4 A concave, reeded, hammerhead mortarium, AD 220+. H:8:**738**

M22.5 A straight, reeded, hammerhead mortarium, AD 220-350+. H:6:**769**

M22.6 A hammerhead mortarium with a beaded rim and distal groove, perhaps *c* AD 200-220. H:7:**728/1**

M22.7 A beaded and flanged mortarium with an evenly curving flange, *c*AD 160-200. A:U/S

Fabric M23

M23.1 An Oxfordshire mortarium of Young (1977) type M22, AD 240-400+. B2:2e:**106**

M23.2 An Oxfordshire beaded and flanged mortarium with a broad, horizontal flange, Young (1977) type M19, AD 240-300. H:8:**738**

M23.3 An Oxfordshire beaded and flanged mortarium with a downsloping flange with hooked distal end, cf Young (1977) type M11, AD 180-240. A:3:**9/1**

Fabric M71

M71.1 A wall-sided Oxfordshire colour-coated mortarium, Young (1977) type C97, AD 240-400+. B2:2b:**107**

CLASS O, OXIDISED WARES

Oxidised wares occur in small quantities on all the pipeline sites. Fabrics include O11, O12, O13 and O16, a fairly diverse range of which all the type sherds originate from the Mancetter kilns. Also O36, a slightly organic tempered Severn Valley ware or very similar fabric, O51 a sandy fabric of which they type sherd comes from the Tiddington kiln, O52 an ironstone tempered fabric, and O81 a fabric with abundant very fine sand temper with Wiltshire parallels.

Fabrics in the O11-O16 group are present on all the sites, whereas O36 only occurs at Areas A and H. This may reflect chronological factors since the only form occurring in fabric O36, two tankards and two wide-mouthed jars, are of 2nd- or 3rd-century date. The fact that very small quantities of oxidised wares occur at Area B2, 1.9% in Phase 2b, 2.3% in Phase 2d and 1.4% in Phase 2e, along with their forms, could suggest they were not all residual in the later Roman period. Forms represented are two wide-mouthed jars and a bowl in O12.

Area H provides a reasonable chronological sequence. Fabric O12-16 comprise 13.1% of Phase 1 by count, but only 3.0% by weight, followed by 3.7% in Phase 2 (2.1% by weight), 0.8% in Phase 3 (0.5% by weight), 1.1% in Phase 4 (0.2% by weight), 2.1 in Phase 5 (2.0% by weight), and 3.2% in Phase 6 (2.1% by weight). These figures would tend to suggest that most of the oxidised wares were 2nd-century in date, as might be expected of Mancetter products.

Form catalogue (Fig 42)

Fabric O12

O12.1 A wide-mouthed necked jar with a beaded undercut rim. A:3b:**23/1**

O12.2 A wide-mouthed necked jar with an everted, rising rim. H:6:**788**

O12.3 A bowl with a beaded rim and a cordon beneath. B2:2e:**176**

Fabric O36(?)

O36.1 A wide-mouthed jar with a beaded, undercut rim, possibly cf Webster (1976) no 22, 2nd-century. A:2:**12**

O36.2 A grooved rimmed tankard with a fairly vertical wall, cf Webster (1976) no 39, 2nd-century. A:4:**5**

O36.3 A tankard with a beaded rim and fairly vertical wall, cf Webster (1976) nos 39-40, 2nd- to 3rd-century. A:4:**5**

CLASS P, IRON AGE FABRICS

Small quantities of Iron Age fabrics come from some of the sites, but the only ones with any quantity of material relative to the assemblage size are Areas B1 and E. At Area A there is a single sherd of fabric P71. At Area B2 class P fabrics are entirely absent. At Area H there is a sherd of fabric P72 from Phase 1 and a sherd of P38 from Phase 6. At Area E there are seven sherds in the sand tempered fabric P14 out of a total of eight stratified sherds (+ one undescribed sherd).

At Area B1 most of the pottery comes from the Iron Age Phases 1a and 1b. The commonest fabric is P12, a sand tempered fabric, and many of these sherds were externally and internally burnished. They included a bucket jar rim. There were also examples of fabric P14, another sand tempered fabric, P40, and P52, P54 and P55, all shell-tempered. The material from Phases 1a and 1b is likely to date from the mid-later Iron Age but the absence of class E fabrics might suggest a lack of continuity into the 1st century AD.

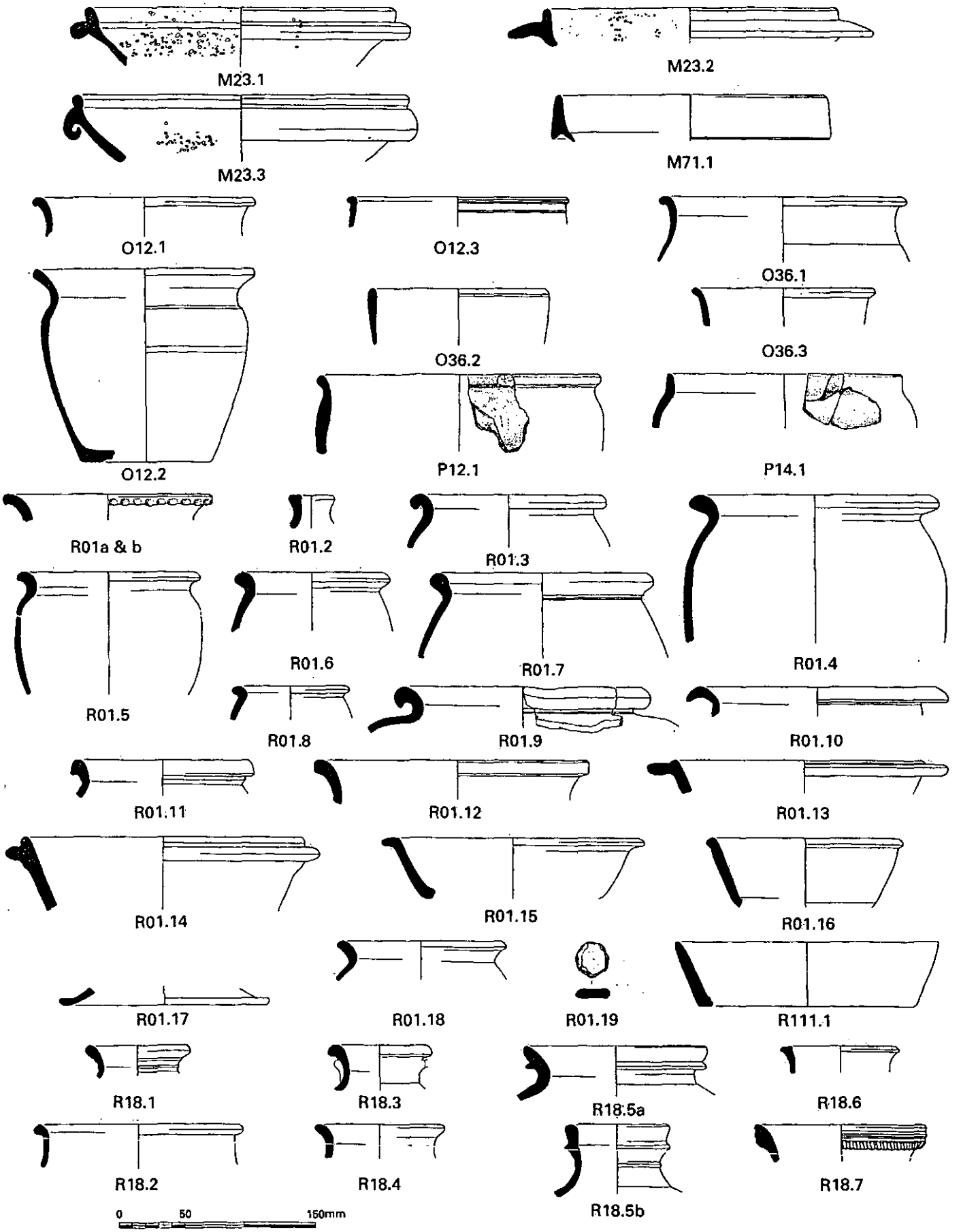


Fig 42: Romano-British pottery, class M Mortaria, class R Reduced ware

Form catalogue (Fig 42)

Fabric P12
P12.1 A bucket jar with a slightly beaded rim. B1:1b:129

Fabric P14
P14.1 A jar with a fairly vertical, insloping rim and fairly globular body. E:1:404

CLASS Q, WHITE-SLIPPED FABRICS

A single sherd of an oxidised white-slipped flagon in fabric Q27 came from Area H Phase 5.

CLASS R, REDUCED WARES

Reduced wares dominate the assemblages, most being sandy greywares of the Wappenbury/Ryton/Bubbenhall industry. Many of these are in turn indistinguishable as fabrics from Mancetter greyware products, but it is clear from their form range that the former industry is their source.

Fabrics in the Wappenbury/Ryton/Bubbenhall industry group comprise R01/R11, a greyware with abundant coarse sand temper which is well defined, but indistinguishable from Mancetter fabrics; R18/R34, a fairly clean greyware with some fine organic temper voids and often white, non-calcareous inclusions, again very similar to Mancetter fabrics; R52, a greyware with some-common moderate sand temper and some grey grog? inclusions, and R53/R55, a greyware with some-common sand temper and some rounded white inclusions *c* 0.1-0.2mm. Fabric R41, a greyware with some moderate sand temper is also likely to be from this source, as is R19.

Fabric R01/R11 is the main output of the Bubbenhall kiln (Evans forthcoming c), *c* 65% in Phases 2 and 3A. It is found at similar levels (54.9%) in the Ling Hall assemblage (Evans 2002a). On the pipeline sites it is found at much lower levels, 6.1% at Area A, absent from B1 and at 5.5% at B2 Phase 2b, 11.5% in Phase 2d and 6.2% in Phase 2e. It might be expected that levels of R01/R11 at Area B2, being much closer to Bubbenhall than Area H at Chesterton would be higher than on the latter site. However, this is not the case as Table 38 shows.

Table 38: Area H, proportions of fabric R01 by phase

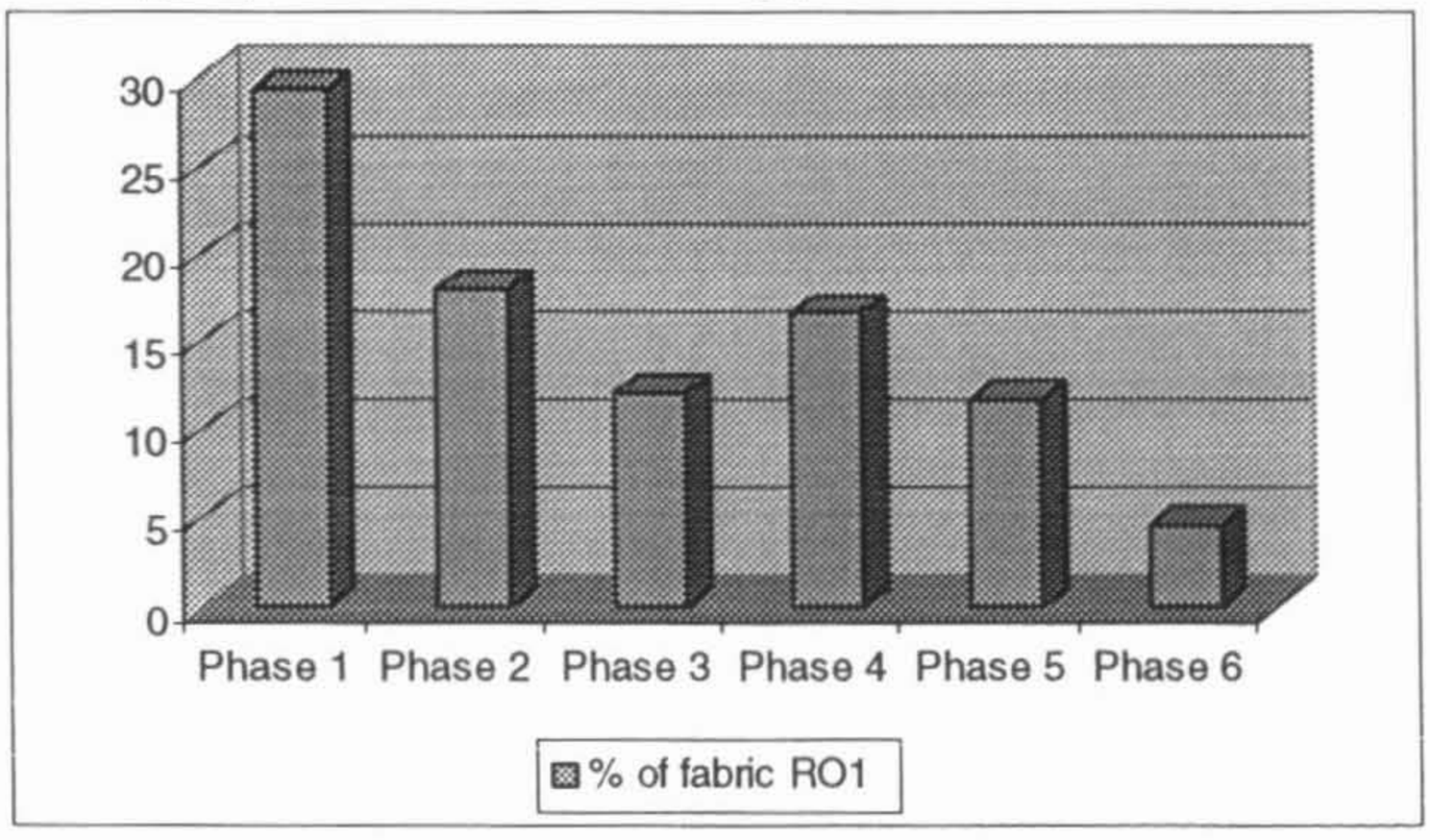


Table 41 (below) shows that fabric R01 was predominantly in jar forms, 71%, a closely comparable figure to the 63% from the Bubbenhall kiln site (Evans forthcoming c) for this fabric. The forms in this fabric group nearly all have good parallels with Bubbenhall kiln products and include quite distinctive Bubbenhall forms (eg Evans forthcoming c, C1.2 and C1.3).

Fabric R18/R33/R34 is another fabric that appears to have good parallels at the Bubbenhall kiln site, although it has equally good parallels also at Mancetter. Around 18% of sherds from the Bubbenhall kiln site were coded into this group. On the pipeline sites quantities of sherds coded into this group vary markedly. At Area A 43% of the group is coded into this group, compared with 13% at B1, 34.6% at B2 Phase 2b, 40.2% at B2 Phase 2d and 38.8% at B2 Phase 2e. Table 39 shows the sequence at Area H. The evidence from Area H and the very high levels at B2 suggests that although this fabric was in use from the 2nd century onwards it became much commoner in the 3rd and 4th centuries. This conclusion would also be consistent with the levels of the fabric from Ling Hall (Evans 2002a) and Princethorpe (Evans 1998), 8.3% and 8% respectively.

Table 39: Area H, proportions of fabric R18 by phase

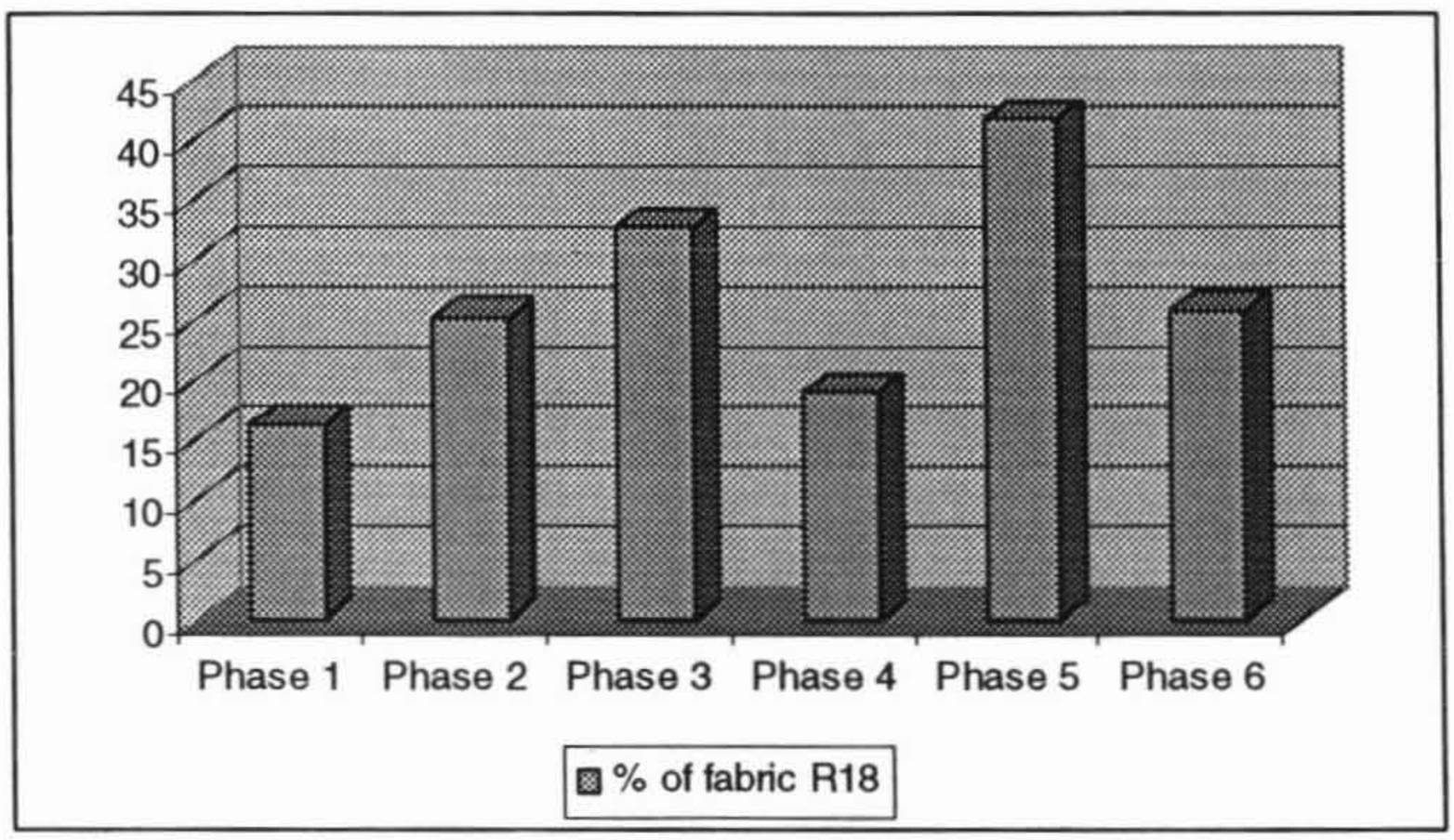


Table 41 (below) shows a functional analysis of vessels in this fabric group from the pipeline sites. The largest group are wide-mouthed jars, followed by other jars, and constricted-necked jars, with very few dishes, bowls and other forms. These figures contrast somewhat with the breakdown from the Bubbenhall kiln site where 12.5% were constricted necked jars, 43.8% jars, 14.6% wide-mouthed jars, 12.5% beakers, 2.1% tankards and 14.6% bowls.

The forms in this fabric from the pipeline sites seem likely to be mainly later Roman. It might be noted that five of the eight bowls represented are developed beaded and flanged bowls dating to after *c* AD 270, and many of the constricted-necked jars seem to be of 4th-century type.

There is a definite waster in this fabric from Area H:6:**769** (form R18.19). There is also one piece of kiln furniture from Area H (see below, Ceramic Objects 1) and another waster in fabric R52/R55 (Fig 44, R55.3) . True wasters would hardly travel far from source, so there is clearly a kiln in the immediate vicinity, working in the central Warwickshire Wappenbury/Ryton/Bubbenhall tradition. This may well explain the high levels of this fabric group at this site, although it does not explain

them at Area B2, and the evidence above suggests this fabric is one of predominantly later Roman date.

Fabric R52/R55 is the final major group. It has fairly common moderate sand temper, occasional-some fine organics and some rounded grey grog and sometimes white stone inclusions. It amounts to 21% of the Area A group, and 13% of that from B1, whilst B2 produced 32.2% from Phase 2b, 25.3% from Phase 2d and 27.5% from Phase 2e. Table 40 shows levels of this fabric from Area H. Here it runs at around 25% in Phase 1 and fluctuates between this and over 50% with little obvious chronological trend.

Comparative data from Ling Hall place 8.6% of the stratified 2nd-century assemblage in this group, whilst levels at Bubbenhall fluctuate in the 5-19% range, with some slight indication of a rise with time. At Princethorpe R52 is the second commonest greyware at 15.6% of this later 1st- to early 2nd-century group. The evidence from Area A, Bubbenhall, Ling Hall and Princethorpe suggests the group is commoner in the south of the region on Areas B2 and H. There is also a waster from Area H:6:**769** (R55) which is certainly too wastered to be a second, suggesting some, at least, of this group was made in the vicinity of the Chesterton site.

Table 40: Area H, proportions of fabric R52/R55 by phase

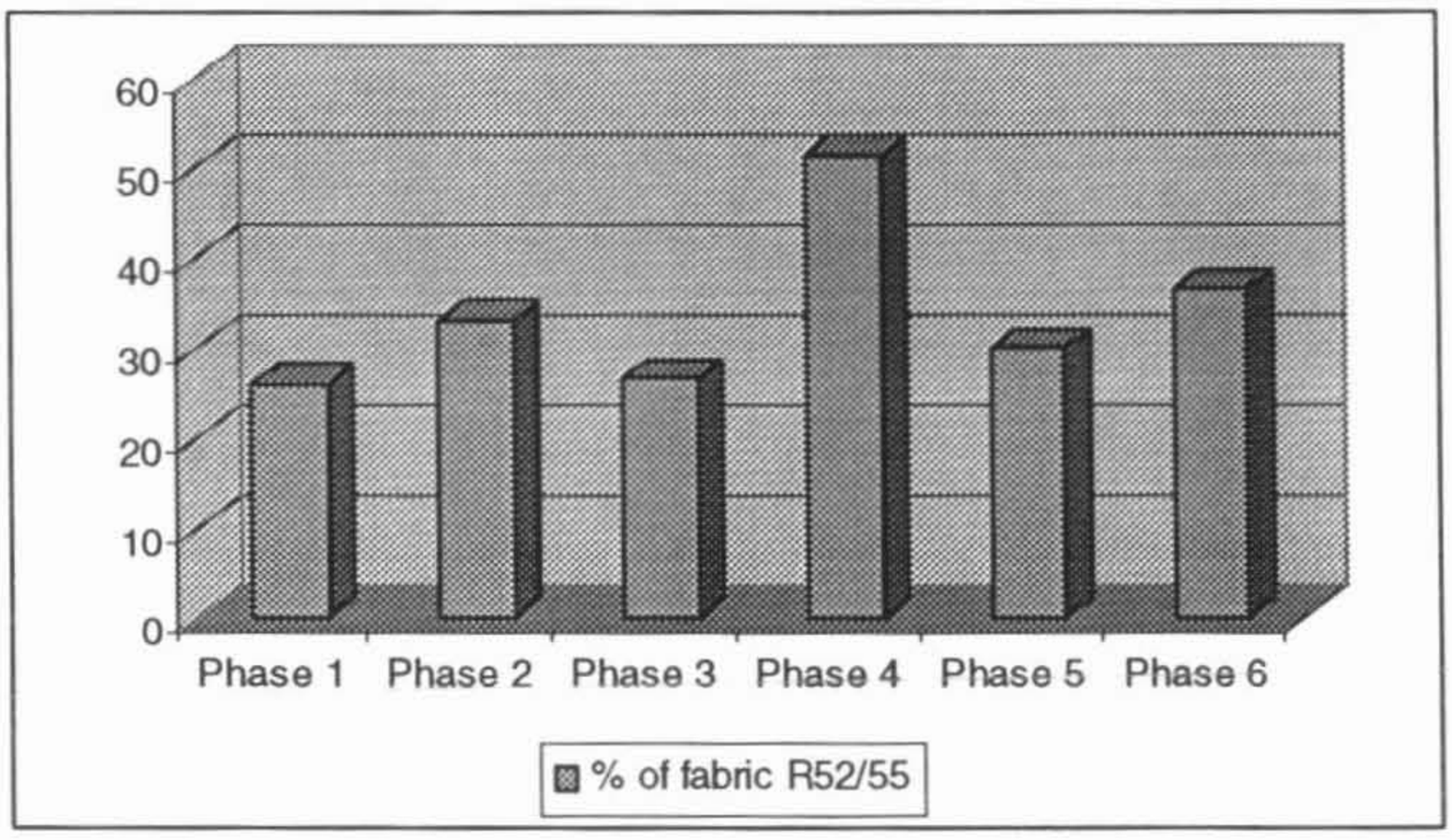


Table 41 shows a functional analysis of this group. As with R18, the commonest group is wide-mouthed jars, with other jars surprisingly infrequent, whilst constricted necked jars are relatively common, again a feature seen in the R18 group. Tablewares are present but in very minor quantities. As with R01/R11 and R18/R34 the repertoire of forms represented (see Catalogue below) can almost all be paralleled at Bubbenhall, and form part of the central Warwickshire greyware tradition.

R32, a greyware with a clean matrix with common quite large organic temper voids may have a different, but central Warwickshire source. It is common at Princethorpe (Evans 1998) 21.2% and Ling Hall (Evans 2002a) where it comprises 6.7% of the phase 1A group and 11.8% of the phase 1C group, but it is absent from Areas A and B. The evidence from Area H, near Chesterton, like its frequency at Princethorpe (Evans 1998) and Ling Hall (Evans 2002a), suggests it is mainly a 2nd-century fabric, with 8.5% in Phase 1, 0.5% in Phase 2, 5.3% in Phase 3, none in Phase 4, 0.3% in Phase 5 and 0.2% in Phase 6, perhaps continuing into the earlier 3rd

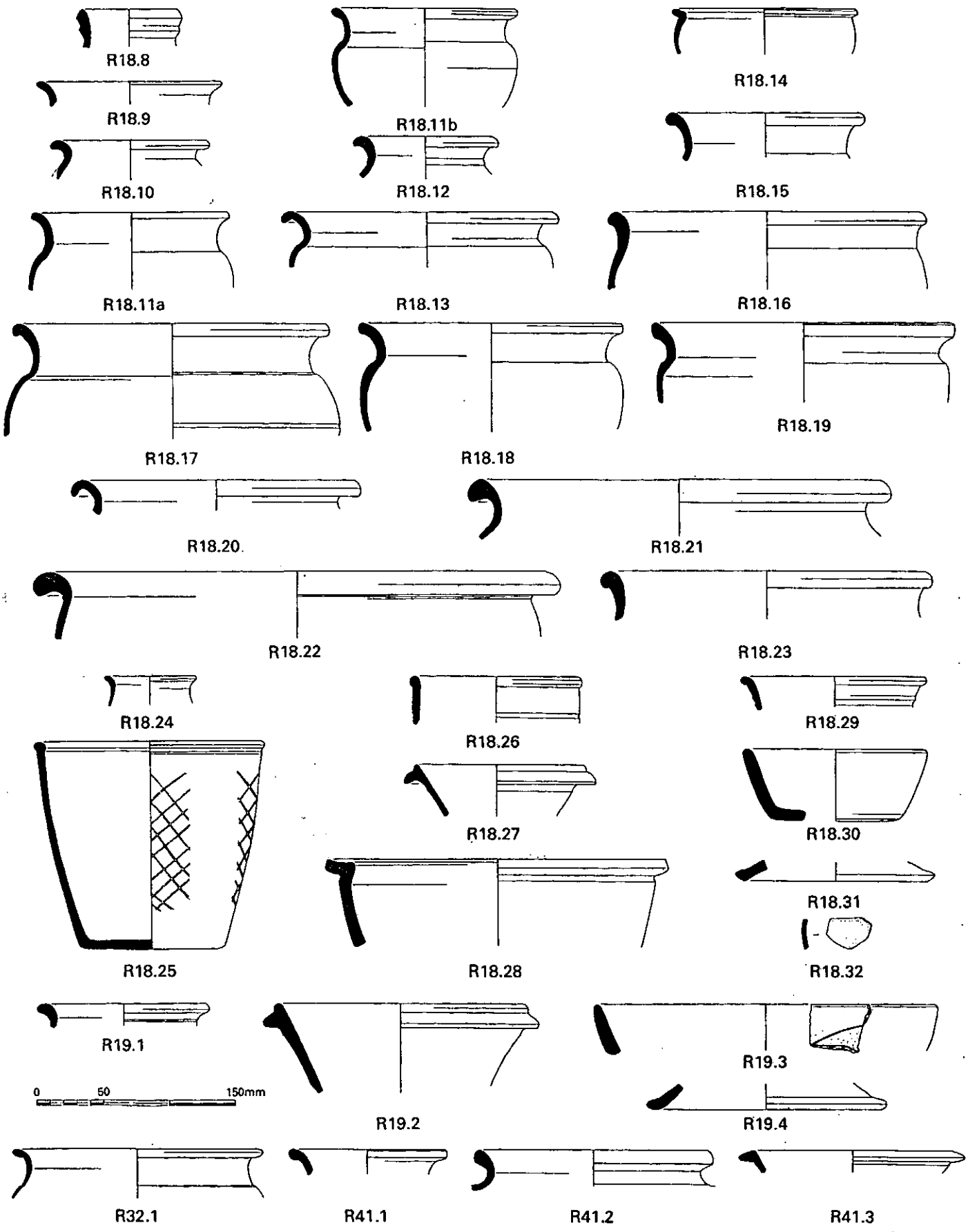


Fig 43: Romano-British pottery, class R Reduced ware

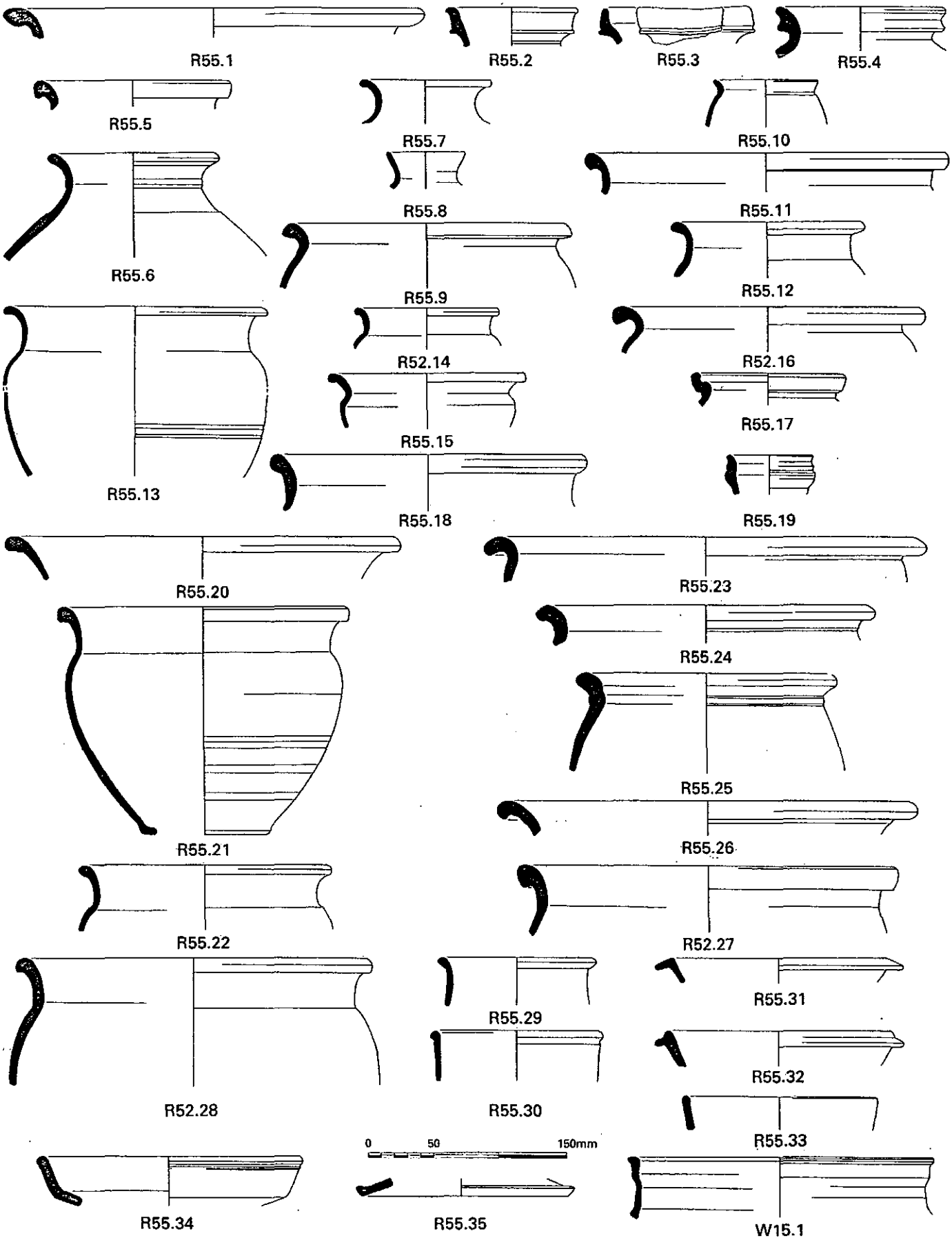


Fig 44: Romano-British pottery, class R Reduced ware, class W Whiteware

century. The occurrence of this fabric at Gas House Lane, Alcester (Evans 1996) also suggests a similar date range, but it is unclear that the Alcester material is really from this source.

