REPORTS

Excavation of Neolithic, Late Bronze Age, Early Iron Age and Early Saxon Features at St. Helen's Avenue, Benson, Oxfordshire

By Jo Pine and Steve Ford

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SUMMARY

Excavations in advance of redevelopment on the site of the former Rivers Night Club revealed deposits with a wide range of dates. Most important is the discovery of Neolithic occupation evidence in the form of pits, postholes, gullies and possible post-built roundhouses. Three phases of Neolithic activity have been identified on the basis of the pottery, two in the earlier Neolithic and one later. Four pits represent the earliest component of the Neolithic occupation, with the majority of the deposits belonging to a second phase dated to 3637-3368 cal BC. Later Neolithic activity is evidenced by a sherd of Grooved Ware and two pits containing Mortlake-style pottery. A subsequent phase of late Bronze Age occupation, possibly continuing into the early Iron Age, includes a loose arrangement of circular post-built structures, a four-post structure and pits. Roman activity appears minimal with a few residual sherds of pottery and two ditches. Early Saxon activity is mainly represented by three sunken-featured buildings and parts of two enclosures. A single radiocarbon date of 545-659 cal AD was obtained for one of the buildings. Benson was an important royal site occupied at various times by the kings of Mercia and Wessex. The deposits found are not thought to represent a high status or palatial complex but may be peripheral to such areas.

An excavation was carried out between April and June 1999, on land at the junction of the A423, St. Helen's Avenue and Church Road, Benson (SU 61590 91550), on behalf of Persimmon Homes as part of a scheme to develop the site for housing. The excavation was required as part of a programme of archaeological investigation approved by Paul Smith of Oxfordshire County Archaeological Service, following guidance in PPG16[1] and South Oxfordshire District Council's policies on archaeology. It followed an earlier evaluation which revealed the presence of Neolithic, Bronze Age/Iron Age, Roman and Saxon features.[2] The site archive will be deposited with Oxfordshire Museums Service (accn OXCMS:1999.42).

The development comprised an L-shaped parcel of land of 0.51 ha. at 49 m. above Ordnance Datum (Figs. 1 and 2). Geological maps indicate that the underlying geology is first (floodplain) terrace gravel deposits.[3]

[1] *PPG16, Archaeology and Planning* (Dept. of Environment Planning Policy Guidance 16, 1990).

[2] J. Pine, 'St. Helen's Avenue, Benson, Oxfordshire, An Archaeological Evaluation' (Thames Valley Archaeological Services (TVAS) report 99/14, 1999); J. Pine, 'Former Rivers Nightclub, St. Helen's Avenue, Benson, Oxfordshire, An Archaeological Evaluation' (TVAS rep. 99/14-2, 1999b).

[3] British Geological Survey, 1:50,000, Sheet 254, Solid and Drift Edition (1980).

