

Archaeology at Grendon Quarry, Northamptonshire.

Part 1: Neolithic and Bronze Age sites excavated in 1974-75

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SUMMARY

Threatened with destruction by gravel quarrying, a cropmark site at Grendon, Northants was excavated by Mr A McCormick in 1974 and 1975 and a number of prehistoric features were encountered. The Neolithic and Bronze Age features are described, but later prehistoric, Romano-British, and other features will be published elsewhere. The Neolithic features comprise a rectangular facaded mortuary enclosure which it is suggested may have been a square barrow. This was associated with an excellent Grimston ware assemblage. The Bronze Age features also appear to be funerary in function and consist of an unusual pit complex and six ring ditches, some of which at least had covering mounds. The complex appears to have been situated in a clearing in woodland and in the discussion is placed in its wider setting within the Nene valley.

INTRODUCTION

This report is concerned with the excavations of the Neolithic and Bronze Age features at a cropmark site at Grendon in Northamptonshire which were undertaken by Mr A McCormick in 1974 and 1975. It is, however, the work of a number of people, some of whom were not involved in the actual excavations, and has been compiled largely from level 3 material previously prepared by Mr McCormick as well as from the site notebooks, plans, and excavated material which had been deposited with the Northamptonshire Archaeology Unit. Individual specialists' work is acknowledged in the text, but in the main Mr McCormick is responsible for the individual site descriptions while Dr Gibson prepared the artefact reports and the discussions and acted as editor.

The report is divided between a synthesis of the excavated evidence appearing as volume-print and a microfiche section of supporting

data on which the digest and its conclusions are based. Both reports should be used for detailed analysis of the site. The general synthesis combines an introduction to the excavations with individual site descriptions and artefact and ecofact discussion. The background information in microfiche is arranged as follows:

- M1-3 Detailed charcoal lists
- M4-5 Dental data from the burials
- M6 List of mollusca
- M7-13 Animal bone
- M14-24 List of excavated features
- M25-33 Inventory of the Neolithic and Bronze Age pottery
- M34-46 Catalogue of the flint
- M47-49 The radiocarbon dates by D Haddon-Reece

The original records of the excavation, other documentation, and finds are now incorporated into the Northamptonshire Archaeological Archive.

The Iron Age, Romano-British, and other features recorded in the 1974-75 excavations will be described in a separate report. That account will also include details of further ring ditches and other features observed in salvage work undertaken by Mr D A Jackson during subsequent quarrying of the site.

ACKNOWLEDGEMENTS

While working on the Neolithic and Bronze Age elements of the site, a number of people offered help and advice. In particular, Professor D D A Simpson and Dr I Kinnes commented on the interpretation of the square barrow and on the Grimston ware assemblage. Dr R Bradley and Professor G Eogan offered comparative material and valuable information. Thanks are also extended to Mr D Mackreth of the Nene Valley Archaeological Research Committee and to Messrs A Hannan and G Foad of the Northamptonshire Archaeology Unit for their help when consulting the respective sites



Plate 1 Aerial photograph of cropmarks at Grendon, Northants (copyright of W R G Moore, ref A37, taken July 1970)

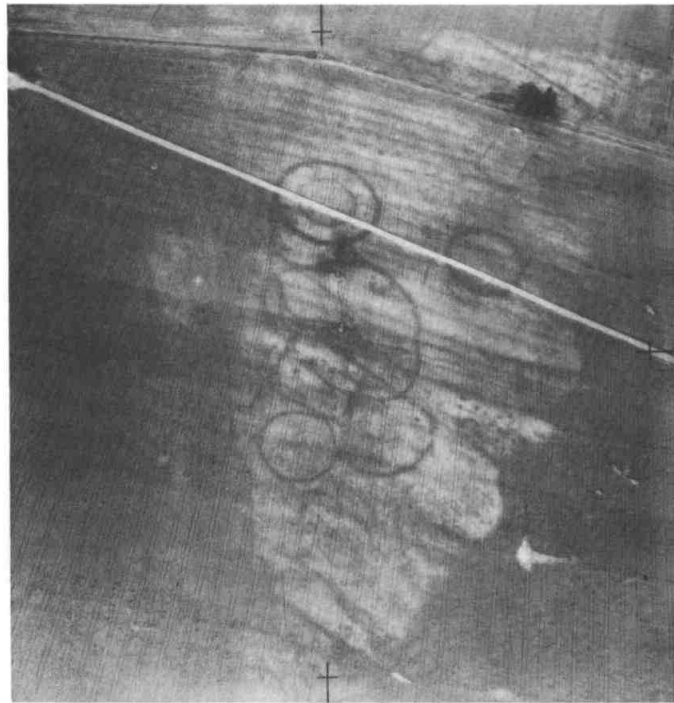


Plate 2 Detail of cropmarks at Grendon, Northants (Cambridge University Collection, ZE 65, taken 30 June 1959: copyright reserved)

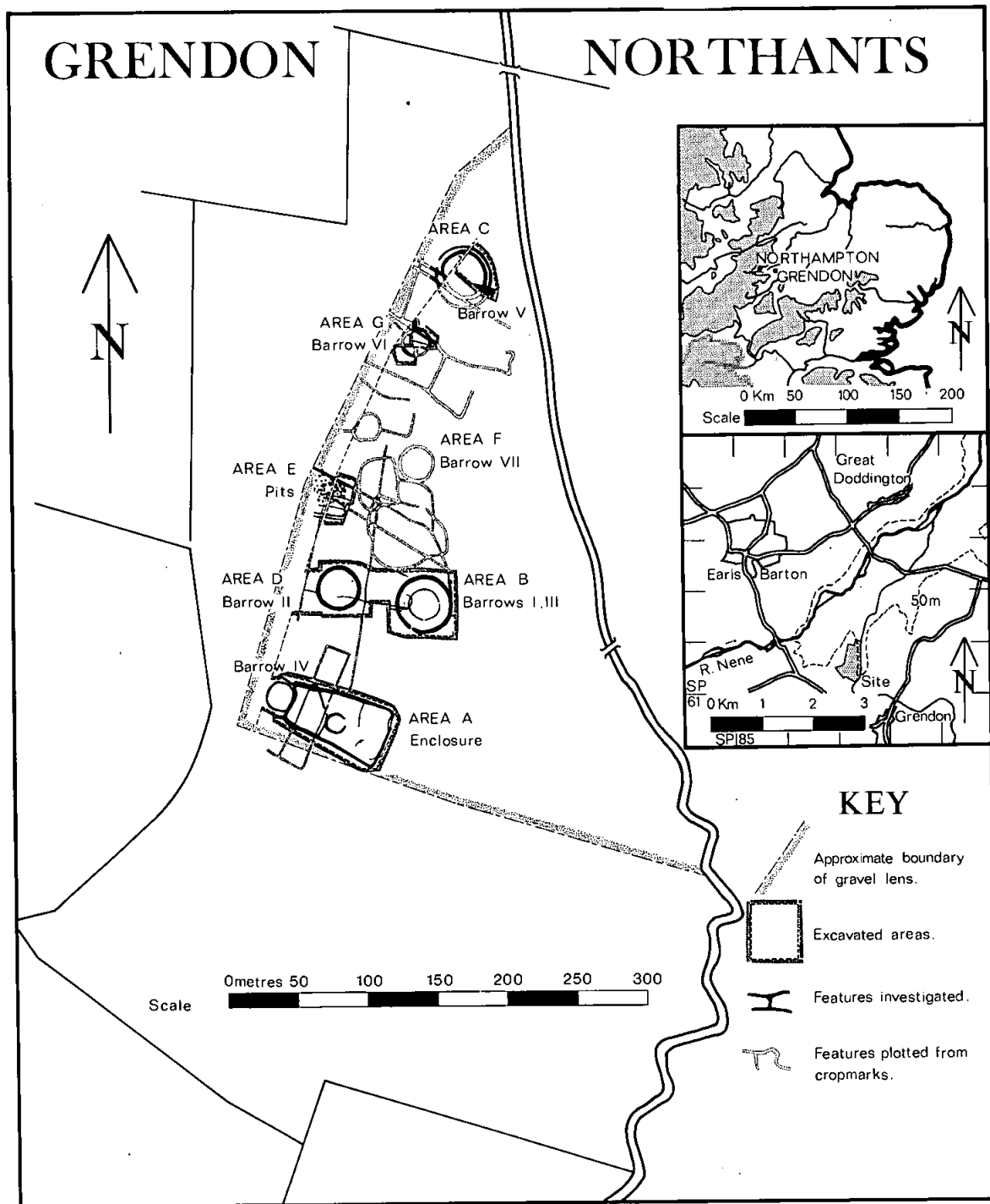


Fig 1 Grendon, Northants: site location

and monuments records and aerial photographs. Miss D Garton of the Trent and Peak Archaeological Trust commented on, and helped identify, the flints. Mr F M B Cooke of Leicester University Department of Archaeology kindly helped with the photographic work, and the same department kindly allowed the use of their facilities. Mr G C Morgan of the same department identified the charcoals. The excavation was carried out on behalf of the Department of the Environment with the kind permission of Pioneer Aggregates (UK) Ltd, formerly Mixconcrete (Holdings) Ltd.

THE EXCAVATIONS

Cropmarks attesting prehistoric occupation at Grendon were first noted in 1959 by Mr A Warhurst (cf Hollowell 1971) and subsequent aerial photographs revealed a series of cropmarks indicating ring ditches and enclosures on a light, triangular area of gravel situated south of and in the floodplain of the River Nene (SP 873617). During a field survey of the parish, Mr D N Hall noted scatters of Iron Age and Romano-British material and slight elevations roughly coincident with the positions of the larger ring ditches known from the aerial photographs. Traces of overlying ridge and furrow were also noted.

In 1973, notice was given to the Northamptonshire County Archaeologist that these sites were in imminent danger of destruction by gravel quarrying and in consequence a DOE grant was obtained for the excavations which commenced in March 1974.

The series of aerial photographs of field 30 at Grendon showed cropmarks of five ring ditches (PLS 1-2). The two most prominent (I and II) showed some relief on a field survey undertaken by Mr D N Hall in 1964. Four of the visible ring ditches were examined by the excavation but work on the fifth (VIII) had to be abandoned due to severe flooding. During the excavation of the other areas, two more ring ditches came to light and are described in this report. Work on the ring ditches was undertaken continuously from March to October 1974, and subsequently on a part-time basis until September 1975.

SITUATION AND GEOLOGY

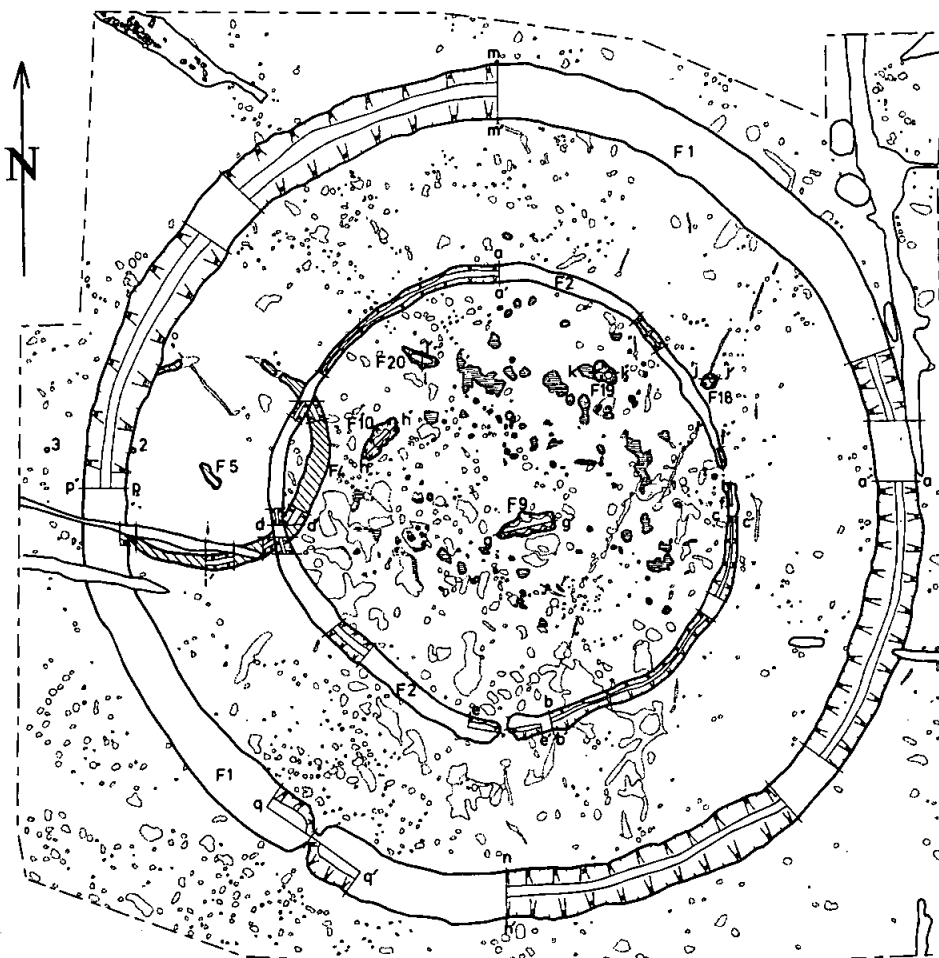
The site lies on river terraces at a height of 50mOD to the south of the River Nene (FIG 1). The position of the underlying gravel lenses within the river system is uncertain, but it is probably part of a deposition associated with a tributary of the River Nene, now surviving as a tributary to the east of the site.

The whole of the excavated area lay under ploughsoil c 0.3m deep. This overlay subsoils of various types and depths which in turn overlay the gravel. The general subsoil in the central, western, and southern areas was 'hoggin'—a local name for orange, sometimes clayey, sand containing bands of rounded pebbles. In the northern and eastern areas the subsoil was a red-brown clay over brown silt. The 'hoggin' varied in depth between 0.3 and 0.7m and appeared to have been deposited soon after the underlying gravel. In contrast, the clay deposits were thicker, reaching depths of over 1m in the east where they also covered some of the Romano-British features. These clays, and a very deep clay channel to the east of the gravel lens, mark water channels, the latter feature silting up in the Romano-British period. The gravel itself proved to be only some 6m deep and not to extend beyond the light areas detected on the aerial photographs. Areas to the south of the gravel that were not occupied by clay channels were occupied by a light sand.

AREA B, RING DITCHES I and III

The angle and the height of the cropmark photographs made it impossible to locate the position of ring ditch I with precision and it was found that the varying nature of the gravel and sand subsoil rendered resistivity survey ineffectual. The slight surface relief mentioned previously was largely obscured by re-emerging vegetation and the feature was therefore located by trial-trenching with a Drott skid-shovel. The ploughsoil was machined off the central and eastern section of the area and the dry sandy soil was hand-cleaned. At this level, the only visible features were the wide, clay-filled hollows of the Medieval field system running east-west through the area, and a very disturbed burial (inhumation 1, PL 3). This crouched burial appeared to be facing north-west and had no associated grave goods. It was

AREA B RING DITCHES I, III



Scale 0 1 2 3 4 5 10 15 20 metres

- Ring ditch III
- Ring ditch I
- Later features
- Sand and soil filled root holes and burrows
- Cremations
- As above, but heavily iron stained

Fig 2 Grendon, Northants: Area B, ring ditches I and III

also impossible to discern the presence of any dug grave. It was clear from this work and from similar ploughsoil clearance by hand on neighbouring areas that no useful excavation could be undertaken at this level, especially in view of the very dry spring and the six weeks' deadline for the gravel extraction. To remove the soil to the gravel on this and other sites, a D8 self-loading scraper was used but unfortunately the size of the machine and the inexperience of the operator resulted in the loss of any sections to the topsoil. The machining of areas B and D (respectively ring ditches I and III, and II) was undertaken continuously and six disturbed cremations which were recovered are described later in the text. The exposed gravel was shovel cleaned and trowelled. This exposed the double ditch of ring ditch I, the unexpected small ring ditch III to the west, and in addition a number of Romano-British features which will be described elsewhere (FIG 2). A total area of some 2,000sq m was cleaned and planned.

RING DITCH I (FIG 2)

This feature consisted of two concentric ring ditches enclosing an area of 1400sq m. A number of internal features were recognisable.

F1, the outer ditch

This near-circular ditch had an internal diameter of 36m and an average width at the gravel surface of 2.20m. The ditch is in fact polygonal in plan with eight recognisable straight sections—though clearly a circular plan was intended. There is an apparent causeway in the south-west quadrant, though its purpose as a means of access to the interior is doubtful as it survived as little more than a septum at the truncated planning level. Just over half the ditch was emptied and the septum is the only deviation from the flat base.

The profile of the ditch is that of a shallow 'V' with evidence of a slight shoulder at two-thirds down from the truncated top, indicating that the sides had been subject to weathering. The depth of the ditch varied from 0.7 to 1.0m. The general character of the fill was a compact, fine, red-brown sand with gravel and stone bands. Before excavation a pattern of truncated gravel tips could be seen on the cleaned surface. Towards the north and west of the ditch these tips were derived from the outside, whereas towards the south and east they were derived from the inside. This general trend is confirmed in the sections m-m' and n-n' (FIG 3). The remaining soil fills showed no preferential direction for deposition. The layers are described in order of excavation.

Layer I On the north and west side of the ring ditch this is a red, sandy layer with some stone. On the east and south, however, the layer is considerably darker and heavily

flecked with charcoal (FIG 3, section n-n' and o-o'). Some pottery was recovered from this layer.

Layer II This comprised of gravel tips as outlined above.

Layer III This is the thickest layer in the sequence and comprises a deposit of reasonably pure, red-brown sandy soil. It also proved to be the richest layer for finds. The lowest portion of the layer is characterised by a concentration of medium-sized pebbles (FIG 3, sections m-m', o-o').

The layers below III are of a different character and are generally stonier with mineral concretions which have a silty nature towards the base. No finds were recovered.

F2, the inner ditch

This feature had an average internal diameter of 21m and, like the outer ditch, was polygonal in plan with some of the straight sections coinciding with those of the outer ditch. F2 was shallower than F1 and its width varied considerably from 0.5m to 1.20m in keeping with the irregularity of the machined gravel surface. Two deliberate breaks were encountered in the south and east of the circumference, both being wider than the break in the outer ditch. The surface of the eastern half of F2 showed considerable iron concretions.

The profile of the ditch was 'U'-shaped with slight shoulders indicating weathering, and generally the inner edge had a shallower slope than the outer. The depth of the ditch from the gravel surface varied from 0.2m to 0.6m. About half of the circumference was excavated and the layers encountered are described below in their order of excavation.

Layer I A red-brown sandy soil with some stone and gravel.

Layer II This was virtually indistinguishable from layer I in the western and southern sections of the ditch. In the eastern and northern sections, however, it was composed of a reasonably thick layer of iron concretions and iron-stained soil (FIG 3, sections c-c' and a-a'). From the shape of these deposits it was clear that they represented a mineralisation process within an existing layer rather than a separate deposition.

Layer III This was only present on the eastern and northern parts of the ditch where it was seen as a rather thin layer of iron-stained brown silt.

Layer IV A very pure layer of yellow gravel which seems to be derived from the outside of the ditch (FIG 4, sections a-a' and d-d').

Layer V This represented the basal fill and was a fine, pure silt similar to that in the base of F1.

The profile and fills of the two breaks showed no collapse or heavy gravel silting in the terminals suggesting that they were probably not used as causeways for regular access to the interior of the feature (FIG 4, sections e-e' and f-f').

The pock-marked nature of the gravel outside F1 and between F1 and F2 is typical of the field as a whole with small, usually circular, patches of orange-brown earth against the pale yellow background of the gravel. Within the area enclosed by F2, however, there was a distinct change in the nature of the fill of the pockmarks and other features. As indicated on the plan, some of these features seemed iron-stained and appeared also to form a rough ring c. 12m in diameter about the centre of the ring ditch. It is suggested that this mineralisation was perhaps due to the

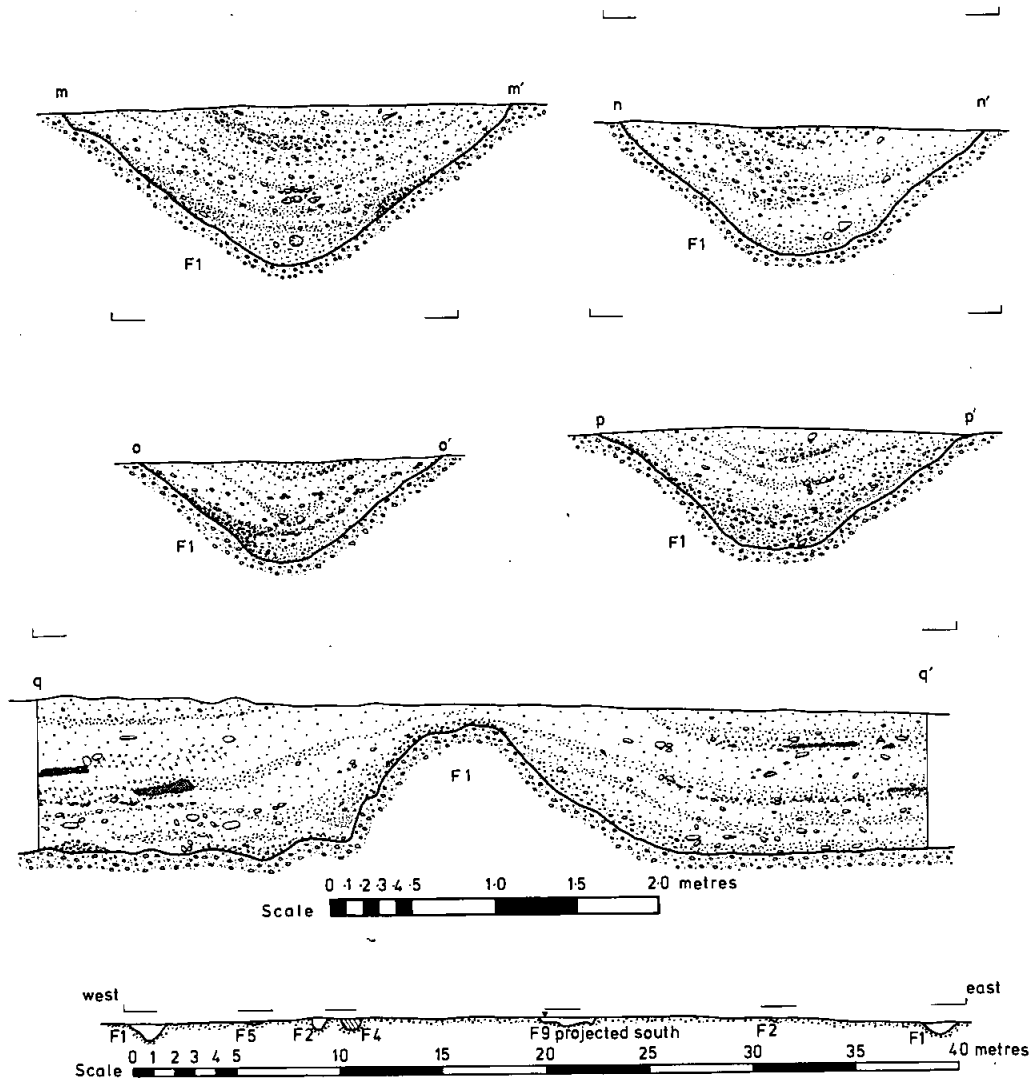


Fig 3 Grendon, Northants: Area B, sections

former presence of a turf mound whose acid nature caused the local precipitation of iron salts out of the water held in the gravel. This interpretation is supported by the fact that there was a definite rise in the level of the gravel within F2. This was further indicated by the discontinuous nature of the Romano-British ditch which crossed the area.