Table 41: Functional analysis of R fabrics on the pipeline sites

Fabric	*Flagon*	*Constricted-necked jar*	*Jar*	*Wide-mouthed jar*	*Beaker*	*Bowl*	*Dish*	*Lid*	*N*
R01	-	4	71	2	-	15	4	4	48
R18	0.9	13.2	29.8	45.6	1.8	7.0	0.9	0.9	114
R52/R55	-	12.0	25.0	48.2	3.7	6.5	2.8	1.9	108

Other minor fabrics are R19, a reduced fabric with abundant sub-rounded coarse sand *c* 0.5mm, similar to R12 and R41, a greyware with some moderate sand temper.

Form catalogue (Figs 42-4)

Fabric R01

R01.1 a & b A constricted-necked jar with an everted, rising, slightly hooked rim, finger-tipped on the edge, cf Bubbenhall (Evans forthcoming c) type A2.2. B2:2d:**182**; B2:2d:**182**

R01.2 A bottle rim. H:6:**773**

R01.3 A necked jar with an undercut, beaded rim, cf Bubbenhall (Evans forthcoming c) type C1.3, 2nd- to 3rd-century. B2:2e:**176**

R01.4 A jar with an everted, rising, thickened rim, cf Bubbenhall (Evans forthcoming c) type C1.2, 2nd- to 3rd-century. H:6:**799**

R01.5 A jar with an everted, rising rim, cf Bubbenhall (Evans forthcoming c) type C1.1, 2nd- to 3rd-century. H:2:**761**

R01.6 A jar with an everted, rising, thickened rim, cf Bubbenhall (Evans forthcoming c) type C1.2, 2nd- to 3rd-century. H:1:**733**

R01.7 A lid-seated jar with an everted, rising, thickened rim, probably 2nd- to 3rd-century, Bubbenhall (Evans forthcoming c) class C3. H:2:**732/1**

R01.8 A smallish globular jar with a stubby, everted rim, possibly cf Bubbenhall type C2.3. H:6:**788**

R01.9 A necked jar with a strongly hooked rim (the drawn sherd is a badly distorted waster), cf Bubbenhall (Evans forthcoming c) type C1.4. A:2:**70/1**

R01.10 A necked jar with an everted, undercut rim, perhaps cf Bubbenhall (Evans forthcoming c) type C1.4. H:5:**787**

R01.11 A jar with an undercut, triangularly-sectioned rim with a cordon beneath, perhaps a hybrid of Bubbenhall (Evans forthcoming c) types C1.2/C3.1. H:3:**767**

R01.12 A wide-mouthed jar with an everted, rising rim, Bubbenhall (Evans forthcoming c) type CM1.2. B2:2b:107

R01.13 A beaded and flanged bowl with a flange a little below the bead, 3rd-century?, Bubbenhall (Evans forthcoming c) type H4.1. B2:2e:**106**

R01.14 A developed beaded and flanged bowl, later 3rd- to 4th-century, Bubbenhall (Evans forthcoming c) type H4.2. B2:2e:**106**

R01.15 A flange rimmed bowl, a copy of a Hadrianic-Antonine BB form, Bubbenhall (Evans forthcoming c) type H3.1. H:5:**787**

R01.16 A grooved rim dish with basal chamfer, probably a Hadrianic-Antonine BB cop, Bubbenhall (Evans forthcoming c) class J1. H:4:**762**

R01.17 A lid with an everted rim, Bubbenhall (Evans forthcoming c) type L2.1. H:U/S.

R01.18 A lid with a beaded rim. H:5:**787.**

R01.19 A complete counter, Wt *c* 5g Diam *c* 200mm. H:8:**744**

Fabric R111

R111.1 A simple rimmed dish. B2:2e:106

Fabric R18

R18.1 A ring-necked flagon with an everted rim, probably 2nd-century. B2:2e:176

R18.2 A constricted-necked jar with a beaded, slightly undercut rim, Bubbenhall (Evans

forthcoming c) type A2.3. B2:2e:106

R18.3 A jug with a beaded rim, Bubbenhall (Evans forthcoming c) type B2.2. H:U/S

R18.4 A constricted-necked jar with an everted, slightly thickened, rim, cf Bubbenhall (Evans forthcoming c) type A2.2. H:5:787

R18.5a & 5b A constricted-necked jar with a flanged rim, probably 4th-century, cf Ryton, Stanley & Stanley (1964) fig 4, no 8. a) H:8:738 b) H:1:727/1

R18.6 A constricted-necked jar with a beaded and flanged rim, perhaps later 3rd- to 4th-century. H:8:738

R18.7 A constricted-necked jar with a cordoned collared rim with frilled decoration on lower cordon, possibly cf Stanley & Stanley (1964). H:8:737

R18.8 A constricted-necked jar with a cordoned, collared rim, perhaps 4th-century. B2:2d:182

R18.9 A jar with an everted rim, possibly a BB copy, cf Bubbenhall (Evans forthcoming c) type C5.2, perhaps 2nd-century. A:2:70/3

R18.10 A jar with a strongly everted rim, possibly a 3rd-century BB copy, cf Bubbenhall (Evans forthcoming c) type C5.3. A:4:03

R18.11 a & b A tall necked jar with an everted, rising rim, sometimes thickened, Bubbenhall (Evans forthcoming c) type C4.1. a) H:3:779, b) H:6:789

R18.12 A jar with an everted, slightly undercut rim and cordoned shoulder, probably cf Bubbenhall (Evans forthcoming c) type C1.2. A:U/S

R18.13 A necked jar with a hooked rim, cf Bubbenhall (Evans forthcoming c) type C8.2. H:8:738

R18.14 A globular jar with a stubby, straight, everted rim, Bubbenhall (Evans forthcoming c) type C2.1. H:1:818

R18.15 A necked jar with a beaded, rising rim, Bubbenhall (Evans forthcoming c) type C4.2. H:6:769

R18.16 A necked wide-mouthed jar with a beaded rim, Bubbenhall (Evans forthcoming c) type CM1.1. B2:2e:106

R18.17 A necked wide-mouthed jar with an everted rim with squared tip, slightly undercut, Bubbenhall (Evans forthcoming c) type CM3.3. A:3b:23/3

R18.18 A necked wide-mouthed jar with an everted, slightly beaded rim, Bubbenhall (Evans forthcoming c) type CM1.2. B2:2b:107

R18.19 A necked wide-mouthed jar with an everted, thickened rim of triangular section, Bubbenhall type CM1.2. A:4:05

R18.20 A wide-mouthed jar with a deeply hooked rim, Bubbenhall (Evans forthcoming c) type CM3.1. B2:2e:106

R18.21 A necked wide-mouthed jar with a triangularly-sectioned, undercut rim, cf Bubbenhall (Evans forthcoming c) type CM3.2. H:6:799

R18.22 A wide-mouthed jar with an everted, undercut, curving rim, Bubbenhall (Evans forthcoming c) type CM3.1, H:5:787.

R18.23 A necked wide-mouthed jar with a beaded, undercut rim, Bubbenhall (Evans forthcoming c) type CM2.2. H:8:738

R18.24 A necked beaker with an everted, rising tapering rim, Bubbenhall (Evans forthcoming c) type E1.3. H:6:799

R18.25 A tankard with a slightly splaying wall, perhaps 2nd- to 3rd-century, Bubbenhall (Evans forthcoming c) class G1, perhaps a Dr 37 copy. H:5:787

R18.26 A bead rimmed bowl, perhaps a Dr 37 copy, cf Bubbenhall (Evans forthcoming c) type H1.3. B2:2e:106

R18.27 A developed beaded and flanged bowl, Bubbenhall (Evans forthcoming c) type H4.2. B2:2b:107

R18.28 A flanged bowl with a rising, curved flange, Bubbenhall (Evans forthcoming c) class H3. B2:2b:1/1

R18.29 A rim fragment from a beaded and cordoned carinated(?) bowl(?). A:3:9/1

R18.30 A simple rimmed dish, Bubbenhall (Evans forthcoming c) class J. B2:2e:176

R18.31 A lid with an everted rim, cf Bubbenhall (Evans forthcoming c) type L2.1. H:6:773

R18.32 About half of a counter cut from a jar wall. H:7:753 D. 162

Fabric R19

R19.1 An everted jar rim fragment, cf Bubbenhall (Evans forthcoming c) type C1.2. H:3:731/1

R19.2 A developed beaded and flanged bowl, *c* AD270+, Bubbenhall (Evans forthcoming c) type H4.2. B2:2e:106

R19.3 A simple rimmed dish with intersecting arc decoration on the wall, a BB copy, AD 160/80+, Bubbenhall (Evans forthcoming c) class J. B1:2a:138/1

R19.4 A lid with an everted rim. Cf Bubbenhall (Evans forthcoming c) type L2.1. A:2:**70/1**

Fabric R32

R32.1 A necked jar with an everted, rising rim. H:1:**818**

Fabric R41

R41.1 A constricted-necked jar with an everted, rising, slightly thickened rim, perhaps cf Bubbenhall (Evans forthcoming c) type A2.2. B2:2e:**106**

R41.2 A necked jar with a wedge-shaped rim, cf Bubbenhall (Evans forthcoming c) type C4.1. B2:2e:**176**

R41.3 A flange rimmed bowl, a copy of a Hadrianic-Antonine BB form, cf Bubbenhall (Evans forthcoming c) type H3.1. H:6:**773**

Fabric R52/R55

R55.1 A collared, cordoned constricted-necked jar, perhaps cf Stanley & Stanley (1964) fig 4, no 19, perhaps 4th-century. B2:2e:**106**

R55.2 A collared constricted-necked jar with cordons at the top and bottom of the collar, perhaps cf Stanley and Stanley (1964), fig 4, no 19, perhaps 4th-century. B2:2b:**107**

R55.3 A collared constricted-necked jar with a cordon at the base of the collar, perhaps cf Stanley and Stanley (1964) fig 4, no 19, perhaps 4th-century. A definite waster, badly distorted and unusable. H:6:**769**

R55.4 A constricted-necked jar with a collared rim with a pronounced flange, cf Stanley & Stanley (1964) fig 4, no 19, perhaps 4th-century. H:8:**739**

R55.5 A constricted-necked jar with an everted, thickened, undercut rim, perhaps cf Bubbenhall (Evans forthcoming c) class A2. B2:2e:**106**

R55.6 A constricted-necked jar with an everted, rising rim and cordoned shoulder, cf Bubbenhall (Evans forthcoming c) type A2.2. H:6:**789**

R55.7 A constricted-necked jar with an everted, rising rim, cf Bubbenhall (Evans forthcoming c) type A2.2. B2:2b:**107**

R55.8 A constricted-necked jar or bottle with a straight, everted, rising rim. H:6:**788**

R55.9 A jar with a beaded, everted rim, Bubbenhall (Evans forthcoming c) type C1.2. A:2:**70/1**

R55.10 A jar with an everted, slightly curving, fairly vertical rim, possibly a 2nd-century BB copy, Bubbenhall type C5.2. H:1:**812/1**

R55.11 A necked jar with an everted, slightly undercut, triangularly-sectioned rim, cf Bubbenhall (Evans forthcoming c) types B4.1/C4.2. B2:2e:**176**

R55.12 A necked jar with a straight, everted, rising rim, Bubbenhall (Evans forthcoming c) type C4.1. H:5:**786**

R55.13 A necked jar with an everted rising rim, cf Bubbenhall (Evans forthcoming c) type C4.1. H:6:**754/1**

R55.14 A necked jar with a beaded rim, cf Bubbenhall (Evans forthcoming c) type C4.2. H:6:**817**

R55.15 A necked jar with an everted, slightly undercut rim. H:6:**788**

R55.16 A jar with an everted, outcurving, undercut rim, cf Bubbenhall (Evans forthcoming c) type C1.4. H:6:**817**

R55.17 A collared, lid-seated jar. H:8:**738**

R55.18 A necked wide-mouthed jar with a beaded rim, Bubbenhall (Evans forthcoming c) type CM1.2. H:6:**769**

R55.19 A necked wide-mouthed jar with an everted, triangularly-sectioned rim, Bubbenhall (Evans forthcoming c) class CM1. B2:2e:**106**

R55.20 A necked wide-mouthed jar with an everted, rising rim with cordon beneath. H:5:**787**

R55.21 A necked wide-mouthed jar with an everted, thickened rim of triangular-section, Bubbenhall class CM1.2. B2:2b:194/1

R55.22 A necked wide-mouthed jar with an everted rising rim, cf Bubbenhall (Evans forthcoming c) type CM1.1. H:2:**732/1**

R55.23 A wide-mouthed jar with an everted, curving, undercut rim, Bubbenhall (Evans forthcoming c) type CM3.1. H:6:**799**

R55.24 A wide-mouthed jar with an everted, curving, undercut rim and cordoned shoulder, perhaps

cf Bubbenhall (Evans forthcoming c) type CM3.1. H:4: 813/1

R55.25 A wide-mouthed jar with an everted, rising rim and cordoned shoulder. H:2:**732/1**

R55.26 A necked wide-mouthed jar with an everted, curving, undercut rim, cf Bubbenhall (Evans forthcoming c) type CM3.1. H:6:**769**

R55.27 A necked wide-mouthed jar with a squared, beaded rim, cf Bubbenhall class CM1. B2:2e:106

R55.28 A necked wide-mouthed jar with a slightly hooked rim, cf Bubbenhall type CM3.3. H:6:**817**

R55.29 A beaker with a tall neck and beaded rim, Bubbenhall (Evans forthcoming c) type E1.1. H:5:**786**

R55.30 A baggy beaker with a beaded rim, Bubbenhall (Evans forthcoming c) class E2. H:8:**738**

R55.31 A flange rimmed bowl, a copy of a Hadrianic-Antonine BB form, Bubbenhall (Evans forthcoming c) type H3.1. H:U/S

R55.32 A developed beaded and flanged bowl, Bubbenhall (Evans forthcoming c) type H4.2. H:6:**798**

R55.33 A simple rimmed dish. B2:2e:**176**

R55.34 A grooved rimmed dish, cf Bubbenhall (Evans forthcoming c) type J1.1. H:8:**738**

R55.35 A lid with an everted rim, Bubbenhall (Evans forthcoming c) type L2.1. B2:2e:**106**

CLASS S, SAMIAN WARES by S H Willis

Significant sherds include:

1. Body sherd, CG Lezoux, Dr 37, 7g, *c* AD 150-200. A small part of an ovolo border is depicted, though too little detail is present for it to be assignable. Two finely executed overlapping ovolos are extant, which are long with a double border; there is no tongue represented. A:2:**70/1**

2. Body sherd, CG Lezoux, Dr 37, 32g, *c* AD 145-200. Part of a large winding scroll design is extant, with tendrils, a ring and an elongated twist employed as a tendril binding; the design is suggestive of the style of Paternus II (Stanfield & Simpson 1990). B2:2b:**107/1**

3. Base sherd, CG Lezoux, Dr 18/31, 109g, BE: 0.49 Diam. 94mm, *c* AD 120-150. Stamped 'AVITI· M' = Avit(i)us iii, Die 2a; this stamp occurs on a Dr 18/31 in Lezoux fabric from Great Chesterford (Braybrooke Collection, Museum of Archaeology and Anthropology, Cambridge, accession 1948.1011R; Willis 2003) and on a dish from the King Harry Lane site, *Verulamium* (Dickinson 1989, 58, No. 8, fig 31 no. 8). (See also Hartley & Dickinson 2002, 306, where the implication arises that this Stamp/Die belongs to Avit(i)us iv rather than Avit(i)us iii). The footring is worn. Partially burnt. H:2:**734/1**

4. Base sherd, CG Lezoux, from a cup, probably Dr 33, 9g, BE: 0.20 Diam. 50mm, *c* AD 120-200. Stamped, with here a near complete stamp which can be read either of two ways as it is legible rotated 180°, reading: 'VI[]' probably simply 'VI' with no characters lost, or '[]IV' and again if so most likely 'IV'. On balance a reading 'AVI' is most likely, suggesting a potter by the name Avitus (cf above), but more likely, this is an illiterate stamp. Footring somewhat worn. Burnt. H:6:**754/1**

Area A, Harborough Magna

Seven sherds of samian (112g) from five or six vessels were recovered at Area A. The date ranges of the types represented all lie within the period *c* AD 120-225 (these date ranges being the date of deposits with which like items are normally associated). Four of the vessels represented come from ditch fill **70/1**. The composition of this group is somewhat eclectic. The date range represented by the samian from this context is *c* AD 120-225 which accords with the dating of the phase to which this context belongs (Phase 2) as late 2nd- to early 3rd-century AD. The only other contexts at A yielding samian were fills of the late gully **23**. These fills, namely **23** and **23/1**, have been assigned to Phase 3b and are understood to represent 4th-century deposition. The two recovered samian sherds are probably from the same Rheinzabern vessel. The normal date range of a vessel of this type is *c* AD 150-225 which implies that these are residual fragments, though the vessel may well

have been in use in the 3rd century. The date and typology of the piece are consistent with the nature of the small group of samian vessels recovered from **70/1**. The implication is of a *floruit* of samian consumption in the milieu of Area A in the 2nd century and perhaps into the 3rd.

Area B, Long Itchington

Just five samian sherds (89g) were recovered from this Area, with three coming from the same vessel, namely a Dr 18/31 dish of Lezoux manufacture dating to the Hadrianic/early Antonine era. Two sherds from the latter came from B1 and one from B2. One sherd from this Dr 18/31 was stratified and came from Phase 2 gully fill **125/1**, dated as late 1st- to 2nd-century. The other sherds came from the topsoil in B1 and B2. The remaining two items were recovered from Phase 2 contexts deposited in the later Roman period. One sherd came from B2 ditch fill **107/1**, being a body sherd of a Dr 37 bowl datable to the second half of the 2nd century AD; the context was deposited in the later 3rd century. A rim from a Dr 31R (*c* AD 160/170–200/225), probably in EG Blickweiler fabric, came from layer **182**.

Area H, Chesterton and Kingston

Some 50 sherds of samian weighing 828g and including three unstratified fragments (100g) were recovered from Area H. These sherds were found in a variety of contexts through the site sequence, from Phase 2 (later 2nd-century) onwards. The sherds are generally in good condition with comparatively little abrasion/weathering. It has been possible to identify a high number of sherds to form type. A total of approximately 40 vessels are represented. Very few decorated vessels are present. An exceptional percentage of sherds show evidence of having been burnt or partially burnt. There are four stamps or fragments of stamps present, two of which are relatively well preserved (above, nos 3-4). These samian ware finds are considered here on a phase by phase basis and then discussed as a site assemblage. The samian items occurring in each phase amount in all cases to very modest numbers. A fairly uniform picture is presented by these items both in terms of chronology and typology, independent of the contexts in which they occur. Hence, given this qualitative consistency, it is appropriate to consider the assemblage from this site as a whole.

Seven sherds from five samian vessels were recovered from Phase 2 contexts, specifically ditch and gully fills. The phase dates to the late 2nd century. All five vessels represented are in Lezoux ware and are of 2nd-century date, with no decorated items present. The group is composed mainly of rather small sherds, suggesting secondary rubbish.

Only one samian vessel was represented in Phase 3 contexts attributed to the early 3rd century. This item was recovered from the fill of gully **731** being an East Gaulish Dr 38 possibly from Chémery of later 2nd- to mid 3rd-century date. Similarly, only one vessel was represented in Phase 4 contexts, dating to the mid 3rd-century, being a Lezoux Dr 31 dish that might well have still been in use at this time in the 3rd century. This item came from the butt end of gully **813/762**.

From Phase 5, dated as mid-late 3rd-century, sherds from five samian vessels occur. Four of these vessels are from Lezoux and whilst the types present may have been in use into the 3rd century, the fragmentary nature of the samian forming the group indicates that these may be residual sherds in these contexts, deriving from vessels lost and broken decades before the laying down of Phase 5 deposits. An East Gaulish sherd from a Trier vessel (Dr 38) of later 2nd- to mid 3rd-century date was recovered from context **780**, the top fill of the ditch at Enclosure B, though this deposit could date into the 4th century. A further six vessels (seven sherds) were present in Phase 6 contexts of late Roman date.

The composition of this samian assemblage by date is summarised in Table 42. Only one item dates to the 1st century AD, with there being no items of Trajanic date. Three vessels occur that date to the period *c* AD 120-155 and 18 to the period *c* AD 140-200, with 14 other vessels dating to within the envelope of *c* AD 120-200. Three vessels have dates that overlap the later 2nd century and the earlier 3rd century, with one vessel dating to within the 3rd century. The chronological emphasis of this assemblage therefore is clearly Antonine and within the period *c* AD 150-200. This is not surprising as many rural sites in Britain show a peak in the date of their samian around this period. This was the period when samian was evidently most readily available in Britain and when rural sites and smaller rural centres usually show their greatest acquisition of this class of pottery (cf Willis 2004). It is likely that much of this 2nd-century samian continued in use in rural communities into the 3rd century and this may be the case with this site at Area H (cf Willis 2004). East Gaulish samian pottery, not least items dating specifically to the 3rd century are rarely frequent amongst site samian assemblages (cf below) and so their infrequency in this instance is not surprising; the presence of a samian vessel dating to *c* AD 225-260 confirms a sustained interest in samian use at this site at this time.

Table 42: Summary of the chronology of the samian from Area H (see Catalogue for details)

Period	*No*
Claudian to Flavian	1
Hadrianic	1
Hadrianic to early Antonine	2
Hadrianic to mid-Antonine	2
Hadrianic to Antonine	10
Late Hadrianic to Antonine	2
Antonine (after 140)	5
Antonine (after 150)	8
Mid to late Antonine	5
Mid Antonine to early 3rd-century	1
Mid Antonine to mid 3rd-century	1
Late Antonine to mid 3rd-century	1
Mid 3rd-century	1
Total	*40*

The composition of this samian assemblage by source, fabric, generic class and form is presented in Table 43. The table makes clear the predominance of Lezoux vessels from Central Gaul amongst the assemblage. The chronological emphasis of the group is also apparent when one compares the presence of the earlier Lezoux forms 18/31 and 18/31R (numbering two vessels) with the incidence of Dr 31 and 31R, dating to after *c* AD 150/160, of which there are eleven examples. It is also reflected in the fact there is a ratio of one Dr 27 (conventionally a pre *c* AD 160 form) to three or four Dr 33 cups (that latter being more typical of the second half of the 2nd century). A noteworthy pattern is the infrequency of decorated vessels amongst the assemblage, for there are only four such vessels amongst a sample of *c* 34 vessels. Hence decorated bowls account for *c* 11.8% of the samian from the site, a figure that is comparatively low even for a rural site, where *c* 17% might be normal (cf Willis 2004). This might be taken to imply a community that could not particularly afford imported decorated pottery with any regularity, or one where decorated forms were less preferred to other types, perhaps for a cultural reason.

Discounting the three unstratified sherds the average weight of the samian sherds forming this assemblage is 15.5g. This correlates with the normal average sherd weight for stratified samian in contemporary deposits, which is *c* 13-15g (Willis in Press). This implies the samian forming this modest sized assemblage was no more

Table 43: The composition of the samian assemblage from Area H by source, fabric, form and functional type (includes all items)

Form Type	*SG La Grauf.*	*CG Lezoux*	*EG*
Cups:			
Dr 27		1	
Dr 33		3 or 4	
Indeterminate			1
Decorated Bowls:			
Dr 30		3	
Dr 37		1	
Plain Bowls:			
Dr 31R		3	1
Dr 38		2	2
Indeterminate		1	
Bowl or Dish:			
Dr 18/31, 18/31R, 31 or 31R		1	
Indeterminate		3	
Dishes:			
Dr 18/31		1	
Dr 18/31R		1	
Dr 31		7	
Indeterminate		1	
Dishes or Platters:			
Curle 15 or Walters 79		1	
Platters:			
Dr 18	1		
Totals	*1*	*29 or 30*	*4*
(Form not identifiable)		5	

nor no less fragmented than other samian assemblages, suggesting that this does not represent especially re-worked material and soils.

One vessel from Area H shows evidence of repair, in this case via the cleat method (leaving a dove-tail or X type lead repair). The item is an East Gaulish Dr 31R bowl, present in a Phase 6 deposit. A Dr 30 decorated bowl from Area A, Phase 2, also showed signs of repair via the use of cleats. Repair of samian by lead cleats becomes more common in the later 2nd century, although repair by lead rivets is the predominant type of repair in Roman Britain (Willis 2004, Section 11).

An unusually high proportion of these samian sherds show evidence of burning with around 20% of the samian assemblage displaying this effect. There is no evident pattern to the incidence of sherds showing evidence of burning and why such a large fraction of the assemblage has been exposed to heat is unclear.

Finally, the presence of four vessels from East Gaulish workshops amongst this modest sized samian ensemble from Area H is of interest. Two or three of the samian vessels represented at Area A are East Gaulish, one, or perhaps it is two, are from Rheinzabern, the other probably Chémery-Faulquemont, while one of the three samian vessels from Area B is also East Gaulish (probably from Blickweiler). The occurrence of these items in Warwickshire is of note since East Gaulish samian has been thought to be a comparatively infrequent find in the English Midlands especially when contrasted with areas near to the coasts (cf Willis 2004, Section 6.7; forthcoming).

Other aspects of the samian ware

The overall samian levels from each of the sites are 2.6% at Area A, 1.3% at B1, 0.4% at B2, and 2.4% at H. These levels are low, reflecting the basic rural level of most of them, although in the case of Area B2 it is probably mainly because of the late Roman chronology of the site.

CLASS W, WHITEWARES

Six whiteware fabrics are recorded from the pipeline sites. None are found at Area A or B1, whilst at B2 the only fabric present is W15, Oxfordshire parchment ware, in Phase 2e, which provides the only whiteware rimsherd.

At Area H five fabrics occur, W12, W22, W23, W29 and W34, of which the chief one is W12, probably from Mancetter. The highest incidence of these fabrics is in Phases 2 and 3 and it seems likely that they were residual after the 2nd century. The highest occurrence of the fabrics is the 5.3% of W12 in Phase 2.

Form catalogue (Fig 44)

Fabric W15
W15.1 A bowl of Young's (1977) type P24, AD 240-400+. B2:2e:176

Functional analysis and finewares

Table 45 shows a functional analysis of the assemblages from the pipeline sites. The Area A assemblage has very high jar levels and very low levels of tablewares, a pattern typical of very basic level rural sites, although the level of mortaria on the site is rather high at 8-11%. The assemblage from Area B1 is too small to analyse.

The assemblage from Area B2 is rather different. Flagons are present on this site and levels of constricted-necked jars are high, consistently over 10%. Evidence elsewhere (Evans 1993) suggests that these are predominantly liquid containers. Perhaps given other evidence (Ceramic building materials below) of a nearby bathhouse this high level of liquid containers is in some way connected with the use of this. Jar levels are fairly high, 45-60%, but the composition of the jar assemblage here is very different from Areas A and H. Ordinary jars are extremely scarce, and nearly all of the jars present are wide-mouthed jars. This is an unusual pattern amongst the pipeline sites and in comparison with Bubbenhall (Evans forthcoming c), Ling Hall (Evans 2002a), and Princethorpe (Evans 1998). Tableware levels are high in Phase 2b, but low in Phase 2e, whilst mortaria levels are rather high in Phase 2e. The assemblage from Phase 2b, in particular, is too tableware-dominated to fit as a typical basic level rural site, and is much higher than levels from the other pipeline sites and those at Ling Hall, Princethorpe and Bubbenhall. Although all the details of the late assemblages from Long Itchington are not immediately explicable they are clearly unusual, and tend to reinforce the suggestions from other material that this assemblage is not related to a basic level rural site, but rather, perhaps, a villa.

The functional sequence from Area H runs through most of the Roman period. As such it provides a consistent picture, with jar levels high but gradually falling through the Roman period. Tablewares remain at a fairly constant, low level, but other elements of the assemblage increase resulting in gradually greater functional diversification through the Roman period. It is of note that constricted-necked jars only appear in the late Roman period and this may also help explain their high levels on Area B2 where all the deposits are late Roman.

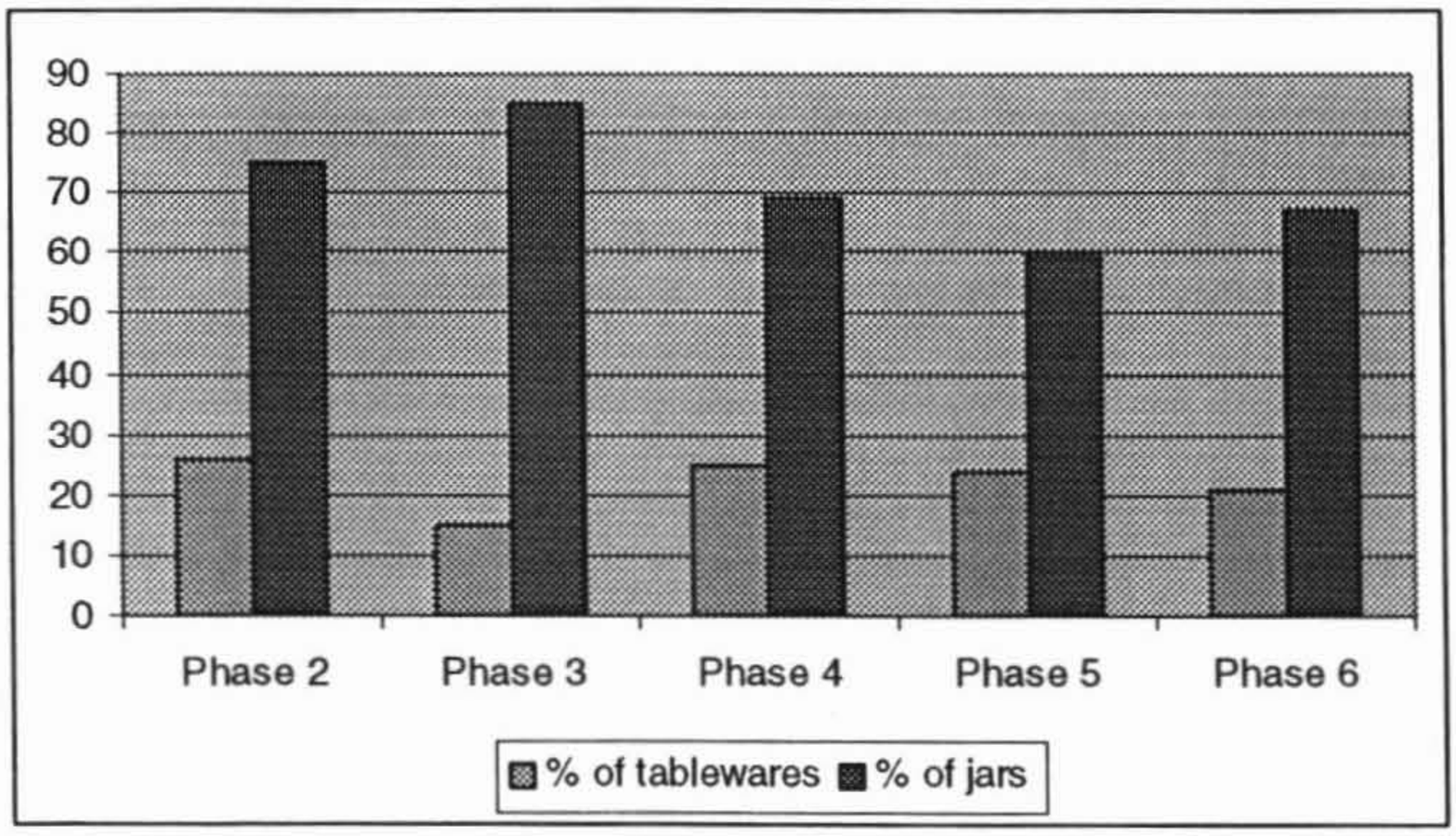
It is clear from the Area H sequence that this was a basic level rural site, like Area A, Ling Hall, Bubbenhall and Princethorpe.

Fineware levels are fairly low on all the sites, at 5.4% on Area A, 2.0% at B1, 4.3% at B2 Phase 2b, 2.2% in Phase 2d and 3.7% in Phase 2e. In the Area H sequence finewares are absent from Phase 1 and amount to 3.1% in Phase 2, 0.8% in Phase 3, 2.1% in Phase 4, 3.5% in Phase 5 and 5.9% in Phase 6. This slight late peak may be reflecting a regional trend.

These levels would seem to suggest that all the sites considered on this measure are basic level rural sites, although some are on the high end of the range, and the Area B2 assemblages do not stand out in any way from the others.

The pipeline sites provide the useful addition of three rural site assemblages from central Warwickshire, which help to flesh out the quantitative evidence available from three other central Warwickshire sites, Bubbenhall (Evans forthcoming c), Princethorpe (Evans 1998) and Ling Hall (Evans 2002a) but which are rather closely clustered together.

Table 44: Area H, Proportions of jars by phase



Discussion of pottery supply in its regional context

As in the Arrow Valley in south Warwickshire and elsewhere it is again demonstrated that amphorae did not really penetrate onto rural sites at all. BB1 did reach rural sites but in much lower quantities than on urban sites and further evidence for the urban marketing of BB1 is present.

Small quantities of shell-tempered wares of early-mid Roman date reached some of the sites and late Roman shell-tempered ware, probably from Harrold, reached most in small quantities, but at considerably smaller than levels in late 4th-century urban groups (cf Evans 1996; Evans forthcoming e).

The absence of class E 'Belgic' wares from all the sites is striking. These fabrics are common at Tiddington (Booth 1996a) and are used in the Arrow Valley at Salford Priors (Evans 2000). This would seem to suggest that none of these sites were occupied before the mid 1st century, even in the cases where there was some prior occupation in the Iron Age.

Table 45: Functional analysis by phase of vessels from the pipeline sites (by minimum numbers of rims and Rim Equivalent)

Site: Phase	*Flagons*	*Constricted necked jars*	*Storage jars*	*Other jars*	*Wide-mouthed jars*	*Cups & Beakers*	*Tankards*	*Bowls*	*Dishes*	*Mortaria*	*Lids*	*N*
A	-	3.8	3.8	42.3	23.1	3.8	-	7.7	-	11.5	3.8	26 rims
	-	6.0	5.2	37.3	34.1	2.4	-	4.8	-	8.8	1.2	249%
B2:2b	-	10.3	-	6.9	41.4	-	-	27.6	10.3	3.5	-	29 rims
	-	15.5	-	2.0	44.3	-	-	29.1	4.7	4.4	-	451%
B2:2e	2.8	11.3	-	19.7	40.8	-	-	8.5	7.0	8.5	1.4	71 rims
	5.3	10.2	-	19.3	40.0	-	-	9.3	7.3	8.0	0.6	647%
H:2	-	-	-	56	19	-	-	13	13	-	-	16 rims
	-	-	-	67	20	-	-	7	6	-	-	209%
H:3	-	-	-	55	30	-	-	10	5	-	-	20 rims
	-	-	-	66	24	-	-	8	2	-	-	173%
H:4	-	-	-	44	25	-	-	6	19	6	-	16 rims
	-	-	-	55	21	-	-	3	19	2	-	128%
H:5	-	4.9	-	41.5	14.6	9.8	-	12.2	12.2	2.4	2.4	41 rims
	-	14.4	-	36.8	11.6	17.0	-	9.5	8.0	1.0	1.8	389%
H:6	-	6.7	-	33.3	33.3	1.9	-	14.3	6.7	1.9	1.9	105 rims
	-	17.9	-	32.9	28.4	2.9	-	12.1	3.6	0.8	1.4	1600%

Finewares occur on these central Warwickshire rural sites in small quantities. The dominant fineware is Oxfordshire colour-coated ware. Nene Valley products also reached the area, but mainly in the late Roman period, and these sites show usefully the greater penetration of the Warwickshire market by Nene Valley products in the 4th century.

Gritted wares occur in small quantities on these sites, as elsewhere these being G12, a later 1st- to 2nd-century fabric probably from the Northants area and G11, Milton Keynes Pink Grogged ware (Booth & Green 1989).

Mortaria supply is dominated by Mancetter products, as might be expected given the proximity of the kiln site, but despite this, as further south in the Arrow Valley (Evans 1996), there is clear evidence that Oxfordshire products became dominant by the 4th century, suggesting a clear competitive advantage over the Mancetter kilns at this date.

Oxidised wares are present on central Warwickshire sites in small quantities, a few are possible Severn Valley wares, but the principal types are likely to have been Mancetter products.

Reduced wares dominate all the assemblages, the vast majority of which are in the tradition of the Bubbenhall/Ryton/Wappenbury industry. It is clear these products were the dominant element in assemblages as far north as Harborough Magna and as far south as Chesterton, and there is clear evidence that there is a kiln site of this tradition close to Chesterton.

Samian ware is only present in small quantities in all the assemblages except for that from Area H. It is not relatively much commoner there, at 2.4%, but the absolute size of this assemblage is much larger than on the other sites. The low quantities of samian from the sites is typical of basic level rural sites. The Area H assemblage also has a very low level of decorated ware which also reflects its basic level rural nature. Most of the samian recovered is Antonine, as Willis (above) notes, this conforms with the national pattern for the consumption of samian on basic level rural sites.

Evidence from the taphonomy, tile and functional analysis suggests that Area B2 produced an assemblage probably related to nearby villa buildings, but the assemblages from Areas A and H are both typical of basic level rural sites. The taphonomic evidence from Area H suggests the Phase 5 and Phase 6 enclosure contained a number of ritually deposited vessels, providing interesting evidence of continuity of this Iron Age ritual practice in Warwickshire.

The Anglo-Saxon pottery

Thirty-four sherds of Anglo-Saxon pottery were recovered from the sites, five came from Area B1, the remainder are all from H. The sherds from B1 consist of one sherd of quartz tempered fabric AS1, one of AS 3, which has less quartz temper, and three of AS4, the Charnwood granite tempered fabric. The remaining 29 sherds from Area H, all unstratified, consist of 28 in AS1 (11 internally burnished) and one in AS2, both quartz tempered. Four jar rims are present in this collection.

It is worth noting that supposedly Charnwood sherds only amount to 8.8% of the sherds here, whereas they account for around 50% of assemblages in the north-east of England (Evans forthcoming f). Such a contrast in distribution makes it is very difficult to see the northern material as really coming from the same source, as Vince suggests (Vince in Evans forthcoming f).

All the material would seem to fall within the span of the 5th-7th centuries.

Form catalogue (Fig 45)

Fabric AS1

1 A large jar with an insloping, fairly vertical, thickened rim with a flattened top, the vessel is internally burnished and the exterior is burnt. H:8:**745**, cross joins H:8:**744**.
2 A barrel jar rim, exterior burnished. H:8:**744**.
3 A jar with an everted, slightly beaded straight rim. H:8:**744**.
4 A jar with a straight, everted rim. H:8:**744**.

The ceramic objects

KILN FURNITURE

1 Two fragments of a fired clay plate, handmade, *c* 10mm thick. These are clearly fragments of kiln furniture, as such they suggest a kiln site within the vicinity, as do the wasters described above. Wt 62g. H:2:**732/1**.

FIRED CLAY DISCS

Fragments of some twenty-three fired clay discs were recovered from the pipeline sites. Three came from Area B2, the remainder from H. Four fabrics are represented; Fabric 1 which has some shell temper, Fabric 2 which has sand and grog temper, Fabric 3 which has sand temper, and Fabric 4 which has little temper. Table 46 shows the occurrence of the fabrics by site and phase.

Fabric 1 - A reduced fabric with grey core, margins and surfaces, with abundant fairly fine shell temper *c* 0.3-0.5mm.

Fabric 2 - A reduced fabric with a black core, and brown margins and surfaces, with common-abundant sand temper *c* 0.3-0.5mm and some angular red grog *c* 0.5-2mm.

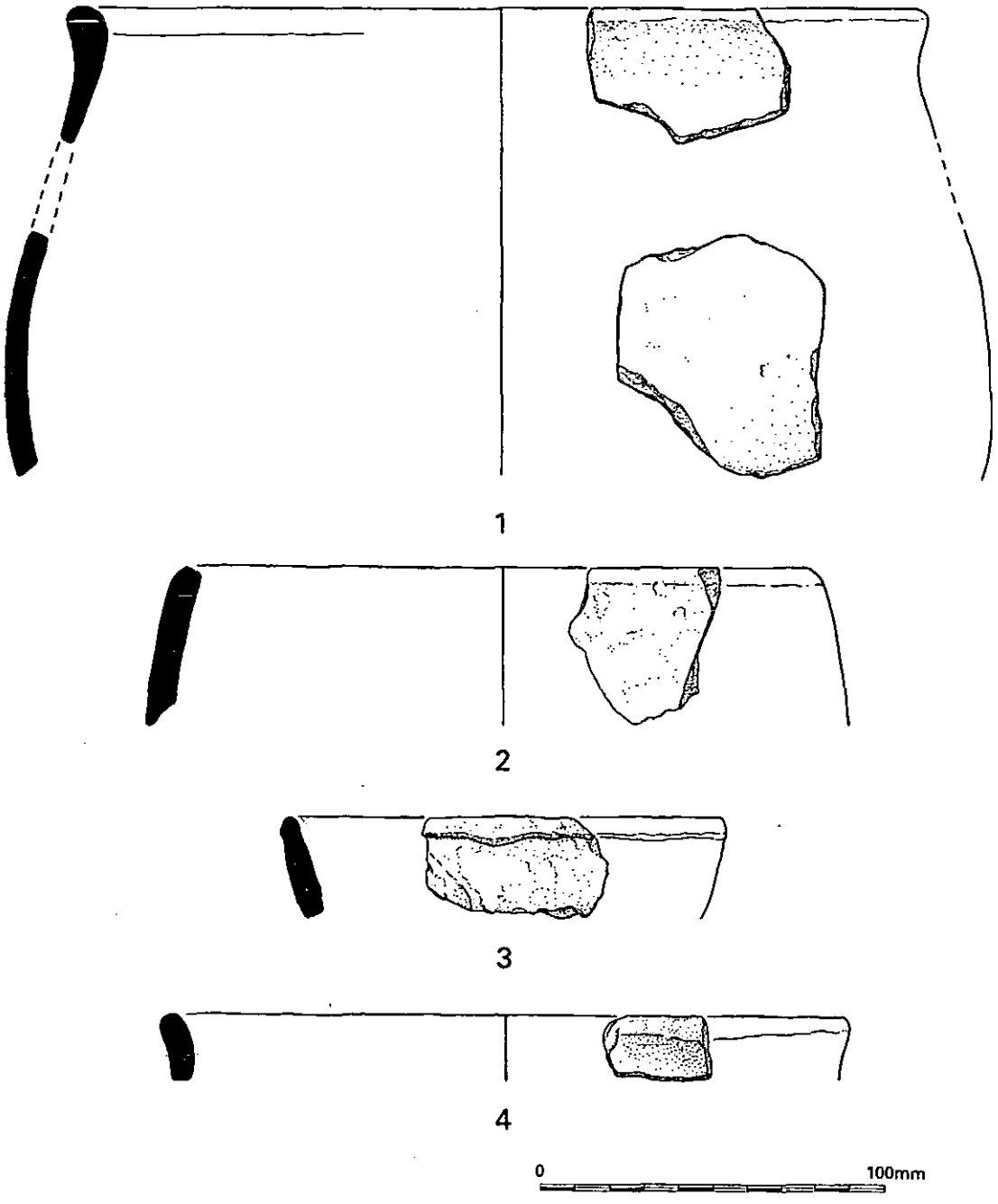


Fig 45: Anglo-Saxon pottery

Fabric 3 - A reduced fabric with a black core and brown margins and surfaces with common-abundant sand *c* 0.3-0.5mm.

Fabric 4 - A reduced(?) fabric, fairly clean, with occasional-some moderate sand *c* 0.2-0.3mm.

Catalogue (Fig 46, 2, 4, 7, 8, 13, 14, 16, 20; others unillustrated)

1 A fragment, perhaps from a fired clay disc. Fabric 2, Wt 3g. B1:2a:**132.**

2 A fragment from the circumference of a fired flat clay disc with squared rim. The upper surface is slightly smoothed. Burnt. Fabric 1. Diam *c* 25cms, RE 14%, Wt 148g. B2:2b:**107.**

3 A fragment, perhaps from a fired clay disc. Fabric 2?, Wt 6g. B2:2e:**176.**

4 Two fragments from the circumference of a fired clay disc with squared edge with well smoothed upper surface and smoothed lower surface. Fabric 1. Diam 23cms, RE 16%, Wt 228g, Th 20mm. H:2:**732/1.**

5 A fragment from a fired clay disc, the lower surface is eroded away. The upper surface is decorated with two rouletted lines intersecting at right angles. A circular hole *c* 5mm in diameter penetrates the disc. Burnt. Fabric 2, Wt 26g. H:6:**788.**

6 Two fragments from a fired clay disc, the upper surface probably being smoothed. Fabric 3. Wt 16g. H:6:**788.**

7 A fragment from a fired clay disc(?). Burnt. Fabric 4, Wt 7g. H:6:**788.**

8 A fragment probably from a fired clay disc. Fabric 2, Wt 6g. H:6:**788.**

9 A fragment from the circumference of a flat fired clay disc with a squared edge, with burning on the edge. Both surfaces seem smoothed. Fabric 1, Diam 23cms, RE 20%, Wt 370g, Th 20mm. H:6:**788.**

10 A fragment from the circumference of a flat fired clay disc with squared edge, burnt and sooted on both surfaces near the circumference. Fabric 3, Diam *c* 30cms, RE 8%, Wt 149g, Th 20mm. H:6:**788.**

11 Six fragments from a fired clay disc with smoothed surfaces. Fabric 3, Wt 273g. H:6:**789.**

12 A fragment from a fired clay disc Fabric 3, Wt 5g. H:5:**787.**

13 A fragment from a fired clay disc with smoothed surfaces. Fabric 3, Wt 20g. H:5:**787.**

14 A fragment from the circumference of a large, thick, fired clay disc. Around the upper surface near the edge is a zone of sooting, perhaps where the edge of a flatbread got overcooked. Fabric as 2 but with some large (water?) rounded quartzite up to 2mm. Diam 30cms, RE 13%, Wt 517g, Th *c* 25mm. H:6:**817.**

15 Seven fragment from a large flat fired clay disc with squared edge, both surfaces flat and smooth. Evidence of burning on the underside. Upper surface decorated with rouletted lines forming lozenges. Fabric 2, Diam *c* 35cms, RE 10%, Wt 603g, Th *c* 30mm. H:6:**797.**

16 Two joining fragments from the circumference of a flat clay disc with squared edge, both surfaces smoothed. Evidence of burning on the underside. Fabric 2, Diam 36cms, RE 9%, Th *c* 25mm. H:6:**817.**

17 Two fragments from a fired clay disc Burnt. Fabric 2, Wt 36g. H:6:**769.**

18 A fragment from the circumference of a rather small fired clay disc with a squared edge. The upper surface is slightly smoothed, the underside is partly burnt and a little eroded. Fabric 2, Diam 14cms, RE *c* 33%, Wt 201g. H:7:**715.**

19 A fragment probably from a fired clay disc. The upper surface probably smoothed, lower surface eroded. Fabric 3, Wt 11g. H:8:**746.**

20 Four fragments from a fired clay disc. Fabric 3?, Wt 3g, Th 15mm. H:8:**740.**

21 Four fragments from a fired clay disc. Fabric 3, Wt 19g. H:8:**744.**

22 Three fragments from the circumference of a small fired clay disc. Burnt with a smoothed upper surface and eroded, more irregular, lower one. The form is a slightly conical disc, with concave base and domed top. Fabric 3, Diam 14cms, RE 43%, Wt 153g, Th *c* 17.5mm. H:U/S.

23 A fragment from a fired clay disc with smoothed surfaces. Fabric 1, Wt 58g, Th 20mm. H:U/S.

Discussion

The earliest occurring fabric is fabric 1 which appears in Phase 2 on Area H in the mid-late 2nd century. Discs do not occur again until Phase 6 when two examples appear on Area H in fabric 2, and fabrics 3 and 4 both appear in phase 6. Fabric 1 appears to have continued to be used in the late Roman period as it appears on Area H Phase 6 and on Area B2, which does not have any quantity of pre-4th-century activity. Fabric 2 is the only fabric in which decoration occurs. This is in the form of lozenges defined by deeply rouletted lines, which would potentially have left an attractive pattern on anything baked on the disc, although it might also have resulted in adherence to the disc. Discs seem to vary in size from 14-36cms but there are insufficient examples to gain any clear view of their size frequency distribution.

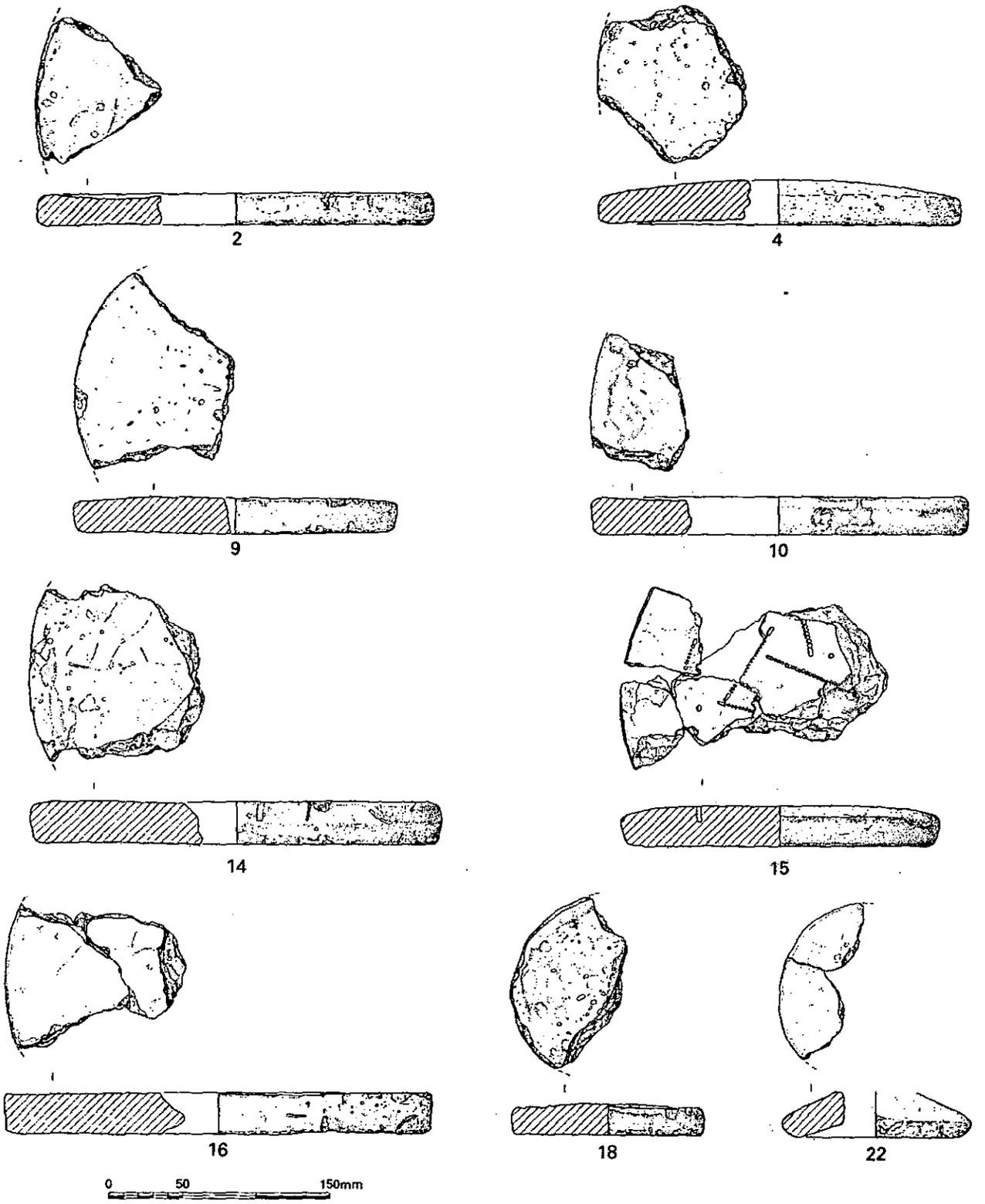


Fig 46: Romano-British fired clay discs

The discs all have squared edges and seem to either be smoothed on both surfaces or smoothed just on their apparent upper surface. Some are burnt and burning tends to be on the underside. A few show evidence of carbonised deposits on their upper

surfaces near their circumference. The larger examples seem clearly too large to be pot lids, unless they were to be lids for wide-mouthed jars, but they seem far too heavy and cumbersome for this purpose. Neither would this explain the burning, smoothing or carbonised deposits. The most obvious explanation to this author is that they are 'chapatti discs', bakestones for making some form of bread or pizza.

Table 46: The occurrence of fired clay discs by site and fabric

Site	*Fabric 1 - shell*	*Fabric 2 - grog*	*Fabric 3 - sand*	*Fabric 4 – clean*
A	-	-	-	-
B2	1	2	-	-
H Phase 1	-	-	-	-
H Phase 2	1	-	-	-
H Phase 3	-	-	-	-
H Phase 4	-	-	-	-
H Phase 5	-	2	-	-
H Phase 6	1	6	3	1
H U/S	1	1	4	-
Total	4	9	8	1

The origin and distribution of fired clay discs

The pipeline sites' collection of these discs is very useful in helping to determine more about them. Their occurrence on sites is erratic, even allowing for reporting problems with examples from older excavations. In the Arrow Valley they are absent from the sites at Salford Priors (Evans 2000) and from Billesley Manor Farm (Evans & Dickinson 2003). At Alcester there is a single example from the Mahany excavations (diameter *c* 20cms in fabric 1), but at Fenny Compton there are over 60 fragments (Eames pers comm).

Discs are also present at Tiddington where some 49 were recovered in four fabrics (N Palmer pers comm). These had diameters of 20-26cm, with an average of 22.7cm and thicknesses of 14-33mm, with an average of 21mm. Palmer (pers comm) reports the discs come from 1st-century (1), early 2nd-century (3), late 2nd-century (2), 2nd- to 4th-century (1), early 3rd-century (3), 3rd-century (1), later 3rd-/early 4th-century (5), 4th-century (2), late 4th-century (4), and later/topsoil/unstrat (28) contexts (Bass & Palmer in prep). The date distribution of the Tiddington pieces again gives a late Roman emphasis to the use of the discs, but it does provide the first evidence of their use in the 1st century.

There are three discs from Bubbenhall (diam 25, 30 and 38 cms), two in a 'soapy' organically tempered fabric, and one decorated with a herringbone/groove and arrow motif around the upper circumference. There are also c.40 examples from Wasperton (N Palmer, pers comm), but no details are currently available. Fragments from three discs come from Long Marston, a rural site producing pottery with a 2nd- to 4th-century date range with a late Roman emphasis (Evans 2002b). Three fabrics seem to be represented there, one fairly clean, one sand tempered and one with sand and organic temper. No known examples of fired clay discs come from any Iron Age site in Warwickshire.

Outside Warwickshire to the west there is a single fairly certain example from the Worcester Magistrates Court site in fabric G47, Malvernian Metamorphic Tempered ware. It has a diameter of *c* 20cms, a smoother upper surface and is burnt on the rougher slightly concave lower one. It came from a post-Roman deposit. This is currently the only known example in the Severn Valley.

To the south-east there are a series of examples from Oxfordshire. Booth (2001, 261) describes 65 fragments from Alchester, most around 20mm thick and all in a shell-tempered fabric with diameters of 32-46cms. The earliest examples appear in phase 4 (AD 80-140) and 5 (AD 140-80/90) but the largest numbers appear in phases 7 and 8 (later 3rd-mid-4th centuries). None of the Alchester examples are burnt. Booth suggests a possible relationship to Oxfordshire fabric C13, although this was much more heavily shell-tempered than the Warwickshire shell-tempered clay discs. Booth (2001) points to examples from the rural site at Farmoor (Lambrick & Robinson 1979, 53) where four are illustrated, of 15-25cms in diameter, and further examples from Old Schifford (Barclay *et al* 1996, 138). The five Old Schifford possible examples have thicknesses of around 20mm and the one measurable example had a diameter of 21cms. Two of these were shell-tempered and the others were tempered with sand or flint and limestone. All come from late Roman contexts of 4th-century date. Booth (pers comm) also points to examples from the Abingdon Reservoir sites (Hearne 2000) where two fabrics are present, one shell-tempered and one sand tempered. These sites also produced some fired clay rectangular objects, like small bricks, which Booth thinks may be associated with the discs in some way. He also points out the latter type of fired clay object also occurs at the later Iron Age-early Roman site at Hatford.

In west Oxfordshire they are absent from Asthall (Booth 1997) and they are absent from such sites as Frocester Court in Gloucestershire (Price 2000). The core distribution would seem to be in Oxfordshire and Warwickshire. The only other possible examples known to this author are two shell tempered rough discs, with diameters of 21cms and 40cms, from Haddon in northern Cambridgeshire (Evans forthcoming b), which may have had a similar purpose, although they are not smoothed.

As Booth (2001) points out there is no evidence in Oxfordshire for any of these discs on Iron Age sites in the area, as in Warwickshire. The earliest dated examples at Alchester and Tiddington might suggest a late 1st-century date. It may be that earlier occurrences for them will be found in Oxfordshire, but currently there is no published evidence known to this author to substantiate this. Thus they appear to be an innovation of the Roman period. However, they do not seem to originate elsewhere, and the strong but erratic rural distribution of the type, and comparatively weak urban distribution (common in the village at Tiddington but with only a single example from Alcester), suggests a fairly plebeian fashion.

The function of the discs has been discussed above. If this interpretation is accurate then the appearance of the discs would seem to suggest the development of a probably novel cuisine in the West Midlands in the Roman period, probably mainly amongst the peasantry.

Appendix 1: Iron Age, Roman and Anglo-Saxon pottery fabric descriptions

IRON AGE AND ROMAN FABRICS

A21 Dressel 20, Baetican amphora; common limestone/chalk sand and silver mica, exterior sometimes white-slipped.

B11 BB1, Poole Harbour, Dorset (Williams 1977).

C11 Southern Shell-Tempered ware (Sanders 1973; Brown 1994) probably from Harrold, Beds. A reduced fabric with grey core and brown or grey margins and surfaces, with abundant shell inclusions *c* 0.1-4mm

C15 Shell-tempered ware, source perhaps Oxfordshire, or Northants. Fabric and colour as C11 *but* hand-made.

E241 A wheelmade reduced grog tempered 'Belgic' fabric with common mainly grey grog temper *c* 0.3-1mm and some organic temper voids up to 1mm.

E42 A wheelmade reduced 'Belgic' fabric, poorly levigated, with some sand temper *c* 0.5mm and occasional grey grog *c* 0.5mm.

F51 Oxfordshire red colour-coated ware (Young 1977).