Internal features associated with ring ditch 1

Of the many soil marks within the ring ditch, only five are considered to be man-made judging from their shape and fill.

F9 (FIG 4, section g-g') was an irregular trench situated to the south-east of the centre of the ring ditch and was

orientated roughly east-west. The base of the trench was irregular and had three depressions some 1m deeper than the average depth of the feature (0.2m). The fill of this feature consisted of a red-brown sandy earth which continued down in 'pipes' defined by an underlying thick, hard layer of iron concretions. Below this concreted layer was a basal layer of yellow gravel and brown silt. The fill, profile and plan of this feature may suggest that it once held four posts, each about 0.2m in diameter, but there was no evidence of charcoal or wood fibres in the 'pipes'.

F10 (FIG 4, section h-h') was similar in shape to F9 and was situated in the north-west quadrant of the ring ditch. It was orientated north-east by south-west and measured 2.2m by

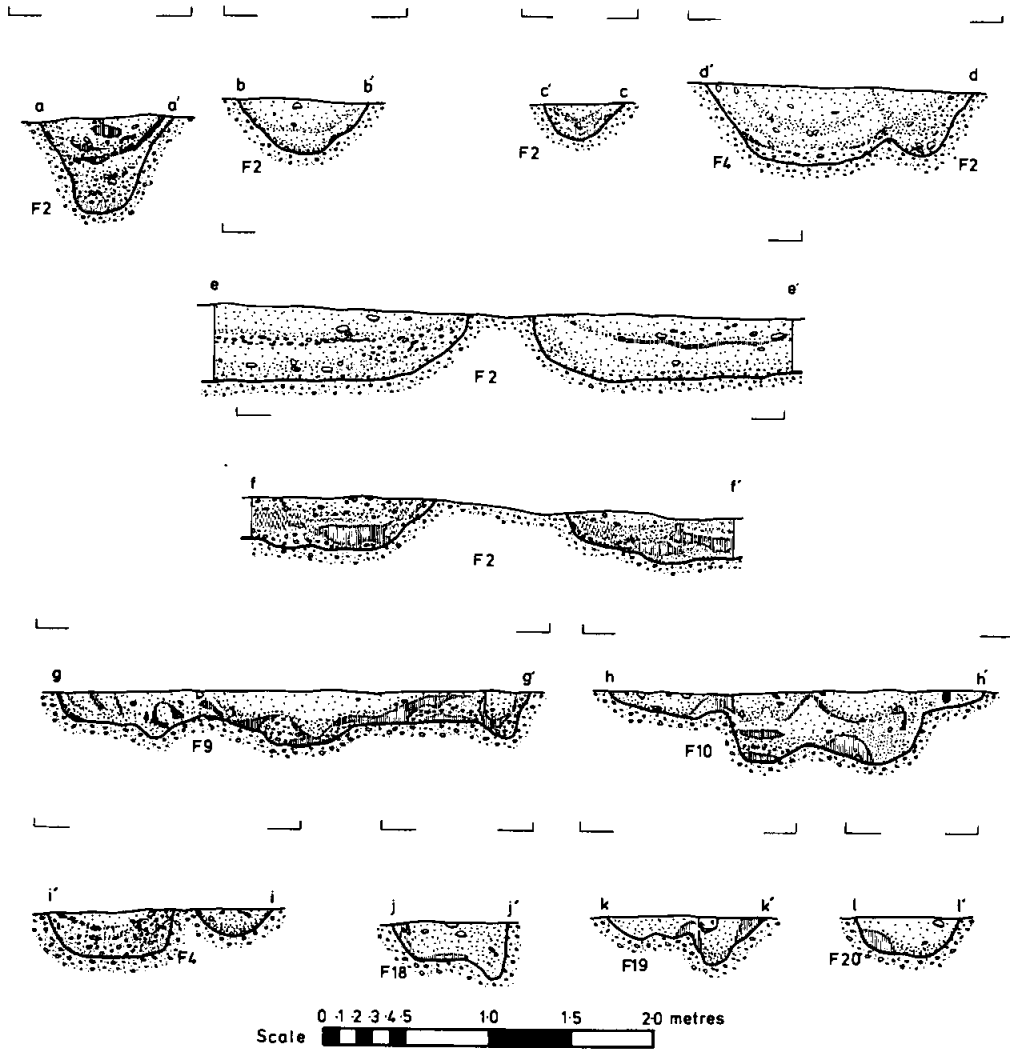


Fig 4 Grendon, Northants: Area B, sections

0.9m. The base was irregular and the depth varied from 0.15 to 0.45m at two depressions. The nature of the fill was identical to that of F9, and also contained soil-filled 'pipes' defined by black iron concretions. This feature may also have held posts.

F18 (FIG 4, section j-j') was a small pit which lay just outside F2 to the north-east. It was circular, 0.65m in diameter, and with a maximum depth of 0.3m. The fill was very silty and contained red-brown earth with a few medium-sized stones. The western edge had a lining of black ironstone concretions.

F19 (FIG 4, section k-k'). This irregular pit was situated in the north-east quadrant of the area enclosed by F2. The long axis lay north-west to south-east with maximum

dimensions of 1.2m by 0.7m and with a very uneven base reaching a maximum of 0.3m deep at the south-eastern end. The fill was a red-brown silt at the north-western end, with red-brown earth-filled 'pipes' defined by black iron concretions at the south-eastern end.

F20 (FIG 4, section l-l'). A trench-like feature within the north-west quadrant of the area defined by F2. This had maximum measurements of 1.9m by 0.7m and had its long axis oriented north-west to south-east. The flat base was comparatively regular and was 0.2m deep. The fill was a uniform red-brown earth with few stones, and there was some black iron concretion towards the base.

In addition to the features described above there were a number of faint linear soil marks and stains running

north-east by south-west over the eastern side of the area. The regular nature of these soil marks suggested that they might be traces of ancient ploughing in the area of the monument.

None of the features described above contained any finds beyond a few flint flakes and fragments of animal bones.

CHARCOAL

Fragments of charcoal were collected from F1, layer III which contained much apparent occupation material. The charcoal occurred in small patches in the south-east quadrant. Seven samples proved to be of mature oak (*Quercus sp.*) and one field maple (*Acer campestre*).

DATING

Sufficient charcoal was present in the sample of field maple and two of the oak samples to provide for a radiocarbon determination.

Quercus sp. HAR 1155 1640 ± 150 bc*

Quercus sp. HAR 1154 1020 ± 150 bc*

Acer campestre HAR 1153 1380 ± 90 bc

* denotes small sample

RING DITCH III

This small ring ditch with an internal diameter of 10m was situated to the western side of ring ditch I (FIG 2). It was cut by both F1 and F2. F1 obscured the western portion of the single ditch (F4) and a later Romano-British ditch cut into the southern portion. The northern portion was largely destroyed by uneven machining. The only surviving feature was a grave pit with an inhumation (F5).

F4 (FIG 4, section d-d'). This ditch had a maximum width of 1m and a maximum depth of 0.5m to the gravel surface. The profile was 'U'-shaped with reasonably steep sides while the base was generally flat and regular. The upper fill was red-brown sandy earth underlain by a similar but thinner and rather more stony layer. There were no finds but for a few flint flakes.

F5. This appeared as an extremely shallow trench in the gravel surface and measured 1.4m by 0.4m with its long axis oriented south-east by north-west. This feature clearly once extended upwards into the soils overlying the gravel as a disturbed skeleton was found during shovel-clearing above. The truncated pit, as it survived, had a maximum depth of 0.1m and contained a red-brown sandy fill. Apart from the disturbed inhumation, there were no finds.

AREA D. RING DITCH II

The excavation of this feature proceeded in a similar fashion to that of Area B with trial-trenching by hand followed by machine-stripping with a D8 box-scraper. During this operation four cremations were examined and an area of 1440 sq m was cleaned and planned.

The ring ditch was subcircular with a maximum internal diameter of 26m. It was clear that a circular plan had been intended but straight sections of the ditch—as visible in ring ditch I—were not so visible here.

The nature of the gravel within the excavated area was of a similar nature to that in area B except that the natural soil marks were more numerous, especially towards the eastern margins of the area. As with area B, the soil marks within the boundary of the ring ditch (F1, FIG 5) tended to be iron-stained, especially in the north-eastern part of the site. The profile of the gravel over the area of the ring ditch was reasonably flat and the later Romano-British ditch which crosses the area is only slightly broken. This might suggest the presence in antiquity of a very low mound with its highest point towards the east of the area.

F1. This ditch varied in width at the gravel surface from 2m to 2.5m, though this variation was probably due at least in part to overscraping by the machine. About half of the circumference of the ditch was excavated and the profile proved to be that of a steep-sided ditch with a flat base. The upper portion of the ditch had a more shallow slope probably due to the weathering of the gravel sides. The fill was characterised by a general lack of stone and gravel tips, with instead a rather uniform sequence of compact, pure, red-brown earth layers. Three layers of these earth tips were seen in most of the sections with an underlying basal fill of sand and gravel. The few finds were recovered from the red-brown earth layers. One section (FIG 6, section e-e') showed a cremation (cremation 7) which had been inserted through the fill of the ditch. This disturbance continued for some 2m to the north and south of its position on the plan (FIG 5).

F9. This was a trench-like feature similar to that in ring ditch I and measured a maximum of 3m by 1.1m. It was aligned north-west by south-east and, as in ring ditch I, seemed to represent a bedding trench for a number of posts. F9, however, is much shallower than its counterpart and often survived as little more than a stain.

F8 was a pit situated within the north-east quadrant of the ring ditch and measured 1.75m by 1.60m and 0.25m deep. The pit was aligned north-south. The fill was slightly darker than the surrounding natural soil and contained a contracted inhumation lying towards the southern end. The inhumation lay on its right side facing west but the only associated find was the mandible of a pig from the otherwise empty north end of the pit.

CHARCOAL

Two charcoal samples were taken from F1:
mature oak (*Quercus sp.*)
hazel roots and twigs (*Corylus avellana*)

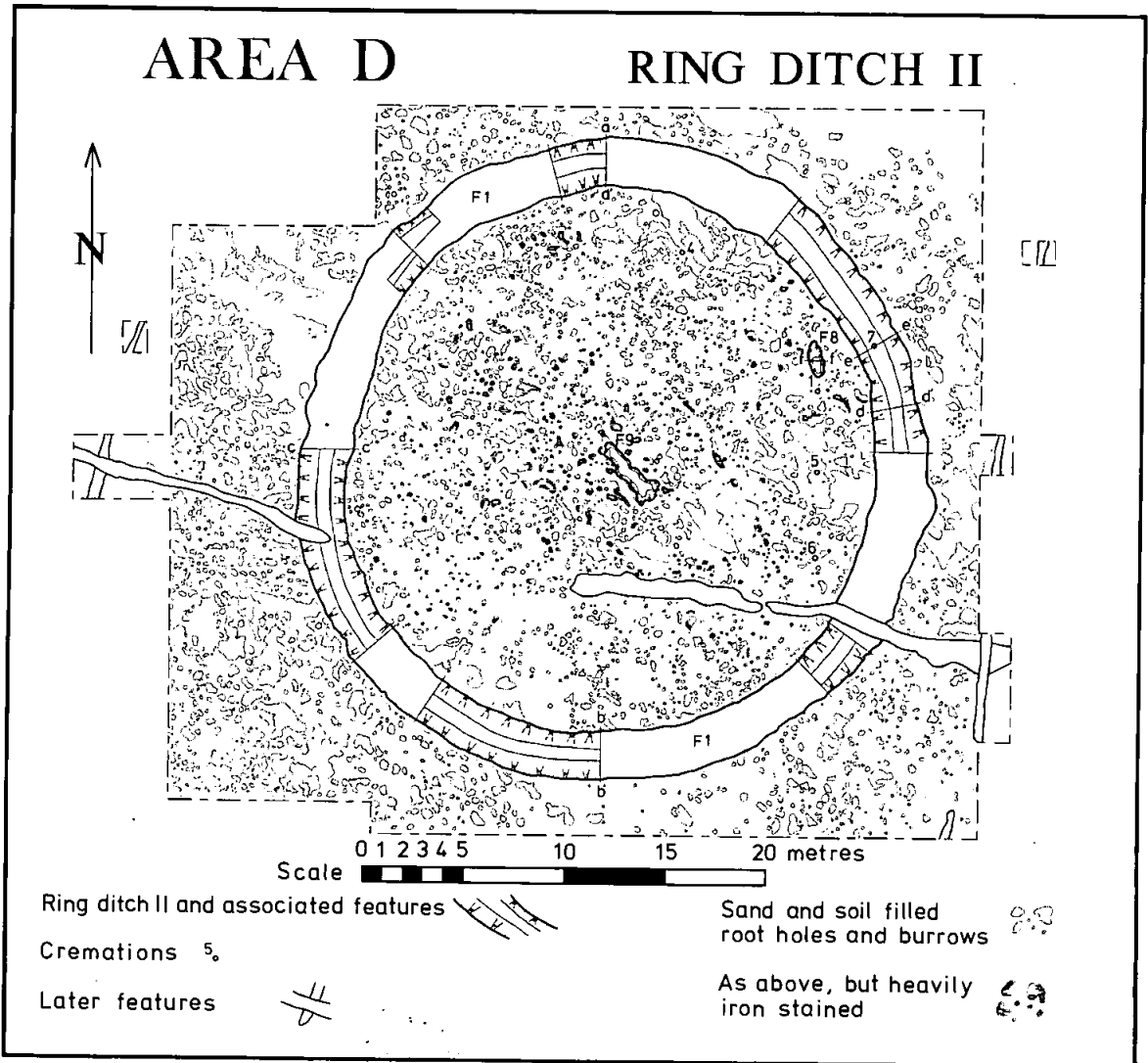


Fig 5 Grendon, Northants: Area D, ring ditch II

AREA A, RING DITCH IV (FIG 1)

In the southern portion of the field a trapezoid enclosure recognised in the cropmarks on the aerial photographs proved to be Iron Age in date. The western end of the enclosure, however, was seen to cut a number of earlier features among which F8 was considered to be a small ring ditch. The ring ditch had a maximum diameter of 20m and, as far as could be seen, was virtually circular, though the

eastern portion was totally obscured by the ditch of the Iron Age enclosure. The only feature associated with the ring ditch was a pit (P7) which was situated to the west of the centre.

F8 was a particularly narrow ditch with a maximum width of 0.65m and an irregular base at a maximum depth of 0.42m from the gravel surface. The ditch was rather steep-sided with somewhat stony red-brown layers overlying a basal gravel fill. About half of the circumference of the ditch was excavated but there were no finds other than a few flint flakes.

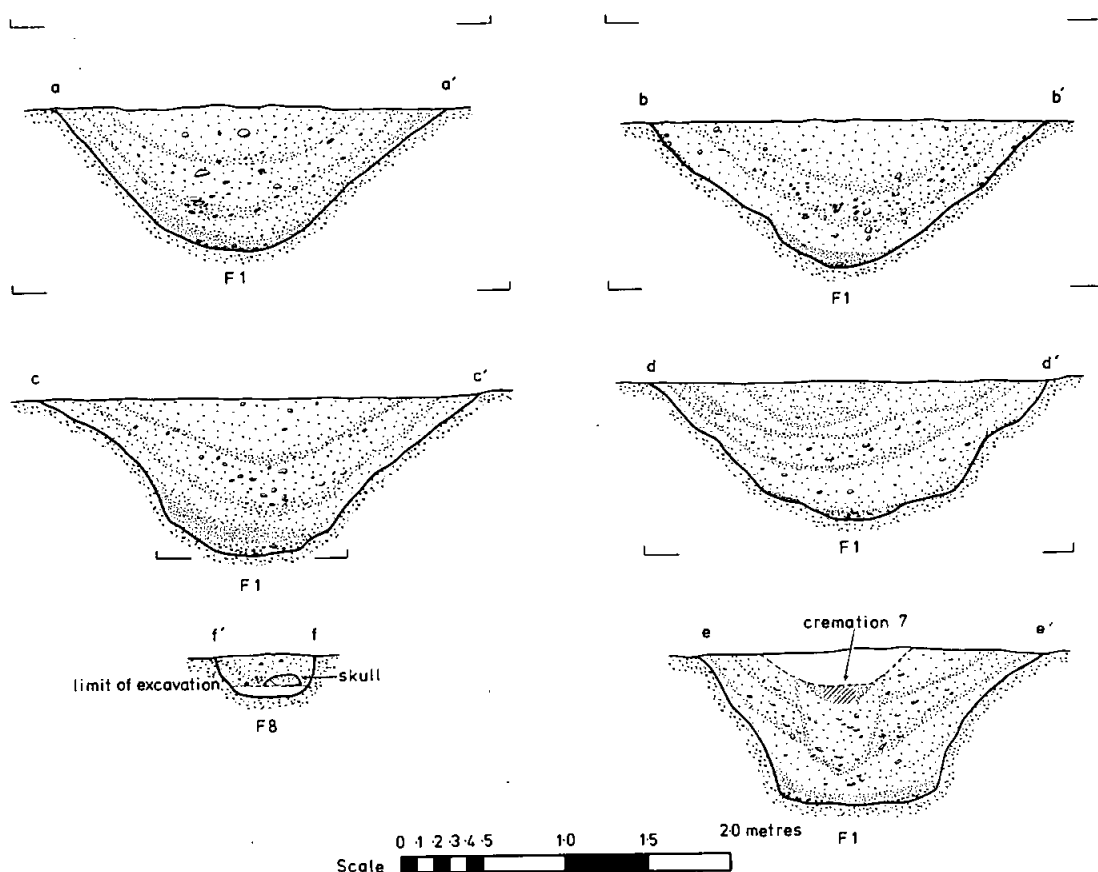


Fig 6 Grendon, Northants: Area D, sections

P7 was a pit measuring 2.2m by 1m and with its long axis aligned north-south. It was situated within the western half of the enclosure. The feature was steep-sided and the base was reasonably flat. No finds were recovered from either the upper fill of red-brown earth, which had a stone band at the base of the layer, or from the basal fill of brown silt with a few stones.

AREA G, RING DITCH VI (FIG 7)

As more features were uncovered by excavation, and as a result of topsoil removal by the contractors, it became possible to use the aerial photographs to better effect in planning further excavation. Ring ditch VI appeared on the aerial photographs as a faint circular cropmark, and a very slight elevation helped to detect this feature on the ground. The ploughsoil was removed using a Massey-Fergusson back-acting shovel over what was hopefully the south-east

and north-west quadrants of the ditch. At this level, the only features visible were F1 and F2 in the south-west quadrant and the tops of the line of stone-filled postholes (F50-F65) which ran across the north-east quadrant. As the excavation was progressively deepened to about 0.2m above the gravel, the linear features F66, F68 and F67 appeared. Eventually, hints of the ring-ditch (F4) became obvious and showed as regular pebble lines in the earth which was of the same red-brown colour as the surrounding subsoil. Finally, the area was excavated to the gravel which exposed several other soilmarks, though most of these turned out to be natural.

Before describing the features in this area, it is worth noting certain differences in the nature of the subsoil in this northern part of the field compared to that in areas A, B, and D. The

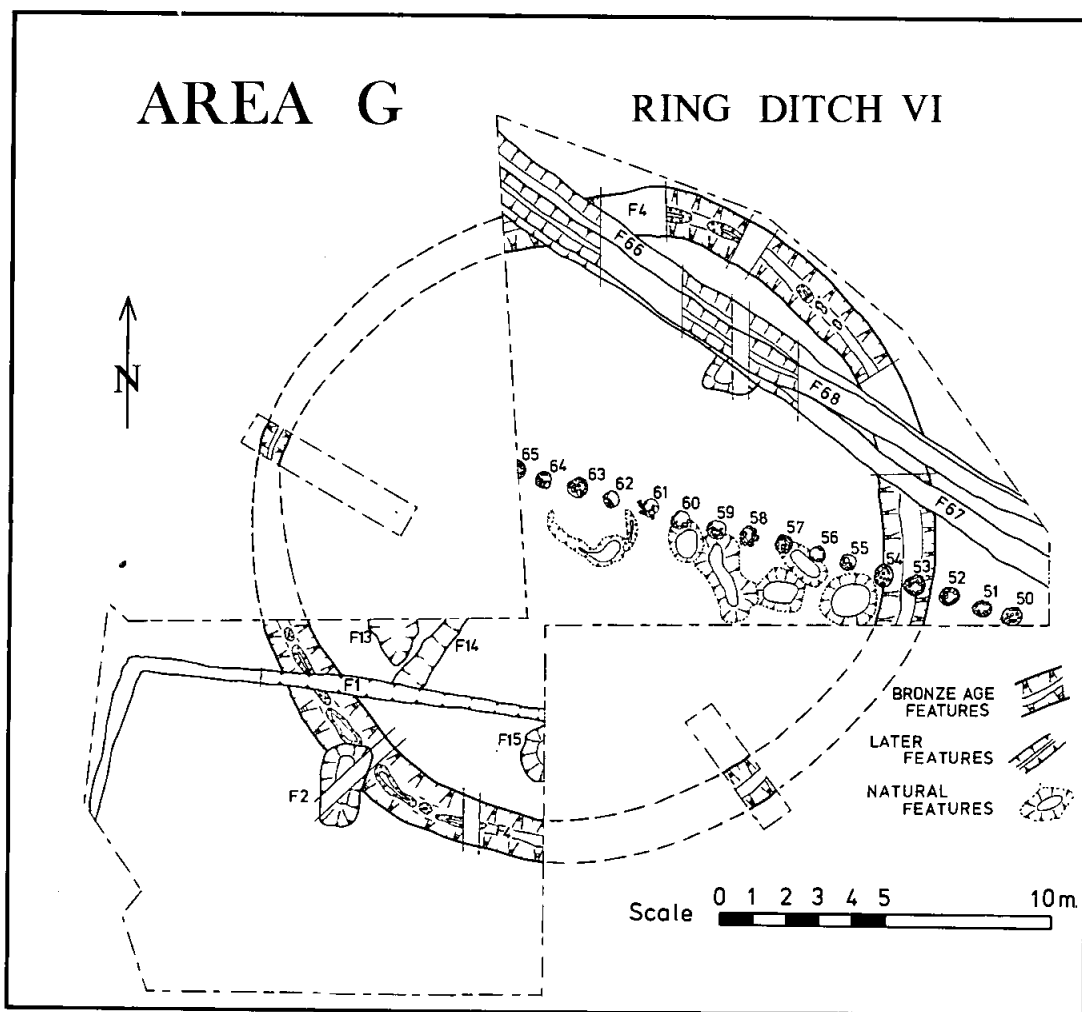


Fig 7 Grendon, Northants: Area G, ring ditch VI

south-west quadrant of ring ditch VI showed a sequence of soils from ploughsoil to gravel, much the same as that seen in other areas although the black iron-staining seen in the gravel within ring ditches I and II tended to occur here above the gravel in lens-like concretions. The north-east quadrant showed a far different sequence with the majority of the brown earth, overlying the gravel in the rest of the field, being replaced by pure red clay and brown silt with water-worn pebbles. The gravel over the whole area, and especially towards the east, was far purer, having few, if any, of the small circular soil marks seen in other parts of the field.