F52 Nene Valley colour-coated ware, parchment ware fabric (Howe *et al* 1980).

F53 Nene Valley colour-coated ware, oxidised ware fabric (Howe *et al* 1980).

F59 South-West Brown Slipped ware, Gloucestershire. An externally brown-slipped fabric with common fine sand temper <0.1mm and some fine black ironstone *c* 0.1mm. Not micaceous.

G11 Pink grogged ware (Booth & Green 1989).

G12 A handmade oxidised? fabric with a pale grey core and pale orange-brown margins and surfaces, with abundant angular white grog *c* 1-4mm and some black ?ironstone *c* 0.2-0.5mm.

G17 A handmade reduced? fabric with orange-buff core and orange-buff/black margins and surfaces, with common angular buff grog *c* 0.3-1mm and occasional organic temper voids up to 0.5mm.

M22 Mancetter-Hartshill mortaria; white fabric with red and brown grog trituration grits.

M23 Oxfordshire white ware mortaria; white fabric with translucent, white, and pink quartz trituration grits (Young 1977).

M26 A whiteware mortarium with common sand temper *c* 0.3-0.5mm and some rounded ironstone *c* 0.3-0.5mm. Midlands.

M71 Oxfordshire oxidised red colour-coated mortaria (Young 1977).

O11 Mancetter(?) oxidised ware. An oxidised fabric with an orange core, margins and surfaces, 'soapy' with occasional fine sand *c* 0.1mm and common fine silver mica >0.1mm.

O12 Mancetter(?) oxidised ware. An oxidised fabric with mid grey core and orange margins and surfaces, with common sand *c*0.1-0.5mm and some rounded brown ironstone *c*0.2-0.3mm.

O13 Mancetter(?) oxidised ware. An oxidised fabric with occasional sand *c*0.3mm and some fine organic temper voids *c*0.3mm.

O14 Mancetter(?) oxidised ware. An oxidised fabric with common sand temper *c*0.3-0.5mm and some-common fine organics *c*0.5-1mm.

O16 Mancetter(?) oxidised ware. An oxidised fabric with abundant moderate sand temper *c*0.3mm.

O36 Severn Valley ware; similar to fabric O21, but with less organic tempering. Some-common organic temper voids *c*0.3mm and sometimes some white ?calcareous inclusions or grog inclusions.

O51 A hard oxidised fabric with common angular sand temper *c*0.3-0.5mm. (The type sherd is from the Tiddington kiln).

O52 An oxidised fabric with common rounded ironstone inclusions *c*0.3-0.5mm.

O81 An oxidised fabric with abundant fine sand temper *c*0.1mm. Possibly cf Purton and Whitehill Farm, North Wilts.

P12 A hand-made Iron Age fabric with common moderate sand temper *c*0.3-0.4mm and some organic temper voids. (Similar to P11 but with some organics.)

P14 A reduced, laminar, hand-made Iron Age fabric with some large organic temper voids, no sand temper.

P38 A reduced handmade Iron Age fabric with a black core, margins and surfaces, with common moderate sand temper *c*0.3mm, occasional large rounded quartz *c*4mm and some large black shale? inclusions *c*4mm.

P40 A reduced handmade Iron Age fabric with large grog inclusions.

P52 A handmade reduced fabric with a black core, margins and surfaces, poorly levigated, with abundant shell-temper up to 2mm.

P54 A reduced, handmade, Iron Age, shell-tempered fabric with black core and brown/black margins and surfaces with common-abundant shell-temper voids *c*1-3mm.

P55 A reduced, handmade, Iron Age fab with black core, margins and surfaces, with some angular white quartz *c*1-2.5mm and common voids up to 1.5mm long, possibly shell or organic temper.

P71 A reduced handmade Iron Age fabric with dark grey core and dark grey/brown margins and surfaces, with abundant angular grey flint up to 6mm in a fairly clean matrix.

P72 A reduced handmade, Iron Age fabric with a black core, margins and surfaces, with common fairly fine angular sand temper *c* 0.2-0.3mm and some angular white ?flint *c* 1-2mm.

Q27 A white-slipped oxidised fabric, fairly clean with some fine voids up to 0.3mm.
R01/R11 A reduced fabric with common fairly coarse sand temper *c* 0.4mm.
R111 A reduced 'sandwich' fabric with grey core, oxidised margins and black surfaces, with common moderate sand temper *c* 0.3mm.
R18 A reduced fabric with brown core, grey margins and black surfaces, with occasional vegetable temper voids and some fine limestone/chalk sand.
R19 A reduced fabric with grey core and dark grey surfaces with abundant sub-rounded coarse sand *c* 0.5mm, similar to R12.
R32 A reduced fabric with common small vegetable voids *c* 0.3-0.5mm.
R41 A reduced ware sometimes with an orange-brown core, with some moderate sand temper *c* 0.3-0.5mm.
R52/R55 A reduced fabric with some moderate sand temper, occasional-some organic temper voids *c* 0.3-1mm, and some grey grog inclusions *c* 1-3mm, and sometimes and some rounded white inclusions *c* 0.1-0.2mm..
R83 A reduced fabric with mid grey core, margins and surfaces, fairly 'clean' with some fine sand temper *c* 0.1mm.
S10 South Gaulish La Graufesenque samian ware.
S20 Central Gaulish (Lezoux) samian ware.
S31 East Gaulish Argonne samian ware.
S32 East Gaulish Rheinzabern samian ware.
S33 East Gaulish Trier samian ware.
S36 East Gaulish Blickweiler samian ware.
S37 East Gaulish Chemery samian ware.
W12 Mancetter-Hartshill whiteware; a white fabric, sometimes with a pinkish core, with common moderate white and pink sand temper *c* 0.3mm and some moderate red ironstone.
W15 Oxfordshire parchment ware (Young 1977).
W22 A hard fine whiteware with some fine sand temper *c* 0.1mm.
W23 A whiteware, sometimes with a pink core, with common fine sand temper *c* 0.1mm and some rounded red ironstone *c* 0.3mm.
W29 A whiteware with occasional moderate sand temper *c* 0.3mm in a clean matrix and occasional rounded red ironstone *c* 0.3mm.
W34 A whiteware with a buff-white fabric with a clean matrix with occasional angular quartz inclusions *c* 0.5mm.

ANGLO-SAXON FABRICS

AS1 A handmade reduced fabric with common sub-angular quartz *c* 0.3-1.5mm and occasional organic temper voids up to 2mm long.
AS2 A handmade reduced fabric with a black core, margins and surfaces, with common angular quartz, *c* 0.5-1mm and some organic inclusions up to 1mm long. =AS1
AS3 A handmade reduced fabric with black core, margins and surfaces, with some angular quartz *c* 0.5-1mm and some organic temper voids up to 1mm long. It has less quartz than AS1.
AS4 A handmade fabric with a grey core and brown margins and surfaces, with some angular white quartz *c* 0.5-1mm and some gold mica *c* 0.2-1mm. Probably Charnwood granite tempered ware.

Appendix 2: Form occurrence by site and phase

Forms are listed by fabric followed by Xnnn for the number of examples if greater than one. The figures in square brackets [nnn] represent the RE values for each of these rimsherds.

Area A Phase 1a

Fabric	*Forms*
R01	JAR[8]

R18	R18.11[7]

Area A Phase 1b

Fabric	*Forms*
C15	C15.1[7]
M26	MORT[5]
R18	CONSTRICTED-NECKED JAR[15]

Area A Phase 2

Fabric	*Forms*		
O36	O36.1[17]		
R01	R01.9[17]		
R18	R18.9[10]	R18.16[12]	
R19	R19.4[3]	R52/55	R52.9[8]
S20	DR30[6]		

Area A Phase 3

Fabric	*Forms*
C11	C11.1[13]
M23	M23.3[8]
R01	JAR[4] R01.4X2[8,12]
R18	R18.29[6]

Area A Phase 3a

Fabric	*Forms*
G12	G12.1[7]
R41	BEAKER[6]

Area A Phase 3b

Fabric	*Forms*		
M22	M22.3[9]		
O12	O12.1[12]		
R18	JAR[5]	R18.16[11]	R18.17[27]
R52/55	R52.18[6]		

Area A Phase 4

Fabric	*Forms*	
G12	G12.1[6]	
O36	O36.2[12]	O36.3[12]
R18	R18.10[10]	R18.19[12]

Area B1 Phase 2

Fabric	*Forms*
E20	JAR[2]

Area B1 Phase 2a

Fabric	*Forms*
F51	F51.2[8]
M22	HAMMERHEAD MORT[8]
R18	R18.27[12]
R19	R19.3[6]
R52/55	R52.21[6]

Area B2 Phase 2b

Fabric	*Forms*		
B01	B01.4[46]	B01.6X2[5,12]	B01.7[4]
C11	C11.3[3]	C11.4[6]	
F51	F51.1X2[6,3]		

M71	M71.1[20]				
R01	R01.12[9]	R01.13[7]			
R18	WIDE-MOUTHED JAR[6]	R18.16X2[9,10]	R18.17X2[7,12]	R18.18[32]	
	R18.27X3[4,47,3]				
R52/55	R52.2[25]	R52.6[22]	R52.7[23]	WIDE-MOUTHED JAR[8]	
	R52.18X2[9,5]	R52.21[85]	R52.27[8]		

Area B2 Phase 2d

Fabric	*Forms*			
C11	C11.2X2[6,12]	C11.3[8]		
R01	R01.1[10]			
R18	CONSTRICTED-NECKED JAR[6]	R18.8[23]		
R52/55	R52.6[19]	R52.27[7]		
S36	Dr31R[11]			

Area B2 Phase 2e

Fabric	*Forms*				
B01	B01.7X2[4,5]				
C11	JAR[9]	C11.2X3[3,7,4]	C11.3X2[7,5]	C11.5[26]	
F51	F51.2[3]FLAGON/JUG[8]				
F52	F52.1[21]				
M22	M22.1[12]	M22.2X2[8,6]			
M23	MORT[8]	M23.1X2[10,8]			
O12	O12.3[6]				
R01	JARX2[7,5]	R01.3[12]	R01.13[2]	R01.14[10]	
R111	R111.1[7]				
R18	R18.1[26]	R18.2X3[10,3,3]	JARX2[5,8]		
	R18.16X10[22,9,11,11,11,8,14,6,8,5]		R18.17X6[7,12,10,12,7,4]		
	R18.18[10]	R18.20[9]	R18.21X2[3,14]	R18.26[5]	R18.30[26]
R19	R19.2[34]				
R41	R41.1[12]	R41.2[6]			
R52/55	CONSTRICTED-NECKED JAR[8]		R52.1[3]	R52.5[13]	R52.6[14]
	R52.18X2[10,10]	R52.19[5]	R52.20[6]	R52.22[7]	R52.27X4[7,8,10,3]
	R52.33[5]	R52.35[4]			
W15	W15.1[9]				

Area H Phase 1

Fabric	*Forms*		
R01	R01.4[4]	R01.6[7]	R01.16[4]
R18	R18.14[11]	R18.17[6]	
R32	R32.1[6]		
R52/55	R52.10[11]		

Area H Phase 2

Fabric	*Forms*			
B01	B01.7X2[9,4]			
R01	R01.5X3[23,11,21]	R01.6[18]	R01.7[34]	
R18	JARX2[4,8]	R18.11[17]		
R52/55	JAR[4]	R52.22[10]	R52.23[7]	R52.25[25]	R52.31[10]
S20	Dr18/31/31[4]				

Area H Phase 3

Fabric	*Forms*			
B01	JAR[4]	B01.2[6]	B01.7[4]	
C11	C11.5[5]			
R01	JAR[4]	R01.11[12]	R01.15X2[5,8]	
R18	R18.11X3[23,11,20]	R18.15[10]	R18.16[7]	R18.19[9]
R19	R19.1[11]			

R52/55	R52.15[8]	R52.21X2[11,5]	R52.22X2[5,5]	

Area H Phase 4

Fabric	*Forms*				
B01	BOWL[4]	B01.7X2[2,9]			
M22	HAMMERHEAD MORT[3]				
R01	JAR[10]	R01.3[19]	R01.4[21]	R01.16[13]	
R18	JAR[2]	R18.11[4]			
R52/55	JAR[6]	R52.13[8]	R52.18[6]	R52.22[10]	R52.23[6]
	R52.24[5]				

Area H Phase 5

Fabric	*Forms*				
B01	B01.5X5[2,11,4,3,11]	B01.7X2[6,7]	JAR[1]		
C11	C11.3[6]				
M22	M22.2[4]				
R01	JAR[5]	R01.4X2[9,7]	R01.5X2[6,21]	R01.10[3]	
	R01.15X2[10,8]	R01.18[7]			
R18	BOWL[6]	R18.3[14]	R18.4[42]	JARX3[11,9,9]	
	R18.11[7]	R18.14[16]	WIDE-MOUTHED JAR[5]		
	R18.19X2[11,11]	R18.22[7]	R18.25[33]		
R52/55	JARX2[4,4]	R52.10[6]	R52.12[19]	R52.18[4]	
	R52.20[7]	R52.29X2[12,11]			
S20	Dr33[10]				

Area H Phase 6

Fabric	*Forms*				
B01	JARX2[4,6]	B01.1[6]	B01.2[3]	B01.4[53, 42]	
	B01.7X4[24,4,8,5]				
C15	JAR[7]	C15.2[6,83]			
F51	F51.1X3[6,2,7]	F51.2x2[6,2]			
F53	F53.1[7]				
M22	M22.1[7]	M22.5[5]			
O12	O12.2[39]				
O36	O36.1[10]				
R01	R01.2[100]	JARx2[2,3]	R01.4X2[25,40]	R01.5X2[6,7]	R01.6X2[13,10]
	R01.8[8]				
R18	R18.4[12]	R18.5[20]	JARX2[6,5]	R18.10[3]	R18.11x2[10,32]
	R18.13[16]	R18.15X2[11,13]	R18.16[12]	R18.17X3[12,5,11]	
	R18.18X4[9,13,16,6]	R18.19X3[9,7,15]		R18.21X2[10,18]	R18.24[30]
	R18.31[9]				
R19	R19.2[6]				
R41	R41.3[10]				
R52/55	R52.3[21]	R52.6x2[95,14]	JARX2[1,7]	R52.8[24]	R52.9[34]
	R52.13X3[21,49,6]	R52.14[29]	R52.15x2[10,28]	R52.16[7]	
	WIDE-MOUTHED JARX3[4,4,10]		R52.18X3[11,7,7]	R52.19[3]	
	R52.21X5[10,10,16,10,20]		R52.22[6]	R52.23[7]	
	R52.26X4[10,16,9,6]				
	R52.27x2[5,9]	R52.28[93]	R52.29[17]	R52.32X4[7,3,11,16]	R52.33[5]
	R52.35[13]				
S20	Dr31[16]	DISH[4]			
S32	Dr31R[10]				

CERAMIC BUILDING MATERIALS *by Phil Mills*

Introduction

The amount of material catalogued from the three areas is summarised in Table 47. All the material is Roman in date and was examined under a x20 hand lens.

Table 47: The ceramic building material from Areas A, B and H

Area	*No*	*Wt(g)*	*Corners*
A	69	2106	1
B	788	109391	36
H	1224	88616	18

Fabrics

The amount of ceramic building material in each fabric type is given in Table 48, broken down by area. Table 49 summarises the different types of forms found in each fabric. These fabrics have all also been identified at Worcester (Mills unpublished).

WMC01 This is a light red (Munsell: 10R6/8) fabric with a hard sandy feel with a fine fracture, with inclusions of abundant moderately-sorted fine sub rounded mica, sparse well-sorted medium sub angular black iron stone, and sparse moderately-sorted medium sub rounded quartz.
It would appear to be similar to SVW OX2 (Tomber & Dore 1998, 149). Possibly produced at Upper Sandlin Farm, Leigh Sinton SO 7551 (McWhirr 1979, 139), 2nd to 3rd-century AD.

WMC02 A weak red (Munsell: 10R4/4) very hard sandy feel fine fracture, with inclusions of abundant poorly-sorted coarse angular black iron stone, abundant well-sorted fine rounded mica (silver), moderate poorly-sorted coarse sub angular calcite?, and sparse moderately-sorted medium rounded quartz. This is a variant of WMC01, but with more inclusions.

WMC03 A red with light reddish-brown surface (Munsell: 3.5YR5/8 Core: 5YR6/4) hard, very sandy feel irregular fracture, with inclusions of abundant well-sorted fine rounded mica, abundant poorly-sorted coarse sub rounded quartz, moderate poorly-sorted medium sub angular black iron stone, moderate moderately-sorted medium sub angular limestone(?), and moderate moderately-sorted medium sub rounded quartzite. This fabric is very similar to WMC01, suggesting the use of common raw materials. Inclusions tend to be less well sorted, coarser and have a greater range.

WMC04 A pale red external surface with red internal surface (Munsell: 10R4/2, core: 2.5YR6/2) soft very sandy feel *hackly* fracture, with inclusions of sparse poorly-sorted medium sub angular flint (?), sparse well-sorted medium sub angular green stone, sparse well-sorted fine rounded mica and sparse poorly-sorted coarse angular quartzite.

WMC05 A light reddish-brown surface with dark reddish brown (Munsell: 5YR3/3 5YR6/4) hard very sandy feel, irregular fracture, with inclusions of, abundant well-sorted fine rounded mica, abundant moderately-sorted medium sub rounded quartz abundant moderately-sorted medium sub rounded quartzite and sparse moderately-sorted medium sub angular limestone.

Table 48: Summary of fabrics by area

Fabric	*Data*	*A*	*B*	*H*	**Total**
WMC01	Wt	193	51743	77875	129811
	No	9	392	1137	1538
WMC02	Wt	393	9601	2094	12088
	No	7	77	17	101
WMC03	Wt	1229	28943	117	30289
	No	49	248	2	299
WMC04	Wt	189	140		329
	No	2	1		3
WMC05	Wt			343	343
	No			4	4
WMC06	Wt		3	401	404
	No		2	7	9
WMC07	Wt		857	795	1652
	No		5	11	16
WMC11	Wt		16695	6866	23561
	No		57	44	101
WMC12	Wt	126		125	251
	No	2		2	4
Total weight		2130	107982	88616	198728
Total number of frags		69	782	1224	2075

Table 49: Summary of products in each fabric type

Fabric		*Weight*	*No of Fragments*	*No of Corners*
WMC01	Brick	20768	80	8
	Flue Tile	7485	24	6
	Imbrex	7187	80	1
	Tegula	44440	226	17
WMC02	Brick	3243	7	1
	Flue Tile	1398	9	2
	Imbrex	885	8	
	Tegula	2126	9	3
WMC03	Brick	10257	33	2
	Flue Tile	873	7	
	Imbrex	2532	32	3
	Tegula	8817	39	4
WMC04	Brick	178	1	
	Tegula	140	1	
WMC05	Imbrex	48	1	
WMC06	Imbrex	123	2	
	Tegula	156	1	
WMC07	Imbrex	15	1	
	Ridge Tile	607	5	
	Tegula	370	1	
WMC11	Brick	15750	43	3
	Imbrex	370	5	
	Tegula	2214	12	1

WMC07 A red with dusky grey core (Munsell: 2.5YR3/2 2.5YR4/8) very hard granular feel irregular fracture, with inclusions of abundant well-sorted fine rounded mica, sparse moderately sorted medium rounded quartz and abundant poorly sorted medium rounded voids. This fabric was a coarser variant of WMC01.

WMC11 A variant of WMC01. It is hard and has a reduced core.

WMC12 This is a buff variant of WMC01 with a red core and red paint/slip on surface.

Table 50 summarises the date ranges of the observed ceramic building material fabrics. The amount of tile is represented as fragment count, in order to alleviate the problem caused by the different weights of different brick and tile types. The amount of material is too small to determine any definite patterns, and the data is biased by the probable use of CBM in a structure associated with Area B.

Table 50: Fabric (by number of fragments) by site and period

Area	*Date*	*WMC01*	*WMC02*	*WMC03*	*WMC04*	*WMC05*	*WMC06*	*WMC07*	*WMC11*	*WMC12*
A	AD 75-150				1					
	AD 175-225	1		15						2
	AD 250-300	1		1						
	AD 300-400	7								
B2	AD 275-300	112	6	43	1		1	1	15	
	AD 275-400	147	49	106			1	2	30	
	AD 350-400	91	12					1	9	
H	AD 100-150	18		1						
	AD 175-200	31	4			1	2	1	2	
	AD 200-225	41	1						1	
	AD 225-275	7					1			
	AD 250-300	223				2	1	2	7	
	AD 275-400	178	3	1		1	1	2	8	

Forms

BRICKS

No complete examples of bricks were identified. Because Roman bricks tended to be thinner than modern types, they can be very difficult to distinguish from fragments of tegula or box flue tile. For this reason, unidentified flat tile was sorted into four groups, dependant on thickness of fragments:

Type 1 - Thickness *c* 15 – 23 mm
Type 2 - Thickness *c* 25 – 35mm
Type 3 - Thickness *c* 35 – 45mm, Width 140mm
Type 4 - Thickness *c* 50-60mm

Only Types 3 and 4 were classified as bricks, as Types 1 and 2 could easily be other CBM types.

A single example of a complete width of a class 3 brick [Lydion (Brodbribb 1987)] was discerned (Area A **105**). A number of the fragments from Area B2 had been burned, and could well have been *bessales* used for the construction of *pilae* stacks for a hypocaust system.

TEGULAE

These were discriminated by flange types, using a coding system to describe the shape of the flange. At present, there is no evidence that flange shapes can be related meaningfully to any chronology. Corner cutaways were described using the code in Brodbribb (1987) with the addition of type 0, which described the removal of the flange on the upper corners. A number of the tegulae were well finished, with an externally wiped surface, and in some cases possibly treated with a paint or slip.

A number of tegulae with nail holes, and one with a nail *in situ* were observed. These were probably used for the lowest layer of tegulae on a roof.

IMBREX

Two types of imbrex were defined:
Type 1 - Thickness of *c* 15 – 20mm
Type 2 - Thickness of *c* 25mm

As with the tegulae a number of well-finished examples were catalogued.

RIDGE TILE

These were defined as having a thickness of *c* 30mm or greater.

FLUE TILE

These all exhibited combed decoration which is a prevalent form of decoration from the 3rd century AD (Table 51). Three main decoration types were coded: a broad toothed comb (WCD), a medium-toothed comb (MCD) or a narrow toothed comb (NCD). They have a thickness of *c*15mm, and two vent holes were observed.

Markings

In addition to the markings mentioned above, the other types of markings observed on the assemblages are summarised in Table 52. Signatures are tilers' marks common on tegulae in Roman Britain. Animal prints are also often noted on Roman CBM and can be related to the mixed economy prevalent at a tile production site. A number of the roof tiles may have been treated with a slip or paint. This is something that appears to occur from the 3rd century (Ward 1999, Mills in prep).

Discussion

The fabric seriation (Table 50) suggest that fabric WMC04 may be the earliest in use in the region, but the small quantity of material here means that this has to be tested on larger assemblages.

AREA A, HARBOROUGH MAGNA

There is a relatively small quantity of material from this site, and the pieces from Roman phases are very small, and suggest a bias towards flat pieces. It is probable that this material represents small quantities of material imported onto the site for firming up areas of mud, or in material used for manuring.

AREA B, LONG ITCHINGTON

The material from this site enters the archaeological record from Phase 2a. The large quantity of material, the ratio of imbrex to tegula and the concentration of flue tile and burnt bricks suggest that this material emanates from a hypocaust structure on

Table 51: Summary of flue tiles by area

Area	*Phase*	*Brick Type*	*Markings*	*No*	*Wt(g)*	*Cnr*
A	4	Flue Tile	WCD	1	163	1
	5	Flue Tile	WCD	2	323	
B		Flue Tile		2	83	
	2a	Flue Tile		1	336	
	2a	Flue Tile	WCD	1	218	1
	2b	Flue Tile	MCD	1	97	
	2b	Flue Tile	WCD	3	293	1
	2d	Flue Tile	WCD	13	6482	5
	2d	Flue Tile		3	202	
	2d	Flue Tile	MCD	1	249	
	2e	Flue Tile	WCD	3	467	
	2e	Flue Tile	MCD	1	69	
	4	Flue Tile		1	11	
	4	Flue tile	WCD	3	516	
	5	Flue Tile	WCD	2	37	
H	4	Flue Tile	NCD	1	99	
	9	Flue Tile	NCD	1	111	

Table 52: Markings on tiles

Area	*Context No*	*Brick Type*	*Fabric*	*Markings*
A	1	Tegula	WMC03	Sig CL
B	105	Tegula	WMC02	RP?
	105	Tegula	WMC03	RP
	105	Tegula	WMC03	Sig 2 Finger CL
	106	Tegula	WMC01	Fingerprints; RP?
	106	Tegula	WMC01	Sig 4 Finger CL
	107	B/T	WMC03	Animal Print
	107	B/T	WMC03	Cat print
	107	Tegula	WMC03	Cat print
	137	Tegula	WMC03	BP?
	138	Tegula	WMC03	Sig - Tri
	138	B/T	WMC02	BOOT PRINT?
	176	B/T	WMC11	RP?
	176	Imbrex	WMC01	RP?
	182	Tegula	WMC11	RP?
H	737	Brick	WMC01	Cat Print
	737	Tegula	WMC01	Sig CL
	738	Tegula	WMC01	Sig CL
	738	Imbrex	WMC11	RP
	739	Tegula	WMC11	RP
	745	Imbrex	WMC01	W/ RP?
	746	Tegula	WMC01	W- Sig CL
	754	B/T	WMC01	Sig CL
	769	Tegula	WMC01	W/RP
	769	Tegula	WMC11	Sig cl
	769	B/T	WMC01	W - Sig CL
	771	B/T	WMC02	W/RP
	771	B/T	WMC02	W/RP
	775	Tegula	WMC01	Sig CL
	780	B/T	WMC01	Sig CL
	787	B/T	WMC05	RP
	789	Tegula	WMC01	Sig CL

Key: Sig = Signature, CL = Curved line, RP= red paint, BP = Brown Paint, Tri = Triangular, W = Wiped, W/RP = wiped or red paint.

Table 53: Form types by phase and deposit type in Area A

Phase	*Description*	*Brick Type*	*No*	*Wt(g)*	*Cnr*	*Wt Av*
1a	Gully	B/T	1	11		11.00
2	Ditch	B/T	1	12		12.00
	Gully	B/T	16	201		12.56
	Gully	Tegula	1	41		41.00
3	Ditch	B/T	2	161		80.50
3b	Gully	B/T	7	28		4.00

the site or very close by. The high quality finish on a number of the bricks, as well as the roof tiles would suggest that this structure is not the 'corndrier'. The relative lack of material from this site can be explained by the practice of dismantling structures, using intact brick and tiles in other projects, and even reusing broken material as hard core, not necessarily in the same locale.

AREA H, CHESTERTON AND KINGSTON

This area produced a relatively large quantity of material of a medium size. The ratios of roof tiles to each other suggests that not much deliberate sorting of the material was carried out prior to its use on the site, apart from the rubble spread/ surface in Phase 6. The material is likely to have been bought onto the site as rubble for a number of functions, not associated with a structure. The relatively large amount may suggest the source of some of the material as possibly a building in the vicinity, with supply to this site being from builder's rubble from construction or rubble from development or demolition.

Table 54: Form types by phase and deposit type in Area B

Ph	*Description*	*Brick Type*	*No*	*Wt*	*C*	*WtAv*
2a	Gully	B/T	44	3027	1	68.80
	Gully	Brick	4	692		173.00
	Gully	Flue Tile	2	554	1	277.00
	Gully	Imbrex	4	386		96.50
	Gully	Tegula	9	2670	2	296.67
2b	Ditch	B/T	87	3753		43.14
	Gully	B/T	7	509		72.71
	Ditch	Brick	22	5805	1	263.86
	Gully	Brick	7	3363	1	480.43
	Ditch	Flue Tile	3	133	1	44.33
	Gully	Flue Tile	1	257		257.00
	Ditch	Imbrex	20	2321	2	116.05
	Gully	Imbrex	1	180		180.00
	Ditch	Tegula	27	6805	1	252.04
	Gully	Tegula	4	1124		281.00
2d	Gully	B/T	27	3298		122.15
	Layer	B/T	26	1669		64.19
	Levelling	B/T	73	5527		75.71
	Demolition	Brick	3	1358		452.67
	Gully	Brick	16	4811	5	300.69
	Layer	Brick	20	1016	9	508.45
	Levelling	Brick	18	4021		223.39
	Demolition	Flue Tile	1	249		249.00
	Gully	Flue Tile	5	789	1	157.80
	Layer	Flue Tile	5	4490	3	898.00
	Levelling	Flue Tile	6	1405	1	234.17
	Demolition	Imbrex	3	268		89.33
	Gully	Imbrex	11	853	1	77.55
	Layer	Imbrex	2	315		157.50
	Levelling	Imbrex	12	1017		84.75
	Levelling	Ridge Tile	1	118		118.00
	Demolition	Tegula	4	585		146.25
	Gully	Tegula	14	4448	5	317.71
	Layer	Tegula	11	4061	3	369.18
	Levelling	Tegula	14	3268		233.43
2e	Levelling	B/T	51	3431		67.27
	Levelling	Brick	26	7899	5	303.81
	Levelling	Flue Tile	4	536		134.00
	Levelling	Imbrex	12	1026		85.50
	Levelling	Ridge Tile	1	274		274.00
	Levelling	Tegula	23	3926	1	170.70

Table 55: Form types by phase and deposit type in Area H

Ph	*Description*	*Brick Type*	*No*	*Wt(g)*	*C*	*WtAv*
1	Gully	B/T	13	693		53.31
	Gully	Brick	1	48		48.00
	Gully	Imbrex	1	38		38.00
	Gully	Tegula	4	836		209.00
2	Ditch	B/T	31	1221		39.39
	Ditch	Imbrex	3	114		38.00
	Ditch	Tegula	4	320		80.00
	Gully	B/T	2	197		98.50
	Gully	Brick	1	194		194.00
3	Gully	B/T	8	78		9.75
	Gully	Tegula	1	108		108.00
	Pit	B/T	30	526		17.53
	Pit	Brick	1	329		329.00

	Pit	Imbrex	1	36		36.00
	Pit	Tegula	2	275		137.50
4	Gully	B/T	7	247		35.29
	Gully	Flue Tile	1	99		99.00
5	ditch	B/T	20	426		21.30
	ditch	Imbrex	3	238		79.33
	ditch	Tegula	1	739		739.00
	Gully	B/T	150	12562		83.75
	Gully	Brick	1	914		914.00
	Gully	Imbrex	9	1034		114.89
	Gully	Ridge Tile	2	163		81.50
	Gully	Tegula	46	8782	4	190.91
	layer	Tegula	3	475		158.33
6	Ditch	B/T	27	756		28.00
	Ditch	Imbrex	2	61		30.50

	Ditch	Tegula	2	613	1	306.50
	Gully	B/T	37	2807		75.86
	Gully	Brick	2	739		369.50
	Gully	Imbrex	2	213		106.50
	Gully	Tegula	9	1134	1	126.00
	Pit	B/T	7	216		30.86
	Pit	Brick	1	35		35.00
	Rubble	B/T	75	3147		41.96
	Rubble	Brick	7	1893	1	270.43
	Rubble	Tegula	9	1967	1	218.56
	Stone	B/T	7	733		104.71
	Stone	Tegula	1	138		138.00
	Surface?	B/T	6	58		9.67

MISCELLANEOUS ROMANO-BRITISH FINDS *by Nicholas Palmer*

Area B, Long Itchington

Area B produced a small collection of metalwork and one stone object. There were two mid 4th-century coins (1-2). These can be added to a group of ten found on the site during a field and metal detector survey in 1997 (Jones & Wise 1997, 83), which consisted of one unidentifiable 1st/2nd-century *as*, two late 3rd-century radiate *antoniniani*, four Constantinian coins and three unidentifiable 4th-century AE3/4s. The two new coins fit with this group, but a total of twelve remains small for a possible villa site – none seem to be recorded from earlier work (Wilson 1982) - and presumably reflects a relatively low density of research.

The copper alloy from the excavation comprised two personal items, a finger ring and a bracelet; a lock slide presumably from a box or a cupboard; and a thin sheet fragment probably from a decorative binding on a wooden object. The ironwork included a wide bladed knife/small cleaver of a familiar Roman type (Manning 1985, knife type 12A), a large stud, possibly used as decoration on a door or furniture, and twelve timber nails.

A single quern fragment in Old Red Sandstone represents a traded item, probably from the Forest of Dean or Penallt, Gwent. Along with Millstone Grit from Derbyshire, this was one of the two main sources of Roman (and medieval) querns found in Warwickshire.

CATALOGUE

Coins

1 Urbs Roma, AE4, 332-3, Trier mint, Wolf and twins, 1.92g, *RIC* 7 Tr 542. (B:U/S, SF 269).

2 Constans, AE2, 348-50, Trier mint, *Fel Temp Reparatio* Emperor in galley, 4.02g, *RIC* 8 Tr 239 (Levelling layer B2:2e:176, SF 25).

Copper alloy objects (Fig 47, 3-5; 6 unillustrated)

3 Finger ring, flat-sectioned, open ended, with punched zigzag decoration. Diam 17.8mm, W 3.3mm, Th 1.1mm (B:U/S, SF 267).

4 Bracelet, flat-sectioned, with external decorative hand carved serrations, overlapping ends originally soldered. Diam *c* 75mm, max W 5mm, Th 1.3mm (Ditch fill B2:2b:107/1, SF 24). Strip bracelets with cog-wheel decoration are known (eg Winchester, Lankhills Cemetery, from later 4th-century graves, Clarke 1979, 305, type D1e) but this is rather wider.

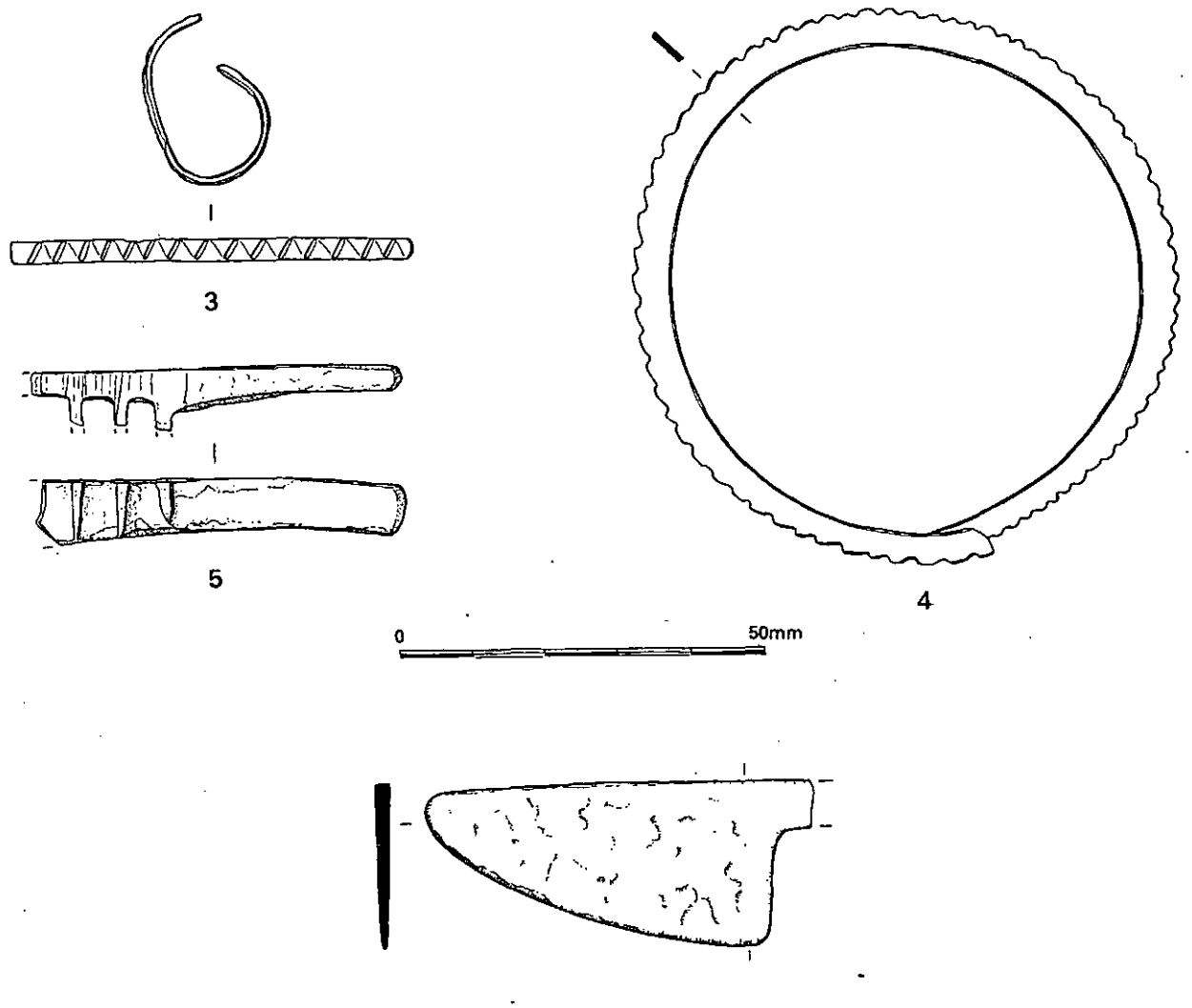


Fig 47: Area B, copper alloy 3-5, ironwork 8

5 Lock slide fragment. Surviving L 51mm (B1:U/S, SF 20). From a box or cupboard. Compare examples from Alcester (Lloyd Morgan 2001, 237, fig 155, no 32), from a mid 2nd-century context, and Gorhambury (Wardle 1990, 132, fig 128, nos 246-250).

6 Thin sheet/binding fragments. Th 0.5mm (Gully fill B2:2b:**194/1/1**, SF 383).

Lead object (unillustrated)

7 Offcut from strip/sheet, folded (Levelling layer B2:2e:**106**, SF 18).

Ironwork (Fig 47, 8; unillustrated 9-10)

8 Wide bladed knife/small cleaver with convex cutting edge and straight back. Uncertain whether tanged or socketed. Cf Manning (1985, 114) knife Type 12A; a long lived Roman type. Blade L 106mm (Layer B2:2d:**182**, SF 31). Similar to one from Tiddington (Mould forthcoming no 137).

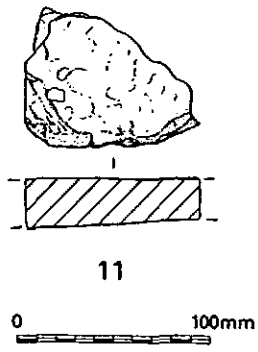


Fig 48: Area B, Quern 11

9 Fragment, possibly from flat, circular stud head. Original diam *c* 40mm (Gully fill B1:2a:**138/1**, SF 21).

10 Strip fragment. W 12mm, Th 4mm (B2:**U/S**, SF 76).

There were also twelve timber nails, nine of Manning Type 1B (round-subrectangular head), one Type 3 (T-shaped head) and 2 uncertain.

Stone object (geological identification by Jon Radley) (Fig 48, 11)

11 Quern fragment, Old Red Sandstone, probably from upper stone with sloping grinding surface and flattish top. Max Th 30mm (Topsoil B2:5:**100**, SF 136).

Area A, Harborough Magna

Area A produced a very meagre assemblage of other finds. There were three 4th-century coins, two House of Valentinian, one uncertain; two nondescript fragments of lead; two timber nails; and four iron fragments, only one of which was possibly identifiable, a small wedge, perhaps for securing a tanged implement into its handle.

CATALOGUE (Unillustrated)

Coins

1 House of Valentinian, AE3/4, 364-378, ?*Securitas Reipublicae*, 2.13g (Hollow fill A:1:**15**, SF 3).

2 House of Valentinian, AE3/4, 364-378, ?*Securitas Reipublicae*, 1.22g (**U/S**, SF 121).

3 AE4, 4th-century, standing figure l with diagonal staff/spear, 0.75g (Ploughsoil A:5:**73**, SF 11).

Lead objects

4 Lead alloy, solidified molten lump (Hollow fill A:1:**15**, SF 4).

5 Lead, irregular disc, 40mm x 34mm, Th 5mm (Topsoil A:5:**1**, SF 359).

Ironwork

6 Rectangular sectioned, tapering bar, possibly a small wedge. L 42mm, W 16.3mm, max Th 7.75mm (Ploughsoil A:5:**73**, SF 6).

7 Bar fragment, D-sectioned, W 41mm, Th 12mm (Ploughsoil A:5:**73**, SF 8).

8 Fragment, curving sheet (Silt layer A:2:12, SF 17).

9 Fragment (Ploughsoil A:5:73, SF 12).

There were also two timber nails, both the commonest Manning (1985) Type 1B with round/sub-rectangular heads (Ploughsoil A:5:73, SF 7, 16).

Area H, Chesterton and Kingston

The assemblage of other finds from Area H suggests that it was a middle range rural settlement. The range and quantity of material is noticeably greater than those recovered from more subsistence-level settlements like Glebe Farm, Bubbenhall (Elders *et al* forthcoming) or Ling Hall, Church Lawford (Palmer 2002a), comparable with those from Bidford Grange (Hart *et al* 1991, 21-26) or Billesley Manor Farm (Palmer 2003a), but smaller than that from the villa at Salford Priors (Palmer 2000b, 126-151).

Site H produced thirteen coins, six late 3rd-century and seven early-mid 4th-century, and one post-medieval weight. All but one (no 11) came from topsoil or unstratified contexts. The 3rd/4th-century emphasis is typical of local rural sites even those occupied from the 2nd century. The group of four Constantinian *folles* (nos 7-10) may possibly be a related loss or deposit.

The copper alloy included 2nd- and 4th-century material. It comprised mainly personal items, brooches (15-16), bracelets (18-19) and an earring (20), but there was also a possibly more exotic item, the handle of a medical/cosmetic implement (17) although most of the items can be paralleled on local sites. A blob of waste (21) may indicate very small scale bronze working, at the level of an itinerant smith repairing copper alloy objects. A bun-shaped lead weight (22) seems too crude to have belonged to a steelyard and may have been a net sinker. Lead plugs, used to repair pottery vessels, such as no 23, are relatively common finds.

The ironwork included tools, an awl (29) and a possible shears fragment (31), and two implement socket fragments (32-33). A clasp knife blade (30) may be Roman or later, although Roman clasp knife handles are known from Tiddington and Bannaventa, Northants. A plate reinforced by a riveted iron rod (34) may be from a lock case. There were a number of standard pieces of structural ironwork, a hinge pivot (35), a double spiked loop (36), 34 timber nails and one hobnail/stud (37). A hooked swivel fitting (38) may have come from a pot chain.

All three quern fragments from the site (51-53) were Millstone Grit, or probable Millstone Grit, imported from Derbyshire. Of nine other querns known from the Roman town proper (from the 1967 excavation and 1990-3 fieldwalking) five were Millstone Grit, three Old Red Sandstone from the Forest of Dean/Penallt, and one imported German Niedermandig lava. Nos 51 and 52 were quite large diameter (*c* 750mm and 800mm); their corresponding upper stones would probably have required animal power to turn them making them technically millstones rather than querns. Both showed signs of localised wear from, presumably secondary, use as rubbing stones. Two whetstones from Site H (nos 54-55) were also probably traded imports, from further north in Warwickshire, while the possible rubber (56) represents opportunistic use of locally available material.

Five fragments of 2nd-century blue-green bottle glass (57-61) also reflect a more than basic level of material culture.

CATALOGUE

Coins

No	*Ruler*	*Denomination*	*Date*	*Mint*	*Reverse type*	*Wt (g)*	*RIC*	*Context*
1	Victorinus	Ant	268-70		Pax	2.38	5/2 118	H:9:700, SF 49
2	Radiate	Ant, minim	Late 3rd			0.82		H:9:700, SF 207
3	Carausius?	Ant	287-93		Pax	2.99		H:9:700, SF 208a
4	Carausius	Ant, irreg?	287-93		Pax	2.15		H:9:700, SF 210
5	Carausius	Ant, irreg	287-93		Pax	1.67		H:9:700, SF 211
6	Allectus	Ant, irreg?	293-6	London	Galley	1.71	5/2 as 55	H:9:700, SF 212
7	Constantine I	Follis	312-3	London	SIC	2.07	6 Lon 279	H:9:700, SF 203
8	Constantine I	Follis	314-5	Lyons	SIC	2.88	7 Ly 17?	H:9:700, SF 206
9	Constantine I	Follis	319-20	London	VLPP	1.55	7 Lon 161	H:9:700, SF 202
10	Constantine I	Follis	319-20	?	VLPP	1.65		U/S, SF 95
11	Constantine I	AE4	330-5	?	GE 2s	1.63		H:8:745, SF 187
12		AE3/?Ant	Late 3rd/4th			1.66		H:9:700, SF 208b
13		AE4	4th cent			1.18		U/S, SF 66
14	Weight		Post-med		II/II	2.44		H:9:700, SF 85

(Abbreviations. Denomination: Ant *Antoninianus;* irreg irregular/imitation. Reverse type: SIC *Sol invicto comiti;* VLPP *Victoriae laetae princ perp;* GE 2s *Gloria exercitus* two standards).

Copper alloy objects (Fig 49, 15-20; unillustrated 21-22)

15 Trumpet brooch. L 58.6mm (Topsoil H:9:700, SF 200). Similar to local examples from Tiddington (Lloyd Morgan forthcoming a, no 47) from an early 2nd-century pit and Grimstock Hill, Coleshill (Lloyd Morgan forthcoming b, no 22) from a 2nd-century context. Trumpet brooches are dated from the later 1st century AD to the later 2nd century (Mackreth 1994, 167).

16 Penannular brooch, with plain bent over terminals, pin missing. Diam *c* 32mm, hoop Th 2.3mm (H:8:745, SF 186). Also similar to local examples from Tiddington (Lloyd Morgan forthcoming a, no 71), from a late 4th-century demolition layer, and Grimstock Hill, Coleshill (Lloyd Morgan forthcoming b, no 30), from a mid-late 4th-century demolition layer.

17 Handle of medical/cosmetic implement with spatulate head above baluster moulding, square sectioned shaft spirally twisted, tapering to flat point. L 139mm, shaft 4.1mm square (H:9:700, SF 205). For a similar spiral-shafted implement from Alcester, see Lloyd Morgan 1994, 180, fig 86, no 106, and one from Tiddington, with a small rounded, spatulate head over a baluster moulding and a circular pointed shaft, from a late 4th-century layer (Lloyd Morgan forthcoming b, no 189).

18 Bracelet fragment, three strand, twisted wire with sleeve around terminal (Rubble spread H:6:769, SF 227). Similar to an example from the Winchester Lankhills cemetery (grave G188) dated to AD 310-70 (Clarke 1979, fig 80, no 249). Examples of three strand twisted wire bracelets without surviving sleeves are common on local sites; for example Grimstock Hill, Coleshill (Lloyd Morgan forthcoming b, nos 57-58, both from mid-late 4th-century demolition layers); Tiddington (Lloyd Morgan forthcoming a, 82-85 (82, early 4th-century, 84, late 4th-century demolition); and Alcester, Explosion Site (Lloyd Morgan 2001, 234, fig 154, no 9).

19 Bracelet fragment, flat sectioned, decorated with alternate notching around outer edge (H:9:746, SF 223). Similar to 4th-century examples from Birch Abbey, Alcester (Lloyd Morgan 1994, 178, fig 83 no 33), Winchester Lankhills Cemetery (Clarke 1969, Type D1h, G117, no 141; G 155 no 196) and Gorhambury (Wardle 1990, 122, fig 123 no 82).

20 Earring, oval-sectioned with notched decoration around outside. Diam *c* 38mm, Th 2.7mm x 1.7mm (U/S, SF 219).

21 Waste blob. 41mm x 33mm x 7mm (H:9:700, SF 204).

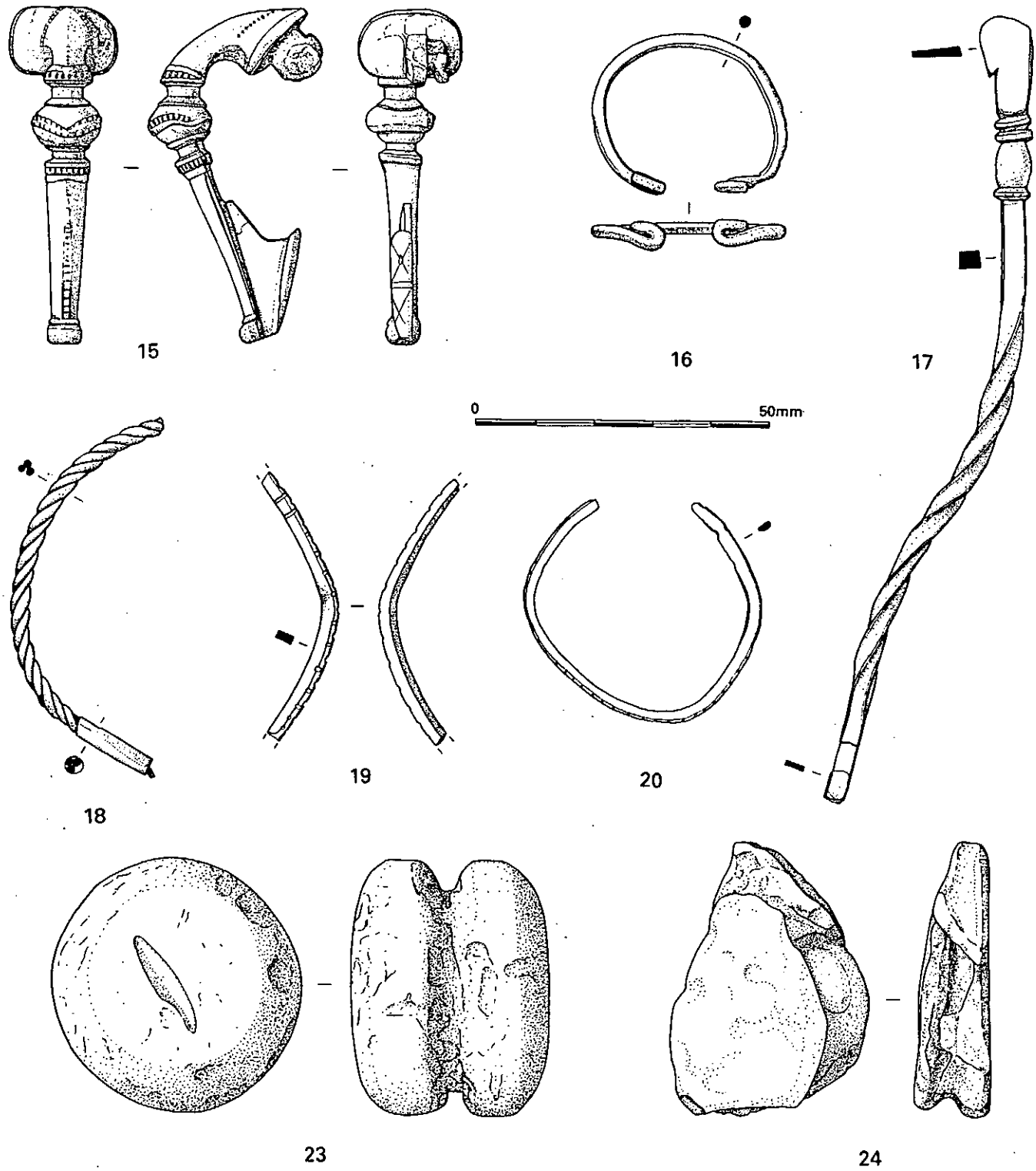


Fig 49: Area H, copper alloy 15-20, lead 23-24

Lead objects (Fig 50: Area H, 22-23; 24-28 unillustrated)

22 Weight, bun-shaped with rough waist for suspension loop. Probably too crude for a steelyard weight. Diam 43mm, Ht 35mm, Wt 445g (H:9:700, SF 201).

23 Plug, probably from repair to hole in pottery vessel. L 47mm, W 33mm, Th 13mm (H:9:**700**, SF 148).

24 Rivet, lead alloy (L 43mm, diam 3.75mm, head diam 6.75mm) and collar fragment (W 6.8mm, diam *c* 14mm). Probably post-Roman (H:9:**700**, SF 209).

25 Folded disc/lump. Diam *c* 25mm, Th 5mm (Gully fill H:1:**733/1**, SF 345).

26-28 Solidified molten waste (26. H:9:**700**, SF 177; 27. H:9:**700**, SF 343; 28. H:9:**700**, SF 352).

Ironwork (Fig 50: Area H, 29-30, 32, 34-36, 38; unillustrated 33, 37, 39-50)

Tools

29 Awl with square-sectioned tang and circular-sectioned shaft. L 144mm, tang 11mm x 11mm (H:9:**710**, SF 376). Similar to the commonest Roman type (Manning 1985, 40, Type 4b, Pl 16, eg E14-E17).

30 Clasp-knife blade fragment with straight back and convex cutting edge and short, rectangular tang with central rivet hole. L 73mm, W 20mm (Furrow fill H:8:**704**, SF 366). Roman clasp-knives are known from Tiddington (Lloyd Morgan forthcoming c, no 37, and possibly no 38) and Bannaventa, Northants (Dix and Taylor 1988, fig 19 no 10).

31 Strip fragments (2) with hooked ends, possibly from broken, omega-shaped spring from shears, but cross section rather narrow, so alternatively, possibly from a double-spiked loop. Surviving L *c* 85mm (Gully fill H:3:**731/1**, SF 354).

32 Curved sheet fragment with two circular and one square holes, probably from implement socket or binding. From topsoil, Roman or later (Furrow fill H:8:**707**, SF 369).

33 Bent sheet fragment, possibly from an implement socket or binding (Topsoil H:9:**737**, SF 193).

Lock

34 Subrectangular plate fragment, with attachment holes and reinforcing rib riveted across middle; possibly from a fixed lock case (Rubble spread H:6:**769**, SF 199).

Structural

35 L-shaped hinge pivot. L 55mm, Ht 37mm, pivot diam 10mm (Topsoil H:9:**737**, SF 193).

36 Double-spiked loop. L 58mm, loop Th 12.5mm (H:8:**744**, SF 356).

There were also 34 timber nails: 19 of Manning (1985) Type 1B; 1 of Type 3; and 15 uncertain/headless shanks.

37 Dome-headed hobnail/stud (Gully fill H:2:**732/1/1**, SF 275).

Miscellaneous objects

38 Rod fragments (2), one straight with expanded globular end, one bent into hook. Probably from a hooked swivel fitting (cf Manning 1985, 138 pl 64, S4), perhaps from a pot chain. Original L *c* 110mm (Rubble spread H:6:**769**, SF 216).

39 Ring. Diam 27mm, Th *c* 3.5mm (H;U/S, SF 220).

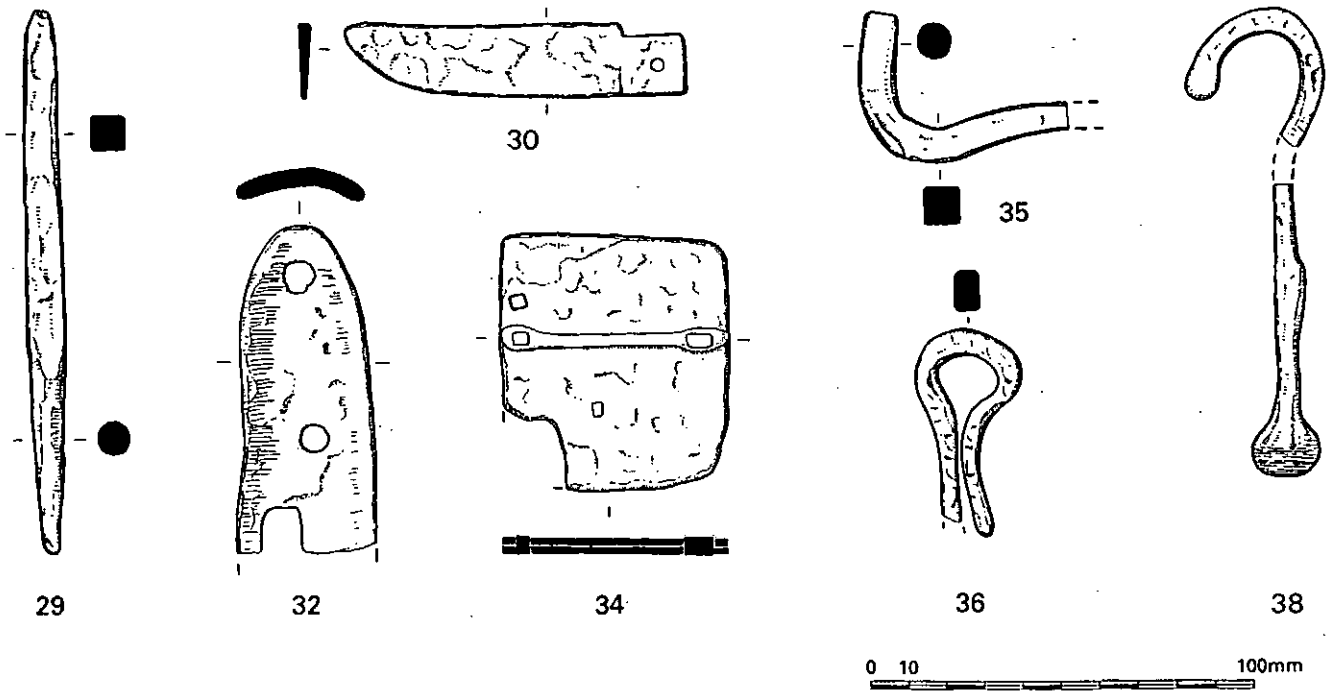


Fig 50: Area H, Ironwork 29-30, 32, 34-36, 38; unillustrated 33, 37, 39-50

40 Ring, subrectangular section. Diam 52mm, Th *c* 8mm x 9mm (Pit fill H:3:**767**, SF 197).

Post Roman

41 Horseshoe fragment, possibly medieval (cf Clark 1995 Type 4) or later (Ploughsoil H:8:**701**, SF 375).

42 Wire fragment. L. *c* 90mm, Diam *c* 3mm. Probably modern (Topsoil H:9:**710**, SF 376).

Strips, bars and fragments

43 Rectangular ended strip fragment with perforation at end. From a binding. W 15.5mm, Th 2.5mm, surviving L 67mm (Topsoil H:9:**711**, SF 270).

44 Tapering strip fragment. Surviving L 65mm, W 25-33mm, Th 3.5mm (Furrow fill H:8:**738**, SF 191).

45 Strip fragment. W *c* 9-11mm, L 70mm, Th 2mm (Gully fill H:1:**733**?, SF196).

46 Strip fragment. W 15mm, surviving L 25mm (H:8:**745**, SF 189).

47 Bar fragment, rectangular section. L 64mm, W 8mm x 8mm (Furrow fill H:8:**738**, SF 362).

48 Rod fragment (Topsoil H:9:**737**, SF 377).

49-50 Fragments (49. Gully fill H:3:**731/1**, SF 363; 50. Furrow fill H:8:**738**, SF 362).

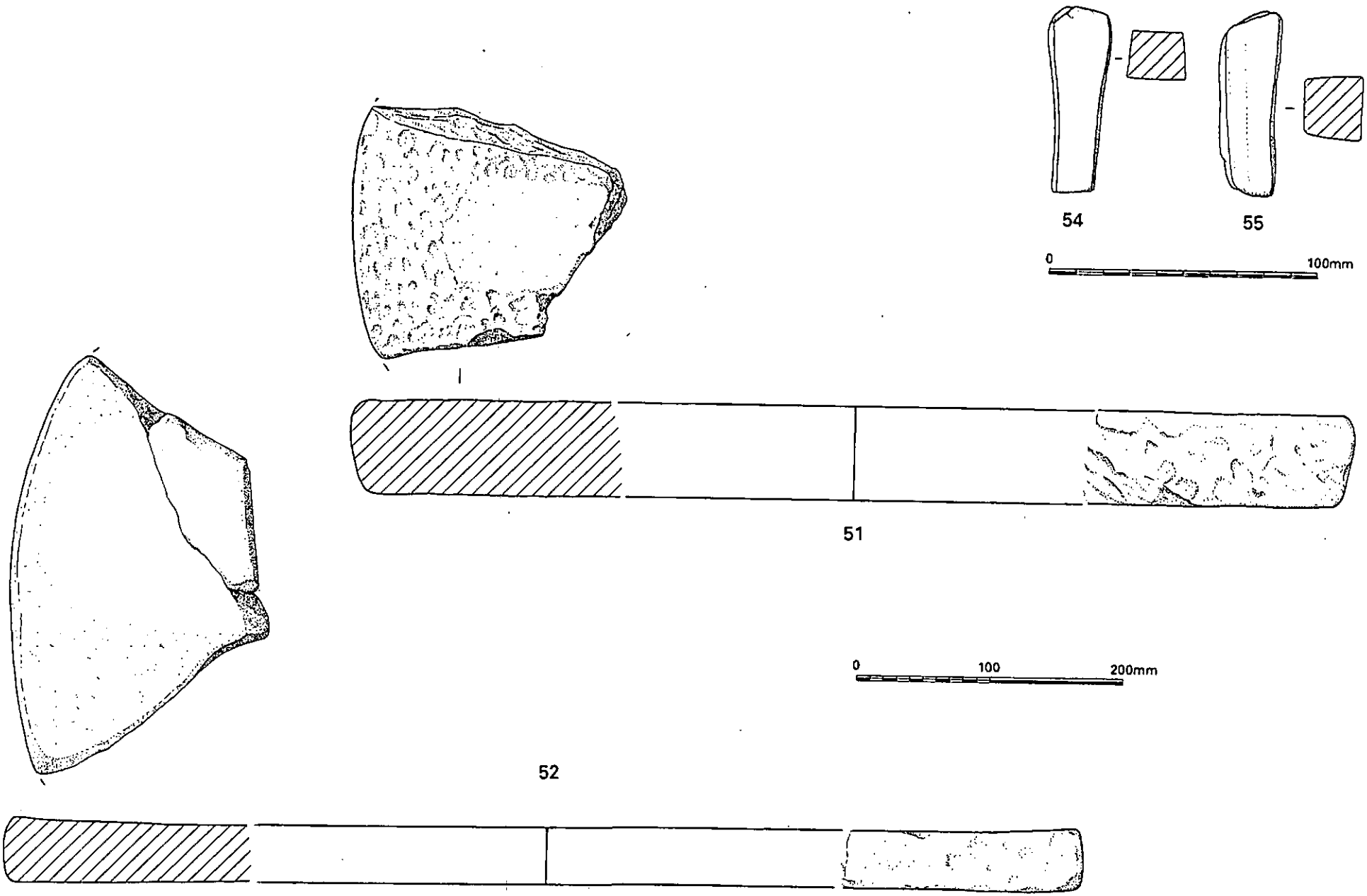


Fig 51, Area H, quern/millstones 51-52, whetstones 54-55

Stone objects (geological identifications by Jon Radley) (Fig 51: Area H, 51-52, 54-55; unillustrated 53, 56)

51 Quern/millstone fragment, Millstone Grit, lower stone with flat grinding surface, outward sloping sides and flattish bottom; area of wear on surface from secondary use as a rubbing stone. Diam *c* 750mm, Th 75mm (Pit fill H:6:**789**, SF 379).