As with the other ring ditches described in this report, Romano-British features intruded into the area of the ring ditch and these will be reported elsewhere. At this stage, however, it is worth noting that the ditches F66, F67 and F68 and the line of post-sockets (F50-F65) show no reduction in width or depth where they cross the inside of the ring ditch. This suggests that any possible mound had disappeared by the time the ditches and post-sockets were dug.

F4. Although this appeared to be circular on the aerial photograph the feature proved on excavation to be irregular in circumference and formed an oval with a maximum internal diameter (north-west by south-east) of

17.5m and a minimum diameter of 16m. The ditch appeared to have been formed from straight sections, similar to the other ring ditches in the field, and five of these sections can be seen in the excavated portions. No breaks in the ditch were encountered in the excavated areas and no breaks were visible on the aerial photographs. The ditch had a sharp 'V'-shaped profile and in section could be seen to extend to the ploughsoil/subsoil interface except towards the east of the circumference where silt layers (thickening towards the east) result in its truncation a short distance above the gravel. The maximum width and depth of the ditch are respectively 2m and 1m (FIG 8).

The earth fill of the ditch was rather different to that seen in the ring ditches described above. It tended to be of a darker brown earth, less compact and more stony. Five layers are discernible in most of the sections and are listed in their order of excavation:

Layer 1 A dark, red-brown slightly clayey earth with few stones.

Layer 2 A band of platy limestone pebbles with gravel in a dark red-brown soil matrix.

Layer 3 Similar to layer 1 but less clayey.

Layer 4 A thick pebble band similar to layer 2.

Layer 5 Red-brown silt with black, iron-stained gravel on the sides and base of the ditch. In the south-west quadrant this layer contained substantial deposits of charcoal.

The base of the ditch was not level, but pitted with steep-sided holes about 0.3m deep and filled with a red-brown silt which appears to be an extension of layer 5. It seems unlikely that these holes should be part of the construction of the ring-ditch because they would prove extremely difficult to dig within the steep-sided ditch. It is more likely that they are a result of water flowing within the ditch, disturbing the sand layers which interleave with the gravel at this level.

All other numbered features on the plan are demonstrably later than the ring ditch on the evidence of the finds. Aside from these are the group of natural depressions seen in the north-east quadrant. Above the gravel, they showed as diffuse, dark grey patches in the silt which covers the gravel on the eastern side of the ring ditch. Below the gravel, their shape remained irregular and their fill became more sandy until, in places, it became indistinguishable from the dark sand bands in the gravel itself. Where there did seem to be a gravel base to the features, there was no trace of the black, iron-stained gravel which usually defined the edges and bases of the man-made features. A number of finds, however, came from these features and the most likely explanation of this is that they are the results of water action over the ring ditch. Quarrying operations over the field showed that in the past the stream on the eastern margin of the field had a far less well-defined channel and probably also carried more water. Certainly the dark grey silt fill of the features was well-represented in buried portions of the stream bed.

CHARCOAL

Fragments of charcoal recovered from F4:
Ash fragments (*Fraxinus excelsior*)
Field maple (mature) (*Acer campestre*)

RADIOCARBON DATING

The samples of field maple came from the sides and base of F4 in its south-western quadrant and two separate deposits were large enough to allow an attempt at radiometric analysis.

Acer campestre HAR 1147 1150 ± 130 bc*

Acer campestre HAR 1145 1410 ± 80 bc

* denotes a small sample

AREA C RING DITCH V

This feature was situated in the northern part of the field at the tip of the triangular white area on the aerial photograph (PLS 1 and 2) which indicates shallow topsoil over the gravel lens. It appeared on the aerial photographs as a large, double-ditched ring with traces of a square feature within the inner ring ditch. The southern margin of the ring seemed to be much damaged, presumably by later east-west boundary ditches. The feature was first exposed in May 1974 by the quarrying company during the construction of an access road along the western margin of the field. This involved the removal of a 30m wide strip of topsoil down to the gravel surface, which exposed the western third of ring ditch V. This portion was quickly planned and the resulting section drawn. Unfortunately, regular use of the roadway by heavy vehicles prevented further excavation.

During August 1974 topsoil was moved from the north-eastern sector of the area and exposed traces of the ring ditch and other features in a sandy red clay. As the soil weathered it was found necessary to strip this layer down to the gravel to trace the course of the features. The sector was then planned and the features excavated on a part-time basis through spring and summer 1975. During August 1975 the remainder of the area within the ring ditch was machined down to the gravel and the southern limits established.

The plan (FIG 9) shows a double ring ditch with the outer ring (F5) having a diameter of 35m internally and the inner ditch (F6) having a maximum internal diameter of 26m. Both ditches are concentric and the measurements are taken from the gravel surface. Within F6, the square feature noted on the aerial photographs appeared as a palisade trench on the north-east side (F37E and W), with the remaining three sides formed by a 'U'-sectioned ditch (F35). Other features found with the ring ditch

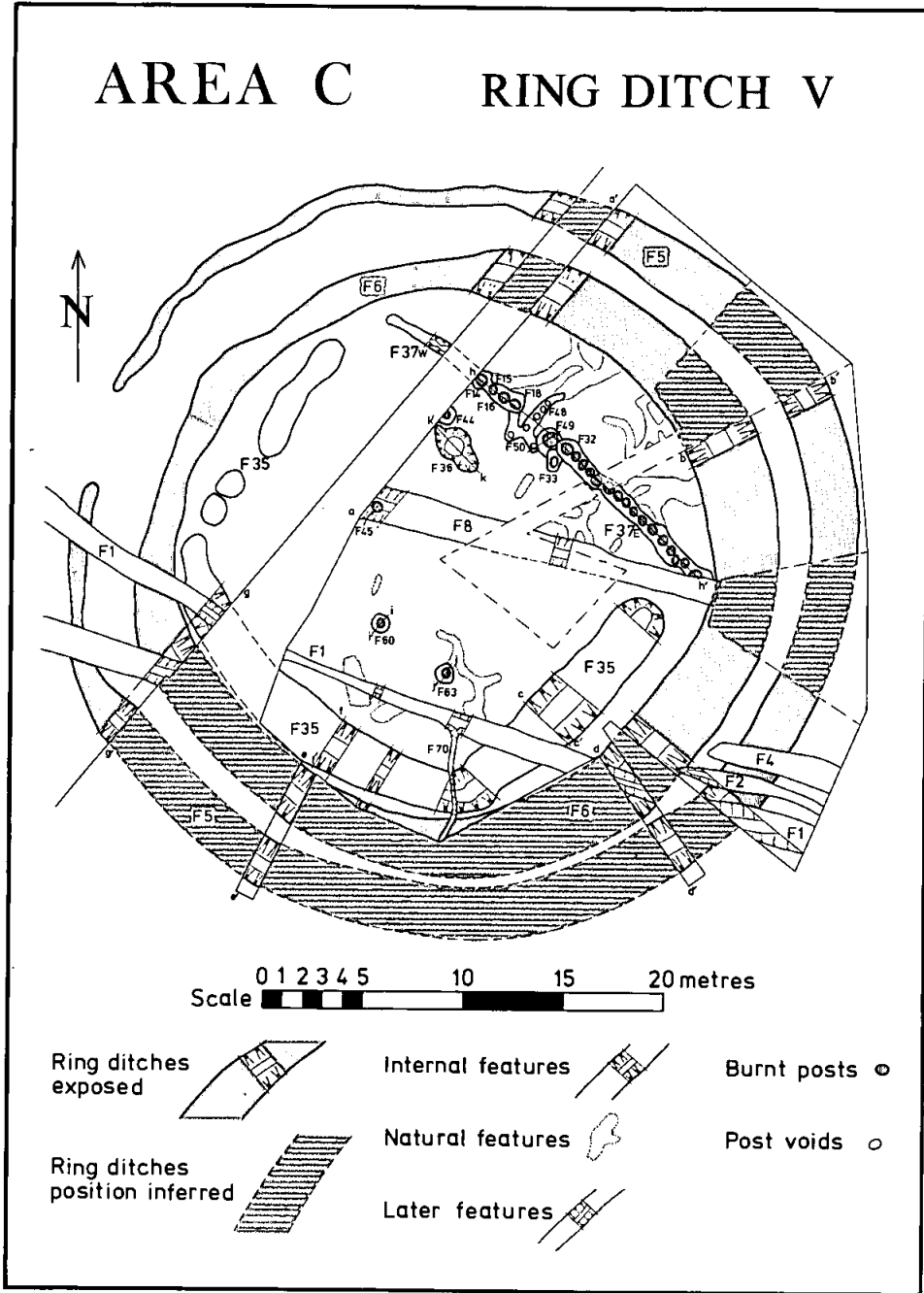


Fig 9 Grendon, Northants: Area C, ring ditch V

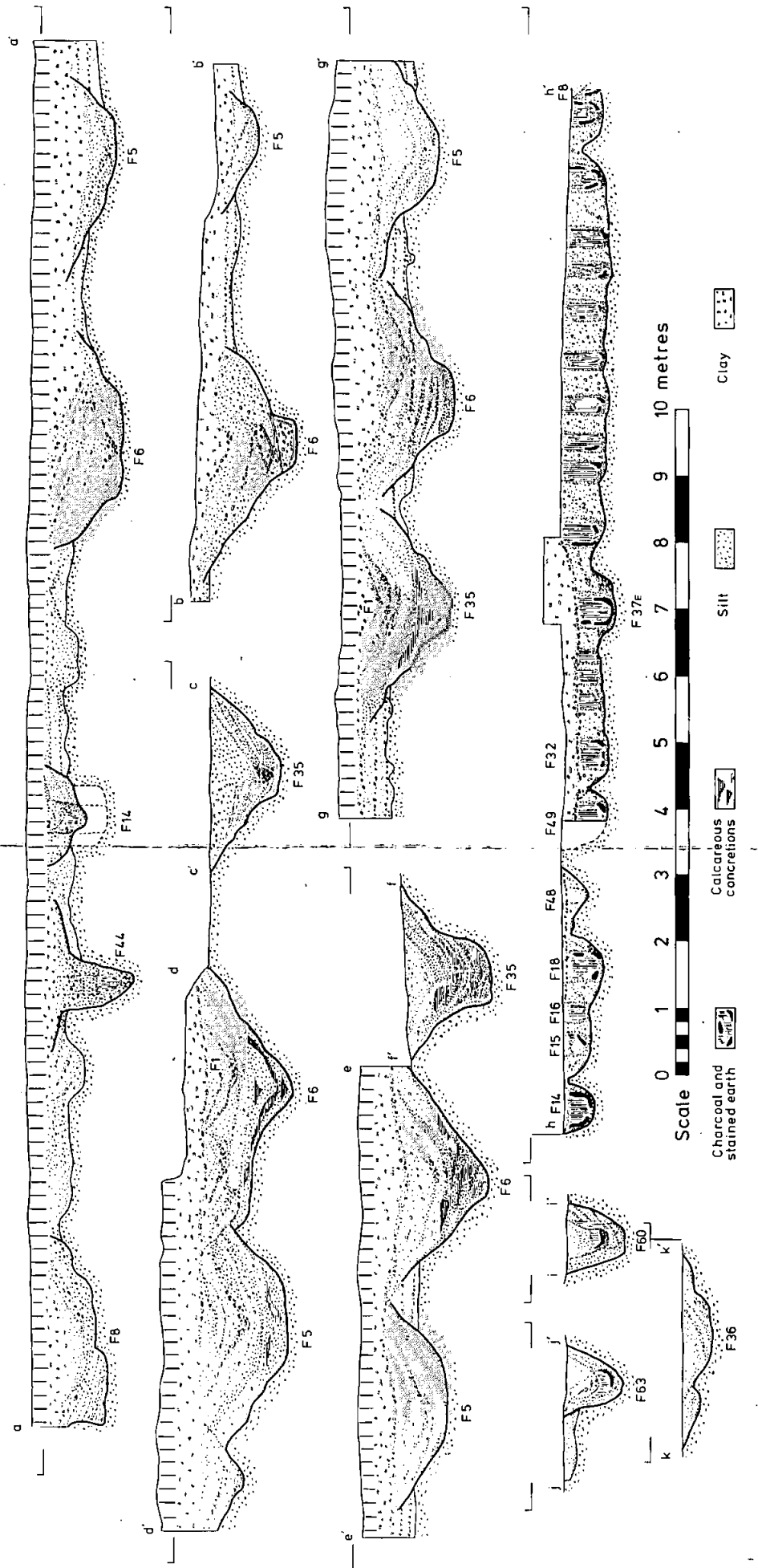


Fig 10 Grendon, Northants: Area C. sections

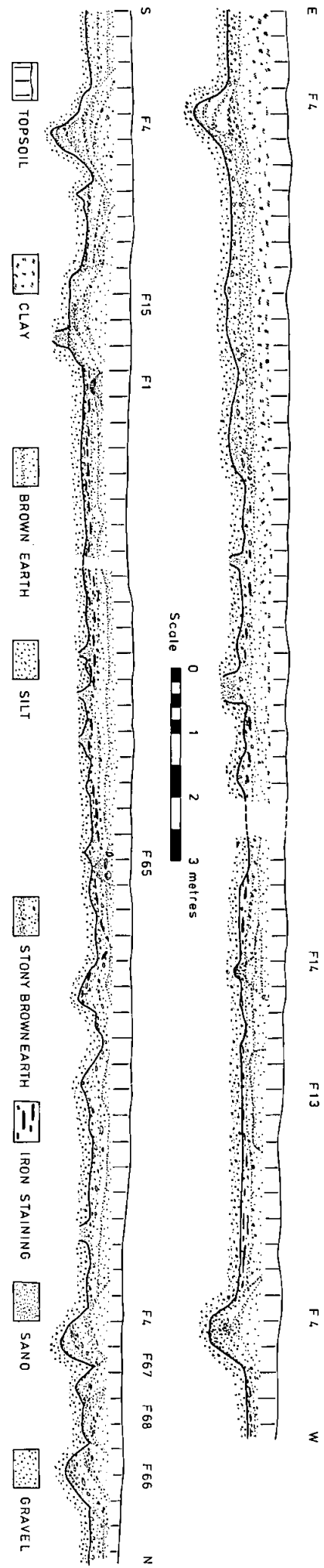


Fig 8 Grendon, Northants: Area G, sections

were a pit (F36), three post-pits (F44, 60 and 63), and a pit containing pottery and animal bones (F45). This last feature was truncated by F8 which was a large Romano-British boundary ditch located in the eastern part of the excavated area. Other later features were excavated in the south of the area in the form of east-west ditches (F1, 2, 4 and 70). These also belong to the Romano-British period and will be discussed elsewhere.

The sections to the topsoils show that in places there is up to 1m of topsoil over the gravel surface. One might, therefore, expect to find a buried surface associated with the ring ditch and indeed the careful machine-stripping of the north-east quadrant showed various dark stains immediately below the ploughsoil in the underlying silts and clay. The form of these stains inside the area inferred for the inner ditch suggested that they might be the remains of an earth mound, but on excavation it seemed more likely that they were silted up channels resulting from flooding in the area. Flood deposits, in the form of red, heavy clay, filled the upper portions of the ring ditches and in some cases even forms the largest part of the ditch fill (FIG 10, section a-a'). The gravel surface was clear of mineral panning and the few natural features that do appear on the plan tend to be sinuous channels with a silt fill rather than the root holes which appeared towards the south of the field.

F5, the Outer Ring Ditch

This ditch formed a good circle with the irregularities and break on the western side being the result of heavy scraping by the quarry machines. The ditch had a maximum depth of 1.3m and a maximum width of 3m, with gently sloping sides and a flat base. Because of the size of the features and the small work-force, no attempt was made to assign numbers to the layers in the ditch, but the sections show the general character of the fills. In the case of F5, the sections show an upper fill of red clay flood deposits lying over a thin pebble band which truncated the original ditch fill. The main fill was composed of alternating bands of red-brown earth and gravel tips which overlay a basal silt of sand and gravel. The gravel tips all appeared to have been derived from the interior of the ring ditch. The only deviation from this pattern is seen in section d-d' (FIG 10) where a very small amount of hard, white, calcareous concretion can be seen towards the base of the fill. This type of deposit is discussed below in relation to F6. Although the area of contact is very small, F5 appears later than F6 with this relationship best illustrated in section d-d'.

F6, the Inner Ring Ditch

The ditch formed a reasonable circle within F5. It had a maximum width of 3.2m and a maximum depth of 1.7m and had a steep 'V'-shaped profile. The fill was similar to that of F5 with alternating earth and gravel layers, except that the gravel lenses tended to be heavier and the calcareous concretions were more pronounced. These concretions appeared in the fill of some of the deeper features of the site, at about 0.5m below the gravel surface, and were seen both in and lining the sides of the features. Those that occurred within the fills of the features tended to follow the lines of the gravel fill and it is thought that they result from the precipitation of calcium salts from the water within an area of high humic (acid) content. It is possible that the aforementioned flooding over the area had enhanced this effect. As with the outer ditch, the fill as represented by the gravel tips seems to have been derived from within the area enclosed by the ring ditch.

F35, the Enclosure Ditch

Together, F35 and F37 formed a square enclosure within the inner ring ditch, and the corners of F35 almost touch the inner lip of the ring-ditch (F6) at the gravel surface. F35 defined three sides of this enclosure and had a maximum width and depth of respectively 3.2m and 1.7m. The profile of the ditch was inconsistent though the sections show a rather steep-sided ditch with a flat base and a marked shoulder between 0.5m and 0.8m above the base. The north-western and south-eastern arms of the ditch were straight while the south-western side was slightly curved and followed the line of the inner ditch.

The upper layers of the fill were formed from the clay flood deposits mentioned above, which overlay a reasonably thick layer of dark brown silt with stones. Beneath this and concentrated towards the inside edge of the ditch was a thick tip of almost pure gravel. Immediately below was a thin dark earth layer which, in the area of section c-c', produced a reasonably high concentration of charcoal. The remainder of the fill was composed of a combination of red-brown earth and gravel tips which in some places was replaced by heavy calcareous concretions (FIG 10, section f-f'). These concretions were similar to those described in F6 except that towards the base of the ditch they had a more brown colouration, perhaps due to dissolved iron salts. All the sections show a thin basal silt of sand and gravel.

F37, E and W: the palisade trench

Closing the fourth side of this enclosure were a number of features collectively labelled F37E and F37W. They appeared as two lengths of conjoined post-pits with a gap aligned along the north-east—south-west diameter of the ring ditch. Only about one third of F37W was available for excavation and this exposed traces of four posts (F14, 15, 16, and 18). These traces were in the form of a loose sandy burnt earth containing many charcoal flecks and with heavier concretions of charcoal defining the edges and bases of the posts. These deposits, and the straightness of the pipes (FIG 10) suggested that the posts rotted or were burnt *in situ*. The post diameters varied from between 0.5m in the case of F14, 18, and F32 to 0.2m in the case of some of the

postholes in F37E. It was not possible to excavate the western end of F37W. The length of the feature was 8m. Although the width of the feature did not vary greatly at the gravel surface, it did vary below this according to the size of the posts. The width was approximately 1.5m at the gravel surface. The sections showed that the sides of the trench sloped gradually inwards to the gravel surface and then descended vertically into the post-pipes. The longitudinal section shows irregularities in the base of the feature coincident with the positions of the posts, indicating that they rested on the base of the trench. These profiles suggest a method of construction for the palisade involving the excavation of a wide, shallow trench down to the gravel surface and then the digging of holes within the gravel to match the size of the individual posts.

Excavation proved F37E to be similar, but it is interesting to note the effect of erosion and flood deposits over the western end of the feature. Features F48 and 50 appeared to be cut by the palisade trench, but considering the severity of the erosion and the flooding it is also possible that both features were no more than silt-filled channels and swill holes similar to those that appear on the north side of the palisade. The posts did not seem to have any particular ordering in size over the length of the feature apart, perhaps, from the presence of two larger posts (F18 and F32) flanking the central gap. The palisade appeared to cut a number of features, in particular F33 and F49 which were both post-pits with similar characteristics to those in F37 except that F33 is square rather than circular. It seems probable that these pits are nearly contemporary with the palisade but, unfortunately, any possible relationship of the eastern extremity of F37E with the inner ditch is obscured by the Romano-British boundary ditch F8. In conclusion, the form of the palisade appears to be a straight line with a central break, though there is also the possibility that the posts turn slightly outwards from the centre of the ring ditch at this point.

Other Features Associated with the Ring Ditch

These fall into two groups: postholes similar to those in the palisade and two pits. The postholes (F44, 60 and F63) are all within the square enclosure. F44 appears in a section to the topsoil (FIG 10, section a-a') and the section shows a wide excavation (2.3m) above the gravel surface narrowing rapidly to 0.6m below this level. The feature has a total depth of 1.3m. The upper fill was of red clay flood deposits below which a loosely filled soil 'pipe' containing charcoal represented a rotted or burnt post of 0.3m diameter. This had been packed around with gravel and red, sandy soil. F60 and F63 had similar fills and profiles except that the posts had probably been larger, possibly with a diameter of 0.4m. Although no section was preserved to the topsoil, it is likely that the overall depths were the same as for F44.

F36 was a shallow, elongated pit with its long axis oriented north-west by south-east and was situated immediately to the south-east of the posthole F44. The pit measured 2.8m by 1.5m and had a maximum depth of 0.45m below the gravel surface. The profile shows that the north-western and south-eastern limits were shallow scoops cut by the gently sloping sides of the deeper, central section. It seems likely that these scoops were no more than natural soil-filled holes in the gravel similar to that on the north

side of F63. The fill of the central portion was a fine, red silt with slight gravel tips which became heavier towards the flat base of the feature.