52 Quern/millstone fragment, Millstone Grit, lower stone with flat grinding surface, vertical sides and flattish bottom; area of wear on surface from secondary use as a rubbing stone. Diam *c* 800mm, Th 45mm (Pit fill H:6:**789**, SF 380).

53 Quern fragment, probable Millstone Grit (more quartz), surfaces not surviving (Topsoil H:9:**700**, SF 381).

54 Whetstone, fine-medium grained, slightly micaceous sandstone, perhaps Carboniferous, possibly from north Warwickshire or elsewhere. Rectangular- sectioned rod, waisted by wear. 23mm x 18mm, surviving L 69mm (Pit fill H:3:**779**, SF 221).

55 Whetstone, pale fine grained sandstone, possibly Triassic, ?Bromsgrove or Arden sandstone, or Carboniferous, perhaps from Warwickshire. Rectangular sectioned rod, slightly waisted by wear. 25mm x 23mm, surviving L 65mm (Topsoil H:0:**700**, SF 353).

56 Possible rubber. Pebble fragment with one worn side, very dense fine-grained micaceous sandstone, possibly from north Warwickshire or elsewhere. 35mm x 28mm x 21mm (Pit fill H:6:**789**, SF 382).

Vessel glass

57-61 Five fragments of Romano-British blue/green bottle glass, probably of 2nd-century date, came from Area H. One fragment (no 59) from a square bottle had a mould-blown raised circular design on its base (57-58. Gully fill H:2:**732/1**, SF 277 x2; 59. Gully fill H:1:**733/1**, SF 344; 60. H:8:**744**, SF 347; and 61. Topsoil H:9:**700**, SF 364).

ANIMAL BONE by Andy Hammon

Introduction

Vertebrate assemblages were retrieved from Areas A, B1, B2, C, D and H. The material recovered from Areas C and D consisted almost entirely of small fragments of calcined bone, which was of little interpretative value.

Methods

RECOVERY

All the vertebrate remains from Areas A, B1, B2 and H were hand-retrieved during the course of excavation. Small amounts of additional material were retrieved from sieving residues for Areas C and D.

The hand-collection method may have led to a bias as it often leads to the preferential retrieval of the larger domestic mammal species over species of bird, fish and small mammals. Species composition for TR99 confirms this because the assemblage consists almost exclusively of the larger domesticated mammals (see below). It can also cause differential collection between the skeletal elements from the larger mammals that can bias body part distributions.

RECORDING

The mammal bones were recorded following a modified version of the method described by Albarella & Davis (1994) and Davis (1992). This system considers a selected suite of anatomical elements as 'countable' (diagnostic zones); it does not include every bone fragment that is identifiable. The skeletal elements considered are all teeth (mandibular and maxillary); the skull (zygomaticus); scapula (glenoid articulation/cavity); distal humerus; distal radius; proximal ulna; carpals 2-3; distal metacarpal; pelvis (ischial part of the acetabulum); distal femur, distal tibia, calcaneum (sustentaculum), astragalus (lateral part), naviculo-cuboid/scafocuboid; distal metatarsal; proximal phalanges 1-3. At least 50% of the specified area has to be present for a fragment to be 'countable'.

Additional elements that were of particular interest were recorded as 'non-countable', such as unusual species, pathological or neonatal/very young specimens.

The following skeletal elements were considered 'countable' for birds: scapula (articular end); proximal coracoid; distal humerus; distal radius; proximal ulna; proximal carpometacarpus; distal femur; distal tibiotarsus; distal tarsometatarsus.

Mandibular fragments were considered to be 'ageable', and 'countable', when there were two or more teeth present with recognisable wear. Mandibular teeth, both in-situ and isolated, were aged using tooth eruption and wear patterns. Cattle and pig teeth were recorded using the system devised by Grant (1982), whereas sheep and goat teeth were recorded according to Payne (1973; 1987).

Measurements are listed in the Appendix. Von den Driesch (1995) defines the majority of these. All pig measurements follow the definitions of Payne & Bull (1988). Humerus 'BT', 'HT', 'HTC' and tibia 'Bd' measurements were taken for all species according to Payne & Bull (1988). Measurements 'BatF', 'a', 'b', '1', '3' and '4' for cattle and sheep/goat metapodials were taken using the criteria described by Davis (1992).

TAXONOMIC IDENTIFICATION

All the 'countable' fragments were identified using the reference collection held at the Department of Archaeology, University of Sheffield.

The differentiation of sheep (*Ovis aries*) and goat (*Capra hircus*) was attempted on the following elements: deciduous lower premolars (dP_3 and dP_4); horn-core; humerus; metacarpal; tibia; astragalus; calcaneum; metatarsal; phalanges 1-3. The morphological criteria defined by Boessneck (1969) were used for all elements except the teeth (Payne 1985) and the tibia (Kratochvil 1969).

Pig (*Sus domesticus*) and boar (*S. scrofa*) can be differentiated using biometrical separation (Payne & Bull 1988). However, where no measurements could be taken overall physical size was used as an indication.

Species distinction of horse (*Equus caballus*) and donkey (*E. asinus*) was attempted on the maxillary and mandibular cheek teeth (if they could be placed, i.e. were in-situ), using the morphological criteria outlined by Baxter (1998), Davis (1980) and Eisenmann (1981).

Frog (*Rana* sp) and toad (*Bufo* sp) distinction was attempted on the morphology of the acetabulum.

Taphonomy

Taphonomic processes can seriously affect the nature of an assemblage, and consequently bias any interpretation. It is therefore necessary to briefly consider these processes.

FRAGMENTATION

Fragmentation was moderate to severe. The proportion of isolated teeth within an assemblage can be used to demonstrate the level of fragmentation: Area A, 61% (14 of 23); Area B1, 82% (9 of 11); Area B2, 34% (30 of 88); Area H, 56% (68 of 121). These proportions may have been exaggerated due to the presence of equid remains in the assemblage; equid teeth are generally the most durable of all vertebrate remains and therefore survive particularly well.

PRESERVATION

The cortical integrity of the assemblage was moderate and reasonably homogenous.

RESIDUALITY

Estimating the residuality of animal bone is notoriously difficult. Various methods have been employed, such as indices based on bone colour and surface abrasion. All however have their own methodological problems (see Dobney *et al* 1996; 1997). One of the most common methods used to infer animal bone residuality is to use levels of pottery residuality as a baseline, although there may be no direct correlation between the two because of different depositional pathways (Evans & Millett 1992; Tomber 1991).

The pottery assessment (Palmer pers comm) would seem to suggest that residuality does not represent a significant problem for any of the TR99 sites. The homogenous nature of the bone preservation adds further credence to this interpretation.

SECONDARY DEPOSITION

A very low level of gnawing and part digestion of elements recorded from the TR99 assemblage broadly supports the apparent lack of re-working (It is normally assumed that scavenging canids, principally domestic dogs (*Canis familiaris*), are responsible for archaeological gnawed bone. However, this assumption may be incorrect because pigs also readily gnaw, displace and destroy discarded bone waste, see Greenfield 1988). Thirty seven percent (36 of 97) of the post-cranial elements demonstrated this type of attrition. This suggests that the majority of animal bones were recovered from their original anthropogenic place of deposition, rather than from secondary deposition caused by scavenging dogs and/or pigs. It is fairly normal for one third of an assemblage to be gnawed, especially for Romano-British assemblages (personal observation).

INTRUSIVE MATERIAL

The presence of several frog/toad (Ranidae/Bufonidae) fragments conceivably indicates a low level of intrusive material. Alternatively, these remains may be contemporary with the features from which they were retrieved and represent accidental inclusions, as negative features will have acted as giant 'pit-fall traps'.

Results

AREA B, LONG ITCHINGTON

Area B1

Area B1 produced 11 'countable' (Albarella & Davis 1994; Davis 1992) fragments. It is therefore too small to be of any real interpretative value. However, the material from Area B1 appears to generally conform to the norm for the Iron Age and Romano-British periods, e.g. species composition, age-at-death, size of individuals etc (Table 56). Nothing unusual was noted during the recording and analysis.

Table 56: Area B1, number of hand-retrieved 'countable' (Albarella & Davis 1994; Davis 1992) elements (NISP) by taxa and phase

Taxa *Phase*	*1a*	*2a*	*Total*
Cattle (*Bos taurus*)	1	4	5
Sheep (*Ovis aries*)	1		1
Sheep/Goat (*O. aries/Capra hircus*)	2	2	4
Dog (*Canis familiaris*)	1		1
Total	*5*	*6*	*11*

Area B2

Area B2 produced 88 'countable' (Albarella & Davis 1994; Davis 1992) fragments divided between Phases 2b, 2d and 2e (Table 54). Due to the size of the assemblage it has not been possible to determine diachronic changes; however the three phases have been combined to produce one later Romano-British (late 3rd- to late 4th-century AD) group. This has allowed some comparison with the Area H assemblage, and contemporaneous and analogous sites from elsewhere (See late Romano-British vertebrate analysis below).

Cattle are the most numerous species, followed by sheep/goat and then the equids. Pig, red deer and frog/toad were also present. In all likelihood all the sheep/goat remains are actually sheep, which is the norm: sheep (*Ovis aries*) was positively identified from Area H (see below). The equids most likely represent horse (*Equus caballus*) because donkey (*E. asinus*) is exceptionally rare from Roman deposits (Baxter 1998, 5); horse was also positively identified from the Area H (see below).

Table 57: Area B2, number of hand-retrieved 'countable' (Albarella & Davis 1994; Davis 1992) elements (NISP) by taxa and phase

Taxa *Phase*	*2b*	*2d*	*2e*	*Total*
Cattle (*Bos taurus*)	35	3	20	58
Sheep/Goat (*O. aries/Capra hircus*)	7	1	3	11
Equidae	7	1	1	9
Pig (*Sus scrofa*)	3	2	1	6
Red deer (*Cervus elaphus*)	1			1
Frog/Toad (*Rana* sp/*Bufo* sp)	3*			3*
Total	*56*	*7*	*25*	*88*

* retrieved from sample residue.

Little can be inferred from the limited amount of ageing data. Both the tooth eruption/wear (Appendix) and post-cranial fusion data indicate that the majority of cattle and sheep/goats were skeletally mature when slaughtered. However, this may also be an artefact of recovery bias or differential preservation etc. Most rural sites are assumed to be 'producer' sites, and if this assumption is correct, all age groups should be present; ie evidence for viable breeding populations with the selective culling of surplus males and barren females, plus natural mortality.

The available butchery evidence indicates that the remains represent primary butchery and kitchen waste. This is supported by the combined mammal body part distribution plot, which suggests whole carcasses were present (Fig 52). No evidence for specialised craft activities was observed, such as marrow fat extraction.

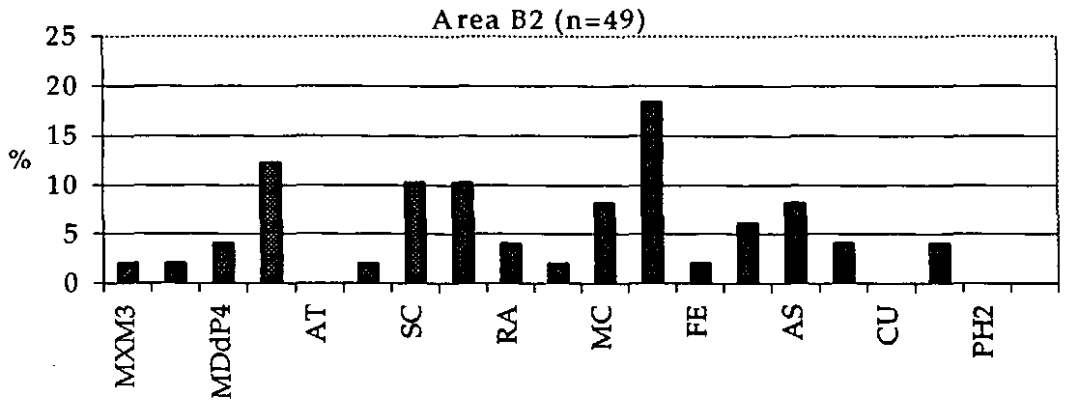


Fig 52: Area B2, late Romano-British mammal body part distribution (adjusted NISP)

Table 58 demonstrates that the majority of 'countable' (Albarella & Davis 1994; Davis 1992) fragments derive from the fills of negative features in the later Romano-British period. This confirms the overall impression provided by the body part distributions that bone fragments are the residue from normal butchery and kitchen waste (Fig 52). Presumably the material recovered from Phase 2e levelling (**106, 176** and **187**) represents secondary deposition from elsewhere on the site, although it is not possible to determine whether this was contemporaneous or residual material.

A cattle pelvis (**194/1**) demonstrated a non-pathological 'hole' on the ilial – pubic region of the acetabulum. This condition is fairly common in Romano-British cattle. The aetiology is unknown, although it may be the result of small breeding populations.

Table 58: Area B2, later Romano-British 'countable' (Albarella & Davis 1994; Davis 1992) fragments (NISP) by context type

Context type	*Number*	%
Ditch	50	56.8
Gully	6	6.8
Layer	7	8.0
Levelling	25	28.4
Total	*88*	

AREA A, HARBOROUGH MAGNA

Area A produced 23 'countable' (Albarella & Davis 1994; Davis 1992) fragments. It is therefore too small to be of any real interpretative value. However, the material

from Area A appears to generally conform to the norm for the Romano-British period, eg species composition, age-at-death, size of individuals etc (Table 56). One cattle mandibular third molar (16/1) displayed a reduced hypoconulid (the posterior third cusp). The aetiology of this congenital condition is not presently known, although it may be due to small breeding populations. The phenomenon is fairly common in Romano-British stock.

Table 59: Area A, number of hand-retrieved 'countable' (Albarella & Davis 1994; Davis 1992) elements (NISP) by taxa and phase

Taxa/Phase	*1b*	*2*	*3*	*Mod*	*Total*
Cattle (*Bos taurus*)	3	7		4	14
Sheep (*Ovis aries*)		1			1
Sheep/Goat (*O. aries/Capra hircus*)		1	1	3	5
Equidae	1			2	3
Total	*4*	*9*	*1*	*9*	*23*

AREA H, CHESTERTON AND KINGSTON

Area H produced 94 'countable' (Albarella & Davis 1992; Davis 1994) fragments from Phases 2, 3, 4, 5 and 6, notwithstanding 'modern' material, which has been discounted from further analysis (Table 60). As with Area B2 it has not been possible to consider phases individually due to the small samples involved. Therefore, Phases 4, 5 and 6 have been combined to form a later Romano-British (mid 3rd- to 4th-century AD) group (see below). Unfortunately Phases 2 and 3 contain too few fragments to form a useable earlier Romano-British group.

Cattle are the most numerous species, followed by the equids and then sheep/goat. Pig, dog and red deer were also present. In all likelihood all the sheep/goat remains are actually sheep, which is the norm: sheep (*Ovis aries*) was positively identified. The equids most likely represent horse (*Equus caballus*) because donkey (*E. asinus*) is exceptionally rare from Roman deposits (Baxter 1998: 5); horse was also positively identified.

Little can be inferred from the limited amount of ageing data. Both the tooth eruption/wear (Appendix) and post-cranial fusion data indicate that the majority of cattle and sheep/goats were skeletally mature when slaughtered. However, this may also be an artefact of recovery bias or differential preservation etc. Most rural sites are assumed to be 'producer' sites, and if this assumption is correct, all age groups should be present; i.e. evidence for viable breeding populations with the selective culling of surplus males and barren females, plus natural mortality.

Table 60: Area H, number of hand-retrieved 'countable' (Albarella & Davis 1994; Davis 1992) elements (NISP) by taxa and phase

Taxa/Phase	*2*	*3*	*4*	*5*	*6*	*Mod*	*Total*
Cattle (*Bos taurus*)	4	7	1	7	29	17	65
Sheep (*Ovis aries*)					2	2	4
Sheep/Goat (*O. aries/Capra hircus*)		3		3	8	3	17
Horse (*Equus caballus*)		1			2	2	5
Equidae				4	16	3	23
Pig (*Sus scrofa*)				2	1		3
Dog (*Canis familiaris*)					2		2
Red deer (*Cervus elaphus*)		2					2
Total	*4*	*13*	*1*	*16*	*60*	*27*	*121*

The available butchery evidence indicates that the remains represent primary butchery and kitchen waste. This is supported by the combined mammal body part distribution plot, which suggests whole carcasses were present (Fig 53). No evidence for specialised craft activities was observed, such as marrow fat extraction.

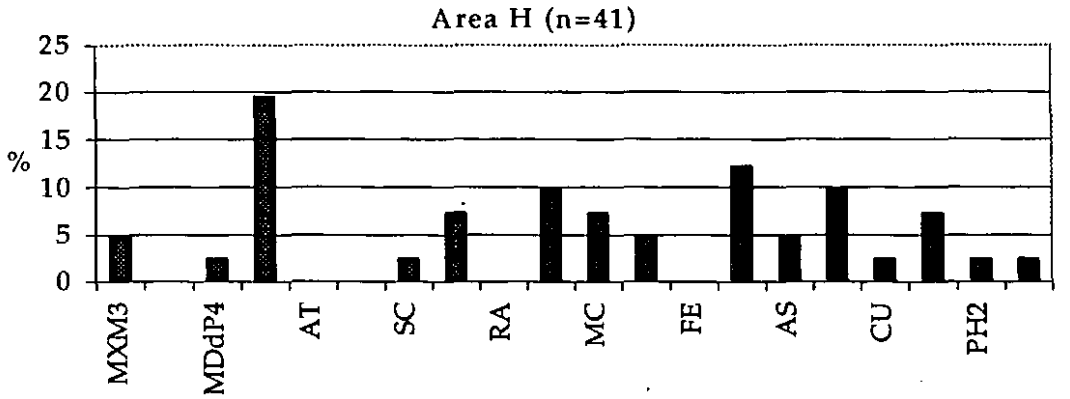


Fig 53: Area H, late Romano-British mammal body part distribution (adjusted NISP)

Table 61 demonstrates that the majority of 'countable' (Albarella & Davis 1994; Davis 1992) fragments derive from the fills of negative features in the later Romano-British period. This confirms the overall impression provided by the body part distributions that bone fragments are the residue from normal butchery and kitchen waste (Fig 53).

One cattle mandibular third molar (**730/1**) demonstrated a reduced hypoconulid (the posterior third cusp). The aetiology of this congenital condition is not presently known, although it may be due to small breeding populations. The phenomenon is fairly common in Romano-British stock further proving that the TR99 cattle were of an indigenous unimproved type (see below).

Table 61: Area H, later Romano-British 'countable' (Albarella & Davis 1994; Davis 1992) fragments (NISP) by context type

Context type	*Number*	%
Ditch	30	39.0
Gully	38	49.4
Rubble	9	11.7
Total	77	

Discussion: Late Romano-British

Late Romano-British groups have been formed by combining Area B2 Phases 2b, 2d and 2e and AreaH Phases 4, 5 and 6 to allow comparison.

SPECIES COMPOSITION

The proportion of cattle, sheep and pig to one another is often used to assess the status and nature of Romano-British sites after the work of King (1978; 1984; 1999). The proportions of cattle, sheep (and goat) and pig to one another are displayed in Table 62 for Areas B2 and H.

Using the criteria of King (1984: 190-192, 198; 1999, 178-180) Areas B2 and H broadly match the 'Gallic/Germanic' pattern, which was established by the military. However, a frequency of 70-77% cattle is exceptionally high even for military sites, which average around 65%, and rural settlements are the least likely to conform to this pattern with an average of just under 50% cattle remains (King 1999, 180). High frequencies of cattle are usually accompanied by relatively high frequencies of pig remains, and Areas B2 and H do not conform to this. Therefore, the observed pattern may be an artefact of small sample size, recovery bias or differential bone survival (see above).

Table 62: Areas B2 and H, proportions of cattle, sheep (and goat) and pig

	Area B2		*Area H*	
Taxa	*Number*	*%*	*Number*	*%*
Cattle	58	77	37	70
Sheep/Goat	11	15	13	24
Pig	6	8	3	6

INTER-SITE COMPARISON

There are few analogous assemblages from Warwickshire, though several contemporary urban assemblages exist. The majority unfortunately are not suitable for direct comparison, due to their small size or the way in which they have been reported; for example those from the southern extramural (Cracknell & Mahany 1994: 211) and defended areas of Alcester (Hamilton 1996). However, the report on the faunal remains from the northern extramural area (Maltby 2001) has provided useful comparative data. There is also the report on the small faunal assemblage excavated from two wells at Tripontium (Noddle 1973), but due to the nature of the archaeological context this is of limited value.

The northern extramural assemblage from Alcester (Maltby 2001) generally confirms the picture which has emerged from other late Romano-British urban centres: a predominance of cattle followed by sheep and then pigs; all cattle and sheep body parts were present, indicating that they were driven to the town and slaughtered (supported by the butchery evidence); cattle were mainly adult or elderly suggesting they were not specifically bred for their meat, but represented animals that had ceased to be productive (as breeding stock or draught animals); sheep appear to have been exploited for a variety of products; pigs and chickens were bred within the town itself. Maltby (2001, 284, 290) concludes that the animal economy and meat supply of Alcester cannot be fully understood until a suitable volume of material from rural sites within its hinterland have been produced. Conceivably animals from Areas B2 and H could have been supplied to Alcester only around 20km away. The available biometrical data certainly seems to suggest the animals were of a similar type. However, due to the ambiguous nature of the ageing data from Areas B2 and H (see above) it is not possible to postulate to what extent these sites were dictated to by the requirements of Alcester's inhabitants.

BIOMETRY

Due to the small metrical dataset produced by TR99 it has been not been possible to conduct extensive biometrical analysis into breed improvement, sex ratios etc. By employing the log ratio method of Simpson et al (1960, 356-358), which has been developed for use in zooarchaeology by Meadow (1981), it has been possible to compare the late Romano-British cattle from TR99 (Areas B2 and H combined) with large contemporaneous datasets. This method calculates the logarithm of the ratio

between a measurement and its standard, and can therefore be combined with different measurements to form larger samples.

As no national standard exists for cattle it was decided to adopt the Phase W (late 4th- to mid 5th-century AD) Wroxeter dataset (Hammon forthcoming) as the standard. As suggested by Davis (1996: 605), who demonstrated that measurements from the same axis were highly correlated, length, width and depth measurements have not been combined.

Fig 54 compares the post-cranial width measurements to Period 7 from Colchester (Luff 1993: 183-197, Microfiche), Period IV-V from Elms Farm, Essex (Johnstone & Albarella 2002: 173-186, Appendix), the 4th-century AD dataset from Lincoln (Dobney et al 1996, 148-175, Appendix 1) and Phase T-V and W from Wroxeter (Hammon forthcoming). The late Romano-British cattle from Areas B2 and H compare directly with the average size of cattle from Lincoln and Wroxeter, but fall within the lower range from Colchester and Elms Farm. Both Colchester (Luff 1993: 130) and Elms Farm (Johnstone & Albarella 2002: 42-45) have provided evidence for direct improvement possibly using imported continental breeds. This would suggest that the TR99 cattle were in all likelihood of an unimproved indigenous type.

Conclusions

The Churchover and Newbold Pacey pipeline produced small vertebrate assemblages from Areas A, B1, B2, C and H. However, only the assemblages from Areas B2 and H had any real interpretative value. Due to the method of recovery a bias may exist, which favours the larger domesticate animals. This has not been overly problematic as reconstruction of the animal economy was the principal motivation. Material from the later phases of Areas B2 and H has been combined to form two late Romano-British groups.

Cattle predominate followed by sheep/goat and equids (in all likelihood horse – *Equus caballus*). Pig and dog were also present in low numbers, although the equid remains have probably been exaggerated due to taphonomic reasons. This overall pattern conforms to the 'Gallic/Germanic' pattern identified by King (1984, 1999), which is characteristic of military and urban sites. Normally rural sites are expected to contain greater numbers of sheep. Therefore, the small sample size is the most likely explanation of this. The ageing data is inconclusive. Butchery and body part evidence suggests whole carcasses were present at Areas B2 and H and normal carcass reduction and cooking was taking place.

Few analogous sites from the region exist, although Maltby's (2001) recent report on the vertebrate remains from the northern extramural area of Alcester provides a useful comparison. All that can be said with any certainty is that the animals from the TR99 sites appear to have been of a similar type. Further material will have to be produced before the relationship between Alcester and sites within its hinterland can be properly understood. The cattle from Areas B2 and H seem to be standard unimproved breeds common to the Romano-British period.

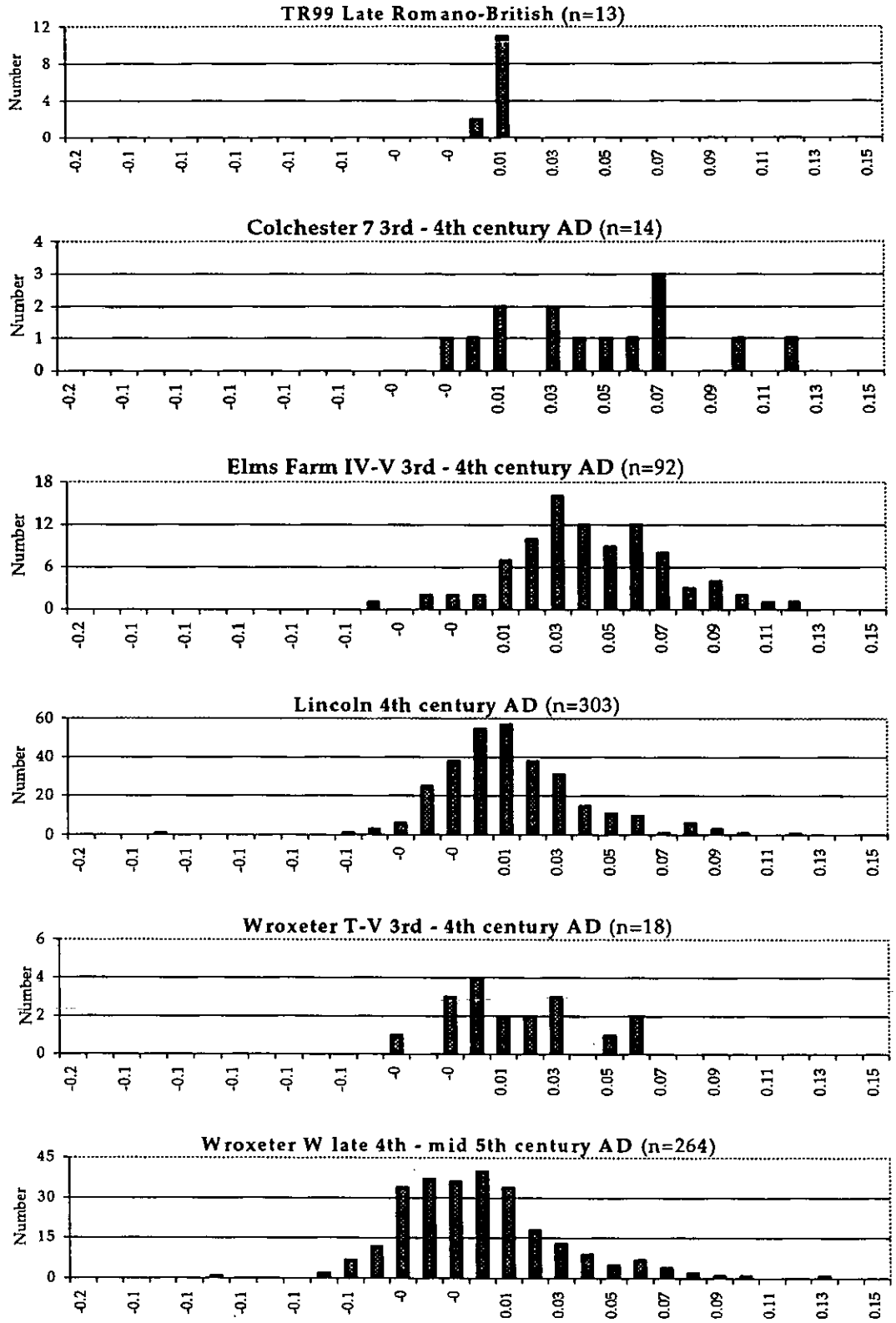


Fig 54: Inter-site comparison of Late Romano-British cattle post-cranial measurements using the log ratio method

Animal bone: Appendix

Mandibular fragments were considered to be 'ageable', and 'countable', when there were two or more teeth present with recognisable wear. Mandibular teeth, both in-situ and isolated, were aged using tooth eruption and wear patterns. Cattle and pig teeth were recorded using the system devised by Grant (1982), whereas sheep and goat teeth were recorded according to Payne (1973; 1987).

Von den Driesch (1995) defines the majority of measurements taken. All pig measurements follow the definitions of Payne & Bull (1988). Humerus 'BT', 'HT', 'HTC' and tibia 'Bd' measurements were taken for all species according to Payne & Bull (1988). Measurements 'BatF', 'a', 'b', '1', '3' and '4' for cattle and sheep/goat metapodials were taken using the criteria described by Davis (1992). All measurements are expressed in millimetres (mm).

Species codes

B	cattle (Bos taurus)
OVA	sheep (Ovis aries)
O	sheep/goat (O.aries/Capra hircus)
EQ	equid (Equus sp)

Element codes

dP_4	mandibular 4th deciduous premolar
P_4	mandibular 4th premolar
M_1	mandibular 1st molar
M_2	mandibular 2nd molar
M_3	mandibular 3rd molar
$M_{1/2}$	mandibular 1st OR 2nd molar
MC	metacarpal
MT	metatarsal

Table 63: Metapodial measurements

Site	*Phase*	*Context*	*Species*	*Element*	*GL*	*Ll*	*SD*	*Bd*	*BatF*	*Dd*	*1*	*3*	*4*	*A*	*B*
A	2	70/1	OVA	MT				23.5	23.3		9.9	13.3	9.7	11.1	10.6
B2	2b	107	B	MC				67.3	57.3				24.8	34.1	31.1
B2	2b	194/1	B	MC	181.3		27.0	50.6	47.1		21.8	25.2	19.8	24.6	23.6
B2	2b	107/1	EQ	MC	229.5	224.5	32.5	52.1		39.4					
H	6	789	B	MC	178.4		36.0	62.0	55.5		25.9	28.9	24.3	30.0	28.8
H	6	789	B	MC					53.9		23.2		21.9		24.8
H	6	789	EQ	MC				45.0							

Table 64: Equid 1st phalange measurements

Site	*Phase*	*Context*	*GL*	*SD*	*Bp*	*Dp*	*Bd*
B2	2b	107/1	88.7	35.2	55.4	36.0	46.4
H	6	772/2	89.3		57.4	36.7	46.5
H	6	772/2	82.0	35.2	51.8	32.4	45.9

Table 65: Humerus measurements

Site	*Phase*	*Context*	*Species*	*BT*	*HT*	*HTC*
B2	2b	107/1	B			34.7
B2	2b	107/1	B	73.0	40.9	30.7
B2	2e	106	B	80.7	45.4	34.1
B2	2e	106	B	75.7		33.0
H	2	806/1	B			29.5
H	6	789	B	63.6	38.8	29.0
H	6	766/2	EQ	75.5		36.0
H	6	789	EQ			33.2

Table 66: Pig teeth eruption and wear

Site	*Phase*	*Context*	*dP_4*	*$M_{1/2}$*
B2	2d	182		f
B2	2e	176	e	
H	6	799		d

Table 67: Pig dP_4

Area	*Phase*	*Context*	*L*	*WP*
B2	2e	176	18.5	8.5

Table 68: Cattle teeth eruption and wear data

Site	*Phase*	*Context*	*dP_4*	*P_4*	*M_1*	*M_2*	*M_3*	*$M_{1/2}$*
A	2	69/1					k	
A	1b	16/1						j
A	1b	16/1					j	
A	Mod	01						k
A	Mod	01						g
B2	2b	107/1						l
B2	2b	107/1		G		k	k	
B2	2b	107/1	j		g	E		
B2	2b	181/1		G	l	k	k	
B2	2b	181/2					k	
B2	2b	181/2			h	e	E	
B2	2e	106				k	h	
B2	2e	106						a
C	ND	207/1	j					
C	ND	207/1						a
C	ND	207/1						E
C	ND	207/1						f
C	ND	207/1	j					
C	ND	207/1						g
C	ND	207/1						f
H	2	730/1/B1					l	
H	3	779						k
H	5	787						f
H	5	787					a	
H	6	754/1		h	o	l	l	
H	6	769					b	
H	6	788			n	l		
H	6	789		g				
H	6	789			f	b		
H	6	789					k	
H	6	789			n	k	k	
H	Mod	738						k
H	Mod	744						f
H	Mod	744						a
H	Mod	744						g
H	Mod	745	j					
H	Mod	745						d

Table 69: Horse teeth measurements

Area	*Phase*	*Context*	*Element*	*Wa*	*Wd*
H	6	789	P_4	13.0	
H	6	789	M_1	13.7	4.3
H	6	789	M_2	12.6	2.8
H	6	789	M_2	12.9	2.9
H	6	789	M_3	11.4	2.1
H	6	789	M_3	11.6	2.3

Table 70: Cattle astragalus

Site	*Phase*	*Context*	*GLl*	*Bd*	*Dl*
B2	2b	107	70.2	46.3	39.5
B2	2e	176		42.9	36.3
H	6	769	62.9	42.7	34.6

Table 71: Tibia measurements

Site	*Phase*	*Context*	*Species*	*Bd*	*Dd*
B2	2e	176	B	63.8	48.3
H	5	787	B	60.6	
H	Mod	738	OVA	26.8	21.1

Table 72: Sheep/goat teeth eruption and wear data

Site	*Phase*	*Context*	*Species*	*dP*$_4$	*P*$_4$	*M*$_1$	*M*$_2$	*M*$_3$	*M*$_{vp}$
A	3	9/1	O				9A	8G	
A	Mod	01	O						6A
A	Mod	01	O						8A
A	Mod	01	O					6A	
B2	2b	107/1	O						V
B2	2b	107/1	O			9A			
B2	2b	107/1	O						9A
B2	2b	107/1	O		9A	9A			
B2	2b	107/1	O						7A
B2	2b	107/1	O					9G	
B2	2e	106	O						9A
H	3	767	O					14G	
H	3	779	O						9A
H	5	780	O						9A
H	6	772/2	O						7A
H	6	788	O						7A
H	6	789	OVA	13 L		2A			
H	6	798/2	O					11G	
H	Mod	738	O			15 A	10A	11G	
H	Mod	738	O					8G	
H	Mod	738	OVA	14 L		7A			
H	Mod	739	O						9A

Table 73: Cattle M_3 measurements

Area	*Phase*	*Context*	*W*
B2	2b	107/1	16.3
B2	2b	181/1	16.1
B2	2b	181/2	16.2
B2	2e	106	14.8
H	5	787	15.1
H	6	754/1	16.0
H	6	769	15.2
H	6	789	16.0
H	6	789	15.1

Table 74: Equid pelvis measurements

Site	*Phase*	*Context*	*LAR*
B2	2b	107/1	63.3

Table 75: Cattle calcaneum measurements

Site	*Phase*	*Context*	*C*	*C+D*
B2	2b	107/1	25.8	47.7

Table 76: Sheep/Goat M_3 measurements

Area	*Phase*	*Context*	*W*
A	3	9/1	7.9
A	Mod	01	8.4
B2	2b	107/1	8.3
H	6	798/2	8.6
H	Mod	738	8.3

POLLEN AND PLANT MACROFOSSILS by James Greig

Area A, Harborough Magna

A spot sample (**9/2/1**) was taken from a mid-late 3rd-century (Phase 3) ditch fill (**9/2**) on Area A on the basis of its probable waterlogged organic content. It was examined to see whether any identifiable biological remains were preserved.

LABORATORY WORK

A 1 cm^3 subsample was taken for pollen analysis. It was processed using the standard method; it was dispersed in dilute NaOH and filtered through a 70µm mesh to remove coarser material. The organic part of the sample was concentrated by swirl separation in a shallow dish. Fine material was removed by filtration on a 10µm mesh. The material was acetolysed to remove cellulose, stained with safranin and mounted on microscope slides in glycerol jelly. Counting was done with a Leitz Dialux microscope. Identification was using the writer's pollen reference collection, seen with a Leitz Lablux microscope. 167 pollen grains were counted, and the slide was scanned to see any other pollen types that were present. Standard reference works were used, notably Fægri and Iversen (1989) and Andrew (1984). The pollen is listed in Table 77.

Macrofossils were studied from a subsample of 100 ml sample, which was measured out by water displacement. It was broken down in water, and the organic material washed over on to a 300 micron sieve. The small amount of organic material was sorted under a stereo microscope, and identifiable remains listed (Table 78).

RESULTS

The pollen was abundant and well-preserved. The organic content of the material was low and very few seeds were recovered, although these still provide useful information.

Trees and shrubs are notable by their absence, with the exception of a single grain of *Corylus*-type (hazel). This is rather unusual, and may suggest that most of the pollen came from plant material rather than the general pollen rain from the surroundings, which would have surely included some trees. Many of the pollen records are recognisably of weeds or grassland plants. Annual weeds probably include Chenopodiaceae (goosefoot family) and Caryophyllaceae (chickweed, etc), *Rumex* type (docks and sorrels) and *Anthemis* type (mayweeds, etc.), and the macrofossil records of *Hyoscyamus niger* (henbane). More perennial weeds include *Cirsium* type (spear thistles), and among the macrofossils *Urtica dioica* (common nettle) and *Conium maculatum* (hemlock). Henbane and hemlock are fairly often found in Roman sites, although henbane is quite rare now.

Probable grassland plants include *Ranunculus* type (buttercups), *Trifolium repens* and *T. pratense* (white and red clovers), *Linum catharticum* (fairy flax), and *Centaurea nigra* (knapweed). Poaceae (grasses) and Lactuceae (composites) are likely to have made a contribution here as well.

Wetland and aquatic vegetation may be represented by Cyperaceae (sedges) and *Polygonum bistorta* (bistort); if these had grown on the spot, macrofossils would have been expected of the sedge, so these plants may have been brought in. Charcoal fragments show that there was human activity nearby.

The presence of weeds and grassland plants is typical of a farming landscape, and the results form part of a pattern of Roman results which can be assembled with

results from other such sites to build up a picture of the landscape and farming of the time.

Table 77: Pollen and spores
NB: The nomenclature and order of the taxa follows Bennett (1994) and Kent (1992) respectively.

Taxa	*nr*	%	*Common name*
Polypodium	1	-	polypody
Ranunculus-tp.	2	1	buttercup, crowfoot
Corylus-tp	1	1	hazel
Chenopodiaceae	1	1	goosefoot
Caryophyllaceae	3	2	stitchwort family
Persicaria bistorta-tp.	1	1	bistort etc.
Rumex-tp.	6	4	docks and sorrels
Brassicaceae	2	1	brassicas
Trifolium repens	-	-	white clover
Trifolium pratense	5	2	red clover
Linum catharticum	+	+	fairy flax
Plantago lanceolata	8	5	ribwort plantain
Dipsacaceae	1	1	scabiouses
Cirsium-tp	+	+	thistles
Centaurea nigra	9	5	knapweed
Lactuceae	36	22	a group of composites
Aster-tp	2	1	daisies etc
Anthemis-tp.	3	2	mayweeds etc.
Cyperaceae	15	9	sedges
Poaceae	69	41	grasses
Polypodium	1	1	polypody
unidentified	2		

Table 78: Plant macrofossils
NB: macrofossils, names and order according to Kent (1992).

Taxa	*Number*	*Common name*
Urtica dioica L.	1	nettle
Rubus subg. *Glandulosus*	1 fr	bramble
Hyoscyamus niger L.	3	henbane
Conium maculatum L.	1	hemlock
charcoal fragments	+	

DISCUSSION

Results from other Roman sites in the area, such as Mancetter (Greig 1997), and in south Warwickshire at Salford Priors (Monckton 2000; Greig 2000), Alcester (Colledge 1978), and Tiddington (Greig in prep) seem to show that the Roman farm landscape had certain rather constant features such as the signs of grasslands and arable fields. The absence of signs of cereals at this site, and likewise a lack of trees, could be the result of a bias towards grassland at Harborough Magna. The henbane record here hints at the presence of the 'Roman' wasteland vegetation that has been recorded at a number of sites, consisting of a number of plants that would be rare in the area today, and usually needing warmer conditions to grow.

CHARRED PLANT REMAINS by Angela Monckton

Area E, Frankton

Samples from four contexts were examined including three from ditch contexts and one from a pit. These samples contained only occasional charred seeds and charred fragments of roots and stems so were not included in the tables. The samples were from gully **402**, enclosure ditch contexts **404/1** and **404/2**, and pit **406**. The samples contained a couple of seeds each except for context **404/2**, which only contained flecks of charcoal. Ditch context **404/1** contained mineralised charcoal.

Iron Age occupation features often contain a low density scatter of cereal remains as waste from food preparation, so their absence here suggests that these features may have been some distance from domestic buildings. The presence of charcoal and seeds of grassy vegetation suggest other types of activity in the vicinity.

Area B, Long Itchington

THE CORNDRIERS

The samples from Area B2 corndrier fill **190/1** and probable corndrier fill **191/1** contained abundant cereal remains (Table 79). These were mainly of chaff including well preserved glumes (chaff) of spelt wheat (*Triticum spelta*) with occasional glumes of emmer (*Triticum dicoccum*) and a little chaff of barley (*Hordeum* sp) as rachis fragments. Cereal grains were fewer in number and were mainly of wheat including those of spelt with very occasional germinated grains. Evidence for germination was also seen from detached cereal sprouts in the samples although these were not very numerous. Occasional grains of barley were found. Weed seeds were also present although not numerous.

THE DITCHES

Samples from Area B2 ditch fills **181** and **194** were similar to those from the corndriers being dominated by wheat chaff (Table 79). Although containing fewer cereal grains, similar proportions of weed seeds were present amongst the numerous remains.

DISCUSSION

Corndriers are interpreted as having had a stoking area and flues, which would have heated a drying floor above. One of the structures here (**190**) had the stoke hole and flue bases surviving while the second (**191**) was less complete but was thought to be a corndrier on excavation and the similarity of the cereal remains adds to this conclusion (Table 79). In common with most of these features evidence for the drying floor had not survived. Corndriers have been suggested as having a variety of possible functions (van der Veen 1989). Cereals in the following forms could have been processed in corndriers: whole ears could have been dried for storage or to produce green corn; spikelets could have been parched for removal of chaff; cleaned grain could have been dried for storage or to harden it for milling; or germinated grain could have been roasted for the production of malt (van der Veen 1989).

Interpretation of the use of these features is complicated by the use of chaff for fuel which may become mixed with the some of the product making it difficult to define the material being processed. Chaff is known to be a favoured fuel for grain drying and roasting (Hillman 1982) as it produces little smoke and is an efficient use of a

waste product. In addition the material being processed rarely survives in situ, product from the floor may fall into the flues for example, so it is difficult to prove the function of the features. Furthermore the remains found represent the last use or last few uses of the feature which may not relate to the usual function (van der Veen 1989) and sometimes may only represent rubbish backfill of the feature. The samples from the features here were of charred material from the flues or stoke holes and were thought to be primary deposits.

In order to interpret the samples their composition was examined in comparison to what is known about the cereals. The main cereal found here was spelt, in which the grains are held firmly in the chaff even after initial threshing which only breaks the ears into spikelets. After threshing the straw is removed and the spikelets winnowed to remove light contaminants and coarse sieved to partly clean the spikelets (Hillman 1981). This type of grain could have been stored as spikelets with the chaff still present, because the chaff protected the grains from weevil and fungal attack (Hillman 1984). Before the grain was used the chaff could be removed by parching and pounding, followed by fine-sieving to remove the chaff (glumes and rachis) and any small weed seeds, leaving cleaned grain for use (Hillman 1981). The waste chaff could be burnt either as rubbish or used as fuel or kindling and so be preserved by charring. Evidence for this fine sieving waste is found where the ratio of glumes to wheat grains is high because in the ear of wheat there is one glume to each grain so an excess of glumes in the sample indicates cereal cleaning waste. This fine sieving waste was found in all four samples analysed from Area B2 (Table 79). A high ratio of weed seeds to grains would also indicate cereal cleaning waste (van der Veen 1992) although few seeds were found here. Hence the samples in the corndriers appear to represent cereal cleaning waste used as fuel to process further cereals, and the presence of the waste shows that dehusking of cereals was carried on at the site. The samples from the ditches also represent burnt dehusking waste, probably as spent fuel from cereal processing dumped in the ditches.

There is some evidence for germination in the samples from the corndriers. Very few germinated grains were found but germination may be under represented because of poorly preserved and broken grains. More evidence was found from detached cereal sprouts and if these were taken to be from the grains in the sample they may represent 20 - 28% of the grains in the sample. Accidentally sprouted grain has been described as having 15% germination and deliberate malting as 75% (van der Veen 1992) and these samples fall at the low end of the range. The sprouts may originate from the waste chaff used as fuel in which case they would represent a much smaller proportion of the cereal. It has been pointed out, however, that the less uniform crops of the past compared with modern crops may have produced less uniform germination (Moffett 1989), this is also shown in the variation of cereal sprout length of about 4 to 7mm. In the uniform germination found today the sprout is the same length as the grain, about 4mm. At Wasperton the small amount of evidence for germination found in samples interpreted as spelt chaff used as fuel, was thought to be insufficient to indicate malting, and was thought to indicate parching or drying of a partially spoiled crop, this was similar to the evidence found at Billesley Manor Farm (Monckton 1999) where 10-12% germination of grains was found. This also appears to be the case here.

Experiments at Butser Ancient Farm have shown that reconstructed features of this type will parch malted grain efficiently but were poor at drying whole ears of cereal (Reynolds 1979). Less is known about parching spikelets of spelt for dehusking and little is known about different types of drying floors which may have been used. The association of dehusking waste and corndriers at these and other sites would suggest that parching for dehusking was carried out in these features. Although some of these features elsewhere have been found to contain evidence of malting

grain to make ale, the processing of grain for bread and other foods must have been at least as important, if not more so.

COMPARISONS WITH OTHER SITES

The evidence here in Area B2 for the use of spelt chaff as fuel in corndriers can be matched at a number of sites in England (van der Veen 1989), and in particular at some Warwickshire Romano-British sites including Tiddington village (Moffett 1986), the rural settlements at Wasperton (Bowker 1987) and Billesley Manor Farm (Monckton 1999), and the villa site at Salford Priors (Moffett & Ciaraldi 2000). The site at Wasperton also had evidence for the processing of barley, unlike here and Billesley Manor Farm, where only occasional grains were found. At Tiddington evidence for malting was found from abundant cereal sprouts and germinated grains. The small amount of evidence for germination in Area B2 was insufficient to suggest malting as an activity here. These samples with less germination may be taken to indicate the processing of cereal including accidentally sprouted grains as was found at Fengate Farm, Weeting, Norfolk (Murphy 1984) and Billesley Manor Farm. The small amount of evidence for germination found in the samples interpreted as spelt chaff used as fuel in Area B2, is similar to the evidence from Billesley Manor Farm and Wasperton where it was thought to be insufficient to indicate malting, but was thought to indicate parching or drying of a partially spoiled crop.

Large scale processing has been found at Tiddington and at Salford Priors and the very abundant chaff remains found as fuel at the latter site was thought to be evidence for processing large quantities of spelt for commerce or trading (Moffett & Ciaraldi 2000). Although less plant remains were found in Area B2 dehusking of cereals was carried out, possibly for supply of cereals to other sites. Close proximity to the Fosse Way would have enabled easy access for trade with other sites. The deposit of cleaned grain recorded from the Alcester Gateway supermarket site (Moffett 1996), suggests that cleaned cereals could have been to supplied to towns in the area, although some processing was carried out in Alcester as cereal processing waste has been found at Coulters Garage and Gas House Lane (College 1986; Moffett 1996). Deposits of cleaned grain are known from London, Colchester and some military forts, although little is known from other towns in this region.

The distribution of corndriers is restricted to southern and eastern England, with a cluster in Humberside forming the northernmost limit (van der Veen 1989), although it is noted that there may be a recovery bias in the data and some sites may remain unpublished. Since this survey more sites have been discovered in the midlands; three sites have been added to the one in Leicestershire, three sites have been found in Rutland, two groups of corndriers have been analysed in Northamptonshire, although as yet there is no evidence from corndriers in Derbyshire, Nottinghamshire or Lincolnshire (Monckton 2003). Warwickshire is one of the most productive areas for these sites in the midlands, now having five sites with significant evidence from the analysis of cereal remains. These show some of the different functions of these features and the importance of the area for agricultural production in the Roman period.

CONCLUSIONS

At Long Itchington similar samples from a corndrier and a possible corndrier are dominated by wheat chaff with few grains and some weed seeds, and are interpreted as fine sieved cereal cleanings used as fuel in the corndriers. The main cereal was spelt and the presence of the waste is taken to show that dehusking of spelt was carried out on the site. There is some evidence for germination of the

Table 79: Charred plant remains from Area B2

Phase	2b	2b	2c	2c	
Century AD	L.3rd	L.3rd	L.3-4	L.3-4	
Feature type	gully	Ditch	corndrier	corndrier	
Sample	1	1	1	1-2	
Context	194/1	181/1	190/1	191/1	
GRAINS					
Triticum spelta grain	-	4	3	3	Spelt
Triticum spelta grain germinated	-	1	1	-	Spelt
Triticum cf *aestivum*	-	-	2	-	Bread wheat type
Triticum dicoccum/spelta	5	12	24	11	Wheat
Triticum sp	-	12	3	-	Wheat
Triticum sp (tail grains)	-	2	3	-	Wheat
Hordeum sp Hulled	-	1	2	2	Barley
Hordeum sp Hulled, twisted	-	1	-	-	Barley
Hordeum vulgare L.	-	3	1	-	Barley
Cereal indet.	10	14	54	21	Cereal
Cereal/Poaceae	-	-	-	2	Cereal/Grass
Culm node large	-	1	-	2	Cereal stem
Cereal embryos	5	24	44	3	Cereal
Cereal coleoptile bases	12	55	24	13	Cereal sprouts
CHAFF					
Triticum dicoccum Schubl. Glume base	-	2	2	1	Emmer
Triticum cf dicoccum glume base	2	4	6	1	Emmer
Triticum spelta L. spikelet fork	1	4	4	2	Spelt
Triticum spelta L. glume base	68	249	131	82	Spelt
Triticum spelta spikelet fork	2	32	20	6	Spelt
T. dicoccum/spelta glume base	314	814	935	246	Glume wheat
T. dicoccum/spelta rachis	23	69	67	9	Glume wheat
Triticum sp Rachis	-	3	2	-	Wheat
Hordeum vulgare L. rachis	5	7	1	1	Barley
Cereal rachis	2	-	-	-	Cereal
Awns (silicfied) frags	-	(1)	-	-	Awns
Triticum sp awn frags	(1)	(2)	(2)	-	Wheat awns
Avena sp Awn frags	(6)	(10)	(49)	(3)	Oat awns
WILD PLANTS					
Chenopodium album type	-	1	5	-	Fat-hen
Chenopodium sp	3	-	10	3	Goose foot
Polygonum aviculare L.	-	1	-	-	Knotgrass
Polygonum sp	-	-	1	-	Knotweed
Rumex sp	1	2	-	-	Dock
Malva sp	-	2	-	-	Mallow
Raphanus raphanistrum L. pod frag	-	1	1	-	Wild Radish
Agrostemma githago L. capsule frag	-	1	1	1	Corn cockle
Silene sp	1	-	2	-	Campion
Vicia/Lathyrus	1	3	2	-	Vetch/Vetchling
Medicago type	2	1	6	-	Medick type
?Prunella vulgaris L.	-	-	1	-	?Self-heal
Carduus/Cirsium	-	1	-	-	Thistles
Tripleurospermum inodorum (L.) S-B	1	-	4	1	Scentless mayweed
Asteraceae	-	1	5	-	Daisy family
Eleocharis sp	1	-	-	-	Spike-rush
Bromus hordeaceus/secalinus	3	3	2	1	Brome grass
?Danthonia decumbens (L.) DC	-	-	1	-	?Heath grass
Poaceae large	2	31	7	7	Grasses
Poaceae medium	3	-	36	4	Grasses
Poaceae small	2	3	2	-	Grasses
Undetermined seeds	4	3	7	2	Seeds

Table 79 continued

Context	194/1	181/1	190/1	191/1	
OTHER					
Stem fragments	(3)	-	(6)	-	Stem
Tubers	4	-	-	-	Tubers
Root fragments small	-	+	-	-	Grass stem
Roots, woody	++	-	-	-	Grass stem
TOTAL	485	1371	1440	425	Items 3721
Vol sample	11	12	16	33	Litres
Vol flot	15	40	15	32	mls
% Sorted	all	25%	all	12.5%	%
Items/litre	44	457	90	104	Items/litre
RATIOS					
Ratio wheat glumes : grains	26.0	25.8	9.3	7.7	glumes : grains
Ratio weed seeds : total grains	1.6	1.1	1.0	0.5	seeds : grains
PROPORTIONS					
GLUMES	91	91.4	85.9	86.1	%
GRAINS	3.5	4.1	7.1	9.2	%
SEEDS	5.5	4.5	6.9	4.7	%

Key: + = present, ++ = abundant CD = corndrier
Remains are seeds in the broad sense unless described otherwise.

Cereal from some detached cereal sprouts but very few germinated grains. This evidence is insufficient to suggest malting, rather it is thought to be a crop with some accidentally sprouted grain being processed. Similar samples with fewer grains from nearby ditches are thought to be similar cereal cleanings of burnt dehusking waste probably dumped as spent fuel. Weed seeds were relatively few, possibly because of weeding or of cleaning the crop by sieving. Those weeds present suggest autumn sowing and cultivation of fairly well drained soils. The processing of cereals for trade or supply to other sites is thought to be possible.

Area A, Harborough Magna

A sample from Phase 1b gully **16** and five samples from Phase 2 ditches **69, 70,** Phase 3, ditches **9, 26** and Phase 3a ditch **63** contained only single numbers of remains as a scatter of cereal waste. A charred bean or pea (*Vicia/Pisum*) in Phase 2 ditch context **70/1** suggests that this was probably domestic waste. The most remains were from a charred deposit in Phase 3b gully **23** of 4th-century date; this sample contained 14 chaff fragments (glumes) including spelt, and a couple of cereal grains, probably as part of a scatter of cereal cleaning waste. There were insufficient remains for further analysis.

Area H, Chesterton and Kingston

Samples from Phase 2 ditch **759** and Phase 6 ditch **753** contained no plant remains. A sample from the butt end of Phase 5 ditch **790** contained 20 items of plant remains which included cereal grains, a few wheat glumes, occasional charred seeds and charred root or tuber fragments although insufficient for analysis.

CHARCOAL by Rowena Gale

Area E, Frankton

Charcoal recovered from the Phase 1a ditch fill **404/1** and an associated pit **406**, and Phase 2 gully **402** was degraded and difficult to identify; some fragments could only be provisionally identified. Oak (*Quercus* sp) was common to each sample; other taxa were more sporadic but included ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), blackthorn (*Prunus spinosa*) and, probably, hazel (*Corylus avellana*), alder (*Alnus glutinosa*) and the hawthorn/ *Sorbus* group (Pomoideae) (Table 77).

The activities associated with the fires/hearths in which the charcoal was produced are unknown. The possible presence of oak roots in **402/1/1** could infer the disposal by burning of uprooted trees/ shrubs. Taken together the evidence indicates access to a good range of woodland species including oak (*Quercus* sp), ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*) and blackthorn (*Prunus spinosa*) and possibly to alder (*Alnus glutinosa*), hazel (*Corylus avellana*) and the hawthorn/*Sorbus* group (Pomoideae).

Area A, Harborough Magna

Charcoal deposits were poorly preserved and sparse. Samples **16/2/1** (Phase 1b) and **26/1/1** (Phase 3) included tiny pieces of oak (*Quercus* sp); sample **16/1/1** (Phase 1b) was vitrified. Sample **23/2/1** was recovered from a charcoal-rich layer in gully **23**, dated to the 4th-century (Phase 3a). Here the charcoal was more abundant and consisted entirely of narrow roundwood measuring up to 8mm in diameter, predominantly from blackthorn (*Prunus spinosa*), but also including field maple (*Acer campestre*), oak (*Quercus* sp) and probably elder (*Sambucus nigra*). The origin of the charcoal from these contexts is unknown although domestic hearth debris or deposits from agricultural activities seem the most likely. The abundance of roundwood and the range of species represented in the charcoal from gully fill **23/2/1** suggests an origin from an open or scrubby environment or, perhaps, from hedgerows, and corresponds with the pollen record, which indicates an open grassland environment (see Greig above).

Area H, Chesterton and Kingston

Charcoal deposits in this area were poorly preserved, sparse and of unknown origin. Samples **732/1/1** and **759/1/1** from an enclosure ditch and gully, respectively, were dated to the late 2nd-century (Phase 2). Oak (*Quercus* sp) was common to both features; gully **732** also included ash (*Fraxinus excelsior*) and the hawthorn/ *Sorbus* group (Pomoideae). Phase 5 gully **790** from a possible enclosure C contained a slightly wider range of species, which included oak (*Quercus* sp), purging buckthorn (*Rhamnus cathartica*), blackthorn (*Prunus spinosa*), the hawthorn/ *Sorbus* group (Pomoideae) and alder (*Alnus glutinosa*).

Given the location of the site on low, flat ground and embraced by meandering streams on three sides, it seems likely that such an area would have been subject to seasonally damp or wet soils. The poor condition of the charcoal may therefore have resulted from fluctuating ground water. There was some evidence for the use of wet-land species such as alder (*Alnus glutinosa*), although oak (*Quercus* sp), ash (*Fraxinus excelsior*), hawthorn/ *Sorbus* group (Pomoideae) and blackthorn (*Prunus spinosa*), generally dislike permanently waterlogged soils.

Table 80: Charcoal from Iron Age and Roman features

Area/ Phase	*Sample*	*Alnus*	*Corylus*	*Fraxinus*	*Ilex*	*Pomoideae*	*Prunus*	*Quercus*	*Rhamnus*
E:2	**402/1/1**	-	cf 1	-	1	cf 1	-	47h, 2s, 2?root	-
E:2	**402/2/1**	-	-	3	-	-	1	3	-
E:1a	**404/1/1**	cf 1	-	-	-	-	-	8	-
E:1a	**406/1/1**	-	-	-	-	-	-	2	-
H:2	**732/1/1**	-	-	1	-	3	-	1	-
H:2	**759/1**	-	-	-	-	-	-	2	-
H:5	**790/1**	1	-	-	-	3	1	6h, 3s	1

Key. h = heartwood; s = sapwood (diameter unknown)
The number of fragments identified is indicated

GENERAL DISCUSSION

Area B, Long Itchington

NEOLITHIC/BRONZE AGE

The very small amount of flint recovered from this area would seem to suggest that the locale was little used in the earlier prehistoric period despite the apparent benefits that would have been gained by early agriculturists. Such a wide valley bottom with its light, easily tilled soils would conventionally be regarded as a premium landscape for early farmers (Hingley 1989, 127). However, increasingly, modern research has shown that early settlement was not fixed to a specific site and that the river valleys were used as arteries for travel and communication. Significant ceremonial or sacred landscapes developed along some major rivers (see Areas C and D) without necessarily attracting or even perhaps being suitable for permanent settlement (Palmer 2002b). It is becoming increasingly clear that a mobile lifestyle was the norm for the majority of the earlier prehistoric population (Thomas 1991; Richmond 1999) and such itinerant communities leave little archaeological trace even if they do affect the vegetation they travel over.