The remaining pit (F45) is thought to be associated with the ring ditch complex although it is almost completely destroyed by the ditch F8. It was a small circular pit of about 0.4m in diameter and with a surviving depth of 0.3m. It had straight sides and a flat base with a fill of dark brown silt. Apart from the soil fill, this feature had many pottery sherds around the edge and at the centre was the frontlet of an ox and antler fragments.

CHARCOAL

F35 Below the heavy gravel tips, a mixed sample of mature oak (*Quercus sp.*) and blackthorn twigs (*Prunus spinosa*).

F37 E & W Many samples of mature oak (*Quercus sp.*) from the post traces.

F44, 60, 63 Many traces of mature oak (*Quercus sp.*).

RADIOCARBON DATES

Quercus sp. F37W HAR1495 2330 ± 70 bc

Quercus sp. &

Prunus sp. F35 HAR1497 2750 ± 130 bc*

Quercus sp. F63 HAR1498 3000 ± 80 bc

* denotes small sample.

AREA E. THE PITS

This group of features was one of the first to come to light at the beginning of the excavations in March 1974, when the quarry management excavated a haul road along the extreme western edge of the gravel lens in an area thought to be clear of archaeological activity. The road uncovered approximately half of the area down to and sometimes below the gravel surface, and at the same time it compacted the gravel and features with heavy machinery.

Excavation of this exposed area commenced in July 1974 with students from the Archaeology Dept, Leicester University under the supervision of Mr D D A Simpson (now at Dept of Archaeology, Queen's University, Belfast). Careful examination of a number of aerial photographs defined the area of the pit complex and in August 1974 the remaining half of the area was carefully machined down to the gravel using a back-acting shovel. Although the pits and other features were, in fact, dug through the hoggin, they had been truncated by weathering and agricultural activity, and it was felt that machining to the gravel surface was justified to benefit from the greater contrast of

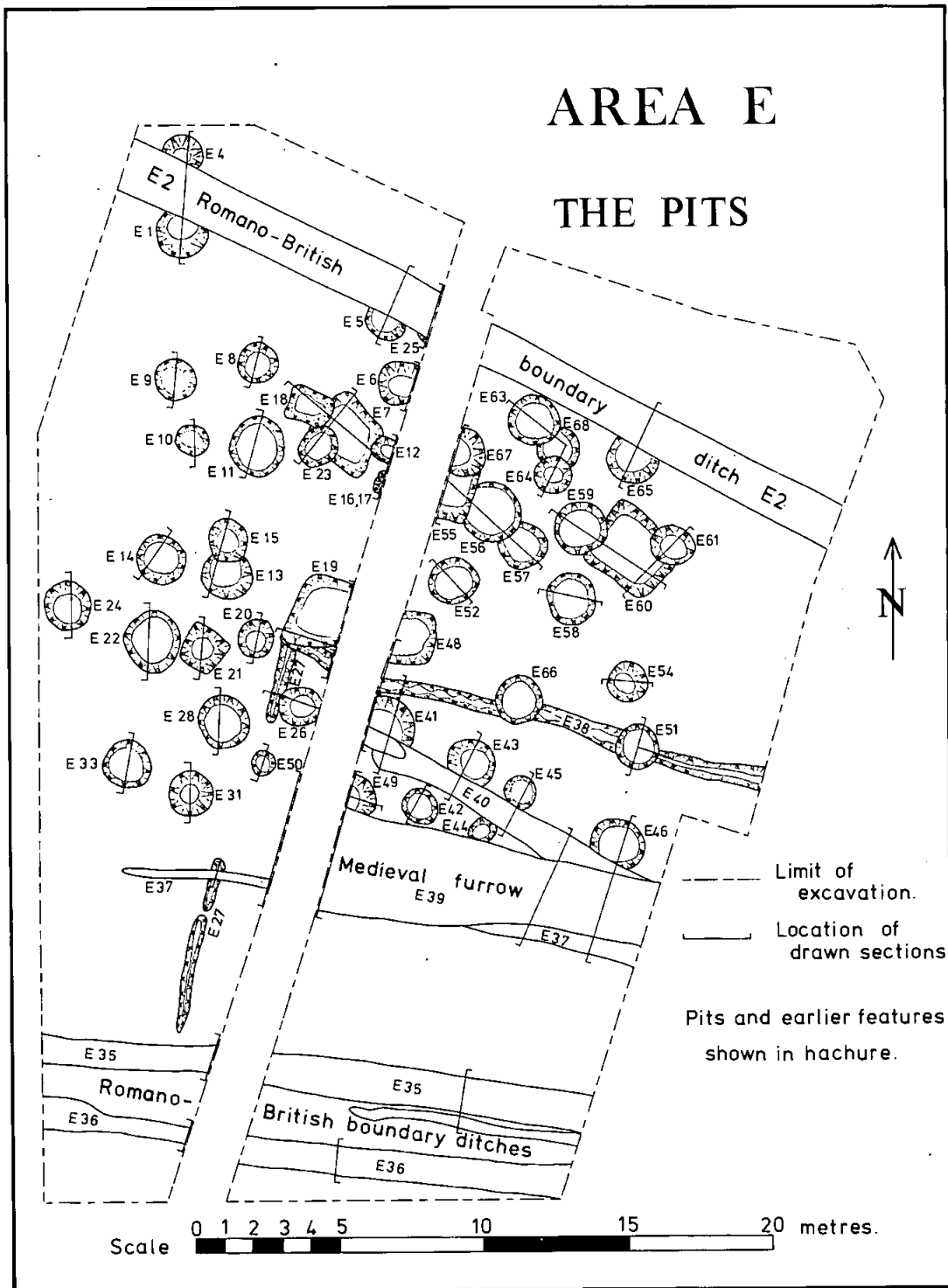


Fig 11 Grendon, Northants: Area E, pits

the pit fill against the gravel surface. Apart from the ditches and pits, the entire area at the gravel surface was pock-marked by a number of small holes (0.2m in diameter) filled with dark soil. The large number and the random arrangement of these holes, together with the fact that they had no discernible base, suggested that they might be the result of roots penetrating the gravel in antiquity. This interpretation had some confirmation when, during removal of soil by quarrymen in areas adjacent to the site, similar patterning was observed formed by tree roots preserved in the light orange sands sealed by the alluvial clays. Other, similar soil-filled holes and channels in the gravel had the characteristic branching pattern of animal burrows and frequently contained small mammal bones. The identification of small excavations, such as postholes and gullies, was often difficult in areas where these natural features appeared. Usually, however, the comparatively lighter colour of the fill and its more coarse, sandy texture, gave a clue to a natural origin.

An area of approximately 24m by 37m was examined in two parts as stated. The pits themselves occupied a roughly circular area 24m in diameter. Boundary ditches of Romano-British enclosures, which nucleated towards the east of the area, effectively bracket the pits to the north and the south. Another two Romano-British ditches and a deep clay-filled Medieval furrow cover the extreme southern edge of the pit group.

Within the group of circular and rectangular pits run two narrow gullies (E38 and E27) going south-west and south-east from a shared right-angled corner. These ditches pre-date all the pits along their line.

DITCHES E27 AND E38 (FIG 11)

E27 showed as a narrow, shallow gully with an irregular base and plan. It had a maximum width of 0.3m and a maximum depth of 0.25m. No doubt much of its depth was lost by the removal of the overlying hoggin. It was possible to trace its course on the aerial photographs. It ran south-west to north-east and was picked up again running through the extreme west of area D, giving the ditch a length of approximately 84m. The fill was of orange-brown sandy earth with small platy limestone fragments and loose iron-stained gravel fragments towards the base. It was cut by the circular pit E26 and the rectangular pit E19.

E38 appeared to be more substantial than E27, although this could possibly be due to more controlled topsoil

removal on the east side of the excavated area. It had an average depth of 0.3m from the gravel surface, although the base was not flat and locally the ditch reached up to 0.5m deep. The width also varied from 0.4m to 0.6m. The fill of the ditch was an orange-brown sandy soil with limestone fragments except in the regularly spaced hollows (0.4m apart) on the base which were filled with a darker soil and stained gravel. The ditch was cut by circular pits E51 and E66 and by rectangular pit E19. The ditch gave the impression of being a slot for a palisade rather than an open ditch, and it seems likely that the two ditches E27 and E38 form the corner of a fenced area pre-dating the pit group. Unfortunately the eastern extent of E38 could not be traced on the aerial photographs, and attempts to follow it by excavation met with little success due to the small size of the feature and the confusion of later enclosure ditches immediately to the east of area E.

THE PITS (FIG 11)

A total of 48 pits were positively identified, 41 circular and 7 rectangular. These were excavated and details of dimensions and finds are presented in Table I and in the sections (FIGS 12-15). Lines above the sections indicate the possible level of the ploughsoil, which had been removed prior to the excavation, and the height of the gravel is also recorded. The gravel surface dipped away towards the west of the pit group, though there was no discernible increase in the pit depths towards the east which indicates that the topography, but not necessarily the composition, of the modern soil compared closely with the ancient one. The pits generally had vertical or slightly battered sides with slightly dished or flat bases, the latter tending to occur in the rectangular and deeper circular pits. The sides and bases were well-formed with either circularity or squareness maintained to the base of the pits. With the exception of a number of pits to the north-west of the group, the soil fill was reasonably uniform and consisted of a light brown sandy soil containing rather platy limestone pebbles and a small quantity of gravel. Beneath this was a finer, less stony material, either light brown and sandy or else a dark grey-brown coarse silt. The basal fills contained little or no weathered gravel and the sides and bases tended to be unweathered. The two square pits, E60 and E55, and the round pits E61 and E63 deviated slightly in having substantial dark silt tips midway in their fills, and stony layers towards the bases.

A number of pits (E6, E9, E49, E55) appear to have contained material which had been deliberately deposited. E6 contained fragments of human bone some 0.2m above the base in the centre. On excavation the deposit was seen to consist of a seemingly articulated lower limb (tibia and fibula) with most of the foot missing. A rib fragment was also found.

E9 contained inhumations. The first signs of a burial in this pit took the form of small bone fragments and were noted immediately after the contractors' earthmoving machinery had passed over the site. On excavation it was found that the pressure of the machine had shattered much of the bone although it was still possible to trace the direction and position of the burials. The pit was circular, 1.5m in diameter, and had a flat base 1.1m below the modern ground surface. The skeletons were laid 0.24m above the base of the pit and were positioned slightly towards its

TABLE I

<i>Pit</i>	<i>T</i>	<i>D</i>	<i>D.l</i>	<i>Sq. Pit</i>	<i>H</i>	<i>N</i>	<i>BA</i>	<i>IA</i>	<i>Hn</i>	<i>A</i>	<i>F</i>	<i>C</i>
1	R	1.85			1.40							
4	R	1.50			1.35							
5	R	1.50			1.10							
6	R	1.50	1.35		0.94				(c)			
7	Sq			2.5 × 2.0 NE/SW	0.85		O				×	
8	R	1.40	1.05		1.05							
9	R	1.50	1.10		1.10				(e)			
10	R	1.20	0.70		1.00							
11	R	2.00	1.85		1.64						×	
12	R	0.80	0.80		0.58							
13	R	1.48	1.45		1.55							
14	R	1.75	1.30	0.93								
15	R	1.50	1.10		1.20							
18	Sq			1.5 × 1.25 NE/SW	0.94							
19	Sq			2.5 × 2.5	0.82							
20	R	1.25	1.25		0.86							
21	Sq			1.5 × 1.5	0.82							
22	R	2.00	2.00		0.93		O				×	
24	R	1.60	1.35		1.10							
26	R	1.50			0.75							
28	R	1.75	1.55		1.10							×
31	R	1.50	1.40		1.00							
33	R	1.65	1.40		1.52		O					
41	R	2.00	1.50		1.10					×	×	(a)
42	R	2.00	1.15		0.70							
43	R	1.75	1.30		0.80					×		×
44	R	0.75										
45	R	1.25	1.25		0.50							
46	R	2.00	1.40		1.05							
48	Sq			2.0 × 2.0	1.05							(b)
49	R	1.75			0.80		O			(f)		
50	R	0.85	0.65		0.90			×				
51	R	1.50	1.30		1.35					×		
52	R	1.60	1.30		1.15							
54	R	1.35	1.05		0.90							
55	Sq			2.25 × ?	1.15	×			(d)			
56	R	2.00			0.82		O					
57	R	1.60			0.75							
58	R	1.75	1.45		1.20			×			×	
59	R	1.85	1.50		1.00							
60	Sq			3.0 × 2.5 NE/SW	1.30						×	
61	R	1.50	1.00	1.15								
63	R	1.75	1.50		1.40							
64	R	1.25	1.00		0.82							
65	R	1.85	1.40		1.30							
67	R	1.65	1.25		1.02							
68	R	1.50			1.05							

Key

- Pit* = pit number
T = type, R = round, Sq = rectangular
D = diameter at gravel surface
D.l = diameter at 0.1m above base of pit
Sq. Pit = dimensions of rectangular pits at the gravel surface
H = depth from top of the modern ploughsoil
N = Neolithic pottery
BA = Bronze Age pottery
IA = Iron Age pottery
Hn = human bone
A = animal bone
F = flint

C = charcoal

(a) = radiocarbon date of 1400 ± 60 bc (HAR 1148)

(b) = radiocarbon date of 1450 ± 70 bc (HAR 1149)

(c) = incomplete inhumation

(d) = incomplete inhumation disturbed in excavation

(e) = two inhumations

(f) = dog skull

O = prehistoric pottery with no diagnostic features

In the case of a round pit, the absence of measurements in the *D.l* column indicates:

i) a very shallow pit or

ii) a pit possessing a rounded base or

iii) an instance of two or more pits intersecting each other.