THE IRON AGE

Area B1 enclosures

We can not be certain of the size and shape of the enclosures because they were only partially exposed within the pipeline easement and not fully covered by the geophysical survey. However, it would be reasonable to assume that if not square the exposed arms were between 0.6 and 1.3 times the unknown breadths, based on the corpus of Iron Age enclosures of Warwickshire produced by Hingley (1989, fig 9:9). This ratio suggests that the inner enclosure incorporated an area 23m x 17m (0.032ha) or 23m x 34m (0.069ha) and the outer enclosure an area 38m x 25m (0.095ha) and 38m x 50m (0.19ha). Both the enclosures then fall at the bottom of the size range of discrete enclosure cropmarks.

Locally, the only excavated example of a discrete enclosure of a similar size was at Ling Hall Quarry, Church Lawford (Palmer forthcoming a and b). This enclosure of 0.06ha lay to the east of a settlement complex and is thought to have been used for mortuary practices. However, even given the smaller possible dimensions of the inner enclosure at Long Itchington and the possibility it carried an internal

earthwork bank constructed from the upcast of the ditch, it could have contained a round-house of average size (*c* 10m diameter), albeit with little else. This may of course be one reason that the pit group was located outside the smaller enclosure.

The outer enclosure ditch was evidently constructed concentrically around the inner enclosure suggesting that some sign of the earlier earthwork was still evident. This is likely to have been the inner bank although no evidence remained or could be implied from the pattern of ditch fill. If covered with turf and topped with a hedge there is no reason why such a bank could not have remained prominent.

The location of the intermediate circular structure on the south-eastern corner of the enclosure sequence probably indicates that there was a level berm inside the inner ditch as it would surely have been inconvenient to dig gully **151** through an extant bank. This would have seriously reduced the interior area of the enclosure, perhaps to as little as 16m north-south.

Double ditched enclosures are relatively common cropmarks in the county and are evident in a variety of sizes (Hingley 1989, fig 9:9); two examples have been excavated. At Ryton Wood, Ryton-on-Dunsmore a double ditched D-shaped enclosure with entrances aligned on the south-eastern arm was originally published as of Late Bronze Age construction (Bateman 1978a), although this date has subsequently been questioned and a Middle Iron Age date proposed (Cracknell & Hingley 1994, 27; Hingley 1996, 11). The inner and outer ditches enclosed respectively less than 0.0035ha and 0.0065ha with no discernible evidence of settlement other than a few pits (*contra* Hingley 1996, 11). Brandon Grounds, Brandon and Bretford was undoubtedly a settlement enclosure of later Iron Age date (Bateman 1978b).

A variety of other Iron Age settlement enclosures have been excavated in the county. Some examples were attached to earlier boundaries such as Park Farm, Barford (Cracknell & Hingley 1994) and a series of complexes at Ling Hall Quarry, Church Lawford (Palmer 2002a; forthcoming a), whilst one at Marsh Farm Quarry, Salford Priors was entirely discrete (Palmer forthcoming c). At Wasperton however, multiple enclosures were examined, both discrete and attached (Crawford 1981, 1982, 1983, 1984, 1985; Woodward pers comm).

None of the three enclosure ditch cuts (**155, 111, 112=129**) can be considered as truly defensive but alongside an earthen bank topped with a hedge or fence they would be a sufficient barrier to corral stock overnight to prevent predation from wild animals and perhaps opportunist rustling. However, the small size of the enclosed areas would seriously limit the capacity of such a corral. It is however equally plausible that the ditch and bank were constructed in order to keep domestic livestock from eating the thatch laid on the roof of an internal structure.

There is little doubt that on many enclosure sites the ditch had symbolic attributes (cf Bowden & McOrmish 1987; Hingley 1990; Hill 1994, 1995; Palmer forthcoming b), and was used as a receptacle for significant structured deposits that in some cases may have left no archaeological trace (cf Hill 1996, 76-83). This argument has been proffered at Marsh Farm where unlike Area B, a significant finds assemblage was recovered from the ditch. In Area B the absence of structured deposits may be due to the small sample size excavated, but equally may reflect the location of the sample; at Marsh Farm the finds were almost exclusively recovered from either side the entrance with none recovered from the rear of the enclosure. This argument would of course be better served if we knew where the entrance to the Long Itchington enclosures was.

Pit group

The pits in the northern part of Area B1 have been described as a contemporary group because of their spatial arrangement, although they were not at all well dated. Contemporaneity with the inner enclosure ditch is also presumed from their spatiality. They can however be divided into four groups: the linear arrangement of eight; the two large and deep pits; the four probable medium sized pits, and the small shallow pits. The three excavated examples in the linear group suggest a fairly uniform size and shape, and therefore possibly a similar function. At between 0.21m and 0.36m deep and allowing perhaps 0.3m of truncation, storage inside an appropriate lining would have been possible, but there was no indication as to what might have been stored or for how long.

A similar alignment of eight pits was found inside the northern arm of the much larger Marsh Farm enclosure; these were equally devoid of finds or any other evidence which could have indicated their function. Here again an argument for structured or special deposits relevant to the safety or prosperity of the enclosure was proffered. Such explanations are frustrated by the acid soils of the gravel terrace which are un-conducive to the survival of bone, potentially a crucial aspect in detecting such deposits (Palmer forthcoming c).

The two larger, deeper pits **134** and **164** were not spatially close but were significantly larger than the others in the group. At over 2m in diameter and respectively 1.10m and 0.65m deep they could have been suitable for grain storage although there was no indication of the requisite seal needed to preserve the grain and no residual grain or signs of scorching (cf Reynolds 1974; Fowler 1983, 180-5). The medium sized pits **159** and **153** and perhaps the unexcavated examples **113** and **154** are less easy to explain although again storage or symbolic functions are equally feasible. The smallest pits such as **121, 124, 139** and **140** appear around the outer edge of the outer enclosure ditch, the two excavated examples being mere scoops in the gravel. It is difficult to conceive of a reason for these other than as part of the procedure for setting out the enclosure.

Possible structure

The structure postulated over the south-eastern corner of the inner enclosure and cut by the outer enclosure was not well preserved or defined and it is recognised here that its interpretation is open to question. Nevertheless it is difficult to present a more satisfactory explanation for the features in this part of the site. At *c* 10.5–11.0m in diameter it represents one of the larger contemporary buildings currently known in the county and would be one of only four not having an eastern entrance (Palmer forthcoming b). Its probable post in trench construction would also be unusual: further examples known only from Coton Park and Ling Hall Quarry (ibid). It is the absence of wall trench slots/gullies in the area between the outer and inner enclosure ditches that presents the biggest problem with this interpretation, there being no obvious reason why this should be the case.

Function and economy

Despite the lack of excavation on this site it is reasonable to suppose from the available evidence that the area enclosed within the ditch sequence was that of a domestic settlement. Such a settlement is likely to have been inhabited by a family unit engaged in mixed agriculture, although some form of specialisation remains possible. There is now some evidence for field systems within the county in use prior to the Roman period (Palmer forthcoming a) and no reason to suppose that they were absent in the wider Area B environs, especially as extant features formed by hedges need leave no recognisable sub-surface trace. It is possible that at Long Itchington livestock was kept from areas of arable during the day time and returned

to the protection of the enclosure over night. The typical, albeit limited, assemblage of animal bone included cattle, sheep/goats and dogs.

Chronology

There was a complete absence of direct dating evidence including material suitable for radiocarbon dating from Phase 1-1a. Neither do the site's morphological characteristics lend themselves to a particular period. Nevertheless the overlying of the Phase 1b enclosure seems to suggest that no great timespan had elapsed between these events, which are likely to have occurred in the middle to late Iron Age period. In contrast the overlying Phase 2 enclosure appeared not to have respected the earlier ditches which does perhaps imply a certain time lapse between the phases. The Central Gaulish samian (Dr 18/31) from this phase provides a *terminus post quem* of AD 120-150, but the residual hand made fabrics and Belgic sherd (Fabric E20) assumed to be early-mid 1st-century AD, seem most likely to have derived from the Phase 1b ditch. The probability therefore is that the Phase 1-1b enclosures were in use during the later Iron Age, perhaps during the 1st century BC.

Currently, none of the excavated Iron Age enclosures in Warwickshire show evidence for continuous occupation into the Roman period and even the sites which have been excavated on a landscape scale such as Marsh Farm Quarry (Salford Priors), Ling Hall Quarry (Church Lawford) and Wasperton, show evidence of settlement shift in the 1st-century AD (Palmer 2002a, forthcoming a, forthcoming c; Anne Woodward pers comm).

ROMANO-BRITISH

1st- to 2nd-century AD activity

The early Roman period was represented by the small sub-square enclosure and connecting gully that cut across the former enclosures. Stratigraphically it appears that all signs of the enclosure had disappeared when the gully **125=127** was constructed, which could be suggestive of a break in the continuity of the occupation of this area. However, it is also possible that the division of the former enclosure may have reflected the division of a property between heirs (cf Smith 1997, 279-88; Palmer 2000b 187-8).

The function of the enclosure is open to debate there being no particular evidence to suggest either a building, stock control or an activity area. It does seem clear however that it was merely a part of a wider complex of activity outside the present easement.

3rd- to 4th-century AD occupation: the villa estate

Area B2 Corndriers

The principal features excavated from this phase were the two corndriers. Such structures are known from virtually all the local rural sites including two from the settlement at Billesley Manor Farm (Palmer 2003a) and one from the villa at Salford Priors (Palmer 2000b) and one each from Bidford Grange and Abbots Salford (Booth 1996b, 42). However, the two Long Itchington examples are the only known basic linear constructions. It seems probable that most driers were housed within some form of structure to protect them from the worst of the elements (Morris 1979, 11-12), either in buildings (eg Billesley Manor Farm and Salford Priors) or behind screens (eg Billesley Manor Farm). There was no clear evidence of such protection at Long Itchington but such evidence may well have existed outside the restricted area available for excavation. The two corndriers may have functioned at the same

time but given their different constructions it is possible that Corndrier 1 was built later than Corndrier 2 perhaps utilising some of the superstructure which had been completely removed. Alternatively Corndrier 2 may have been an additional temporary structure, perhaps hurriedly constructed to process a surplus of grain before it spoilt. It is also possible that an earlier corndrier existed here as there is grain in ditch deposits of an earlier phase.

Field system

Elements of a contemporary field system were evident in each of the four sub-areas, apparently laid out without respect to the earlier enclosures. Extrapolation from the admittedly limited evidence of the linear features in Areas B1 and B4 suggests north-south aligned fields 30-35m wide on the east-west axis and 90m long on the north-south axis. Given that the medieval furrow system was also on an east-west alignment it is possible that other east-west aligned gullies were truncated by these later features. The more substantive parallel ditches (B2:2b:**107** and B3:2a:**192**) suggest that the field system extended for at least 500m to the south of Area B1 along the valley.

These fields compare well with those from villas at Salford Priors (Palmer 2000b) and Roughground Farm, Lechlade (Allen *et al* 1993). The relationship between this system and the linear cropmarks further to the south (Fig 21) is less certain still, although these features seem more likely to relate to the enclosures adjacent to the river.

Late 4th-century AD occupation

Area B2 was apparently levelled in the mid-late 4th century with the layer **106** covering all the earlier deposits. The coin of Constans in layer **176** providing a *terminus post quem* of AD 348-50. The origin of this layer is difficult to determine but it was quite possibly deliberately dumped to build up the land surface; the corn drier was evidently constructed in a slight depression. The late post pads together with the other rubble and tile spreads, seem most likely to have been associated with some form of building or structure that was unrecognisable within the confines of the trench. Neither could it be dated but its construction may well have been the object of the earlier levelling so a date not too much later than the levelling layer seems likely.

The extent of the villa estate is unknown but given the isolated spreads of finds (Ratcliffe 1981; Jones & Wise 1997) it is possible that the building complex was dispersed over a wide area rather than focussed on a primary compound like the classic Cotswold villas etc. If indeed so, direct comparisons could be made with the building complex associated with the villa estate at Salford Priors in the Arrow Valley which was spread over 2.5ha. On this site it was suggested that the dispersed nature of the complex reflected the nature of the earlier Roman occupation that was spread along the valley (Palmer 2000b, 193). This settlement pattern was itself a development of the early/mid 1st millennium BC settlement distribution which was largely determined by natural features such as tributary watercourses flowing into the Rivers Avon and Arrow (ibid, 217).

Cropmark evidence along the Itchen valley is difficult to interpret without the aid of more intense field survey and the location and alignment of tributary watercourses is difficult to determine as many have been culverted in the recent past, but the spatial arrangement of clustered features suggests that the valley was intensively settled on both sides of the river (Fig 21). Certainly some of the enclosures visible as cropmarks in the Itchen Valley could be prehistoric in date and represent isolated farmsteads spread along the valley and it is not unreasonable to suppose that as in the Arrow Valley, one of the farmsteads evolved into a villa complex. We may

therefore be witnessing a local phenomenon of Iron Age farmsteads combining in the later Romano-British period to form villa estates.

ANGLO-SAXON

The single pit on the east side of Area B1 together with the few sherds of this date are difficult to explain other than as representing occasional activity in the area.

The cropmark complex of dispersed rectangular structures to the north is suspected as being an early medieval settlement comparable to the complex at Hatton Rock, Hampton Lucy (Hingley pers comm). The Hatton Rock cropmark site, although slightly more extensive than Long Itchington, has been interpreted as a series of halls and comparable to Anglo-Saxon palace sites like Yeavering and Cheddar (Rahtz 1970; Hirst & Rahtz 1973). However, the evidence recovered from the pipeline at Long Itchington would probably relate to an earlier phase of Anglo-Saxon occupation than the development of the palace site. There is no evidence for a continuous presence either from the end of the Roman period to the earliest Anglo-Saxon phase or from the earliest Anglo-Saxon phase to the putative palace phase.

Area E , Frankton

Although the two small enclosures have been allocated to different phases based on the pottery recovered from them, it seems likely that some element of the D-shaped enclosure was still evident when the semi-circular enclosure with its integral spur, was constructed. At surface level, prior to plough truncation, the enclosure ditch and the spur are likely to have been interconnected. Linking of features in this way is a widespread phenomenon on later prehistoric and Romano-British sites and is usually attributed to drainage. Levels taken along the spur **410** clearly show that its base was lower than that of the circular gully, and its direction toward the D-shaped enclosure must have been intentional.

The paucity of finds in both these features need not preclude a domestic function, domestic detritus is not always plentiful in many of the penannular and semi-circular gullies of Late Iron Age or early 1st-century AD date that represent round-houses at nearby Ling Hall Quarry (Palmer forthcoming a). With an internal diameter of 8m the circular gully could represent a building, the absence of internal postholes merely reflecting the local tradition of mass-wall construction. An 8.5m diameter example at Ling Hall Quarry (Area F) had a similar sized gully and an entrance facing south-east. Domestic debris was restricted to the north-eastern gully terminal (Palmer 2002a), a situation that potentially could be matched at Frankton outside the area excavated.

The D-shaped enclosure can be compared with examples excavated at Ling Hall Quarry in 2004, of which a similar sized example was connected to a penannular round-house gully and formed part of an extensive settlement complex (Palmer forthcoming b). It is also similar to the D-shaped enclosure at Ryton-on-Dunsmore some 4.5km to the north-west. This D-shaped feature was recut at least twice with the circuit migrating each time and apparently enclosing a few small pits (Bateman 1978a, 30-2). However, the Ryton example was recorded without evidence for a palisade, although in retrospect, the inner ditch of the larger D-shaped enclosure (A) could have had one. These features were elements in a small group of interconnected enclosures focused over a Late Bronze Age cremation cemetery. A small rectilinear palisaded enclosure was excavated at Site G1 Barford (Wardle & Brown 1969). This was *c* 14m long x 8m wide (internally) with an entrance in the shorter western arm. It formed part of a group of discrete small rectilinear enclosures of probable Iron Age date to the south of an undated pit alignment.

There is then no clear morphological distinction between domestic and mortuary enclosures in the locality and the absence of other material evidence from the Frankton site does nothing to aid its interpretation. However, the extensive open area excavations at a landscape scale at Ling Hall Quarry have shown that discrete features of unusual form are probably more likely to be associated with ceremony and mortuary ritual than have a purely domestic function. It is quite possible that the Frankton features, located as they are to the south of the boundary and large enclosure fall within this category. The Barford enclosures, which are not rounded in plan, but do have a comparable spatial relationship to a probable early boundary feature and which also lie amidst a Neolithic monument complex can probably be more comfortably ascribed a ceremonial or mortuary function.

The complete absence of faunal remains, either animal or human, is comparable to all the other excavated sites of this date range on Dunsmore and is a condition of the slightly acidic soils. Charred plant remains have also been scarce, but where present have indicated a heathland environment unsuitable for intensive cereal production, although during the Roman period barley was grown at Ling Hall Quarry (Palmer 2002a).

Settlement sites on Dunsmore were both open and enclosed although not all enclosures contain settlement evidence. The function of the cropmark SMR WA 3173 located just 45m to the north-east is therefore unknown. However, a comparison can be made with the middle Iron Age enclosure (Area F) excavated at Ling Hall Quarry (Palmer 2002a). This enclosure was of similar proportions, contained at least one domestic building and it was aligned along a former estate boundary pit alignment. Significantly a group of mortuary features were located on the opposite side of the boundary in an adjacent land unit. The inference is that the mutual boundary was somehow reinforced by the siting of these features. A similar situation could apply at Frankton.

Area A, Harborough Magna

NEOLITHIC-BRONZE AGE

The few flints recovered indicate nothing more than limited activity in the Neolithic and/or the Bronze Age and are no more than could be expected in any field in the region. The flints recovered as topsoil finds in nearby fields 1 and 5 suggest that the locale was visited from at least Mesolithic times.

ROMANO-BRITISH

There is little doubt that the pipeline passed through an area of Romano-British activity associated with the division of the landscape into fields or perhaps paddocks. The axial alignment of the gullies and ditches suggests that the excavated area represented only a portion of a system of such features. The extent cannot be ascertained from the available evidence but the quantity of pottery and other domestic debris found within the excavated features suggests that the focus of the settlement was relatively close by. It would seem likely that the stream on the western side of the site played a crucial role in both the siting and the subsequent use of the settlement.

Settlement morphology

The axial arrangement of the field system can be paralleled in west Warwickshire at Salford Priors, where excavations in advance of road construction (Palmer 2000b) and mineral extraction (Palmer forthcoming c), have been able to trace a system of

enclosed fields and paddocks set out either side a pair of trackways. On both these sites it could be seen that the boundary ditches and gullies were continually recut, but rarely on the exact same alignment, clearly illustrating a requirement for change in the system despite a labour intensive investment in resources. Plots were both sub-divided and enlarged throughout the period of occupation. Fields in this system were 100m long extending over the entire width of the gravel terrace. Smaller plots or paddocks varied considerably and no consistent size or proportion was recognised. At Long Itchington (Area B) the fields appear to be *c* 30-35m x 90m long, whilst further afield at Roughground Farm, Lechlade, Gloucs, fields were just over 100m long by half as wide (Allen *et al* 1993, fig 59). However, at all three sites it could be established that the fields belonged to a villa estate.

Of the 'lower status' rural Roman settlements excavated in Warwickshire so far, none have been convincingly associated with a recognised field system with the possible exception of Glasshouse Wood, Kenilworth, although this site may yet prove to be a villa. Here the field system remains visible in earthwork form having been preserved in a wood since soon after abandonment (Willacy & Wallwork 1978). The fields are between 25m and 40m wide by 100m to 200m long. A sequence of enclosure paddocks aligned on a trackway at Tiddington village were rather shorter (25m-40m wide by 30m-50m long) than these fields and may only have represented enclosed agricultural plots.

No structures were found within the excavated area at Harborough Magna but the frequency of finds recovered from the various gullies and ditches would seem to indicate their presence nearby. There are few clues as to the form and building techniques used in these anticipated farm buildings but examples of rural structures excavated across the county suggest that circular post-built structures with thatched roofs existed until the 3rd century AD. These may have been replaced by rectangular structures of a similar size and built with similar materials such as at Crewe Farm, Kenilworth (Ford 1971) and Bidford Grange (Booth 1996b, 42). Few later Roman rural buildings have been excavated; Billersley Manor Farm and the villa buildings at Salford Priors representing the most complete examples and these were generally in stone as was the enigmatic building sequence at Glasshouse Wood, Kenilworth (Willacy & Wallwork 1978).

Chronology

The fields seem to have been in use throughout most of the Roman period. The single residual Iron Age body sherd can not be used to suggest continuity from the pre-Roman period yet the occurrence of such finds on anything other than an occupation site are thought unlikely within the county (Palmer forthcoming b). Just as the Roman focus lay outside the area examined, so to could an Iron Age settlement, the single sherd representative of the relative proportions in which this type of cultural indicator are found. The absence of Class E Belgic pottery however, could suggest that occupation on this site began at the end of the 1st century AD or later. However these fabrics are almost entirely absent from excavated sites in Warwickshire north of the Avon and may therefore have not been in regular use.

Economy and status

There seems little doubt that the settlement was engaged in agriculture but there is little evidence to determine if the same regime ran throughout the life of the settlement. The environmental evidence certainly points to the keeping of livestock with little sign that cereal was grown even if it was used on site. Given that the rural population were probably required to both feed themselves and produce a taxable surplus it is possible that the occupants were integrated in a local economy in which produce was traded for staples not produced by themselves.

Few other rural settlements in Warwickshire have produced irrefutable evidence for their respective economies, although at Billesley Manor Farm it is likely to have been heavily reliant on cereal production and processing (Palmer 2003). For the most part excavated settlements have been sited on reasonably well drained and presumably fertile soils which have prompted a presumption in favour of mixed agriculture (Booth 1996b, 45). The evidence for specialist stock raising as witnessed in the Thames Valley (Lambrick 1992) is not repeated in Warwickshire although it is likely that the expansion of arable farming in the Roman period led to an increase in the utilisation of marginal land. If such an increase affected the amount of land available for grazing this in turn could prompt the introduction and then expansion of haymaking to provide sufficient animal feed to over-winter animals without degrading the ever decreasing amount of pasture (cf Henig & Booth 2000, 158-9). At Harborough Magna the evidence suggests that the fields were used as paddocks for stock management with no evidence for hay production.

The pottery and other domestic refuse point to a low level of economic prosperity, or at least only limited engagement with the materialist economy inculcated in the Romano-British population. However, given the absence of any structures or buildings within the area excavated, we cannot be certain if the finds derived from the main residence or from a secondary focus. For instance, Area C1 at Salford Priors existed within a villa complex without any demonstrably higher status attributes (Palmer 2000b). The single piece of box flue tile recovered from Harborough Magna may therefore be an indicator that higher status deposits exist off site or more likely that it was brought in from a higher status site as hardcore.

The rather meagre assemblage of finds from the site cannot reveal an accurate picture of its trading links. The pottery does indicate supplies from the local industries at Bubbenhall/Wappenbury and Mancetter as well as Dorset, Bedfordshire, Oxfordshire and the Severn Valley. Samian appears to have been most popular in the 2nd century.

Area H, Chesterton and Kingston

DYNAMICS AND CHRONOLOGY

The site evidently included a series of boundaries that are likely to have represented parts of rectilinear enclosures. The linear nature of the excavation has resulted in a number of problems in determining their character, not least that only one side of their form was revealed and their full extent remains unknown. The restricted nature of the excavation area has also meant that the alignments of features are uncertain, but it seems quite clear that the enclosures extended to the west, away from the nearby town. The largely unexcavated eastern side of the easement probably contained an access road with patches of crushed limestone the only features present. Whether further enclosures existed on the town side of the trackway remains unknown.

The dearth of 1st-century material from the site would seem to suggest that occupation began in the early 2nd century. On current evidence this accords with the earliest datable layers from Chesterton, although earlier undated layers have been mentioned (Taylor 1967). A low level of activity, or at least deposition, continued until the late 3rd/4th century at which point there seems to have been a considerable increase.

The earliest elements of Enclosure A date from the early-mid 2nd century, yet alterations and addition were still being made a century later. The rather sparse smattering of contemporary features outside the enclosure may reflect the limited

area of activity at the time but it remains possible that elsewhere, early features suffered from truncation and were not recognised. Enclosure B appears to have been constructed after Enclosure A went out of use in the mid 3rd century. Only the southern side could be recognised with any certainty, the frequent recutting of the terminals implying that the access point moved on occasion. Enclosure C was probably contemporary with the later phase of Enclosure B and may well have utilised an extant part of the northern boundary of Enclosure A as its southern arm. Its construction seems to have provoked the re-cutting of Enclosure B on an alignment further to the north, perhaps to formalise the otherwise unusable area between enclosures A and B.

It seems that the majority of the stone rubble arrived on site in the late 3rd-4th century in association with the possible activity area at the north end of the site and the short fragment of wall **801**. The rubble was mostly used to infill the open ditches associated with Enclosures B and C. However, even given that the function of the various enclosure ditches had ceased it remains possible that extant hedges continued to define enclosed areas. The rubble seems to have been used as a surface along the edge of these areas.

FUNCTION AND ECONOMY

Given the relatively large assemblages of pottery and tile, the enclosure sequence seems likely to have been close by an area of domestic activity. There were no clues within the area excavated that could indicate the form of the buildings and structures that must have been associated with deposition of so much debris. The short length of wall **801** that appears in the later stages of occupation was associated with rubble spreads that extend along the edge of the enclosures but need not imply a building; its narrowness precluding a structure of much substance unless it was timber framed.

The enclosures themselves could have had a variety of functions and as only Enclosure A was exposed as anything more than a boundary, such questions are unlikely to be resolved without further fieldwork. The frequent re-cutting of the internal divisions within Enclosure A undoubtedly relate to function but only the south-western unit was anywhere near sufficiently exposed to estimate its size. At *c* 10m x 8m it could have represented an animal pen where breeding stock was separated or perhaps birthing was monitored.

GENERAL

The close proximity of the site to the Roman town on the Fosse Way suggests that its growth and therefore perhaps decline would have been inextricably linked. This is only loosely supported by the limited amount of excavation undertaken within the town, a deficit compounded by the vagueness of the available reports (Andrews 1926, 58; Taylor 1967). The town was initially recognised as a 'Roman camp' for its considerable earthworks that survive either side of the Fosse Way, eliciting direct comparison with the *burgus* at Manduessedum. However, antiquarian references to pottery and coins principally of 3rd- and 4th-century date, foundations in a field to the east, and burials and burial urns found near the camp, led to suggestions of a late Roman wayside village (VCH 1904, 234-5). Speculation as to its origins persists as they do in other urban centres (Burnham *et al* 2001), but no datable material earlier than the 2nd century has yet been recorded other than a possible *dupondius* of Vespasian (N Palmer pers comm).

Section 4: Conclusions

The Transco gas pipeline was forged across Warwickshire providing a useful and often appreciable cross-section of the county's archaeological infrastructure. Given that each of the sites was located in agricultural land and therefore subject to continued agricultural attrition, the relatively small proportions of each site that have been destroyed by excavation and pipe laying not only provides a useful assessment of the surviving resource, but also significantly increases our understanding of that resource. On some of the sites such an assessment is unlikely otherwise to have ever been undertaken.

In order not to critically disrupt the pipe-laying programme the excavations along the pipeline route were undertaken at breakneck speed and without the benefit of a research design or strategy. This required an adaptable archaeological programme to cope with an ever-expanding area to be archaeologically worked and an ever-changing timetable that made little or no provision for adverse weather or unworkable ground conditions. As a result some deposits were either ignored or were abandoned and not subject to appropriate recording. In retrospect excavation and recording strategies on some of the sites could have been different, the emphasis could have been moved. Certain deposits that can now be seen to have been crucial more thoroughly examined, and conversely those that add little to our understanding could have had less attention. This though is the advantage of hindsight.

Areas C and D, King's Newnham and Church Lawford

At King's Newnham and Church Lawford parts of a Neolithic and Bronze Age monument complex were examined and the excavations revealed features and deposits of national significance. Area D included an unusual 4th millennium BC enclosure probably sited in an area that was already significant, perhaps because of its commanding views over the Avon Valley. It was constructed with direct references to the classic causewayed enclosures of other regions but exhibited a number of unusual attributes. It evidently became an integral part of a complex of ceremonial monuments juxtaposed across the river Avon, the evidence showing that it was visited for well over a thousand years. It may have served many purposes over this period, but seems likely to have been a place where communities met, feasted and made propitiatory offerings in pits. Further pits of a similar date range were dug on the opposite gravel terrace. By implication it seems likely that on this side of the Avon there had been an extensive area of activity which may not have been enclosed, but was undertaken in a significant locale.

It is not possible from the available evidence to determine if the monument complex astride the river was constructed and used by two or a single unified community, or if the river itself was a boundary or a line of communication.

The sites form part of a ritual landscape (Kinnes 1998), an evolved and cumulative complex whose biography was orchestrated by human experience and agency (Bradley 1993). The excavations to date have barely touched on the complexity and dynamism of this landscape, that on current evidence was used and revered for at least 1500 years.

Area G, Harbury

Although the site at Harbury consisted of only two Bronze Age features, it has produced a range of important data on an otherwise little understood aspect of

Warwickshire's development. The work has provided an initial glimpse into a Bronze Age landscape that has eluded extensive research in other parts of the county and provided the first clue as to the whereabouts and date of early farming communities. This may have a significant impact on future research into the Bronze Age within the county.

Area B, Long Itchington

The site at Long Itchington revealed important elements of an Iron Age enclosure and a later Roman villa. Although only a small percentage of the site was sampled by excavation, the work represents the most extensive investigation undertaken in the Itchen Valley to date.

Area E, Frankton

Although small-scale, the site at Frankton presents a number of problems that defy definitive interpretation. As with all the other sites examined along the pipeline, the arbitrary alignment of the excavated transect through Area E enabled the retrieval of a certain amount of data but provided little in the way of a coherent view of the nature of the activities undertaken therein. Whilst the two small enclosures could have been domestic, it is also possible that they were used for ceremonial or mortuary practices which left no other evidence. Whereas such ambiguous evidence would traditionally find a presumption in favour of the former, there is sufficient local evidence to suggest the latter may be more appropriate in this instance. However, the excavated evidence provides an important addition to the corpus of sites at a local and regional level.

Area A, Harborough Magna

The Romano-British farmstead at Harborough Magna was a completely unexpected find and entirely validates the topsoil watching programme. Its presence in an area of little known archaeological activity highlights the dangers of a reliance on aerial photographic survey in distribution plots of the prehistoric and Romano-British periods. Excavation of the site provided evidence that has elucidated many aspects of the local contemporary environment that had previously remained a mystery.

Area H, Chesterton And Kingston

The excavations at Chesterton revealed a sequence of Romano-British enclosure boundaries that were previously unsuspected. Whether an independent farmstead or a part of a broader extra-mural area remains unknown, but it is likely that the town provided trading facilities and that the site's fortunes were inextricably linked to the town. The work therefore has revealed an otherwise unknown aspect of the town's economy.

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