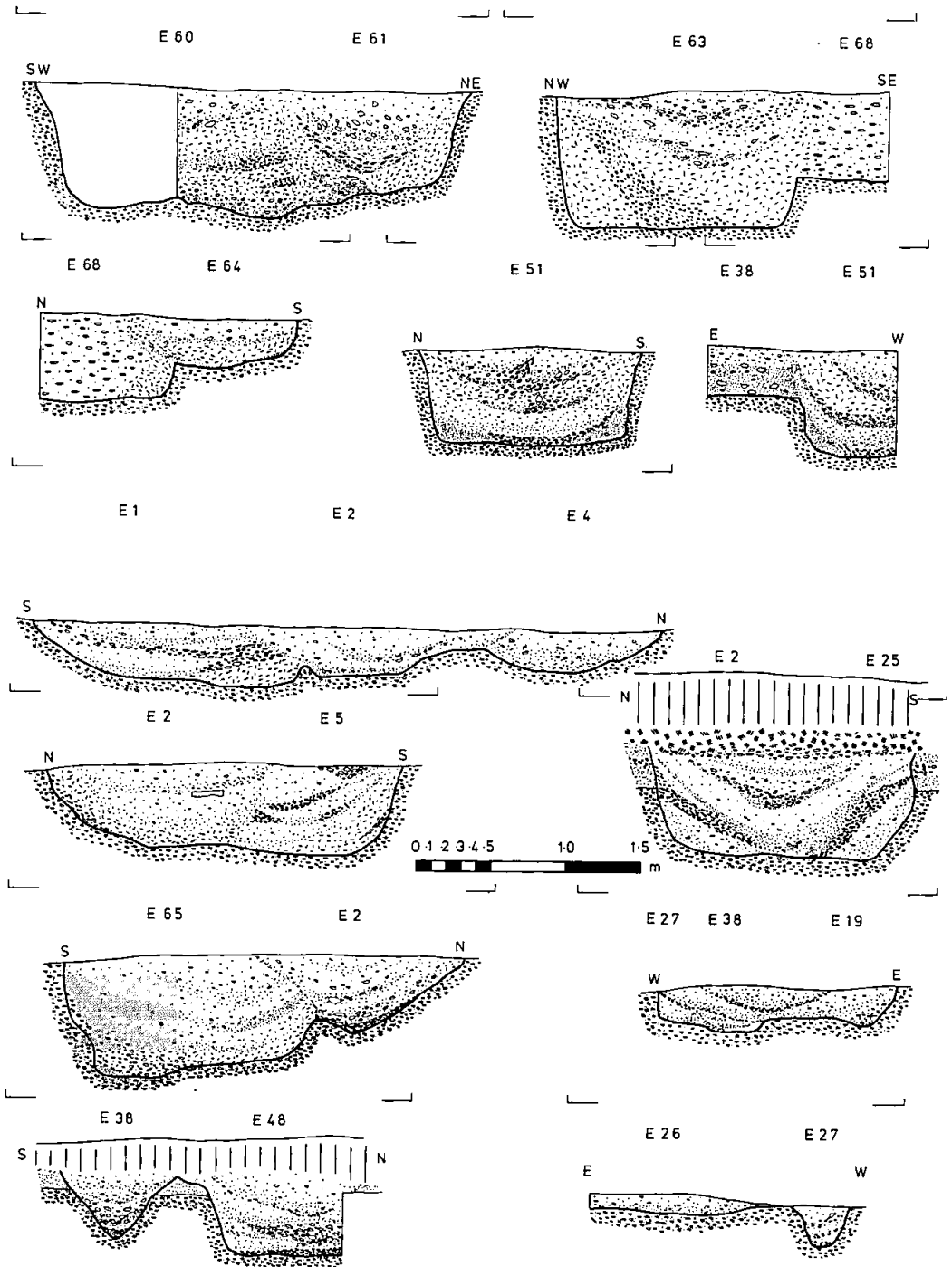


Fig 12 Grendon, Northants: Area E. sections

GRENDON QUARRY: NEOLITHIC AND BRONZE AGE

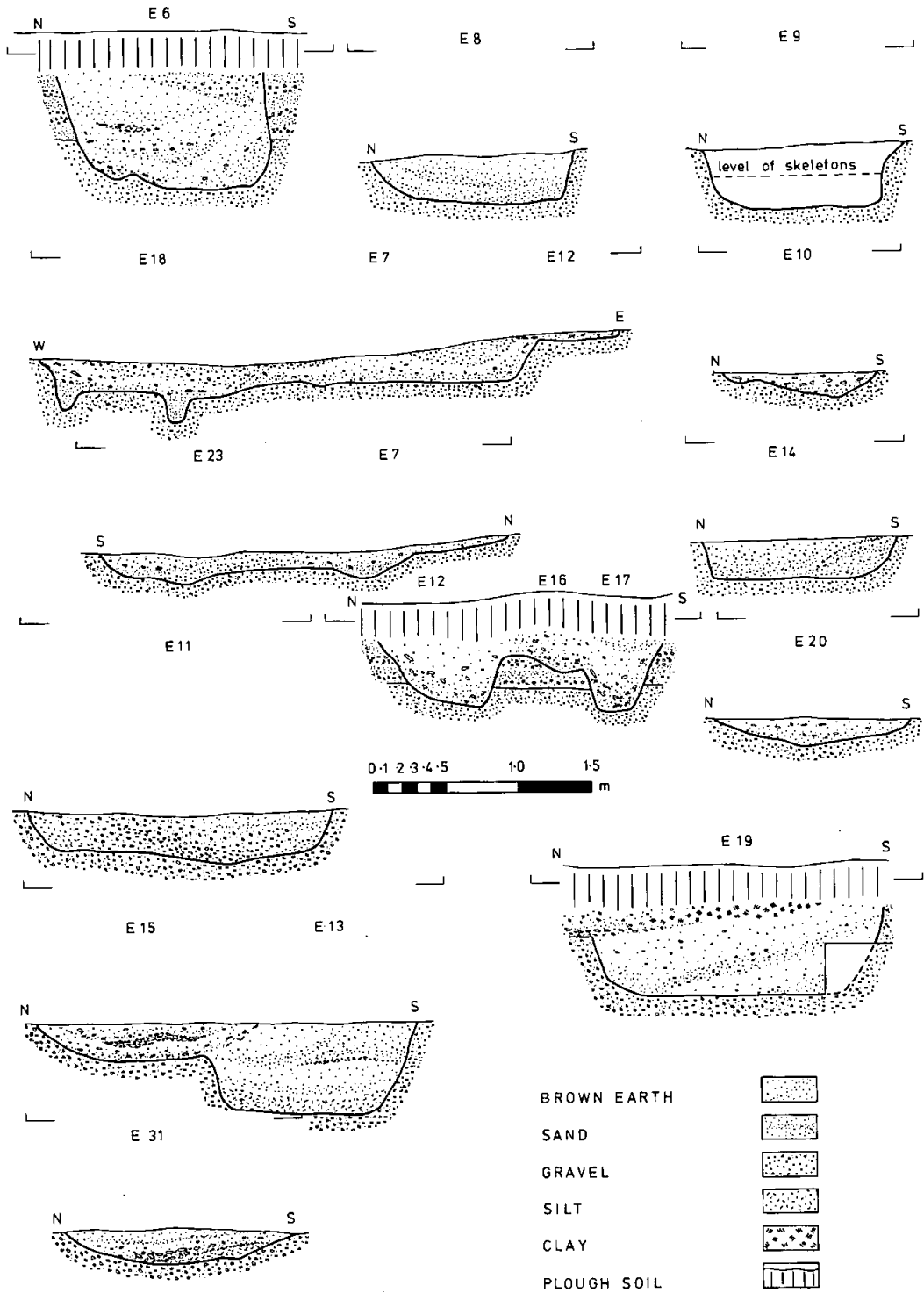


Fig 13 Grendon, Northants: Area E. sections

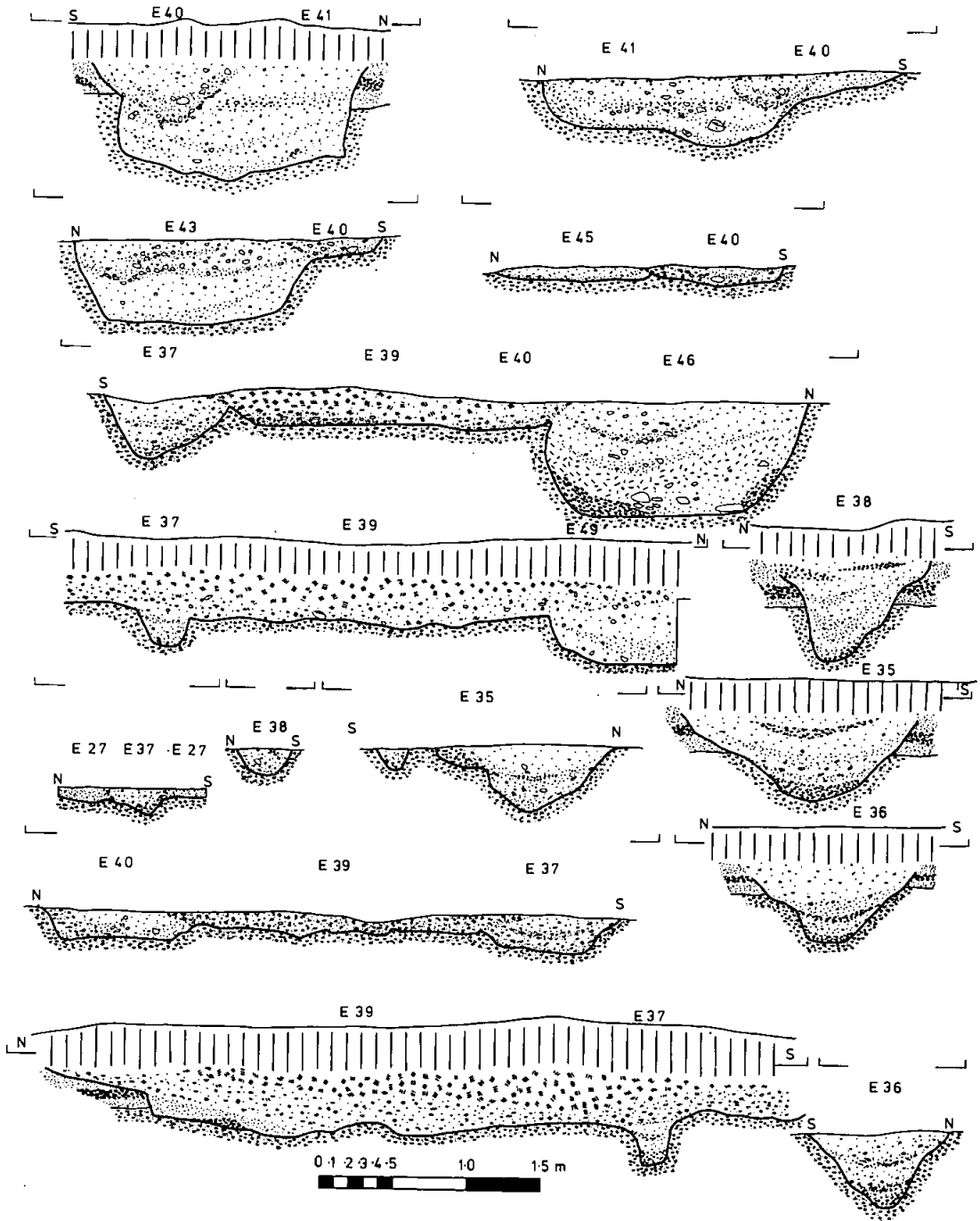


Fig 14 Grendon, Northants: Area E, sections

GRENDON QUARRY: NEOLITHIC AND BRONZE AGE

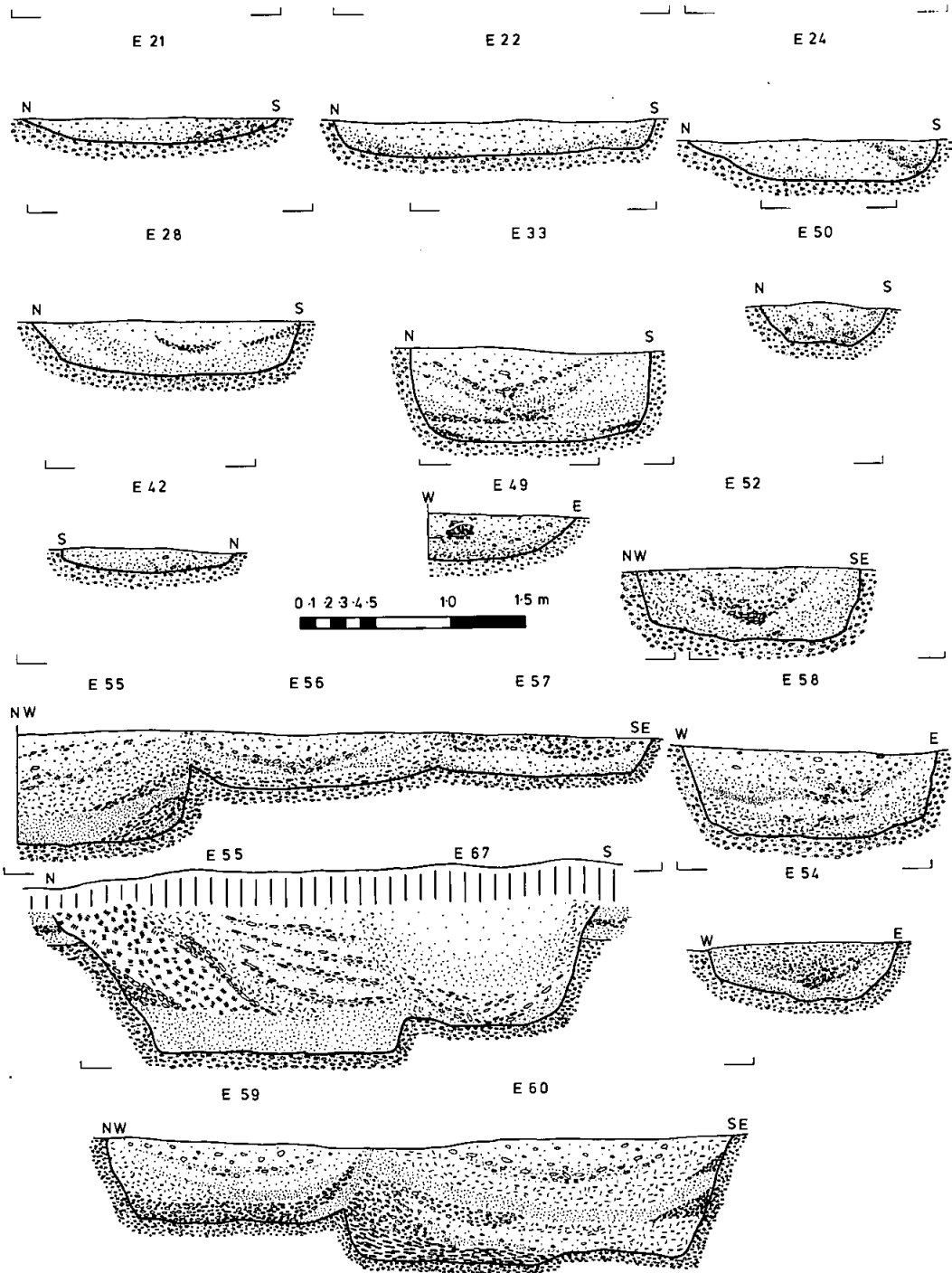


Fig 15 Grendon, Northants: Area E, sections

eastern edge. A child's burial was lowermost and lay face downwards beneath the prone remains of an adult. The skull had been crushed, but it was clear that the body had been interred in a crouched position with the axis of the vertebrae north to south and the head facing east. The overlying adult was in a better state of preservation and was again in a crouched position but lying east to west. The head, however, still faced east. Both skeletons appeared to have been placed on a rather stony layer above the base of the pit. There were no accompanying finds.

E49 also contained a deposit of bone, but in this case a dog skull was found placed upright and facing west on a fill of some 0.12m above the base of the pit. The rest of the skeleton was absent with the exception of the cervical vertebrae which were still articulated. A fragment of the axis vertebra was also found in the pit and a few fragments of long bones had been placed below the mandible. The whole deposit gave the impression of being a deliberate burial placed centrally in a partially silted or backfilled pit. E55. During the mechanical stripping of the soils above the gravel on the east side of the area, a group of human bone was discovered in a position coincident with the square pit E55. On excavation this pit contained three metatarsals but it was not possible to assign any position or orientation to this deposit.

LATER DITCHES

The Romano-British features found on the site will be discussed elsewhere.

The wide, clay-filled depression E39 proved to be one of the latest features identified during the excavation and appeared to be either a very deep furrow or a track as its base had a rather rutted character. It contained fragments of glazed Medieval pottery.

RADIOCARBON DETERMINATIONS

Two radiocarbon dates were obtained from area E.

E41 *Quercus sp.* HAR 1148 1400 ± 60 bc

E48 *Quercus sp.* HAR 1149 1450 ± 70 bc

ENVIRONMENTAL AND OTHER FINDS EVIDENCE

CHARCOALS

The charcoal identifications were all carried out by Mr G C Morgan of the Dept of Archaeology, Leicester University and form the basis of the charcoal list presented on M1. As can be seen from the list and the histogram (M3) the tree species represented by the samples are only five:

Oak (*Quercus sp.*)

Field maple (*Acer campestre*)

Ash (*Fraxinus excelsior*)

Hazel (*Corylus avellana*)

Blackthorn (*Prunus spinosa*)

The few samples and the small number of species make interpretation difficult at best, and at worst may be seen to tend towards rashness. It seems, however, that we should perhaps see the ring ditches at Grendon as situated in a clearing surrounded by oak forest—possibly virgin forest. This is supported by the researches of Evans who, in the Neolithic, 'sees an avoidance of the heavy clay soils . . . of

midland England . . . probably governed by . . . the absence of sophisticated ploughs . . . and the inability to control the frequent flooding . . . (Evans 1975, 135). Certainly frequent flooding is attested by the silt sequence at Grendon. The field maple and ash charcoal suggest an open area at least, as ash especially needs a great deal of light. Presumably this open area would correspond to the gravel peninsula upon which the ring ditches lay, while the surrounding, less well-drained soils would have supported a forest cover of oak, hazel, and thorn. It is unfortunate that we have no pollen profiles from the area against which to test this hypothesis.

LAND MOLLUSCA

Environmentalists from the Ancient Monuments Laboratories examined the site during the excavations and came to the conclusion that the survival potential of environmental material was low with the soil pH being about neutral. Some large mollusca were, however, recovered from the Neolithic and Bronze Age features, and area C produced a moderate sample (see mollusca list, M6). In particular, snails were found in the ditch of the palisade and were clustered around the 'ghosts' of the timber uprights (FIG 9).

There are, however, only two types of mollusca represented: *Helix (Cepaea) nemoralis* and *Helix (Cepaea) hortensis*. Both species are similar and almost impossible to differentiate in their juvenile form. They are also the most commonly found species in British prehistoric assemblages. *C. nemoralis* is still found widely in Britain, both geographically and also in relation to habitat, from marsh, to woodland, and to downland. *C. hortensis*, however, prefers rather damp conditions. Colonies containing the two species are today rare, and Evans points out that 'where *C. hortensis* is present in a predominantly *C. nemoralis* area, it is restricted to the vicinity of trees' (Evans 1972, 171). He goes on to suggest that 'the difference in past and present distributions (of *C. hortensis*) may have been brought about by . . . the progressive clearance of woodland which had taken place from Neolithic times onwards' (ibid, 172).

The predominance of *C. nemoralis* over *C. hortensis* at Grendon (FIG 16) suggests that we are again dealing with evidence for a damp and shaded environment. As with the evidence for the charcoal, it is perhaps rash to attempt climatic reconstructions from only two species, especially as there are also comparatively few individuals and the species are so widespread. The charcoal and mollusca together, however, might support the view expressed above that Neolithic and Bronze Age Grendon should perhaps be seen as a clearing—probably equating in area to the gravel peninsula—within a woodland environment. It is, however, also possible that the 'shaded environment' was provided by the extant posts of the palisade trench of site C around which the mollusca clustered. This is probably unlikely in view of the charcoals, though the rotting post bases may have provided a food source for the snails and so have contributed to the restricted distribution.

THE BURIALS

The bones were identified by J Bayley and T O'Connor of the Ancient Monuments Laboratory.

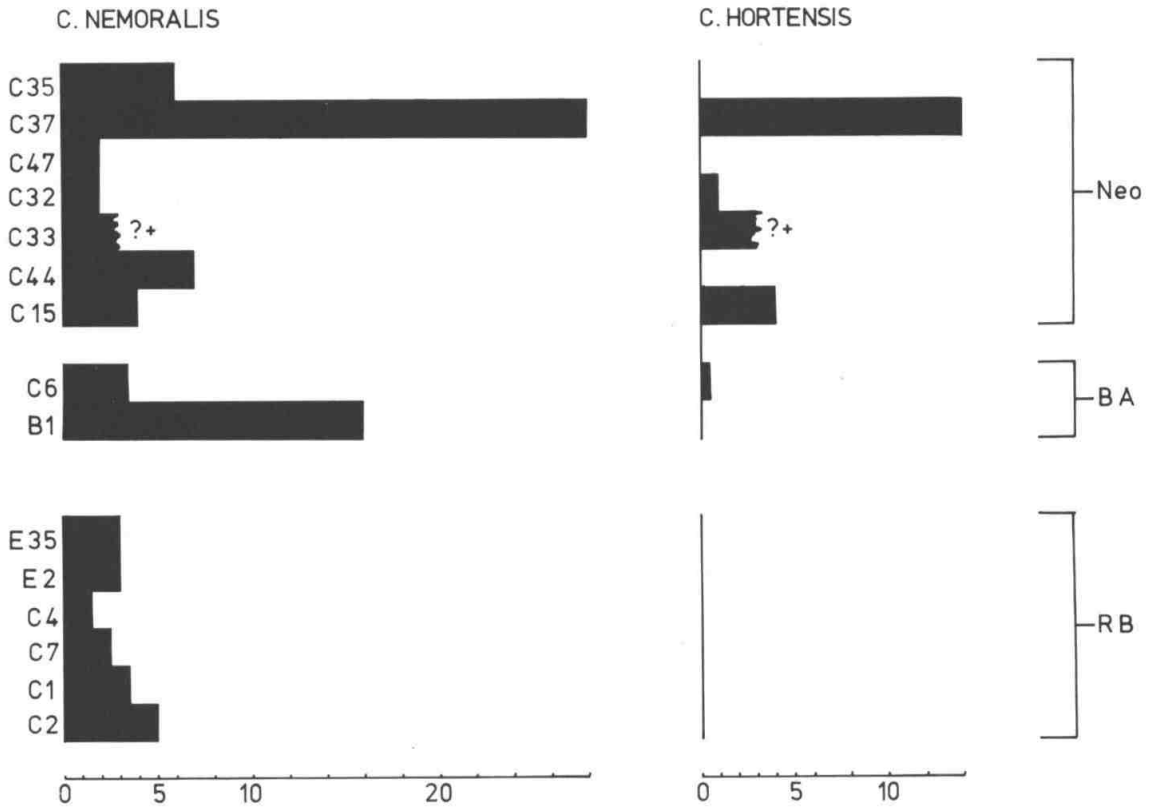


Fig 16 Grendon, Northants: histogram of species of land mollusca

Area B, Barrow I, Inhumation I (PL 3)

This was found in a near central position within the area enclosed by F2 and lay above the gravel just below the subsoil/topsoil interface. This crouched inhumation was fragmentary and disturbed as a result of recent ploughing and trial-trenching with a skid-shovel. The skeleton lay on its left side and faced north-west. The majority of the left side was missing. There was no trace of a grave-pit or coffin. The inhumation was of an individual over 30 years old, who was probably male, and the bones showed some signs of degenerative joint disease. The olecranon fossa in the right humerus was perforate.

Area B, Barrow III, Inhumation 2 (F5)

The numerous fresh breaks in this material were the result of the disturbance of the inhumation during site-clearance by a self-loading scraper. The inhumation lay in a pit (F5) dug through the subsoil and into the gravel, and it is suspected that the grave-pit was truncated during construction of the later barrow I and possibly also by later ploughing. The fragmentary remains were of an adult, probably over 30 years of age. A few fragments of scapula from *Bos sp.* may be associated or may be contamination as a result of the machine-clearance.

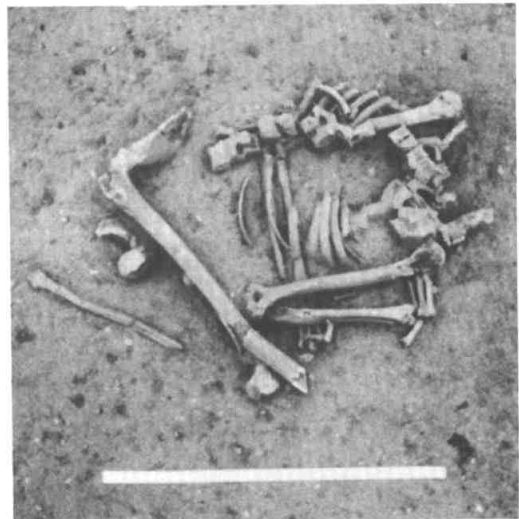


Plate 3 Grendon, Northants: Area B, inhumation I.
Scale length, 0.5m

Area D, Barrow II, Inhumation from F8

This crouched inhumation lay towards the southern end of F8, a roughly rectangular grave-pit, and lay on its right side facing west. Associated animal bones included the mandible of a pig. The burial was undisturbed and the grave-pit had been dug into the gravel. The skeleton was of a female aged 25-30 years. The only pathological change noted was slight alveolar recession in the mandible. There were numerous large wormian bones in both the lamboid and sagittal sutures.

Area E, Pit 9, Child burial

F9 was a circular, steep-sided pit and contained the inhumations of a child and an adult. The child inhumation lay below the adult, on its front with its face downwards. The bones were too fragmentary to allow detailed analysis save that they belonged to a child of between 7 and 9 years old.

Area E, Pit 9, Adult Inhumation

This skeleton lay above the child burial and was also laid face downwards. The skeleton belonged to an adult of between 17 and 25 years but it was not possible to sex the

individual due to the fragmentary nature of the remains. The pelvis and lower limbs were missing.

Area E, Pit 6, Partial Inhumation (bones not seen by AML)

This roughly oval pit contained only part of a seemingly semi-articulate lower limb represented by a tibia and fibula with some of the foot bones attached. There was also a rib fragment.

Area D, Cremation I (PL 4)

There is no reference to this cremation in the bone inventories supplied by the AML but the site notebook for the 1974 season describes the cremation as having been found during machining off the topsoil. The cremation was found with a shell-filled bucket urn (P55) and was located above the gravel surface. Only the pottery is mentioned under the heading of 'Crem I' and there is no reference to cremated bone, though presumably this must have been present to warrant the title. There is no reference to 'Crem I' in the site D notebook.



Plate 4 Grendon, Northants: Area D, cremation I

Area B, Cremation 2 (PL 5)

This cremation is similarly poorly recorded and there is no reference to it in the bone inventories. Like cremation 1, it was discovered while machine-clearing the site and was therefore disturbed. The cremation was accompanied by five urns (see the pottery report below, p 52) and seemed to lie in a rectangular depression, perhaps the remains of a grave-pit, which bottomed just in the gravel. The only site notebook entry regarding the presence of cremated bone is as follows: 'the base of this (depression) and the material surrounding the urns was a dark grey with some cremated fragments'. Again, there is no mention of this cremation in the site B notebooks.

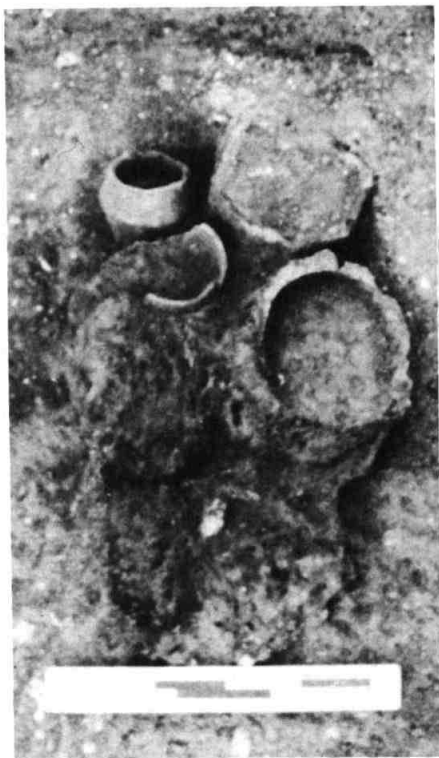


Plate 5 Grendon, Northants: Area B, cremation 2

Area B, Cremation 3

This was found in a shallow depression located during the clearance of barrow I. It appeared to be unaccompanied and to represent the cremated remains of a juvenile.

Area D, Cremation 4

This was also an unaccompanied cremation deposit found during the clearance of barrow II. It represents the cremated remains of an adult.

Area D, Cremation 5

This was associated with the fragments of a tripartite collared urn (P57). The deposit represents the cremated remains of a juvenile.

Area D, Cremation 6

This was associated with the lower portion of an urn in extremely poor fabric (P56) and represents the remains of an adult.

Area D, Cremation 7

A cremation inserted into the ditch fill of the barrow. The tooth remains indicate a child of *c* 5-6 years; specifically, the roots of two maxillary deciduous incisors and the unerupted crowns of 3, 5, and 7 were noted.

Each of the last five cremations was examined by staff of the AML and the bone fragments were sorted according to which part of the skeleton they represented. Each category was then weighed, the aim being to determine whether each cremation represented a whole individual or just part. As can be seen, information about age and sex was seldom forthcoming but it was possible to say that each cremation represented only a single individual. It was also noticeable that the juvenile cremations all contained a higher proportion of skull bones than did the cremations of the adults.

Further human bones were found amongst the animal bones from area C (F8, Romano-British ditch) and area B (F1, the outer ditch) and are presumably residual. The following report is by A J Gouldwell of Leicester University, Department of Archaeology:

Two fragments of human occipital bones were found. This is the most robust part of the skull and usually the part which survives after the rest of the skull has been destroyed by mechanical or carnivore agency.

Two diaphyseal femur fragments were also found, one from area B (F1) and one from area C (F8).

THE ANIMAL BONES

by A J Gouldwell, Archaeology Dept, Leicester University

A total of 1027 bone fragments was recovered from all contexts, and 354 of these were identified with reasonable certainty. Most of the bone was friable and broken, limiting the scope for confident identification and for metrical and numerical studies. Some observations are made on signs of attrition, particularly butchery.

Due to the partial excavation of the site, the recovered bone assemblage must only be a sample of the total, and the low frequencies of any single bone type preclude any population studies of the target assemblage.

SPECIES REPRESENTATION

A breakdown in species representation over the separate areas of the site in terms of numbers of fragments, minimal numbers of bone elements and minimum numbers of individuals is given in microfiche (Tables 3, 4, and 5 respectively).

Sheep and goat are numerically in greatest abundance with cattle ranking second, though this ranking order may not have applied in terms of meat yield in the contemporary economies.

Horse (Equus)

The bones of horse can be accounted for by no more than two individuals (one Bronze Age from site C, and the other Romano-British). No convincing signs of butchery are present. All sufficiently complete bones were recognised as being adults on the grounds of epiphyseal fusion and tooth eruption. The greatest estimated age was about 3.5 years (Silver 1969).

The height at withers was calculated from tabulated values (Vitt, cited in Ambrose and Müller 1975) using a metacarpus and a radius giving values of 148.6 and 151.9cm respectively and having a mean at 150cm to the nearest centimetre.

Cattle (Bos)

The most frequent bones are humeri (MNB = 9), tibiae (MNB = 5), metapodia (MNB = 14) and teeth (MNB = 5 'maxilla equivalents' and 11 'dentary equivalents').

Most of the bones appear to be adult, the highest minimum age estimate being 3.5 years for distal epiphyseal fusion in the radius (Silver 1969). Only two bones were recognised as immature: a friable and broken pelvis (area G, F68—a late Iron Age linear ditch) with an upper age limit of 10 months, and a thoracic vertebra (Site B, F1—barrow ditch) with unfused epiphyses, though no age limit is suggested here. The implication is that younger animals have not been recovered or preserved as well as the older.

Tooth wear information is inadequate for compiling a population age structure.

One metatarsal from area E (F36—Iron Age ditch) shows the pathological condition of *Spavin*, in this case the proximal end of the metatarsus, the meso- and ectocuneiform and the navicular cuboid bones have ankylosed across and their external surfaces have left the articular surfaces apparently unaffected. The other ankle bones, ectocuneiform, astragalus, and calcaneum were not apparently affected and were not recovered. It is possible that the uniting, peripheral, exostotic tissue was generated after damage to the periostium and associated ligaments caused by infection or mechanical strain. If the latter is the case, this may be taken as circumstantial evidence for the use of this individual as a traction animal.

Similar examples have been found at Dragonby and at Northampton in both ox and horse (Baker and Brothwell 1980). This particular bone also shows faint longitudinal grooving on the anterior surface suggesting knife cuts sustained in filleting. Anterodistally, the surface of the trabeculated bone is eroded, which is interpreted as possibly caused by the gnawing of a dog.

Horn cores were found: two of different sizes in area C (F45, Neolithic pit). The larger (18.1cm in basal circumference) is more elliptical (diameters 6.63cm and 4.72cm) than the other (16.6cm basal circumference; 5.61cm and 4.52cm diameters). A further example from area E (F2—Iron Age ditch) was still larger (22.34cm basal circumference; 9.04cm and 6.44cm diameters). The attached frontal bone shows cut marks near the base of the horn and more or less parallel with its horn base: they probably represent skinning.

Measurable material was insufficient for metric or breed-stature studies.

Sheep and Goats (Ovis and Capra)

Of the 119 minimum number of bone elements representing the Caprovinae, 29 were assigned with varying degrees of certainty to either sheep or goat specifically (Table 6) using as a guide the criteria of Boessneck 1969 and Boessneck *et al* 1964. The information thus obtained is insufficient to infer ratios of relative importance and metacarpals were too few for metrical distinction.

Definite remains of goats were found in areas B and C in the form of skull fragments with horn cores. The fragments were broken but with no clear signs of butchery. The horn cores from area C (F35, Neolithic quarry ditch) were 10.65cm long, and from area B (F3, Romano-British ditch) were 9.3cm long as defined by von den Driesch 1976. In both cases the horns were almost straight and 'D'-shaped in transverse section.

Site G (F1—late robber trench) yielded an occipital fragment and an axis which were attributed to *Capra*.

Of the sheep bones, site C yielded skull fragments (F4—surface of Romano-British ditch) a dentary and a humerus (both F1a surface—Romano-British ditch). The skull fragments contained a horn core base and recognisable parietal-occipital, frontal-parietal, and interfrontal sutures. Scapulae were identified as belonging to sheep in area B (surface of features) and the eleven bones from area G include one radius, two femora, one astragalus, three dentaries and an articulated series of seven lumbar vertebrae tentatively assigned to *Ovis* and thus weight the numbers significantly. The area G group represents at least two individuals.

All anatomical parts present are in low numbers with no strong representation of any one type except for ribs, teeth and dentaries. Teeth and dentaries survive better than most bones and the ribs listed were identified by association. They came from site G (F1, late robber trench) which supplied a concentration of caprovine bones: 68 in all were identified (MNI = 4). It seems likely that the original deposit contained one or two fairly complete animals, possibly dead as a result of natural causes which prevented the skeleton from becoming widely dispersed.

Most of the bones were judged adult on the basis of epiphyseal fusion. Most of the dental evidence also comes from mature individuals. Should most of the bones represent sheep, then most of the caprovines would have been in or around their third year at death. If goats dominate, then the typical age of the sample at death could be a year higher (Noddle 1974). Unfortunately a breakdown of population age structure cannot be made on the basis of the sample studied. In the absence of more bones in good condition, it seems likely that younger age groups are under-represented as in the case of the cattle.

Three metapodials from area B (metacarpus—F3 surface, Romano-British; F11, Romano-British; metatarsus—F3, Romano-British) all show notches in the shaft laterally and medially in pairs, one pair towards the proximal end and one pair towards the distal end. The bone surface in these notches and on adjacent areas of the shaft is highly polished, and on the anterior face of one metacarpal shaft transverse to slightly oblique fine grooves can be seen. That the condition is entirely *post mortem* and not developmental injury was supported by X-ray photographs which showed no corresponding deformation of the endosteal surface. The

most likely explanation is that the metapodia were used for winding wool or twine and the notches were cut to facilitate control over a manufacturing bobbin.

Two proximal radius fragments from area B (F3, Romano-British) and area C (unstratified) had small round holes some 4mm in diameter punched through the shaft antero-posteriorly, respectively 19mm and 16mm from the most proximal point of each bone. In each case the hole was fairly neat on one side of the shaft but broken away irregularly on the other (a different side in each case). It is difficult to imagine the circumstances producing these features. The separation of the radius from the humerus and surrounding meat are probably the minimum preparatory conditions necessary. The cleaned radii clearly served as implements of a type as yet unreconstructed (cf metapodial bobbins above).

Two estimates of stature can be made calculating withers height (Teichert 1975) from material in Romano-British contexts viz: tibia (area G, F1) 64cm; astragalus (area G, F67) 56cm. Both these values are approximate, with the latter having the largest inherent error.

One case of pathology occurs on a phalanx prima (area C, F6—inner ring ditch). The peripheral-volar surface bears a small protruberance of bony tissue. No explanation has yet been offered.

Pig (Sus)

Pig is not well represented. Again numbers are too low for detailed analysis and dentaries and teeth form the largest anatomical group.

On the basis of tooth eruption data (18th century standard data cited in Silver 1963) three jaws give minimum ages of 2.5 years (area C, F1, late ditch), 1 year (area D, F8, grave pit), and between 1–2 years (area C, Neolithic palisade).

Again, juveniles are probably severely under represented.

Roe Deer (Capreolus)

Presumably roe and red deer constituted the principal game animals at the site, and were perhaps herded for their meat and antler.

The anterior face of a metatarsus from area C (F62, secondary fill of Neolithic ditch) shows possible but not unequivocal knife-cuts which could have been caused by filleting.

It is noticeable that with the exception of the robber trench in area G (F1) which produced a possible scapula fragment, the roe deer bones are all from Neolithic and Bronze Age contexts.

Red Deer (Cervus)

Bones of red deer are present in low numbers and those surviving are robust parts with low meat yield.

Large antler fragments come from area B (F1, ring ditch of barrow I) with one beam showing chop-marks at the proximal end round the point of the severance, apparently just above the brow tine. Tine points have not survived.

A frontal bone with attached pedicel were found in the same context.

Hare (Lepus)

One humerus fragment from area C, mound clearance (unstratified) was attributed to hare.

Dog (Canis)

Most of the dog remains came from an area outside the main site and recorded as 'waterlogged west area' (Roman bridge site) and they appear to be the remains of a fairly complete individual aged not less than eighteen months according to epiphyseal fusion criteria (Getty 1975). One thickened phalanx 1 from this context appeared to have sustained a fracture and had subsequently healed.

Cat (Felix)

One ulna fragment came from area C (F20, a natural solution channel below the barrow mound) and one femur fragment comes from the Neolithic palisade trench flanking postholes 14, 15 and 16.

Butchery

A breakdown of observed butchery marks is given in Table 7 showing species and anatomical parts.

Table 8 lists the bones and the type of butchery marks together with an interpretation.

Acknowledgements

I would like to thank Mr G C Morgan and Mr F M B Cooke of the Department of Archaeology, University of Leicester for their respective help with X-ray and half-tone photography.

THE NEOLITHIC AND BRONZE AGE POTTERY

A catalogue of the pottery is provided in M25–33.

The Neolithic and Bronze Age pottery from Grendon reached the writer in a confused state. Sherds from the same vessel, for example P7, were frequently bagged separately, with sherds from other features, or even with sherds from other sites. Rarely did labels in the bag match the context. Fortunately, however, most sherds were marked so that for many the original context could be ascertained, but, as a result of the confusion, it has been impossible to determine whether or not sherds from the same feature were associated *sensu stricto*. In the cases of the unmarked sherds, site and feature allocation are tenuous. For example, P52 was unmarked but came from a bag of sherds all bearing the code C6: as the label of the bag in this case agreed, it is safe to assume—in the absence of other contamination—that the unmarked P52 was also from this feature. It is fully realised, however, that such allocations are by no means unequivocal.

The variety of the fabrics present in the assemblage was in general quite large, though it is fair to say that the Grimston Ware formed a homogeneous group. Some of the main variations in fabric may be the result of localised soil conditions rather than any intent of the manufacturers. It is nevertheless reasonable to suggest that c. 64 vessels may be present from all the Neolithic and Bronze Age features at Grendon.

One group that does appear to be a sealed association is cremation 2 from area B where five urns were found in one pit. These were associated with a cremation deposit (but see burials, p 49 above). Although five vessels from this feature

are recorded in the site notebook, only four could be located by the writer and only four were drawn by the excavator and plotted on the published plan (FIG 17). The missing urn (No 1 in the site notebook) is simply described as very fragmentary, in soft red fabric. The position of the cremation is also obscure, but may have been scattered around the pots, or else disturbed by the earthmoving machine.

Cremation 2, vessel 1

This is a small, bipartite collared urn in a very soft, coarse and crumbly fabric. Macroscopically visible inclusions in the clay are sparse and are comparatively fine for collared urn fabric. The colour of the fabric is a fairly uniform mid-to dark brown, showing orange to brown in section. The rim is slightly everted at the top, and has a small internal bevel decorated with a single, faint, encircling, impressed line probably made with twisted cord. The collar is only slightly shallower than the body itself and so takes up just under half of the total height of the pot. The collar is also decorated with twisted cord-impressions, consisting of a single and double encircling line at the top and bottom respectively. The majority of the collar between these lines is filled by panelled decoration comprising multiple vertical lines alternating with panels of circular stabbed impressions. The slightly diagonal twisted cord lines at the ends of the vertical panels appear to be intentional rather than the result of careless application of the decoration. The fabric of the vessel is badly preserved at this point and the vessel is incomplete.

Cremation 2, vessel 3

This vessel, too, is one of a series of miniature urns regularly found in Bronze Age burial contexts. This time, the urn is tripartite with a poorly defined cavetto zone below the collar. The fabric is very similar to that of vessel 1 with mid- to dark brown surfaces and an orange to brown core. The fabric is soft and poor, and the visible inclusions in the clay are small and fairly sparse. Unlike vessel 1, however, some small to medium sized stone inclusions protrude the surfaces, especially the inner. The rim is simple and undecorated and a faint encircling line on one section is probably fortuitous. The collar is decorated with an open, twisted cord-impressed vertical lattice, with the vertical impressions being noticeably less well-defined than the horizontal lines. The cavetto zone is devoid of decoration though a single encircling row of small, shallow circular to oval impressions decorate the shoulder. There is one instance of a similarly formed impression—probably accidental—on the base of the collar. The collar and cavetto zone make up about half of the total height of the vessel. The rest of the urn is undecorated and the base is well-defined.

The Fengate ancestry of these vessels is now an established theory and needs no further elaboration here. But what is rarely considered is the size range of the collared urns. The two vessels described above are really small and more in keeping with the size of the contemporary food vessel pottery. Also, far from holding a cremation as was the collared urn norm, these two vessels could have held only token or infant cremations, or, in the food vessel mode, acted as accessory vessels rather than receptacles.

This size difference is also noticeable in food vessels, but prehistorians observe this dichotomy of height rather more rigidly and designate the larger vessels 'food vessel urns'. The dividing height between food vessels and food vessel urns would appear to be 20cm (Cowie 1978), though there is frequently no physical hiatus at this point and the size range tends to rise gradually and evenly (Gibson 1978). It would appear that where these urns accompany a large vessel, as in this cremation, the small vessels played an accessory role similar to that of the food vessels.

Cremation 2, vessels 2 and 4

These vessels were in a very poor state of preservation and had to be drawn *in situ* as they were too friable to be extracted whole. The surfaces of the vessels had already deteriorated too badly to be able to discern the presence of decoration, and the remaining fabric of both vessels is largely core with only small patches of surviving surface. The fabrics, however, seem to be identical. The outer surface was reddish brown in colour, the interior was dark brown, and the core was black with a slightly laminated appearance. The small inclusions included some shell. The fabric is thin in view of the height and diameter of the vessels. From the drawing, vessel 2 appears to be a normal tripartite collared urn, though the belly is rather narrow and the collar loosely defined—being rather a change in direction than a built collar. Vessel 4 is similarly a tripartite collared urn but is unusual in the arcading of the collar. Such collar arcading is, to the writer's knowledge, unparalleled, with the exception of a poor parallel at Glaston in Rutland (Powell 1950) where the arcading is much flatter. The surviving sherds on the Grendon urn do seem to suggest deliberate arcading rather than the result of an irregular collar.

The Neolithic pottery can be broadly broken into two elements, a Grimston Ware assemblage and an element of simply decorated ware. The two elements were doubtless in use at the same period and need not represent two phases or periods of use at the site.

The Grimston ware assemblage is represented by a homogeneous group representing some 37 vessels. The fabric does not vary to any great extent save coloration. This, and the leaching of some of the inclusions from the pot surfaces, is likely due to localised soil conditions and is therefore meaningless in terms of assemblage interpretation.

The size range of the vessels is considerable, varying from over 40cm in diameter (P7, FIG 18) to only 8cm (FIG 19, P35). The upper end of the scale is represented by open carinated bowls, with small hemispherical cups at the lower end. The carinated bowl is by far the most common ceramic type in the assemblage and has a distinctly everted neck. Where they survive, the shoulders are quite sharp and well-defined but the necks are not deep, resembling many of the slack profiles from Fengate (Pryor 1974) and the Netherlands (Louwe-Kooijmans 1974). The surviving rim fragments are all from externally thickened rims forming club rims or rudimentary 'T'-sectioned rims, a feature again in keeping with midland Grimston Ware.

The decorated pottery is sparsely decorated with incisions and cord-impressions on the rims and bodies and can best be described as Mildenhall Ware of the mid-Neolithic. The

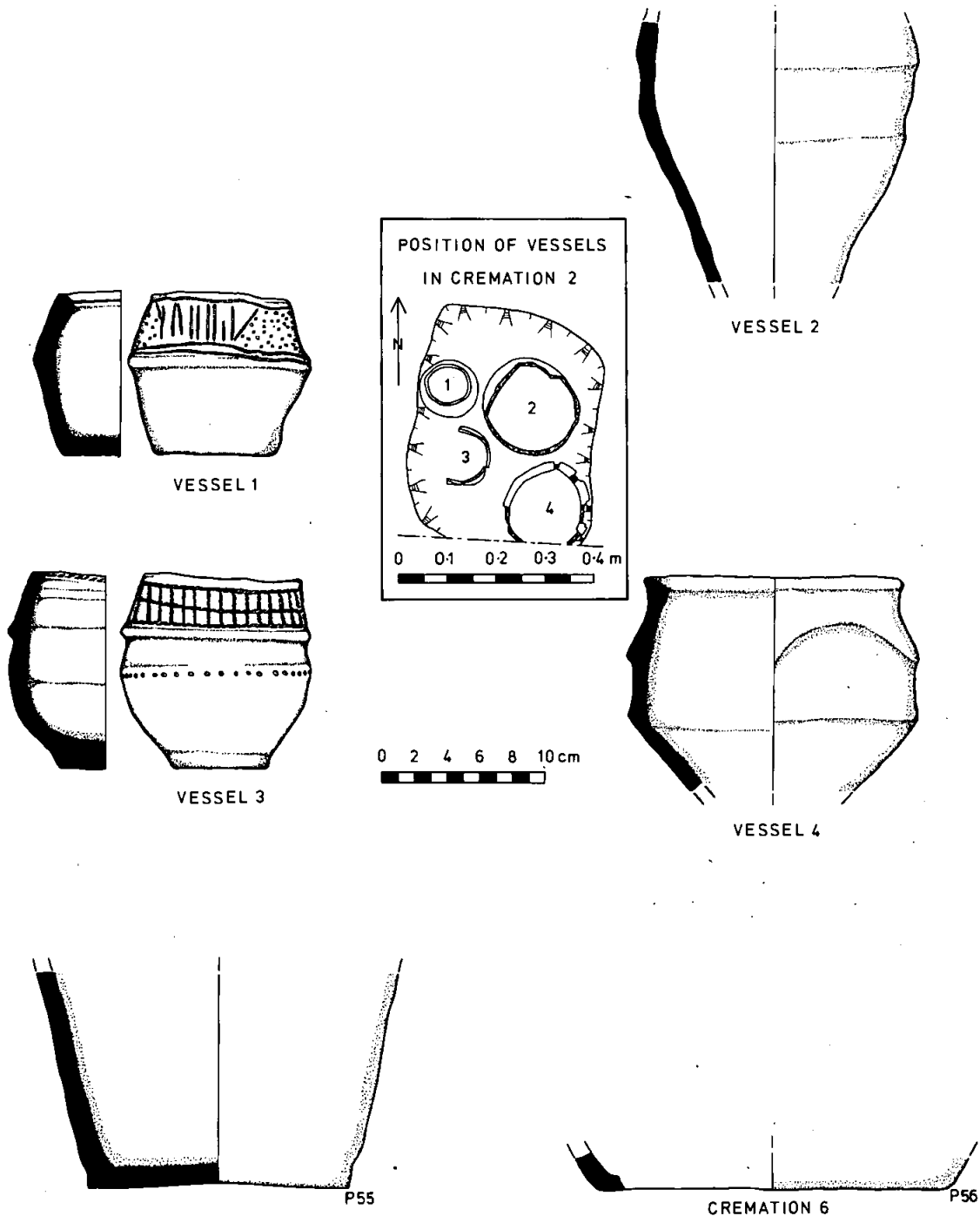


Fig 17 Grendon, Northants: Bronze Age pottery

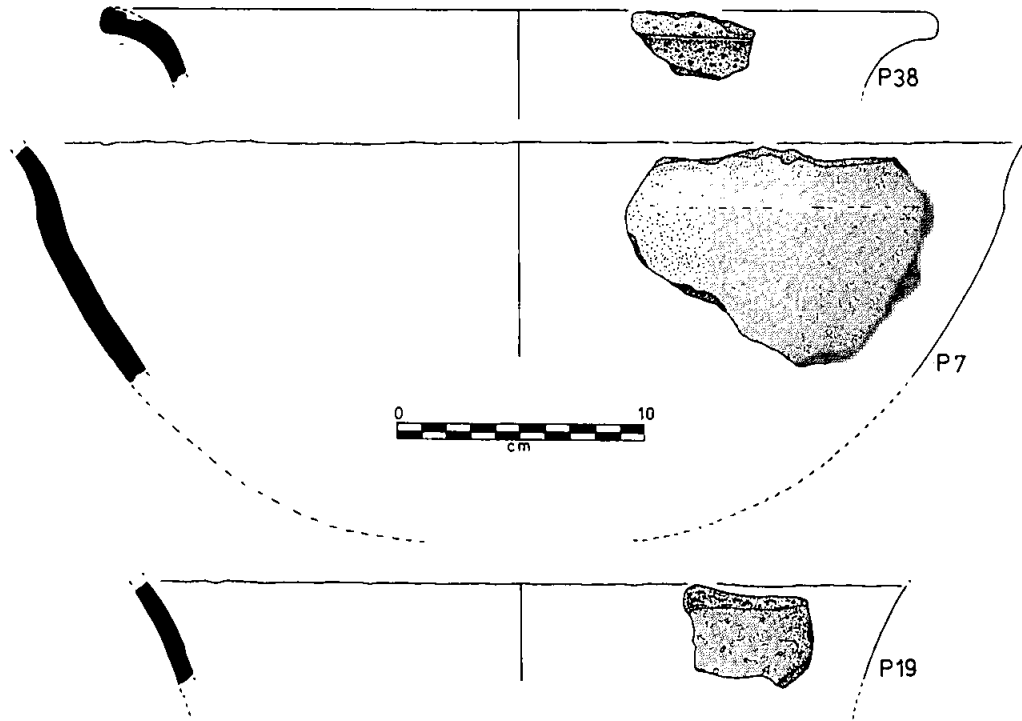


Fig 18 Grendon, Northants: Grimston Ware from Site C

sherds are much more restricted in size than the Grimston pots with reconstructable rim diameters tending to fall between 15cm and 20cm (P44, 49, 47). P49 carries some light twisted cord-impressions on the rim made with a thin cord, and carries rather haphazard scoring on the body. The rim is rolled and out-turned in keeping with many Mildenhall vessels.

P44 has a 'T'-sectioned rim with diagonal scorings on the top. Little survives of the rim to give a true picture of the 'T' formation, but on the sherds that do survive, there seems to be an inclination towards a greater expansion internally than externally. P46 has a rounded 'T'-sectioned rim approaching the developed Peterborough rims and the curvature of the neck suggests that it may be heading towards a hollow neck. P47 lacks any developed rim with the exception of an attempt to mould the rim into external moulding and internal bevel, and the fingernail-impressions inside would appear to be an accidental consequence of this moulding. Vertical fingernail-impressions decorate the shoulder and are undoubtedly intentional.

There is also a very small element of Grooved Ware from Grendon in the form of one sherd (P50) decorated simply by one horizontal line. The fabric is rather atypical of Grooved Ware but does have an acceptable thickness and consistency. Obviously too little of this vessel survives to allow reasonable discussion. It is possible that P51 is also a sherd of Grooved Ware and it was so identified by Dr Longworth of the British Museum. The present writer,

however, would prefer to see this as the base of a Beaker as it is entirely in keeping with Beaker size and fabric (Clarke 1970; Gibson 1982) and it is rather small and fine for Grooved Ware (Longworth, in Wainwright and Longworth 1971).

The Beaker presence at Grendon is a small one, represented by only three vessels in addition to this base sherd. A second base (P52) is possibly Beaker as is the horizontally incised body sherd (P53) from near the belly of the pot. P54 is probably a fingernail rusticated Beaker. Again, the size of the sherds and the absence of a full decorative scheme make further discussion of these sherds meaningless save to point out their presence.

In addition to the collared urns referred to above, Bronze Age ceramics at Grendon are few. P5 represents the lower shoulder of a cavetto zone from a tripartite collared urn and a similar vessel is represented by the shoulder sherd and base of P57. P59 is a rim sherd which is difficult to interpret but may represent a food vessel with a simple rim form.

THE LITHIC ASSEMBLAGE

The majority of the recovered flint from Grendon comprises waste flakes and blades, many of which appear to be utilised, either by having traces of retouch or by exhibiting edge damage caused by wear. The flints would probably not benefit from microwear analysis as they were all washed

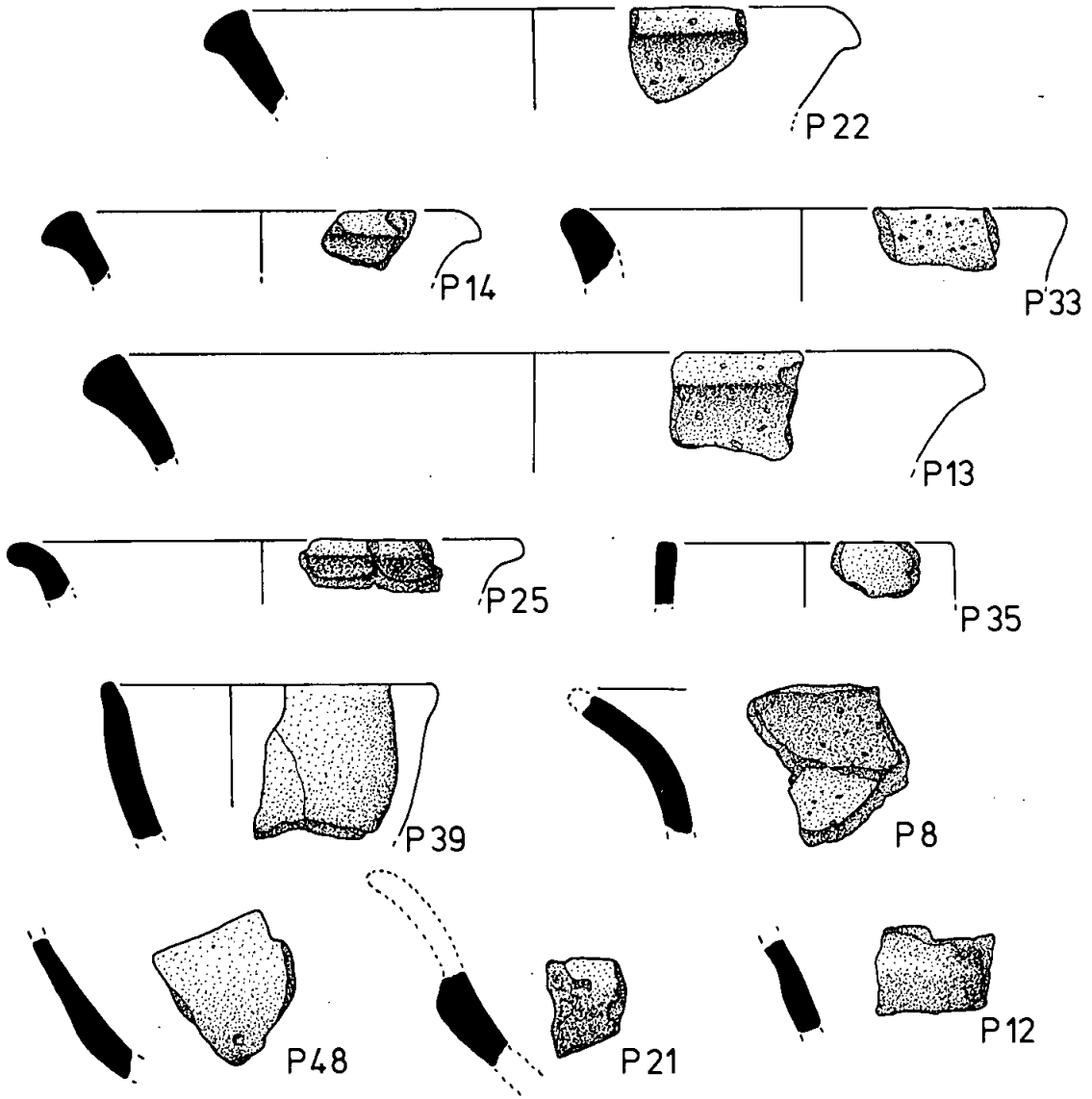


Fig 19 Grendon, Northants: Grimston Ware from Site C

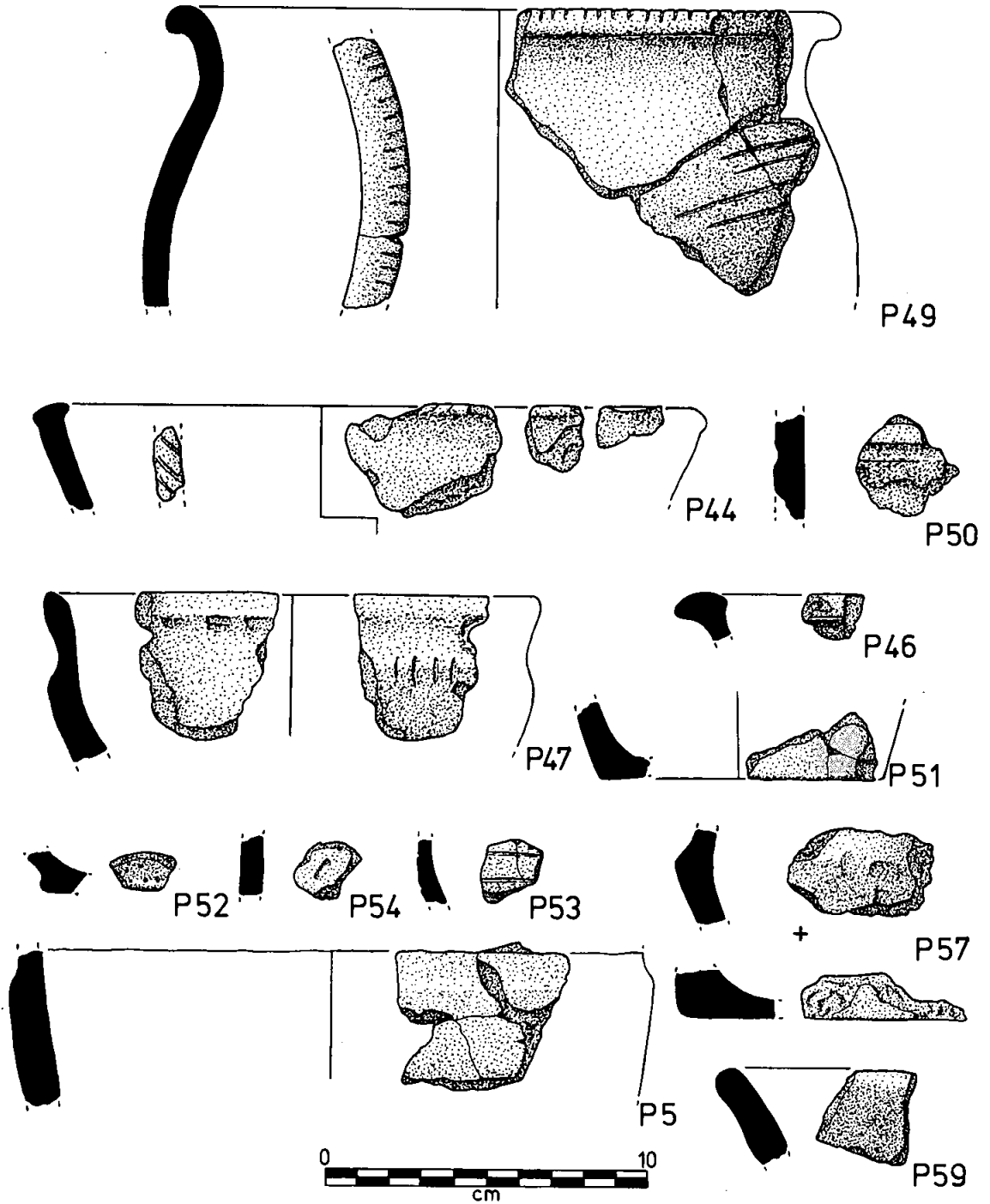


Fig 20 Grendon, Northants: other Neolithic and Bronze Age pottery from Site C

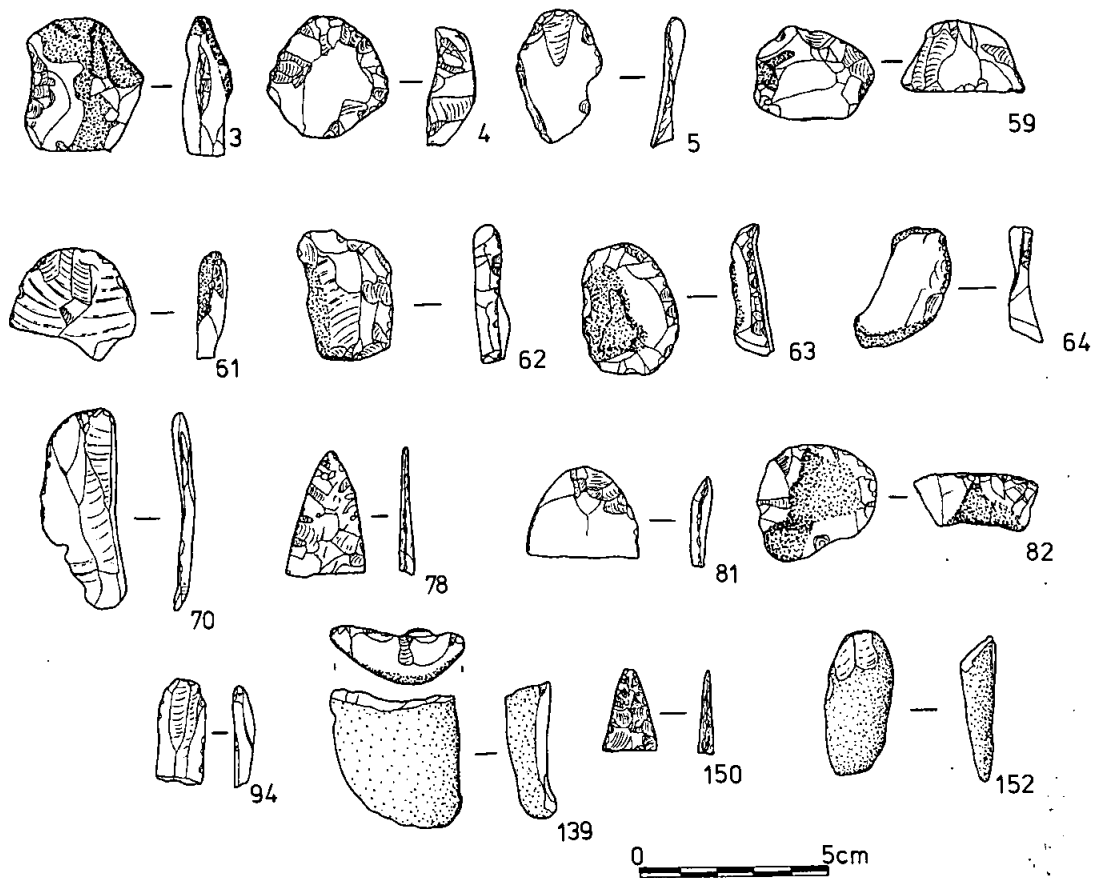


Fig 21 Grendon, Northants: flint artefacts

and poorly stored after excavation. The material would appear to be in keeping with pebble flint locally derived from the river gravels (see FIG 21, 139, 152), and it varies considerably in quality.

Only two artefacts stand out for the quality of their working (78 and 150) and they are both probably broken arrowheads. Both are broken near the base and it has therefore been impossible to determine their type. 78 (from site C, F20) has been made from a rather opaque blue flint which stands apart from the rest of the material and for this reason may have been imported. The source of this flint has not, however, been identified.

Only one flint blade would appear to have been a tool, no 70 from site C, F37. This shows clear damage to the edge resulting from wear.

The most common tool type at Grendon is the scraper. Some thirty examples are present and once more the variety of size and shape is considerable. There are, for example, small fine scrapers (63), end scrapers (94) and large coarse struck pebbles used as scrapers (139). Some cores have also been used as scrapers (59).

Scrapers are the artefact-type most commonly located on settlements (Bradley 1970) and this, together with the waste flakes and blades, may suggest that we are dealing with the debris from a Neolithic or Bronze Age settlement on or near the gravel peninsula. It is probable that the main area of Bronze Age settlement was not located during the excavation but perhaps lay in the clearing attested by the charcoal and molluscan evidence.

A full list of artefacts and waste, their contexts and dimensions is given in M34-46, and the length/breadth ratios of the tools, utilised flakes and waste flakes have been plotted in FIG 22. The distribution of flint on the site, plotted by feature number only, shows that all the recovered flint comes from subsoil and gravel features (FIG 23). The absence of gravel surface flints suggests that much must have been lost during the topsoil removal and only flints from protected—i.e. excavated in prehistory—contexts have survived. The large amount of flint from site C and the similarly large amount of pottery may suggest the presence of a former or nearby settlement, or else reflect selected deposition at a high-status monument.

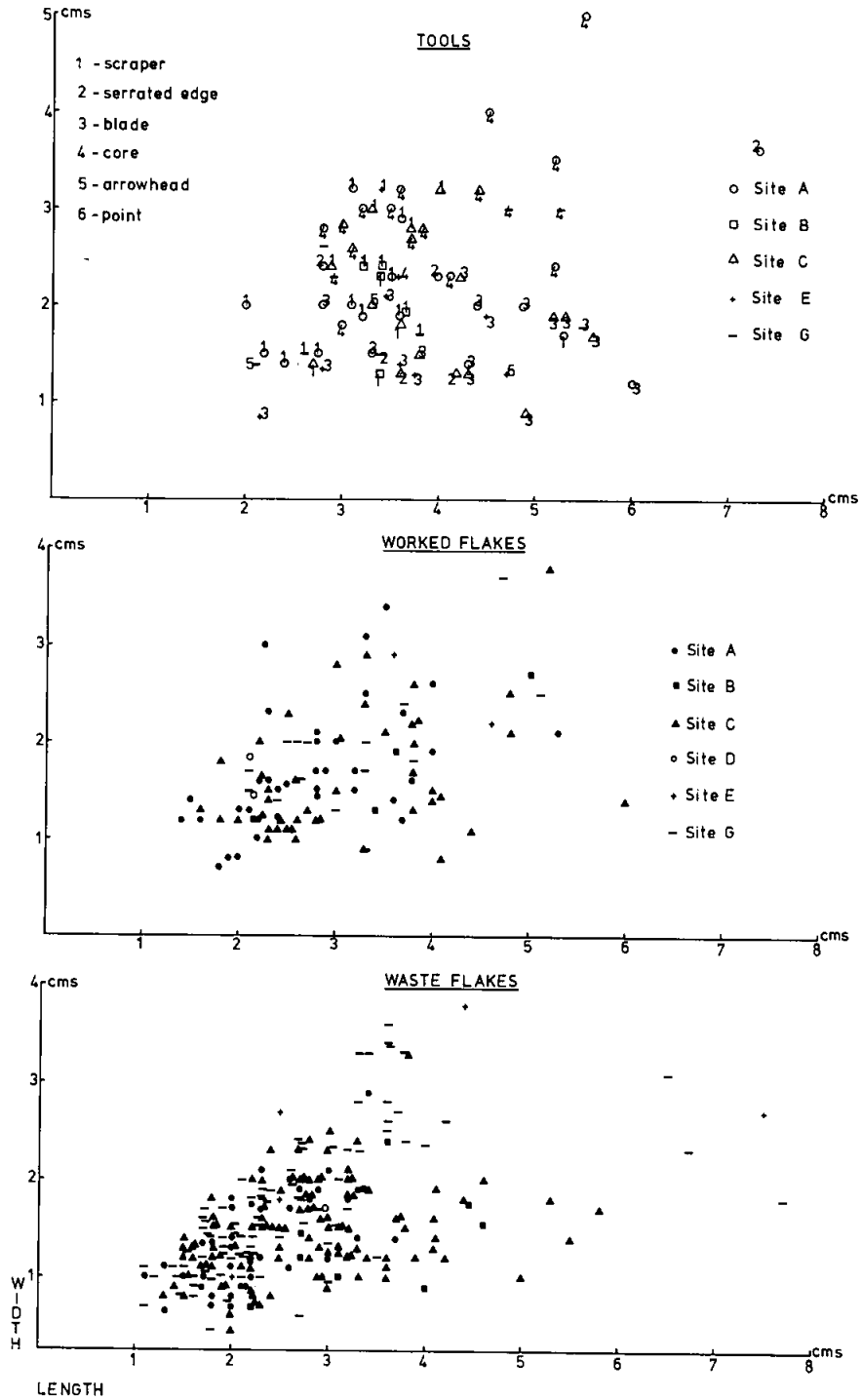


Fig 22 Grendon, Northants: length/width ratios of flint artefacts and waste

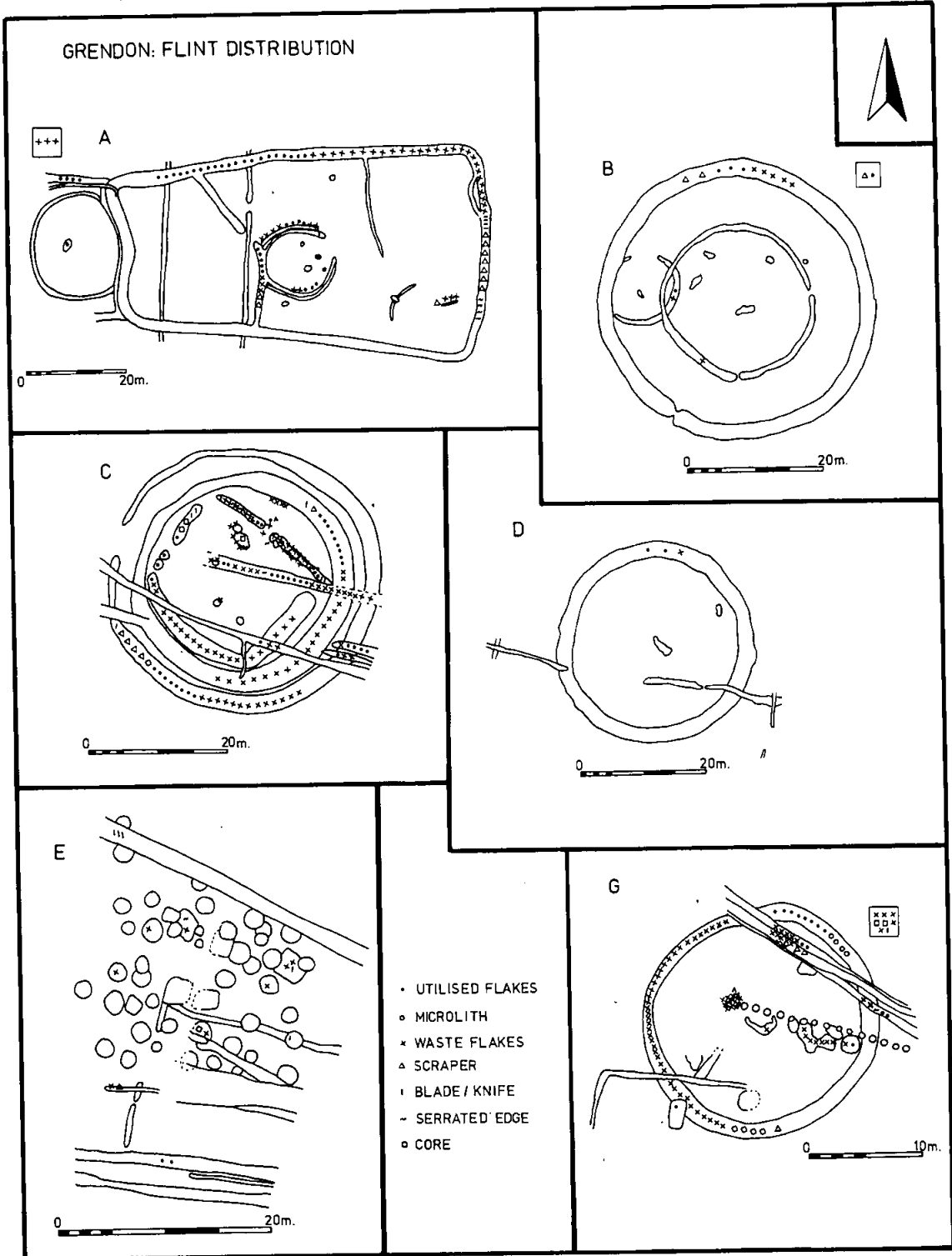


Fig 23 Grendon, Northants: distribution by feature of flint artefacts and waste

CONCLUSIONS

The rescue excavations at Grendon have provided us with a history of a gravel peninsula—one of many—in the broad floodplain of the River Nene. An enigmatic Mesolithic use is attested by the four microliths from site G (146–9), but field monuments of the Neolithic and Bronze Age attest a much more intensive use in the third and second millennia BC. This use was further intensified in the first millennium BC when an Iron Age farm was established and which appears to have continued in use into the Roman period. The Iron Age and Roman phases of occupation will be discussed elsewhere.

The first phase of monument building took place, according to the limited charcoal and molluscan evidence, in a clearing in an oak woodland. The peninsula would have been one of a number of well-drained gravel tongues in an otherwise poorly drained environment. There is no firm evidence for either domestic activity or agriculture on the gravel prior to the construction of the field monuments, though a possible domestic interpretation may be attributed to a phase of site C. This will be considered below.

The radiocarbon dates place the first field monument on the northern end of the peninsula at site C. Here the square monument is dated by three radiocarbon determinations to c 2550bc (3000 ± 80bc, 2750 ± 70bc, and 2330 ± 70bc), setting it clearly in the later part of the early Neolithic. The early date of about 3000bc from posthole 63 may possibly reflect an initial phase of a posthole arc incorporating postholes F63, F60, F44, F49, and possibly F45. This might belong to a circle of about 14m in diameter and it might have been possible to complete this circle with other posts obscured by the later palisade trench, square enclosure ditch, and later features. The possibility exists, therefore, for the initial occupation of the site to have consisted of a timber circle of free-standing posts dating to approximately 3000bc. This is admittedly a subjective hypothesis involving a great deal of conjecture and for this reason it is described as phase Ia on FIG 24.

The second phase might see the digging of the three-sided ditch (F35). This would have

originally been continuous, the break on the northwestern side being the result of over-enthusiastic topsoil removal. There is no evidence of this feature having held posts and it would seem that the most logical purpose for the ditch would be as a quarry ditch similar to those of the earthen long barrows. The dimensions of the ditch would also comply with this hypothesis, and charcoal dates this activity to c 2750 ± 130bc. If F35 is to be regarded as a quarry ditch, then what of the resulting mound? The silting pattern in the ditch shows clearly (FIG 10, sections c-c', f-f' and g-g') that much of the material is derived from the interior of the site and the particularly heavy silting of sections c-c' and f-f' shows that the internal earth structure must have been substantial. It is therefore possible that we are either dealing with a mound of upcast or else a substantial upright and internal bank. There is no evidence for the revetment of this bank or mound.

If we accept the mound hypothesis, then it would have had to cover postholes F44, 60, and 63, and presumably also the ritual pit F45 (which contained fragments of antler and the skull and horn fragments of an ox) and F38 which contained Grimston pottery. Whether or not one accepts the hypothesis of a free-standing timber ring, these postholes and pits must still have predated the mound and therefore the phasing of the site into Ia and I must be at least partly correct (FIG 24).

A second possibility exists however, and that is to regard the dates of 3000 ± 80bc for posthole 63 and of 2750 ± 130bc from F35 as being statistically similar (M47), giving a mean date of 2930 ± 110bc. In this case F35 may be seen as a quarry ditch for a banked enclosure with free-standing posts in the interior (phase Ib: FIG 24). Unfortunately, the radiocarbon timespan is too great to allow certainty on the structural sequence of this monument and, even if the mean date is accepted, the margin of error is too large to assume a single phase. No bone or charcoal survives from stratified contexts to allow further radiocarbon dates.

Oak from the palisade was dated to 2330 ± 70bc—a date significantly younger than the others from the site. The radiocarbon evidence, then, would suggest that the erection of the palisade represented the final Neolithic

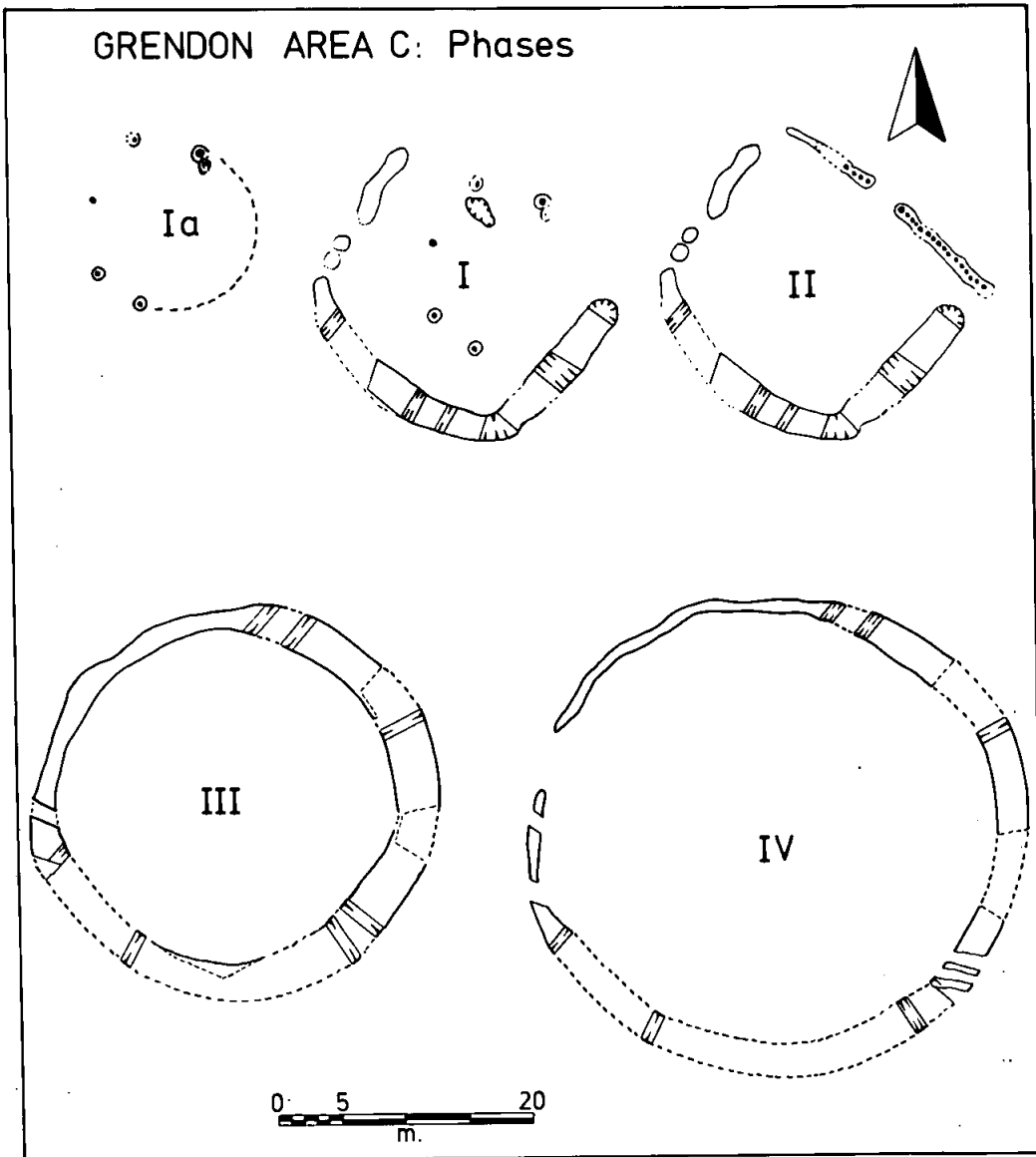


Fig 24 Grendon, Northants: possible phasing of Site C

act on the site. The ditch F35 and the palisade trench do, however, appear to represent a single building concept, yet the building gap of some 400 radiocarbon years would argue against this unless the palisade is seen as some subsequent and significant blocking of the interior. This interpretation may be supported by the fact that ditch F6, for which a date of c 2000bc at

the earliest is proposed below, seems to respect quite subtly the palisade, especially at its south-east end where the ditch avoids it by c 0.15m. Whilst this may be a result of the truncated stratigraphy, it could equally suggest that the monument was still extant up to 1000 years after the building of its earliest phase.

Associated with the Neolithic activity was a

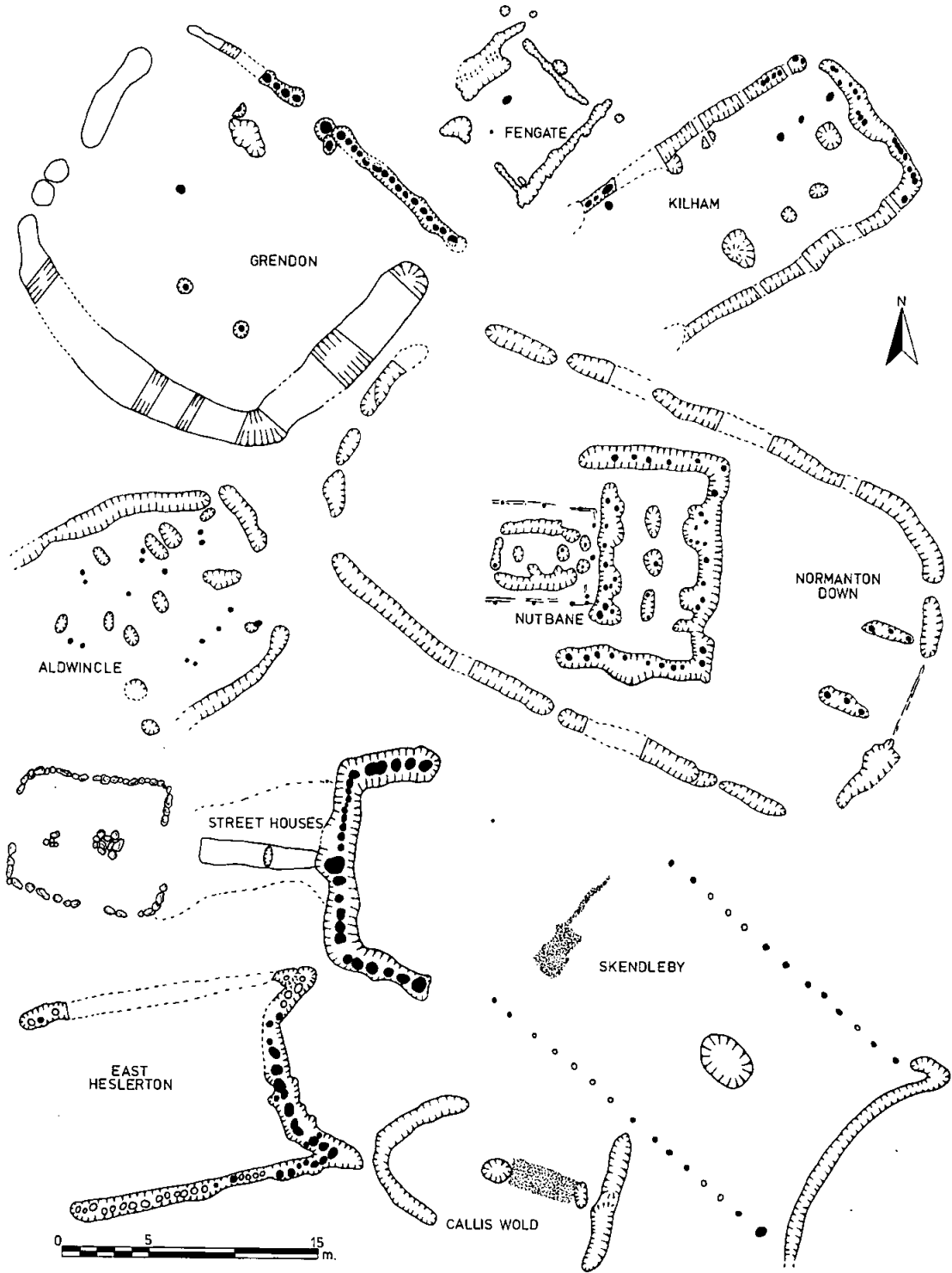


Fig 25 Grendon, Northants: Site C and long barrow facades compared

large Grimston Ware assemblage consisting of about 37 vessels of excellent quality. It is possible that this, the flint artefacts and waste, and the animal bones might represent a phase of domestic activity, but more plausibly it may be assumed that they are associated with the ritual activity on the site. If the domestic idea be favoured, then it may be possible that the hypothetical phase Ia represents a circular structure with which the 'domestic debris' is associated. The monumentality of phase I and the palisade trench, phase II, argue against a primarily domestic function.

Parallels for the rectangular monument at Grendon are difficult to find. Initially Grendon was thought to be a mortuary enclosure similar to that at nearby Aldwinckle (Jackson 1976; cf FIG 25), but comparison of the plans shows that this is certainly not the case unless we visualise a common purpose with diversity of plan and construction. Other mortuary structures, such as at Beaulieu (Piggott 1943), are too small to warrant serious comparison with Grendon, as are the rectangular domestic structures such as Fengate (Pryor 1974). Outside the main mound at Knowth, however, is an ostensibly similar site, though smaller, consisting of a three-sided ditched enclosure closed on the west by a later palisade (Eogan 1984). This site is interpreted by Eogan as a structure, has associated domestic debris, and is just over half the size of Grendon site C.

A better parallel is the short barrow at Barrow Hills, Radley in Oxfordshire. Here a three-sided ditch was later closed off by a slightly curved fourth side (R Bradley, pers comm). This enclosure had a near central double contracted inhumation with a leaf arrowhead, belt slider and polished blade knife. The dimensions of this site also correspond more closely with Grendon C, as the internal dimensions of the closed monument at Radley measure some 17m by 11m. Like Knowth, this site is 'blocked' to the south-west as opposed to the north-east at Grendon.

The monumental proportions of Grendon C and the timber facade must find parallels among the long barrow class of monument, and especially the eastern long barrows such as Skendleby I (Phillips 1936) where both the timber facade and 'U'-shaped quarry ditch are

shared characteristics. It is only generally with the proximal ends of these monuments, however, that Grendon finds comparison and for this reason it is only the proximal ends of the long barrows that have been illustrated here (FIG 25). For reasons of space, the quarry ditches have also been omitted, but if included, would indeed give a better comparison with Grendon by giving greater ground-width to the other long barrows.

In short, it is felt that we should perhaps see the first field monument at Grendon as providing further evidence for the growing diversity of Neolithic barrow construction (Smith 1979; Ashbee 1970; Drewett 1975). No burials were associated with this phase of site C, though this need not cause concern in view of the increasing number of 'empty' long barrows (Ashbee *et al* 1979) and it should be borne in mind that burials may also have been lost during the topsoil removal.

Phases III and IV at site C are also hypothetical and based purely on the logical development. Areas where a stratigraphic relationship between the two ditches may have existed—for example at the southern part of the site—remained unexcavated and untested. The ring ditches also produced no radiocarbon material and their chronological distance from the Neolithic square barrow is an unknown quantity. The small presence of Grooved Ware (P50) and Beaker (P51, 52, 53, and 54) coming from both the inner ring ditch (F6) and the Neolithic quarry ditch (F35) give at least a *tpq* for the inner ring ditch of at the earliest *c* 2000bc, judging from existing Beaker chronologies (Gibson 1982; Gibson *et al* 1983). Whether the posts of the Neolithic palisade were still standing at this time or they were already burnt down is unknown. It may also be that the ring ditch builders were making use of an already existing and weathered mound. Bronze Age burials associated with the ring ditches are also absent, probably due once more to the over-rigorous removal of topsoil. That one or both ring ditches were associated with a mound is probably supported by the narrowing of the later ditch F1. This narrows in width and becomes shallower within the area enclosed by the ring ditches, suggesting that it possibly ran across a rise in ground level. Unfortunately,

this is not mirrored by F8, also a later ditch, so evidence must once more be inconclusive. If a mound existed, then the uniformity in width and depth of F8 may suggest that it was intended to be a drainage ditch and so a consistent base was essential.

Phases III and IV probably belong to the main phase of burial activity on the site which seems to be centred around the beginning of the later half of the early Bronze Age. Barrow VII (Area F), barrow IV (Area A) and barrow II (Area D) are all undated, but radiocarbon dates for barrow VI (Area G) and barrow III (Area B) range from *c* 1640–1020bc judging from the median radiocarbon dates, and the actual timescale may be longer or shorter once the standard deviations are considered.

Second to Area C, Area B has the most complicated stratigraphy on the site. In phase I, a small barrow with a discontinuous ditch (barrow III) and a central inhumation was later covered by a larger double ring ditch barrow (barrow I). Whether barrow I was conceived as a double ring ditch or represents a two-phased monument is uncertain. If two-phased, then the exact concentricity of the ring ditches shows that phase II must have been well-defined at the time of construction of phase III. The causeways in both the inner and outer ring ditches appeared to the excavator to be non-functional. The internal features probably held posts, but their function(s) is (are) unknown.

The pottery from cremation 2 has already been discussed (above p 52) and needs no further treatment here; suffice it to say that the miniature urns and the poor fabric agree with the dates of 1640 ± 150 bc and 1380 ± 90 bc from the outer ring ditch. The date of 1020 ± 150 bc from the same feature appears to be anomalous.

The pit complex of site E is broadly contemporary judging from the radiocarbon dates of 1400 ± 60 bc and 1450 ± 70 bc obtained from the pits. Their function, however, is obscure. Some pits contained probable ritual deposits, such as pit 49, which contained the skull of a dog, and pits 6 and 9 which held respectively partial and complete inhumations. In the case of pit 49, however, the pit had partially silted before the deposit was made, which may suggest that the ritual aspect was secondary to the initial

purpose of the pits. Other pits show no signs of weathering and appear to have been quickly backfilled without any deposit of a durable nature being made. The pits seem to form no pattern even when the spacing of square and round pits is differentiated.

The radiocarbon dates for the irregular ring ditch of site G, as well as the residual collared urn pottery from this and the other undated sites, confirm the view that we are dealing with one main period, albeit prolonged, of cemetery construction. The possible domestic component of the site consisting of residual pottery, flint and animal bones is unspecified.

The ring ditches of Area B show a marked polygony in their plan and are not true circles. This is especially so of the large outer ditch which is in fact sub-octagonal, in that it is composed of eight distinct but slightly curved segments. Doubtless the intention of the builders was to construct a circular monument, but the polygonal outcome was the result of accidental deviations from the marked course by the construction teams. The sub-octagonal plan of the outer ring ditch suggests that a maximum of eight teams worked on the construction. This phenomenon is by no means rare on circular monuments of the period, and though not as dramatic as the evidence for gang labour at causewayed camps, it can be seen in various forms at both ring ditches and ring cairns. The outer kerb of the Harehope cairn in Peebleshire, for example, had nine possible sections (Jobey 1979), while barrow I at Barnby Howes in Yorkshire can be seen to have about seven or eight possible elements (Ashbee and ApSimon 1957).

On a more lowland note, the ring ditches of the Thames gravels often show a marked polygonal plan (Case and Whittle 1982), and perhaps can be seen to culminate in site XI at Dorchester, whose innermost ditch has five segments, whose median ditch is sub-octagonal, and whose outermost ditch is rather more circular but nevertheless has some straight sections visible (Atkinson *et al* 1951).

This phenomenon of so-called circular monuments being in fact polygons would seem to be the rule rather than the exception, but it is a phenomenon that has received little comment—even by excavators intent on popu-

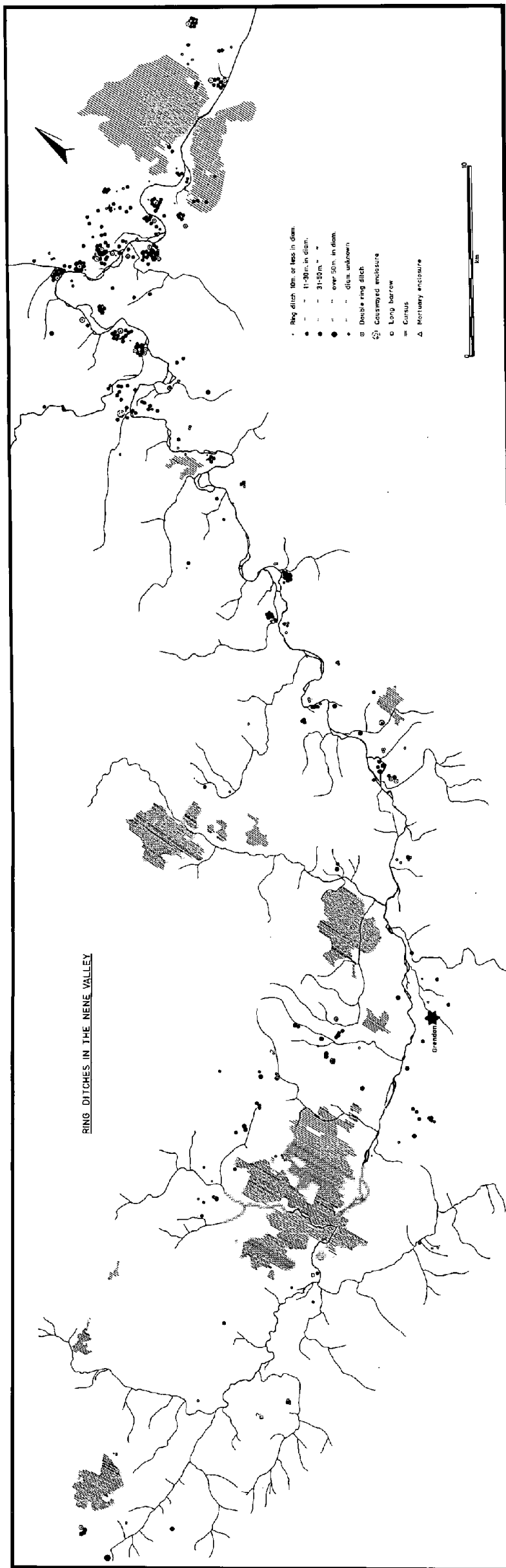


Fig. 26 Barrows and ring ditches in the Nene valley

lation resource and man-hour calculations.

When placing Grendon in its wider context, we come across problems of interpretation. The ring ditch distribution map (FIG 26) was compiled from published sources and from the sites and monuments records of the Northamptonshire Archaeological Unit and the Nene Valley Archaeological Research Committee. These records are compiled mainly from aerial reconnaissance when it comes to prehistoric sites and comparatively few have been tested by excavation. There must, therefore, be inherent inaccuracies in aerial photograph interpretation and it must be frequently difficult, for example, to distinguish between a small Bronze Age barrow and a large Iron Age ring-grooved house like those found at Fengate (Pryor 1970, 1978). To try and compensate, therefore, the writer has tried to eliminate, and has not included on the map, ring ditches of less than 10m in diameter and those situated within a landscape of enclosures and other cropmarks unless the ring ditch demonstrably stands out from its cropmark landscape. At best, it is hoped that this approach would help to produce a more realistic database, and at worst, that the errors of exclusion might cancel the errors of inclusion. It must also be remembered when looking at the map that the meandering Nene floods frequently and has no doubt changed its course numerous times since antiquity, with the result that many tributaries probably had different confluences to those surviving today.

Grendon fits well with the pattern of Neolithic and Bronze Age burial in the Nene valley (FIG 26), being part of an increase in monument and cemetery size and density towards the eastern end of the valley ending in the Fens. This density culminates in the large concentrations around Alwalton, Ailsworth, and Castor. As one moves eastwards, it is possible to see an increase in the tendency for the cemeteries to cluster around the river confluences, which raises the well-discussed question of barrows acting as land boundaries (Fleming 1971).

One is also led to ask why the dramatic increase in ring ditch density towards the fen edge? It may simply be that this area was more densely populated and was therefore more open. It may contrast with the heavily wooded

clay soils further up the valley and reflect an exploitation of the drier fen edge gravels and the exploitation of the fenland resources (Evans 1975, 130; Pryor 1974; Fox 1923). Presumably this fen edge exploitation would extend backwards, up the Nene where the larger and wider gravel platforms make for larger cleared areas and better settlement potential.

The excavations at Grendon have been valuable in a number of ways. Firstly, they have presented us with a new type of field monument—the rectangular barrow of site C, which seems to be so far unparalleled. Secondly, we have the total excavation of a gravel tongue in the floodplain of the Nene, and the resulting overall picture of a small area over a large time-span. It is only unfortunate that the environmental data could not have been fuller to complement the archaeological record. Finally, the Grendon excavations teach a lesson when considering mechanical topsoil removal. The poorly controlled surface stripping has robbed us of a full stratigraphy, the upper portions of many features, and their interrelationships. It has doubtless also robbed us of some of the burials. Although mechanical topsoil removal is undoubtedly necessary on large scale excavations (Pryor 1974a), its usefulness must be questioned on small sites such as barrows.

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This article has been published with the aid of a grant from the Historic Buildings and Monuments Commission for England.