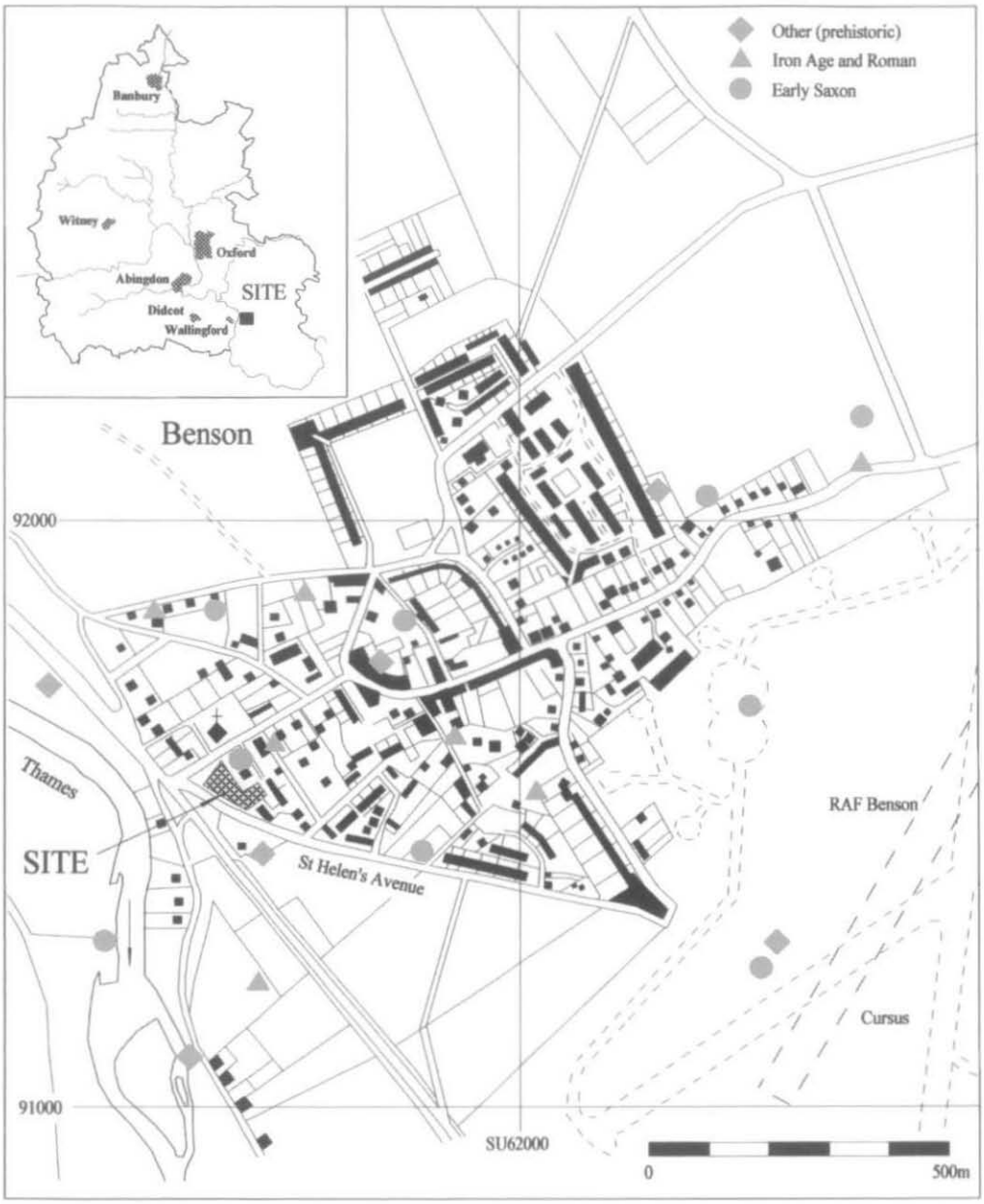

Fig. 1. Location of site in Oxfordshire and Benson showing sites and finds from the vicinity (information from Oxfordshire SMR and Blair, 1994, fig. 26, with additions).

This region of the Thames Valley has a rich, well-studied range of archaeological deposits within it.[4] Neolithic activity in the near vicinity is attested by the presence of a *cursus* monument and oval barrow discovered from the air, at Benson airfield to the east.[5] Further finds of pottery, flint and stone tools and other monuments both up and down the valley point to the site lying in an area rich in remains of this period.[6] Iron Age and Roman activity has also been recorded in the vicinity (Fig. 1). Iron Age pottery and a bronze coin minted by Addedomaros were discovered at Mill Lane, while Roman pits observed in gravel workings to the east of the church contained pottery and other domestic evidence. An evaluation on the southern outskirts of Benson revealed Roman occupation dating to the 1st century AD.[7] Documentary sources suggest the presence of a Saxon royal *vill* at Benson.[8] If the early documents can be trusted, Benson was captured from the Britons by Cutha of the Gewisse in AD 571 which may indicate that it was an important settlement at this time.[9] More trustworthy documentary evidence for the royal *vill* dates to AD 730 in the form of land grants by King Aethilbold of Mercia.[10] Tradition has it that St. Birinus built a timber church around AD 636, which was replaced by a stone church erected by Offa and dedicated to St. Helena in about AD 779. A small number of archaeological finds of Saxon date have been recovered from Benson and surroundings. An axehead and spear were found within Benson airfield; a knife, axe and spear were found in Chapel Lane; a *scramasax* and spearhead were recovered from the Thames; and pottery has been recovered along Brook Street (Fig. 1).[11] Benson is known to have been an important strategic settlement during the 8th century due to its position between the kingdoms of Mercia and Wessex, and was captured from Cynewulf of Wessex by Offa in AD 779.[12]

DESCRIPTION OF FIELDWORK

Evaluation

The evaluation of the site took place in two stages as a part of the site was inaccessible prior to demolition work. The stage 1 evaluation consisted of nine machine dug trenches (1-9, each 1.6 m. wide) and the stage 2 evaluation four trenches (A-D, each 2.20 m. wide) (Fig. 2).

Excavation

The excavated area was extended during the course of the fieldwork due to the results of the stage 2 evaluation, and eventually comprised 3190 sq. m., again, dug in two stages. Topsoil and overburden were removed by a 360° mechanical excavator fitted with a toothless bucket to expose the uppermost surface of archaeological deposits. The archaeological deposits were characterised by ditches, gullies, pits, sunken-featured buildings (SFBs) and postholes. All archaeological deposits were cleaned and excavated by hand. All features were half sectioned as a minimum with the majority of postholes being fully excavated. The SFBs were excavated in quadrants where appropriate and a minimum of 15% of linear features were excavated in slots. All termini and intersections were examined. A range of context types across the site were sampled for

[4] G. Briggs, J. Cook and T. Rowley (eds.), *The Archaeology of the Oxford Region* (1986).

[5] D. Benson and D. Miles, *The Upper Thames Valley: An Archaeological Survey of the River Gravels* (Oxf. Archaeol. Unit survey 2, 1974).

[6] R. Bradley and R. Holgate, 'The Neolithic Sequence in the Upper Thames Valley', in R.J. Bradley and J. Gardiner (eds.), *Neolithic Studies, A Review of some Current Research* (BAR, Brit. Ser. 133, 1984), 107-34.

[7] Information from Oxfordshire Sites and Monuments Record; J. Pine, 'Land at Jubilee Villa, 21 The Moorlands, Benson, Oxfordshire, An Archaeological Evaluation' (TVAS rep. 98/57, 1998).

[8] J. Blair, *Anglo-Saxon Oxfordshire* (1994).

[9] J. Morris, *The Age of Arthur: A History of the British Isles from 350 to 650* (1973), 226; K. Tiller, pers. comm.

[10] H. Edwards, *The Charter of the Early West Saxon Kingdom* (BAR, Brit. Ser. 198, 1988).

[11] As note 7.

[12] Blair, op. cit. note 8, p. 55.

Fig. 2. Overall plan of the site showing all archaeological features, evaluation trenches (1–9, A–D) and areas of modern disturbance.

environmental evidence. Samples were taken from 115 sealed and securely dated contexts, few of which yielded carbonised plant remains.

Four main phases of activity have been identified; Neolithic, late Bronze Age/early Iron Age, Roman and early Saxon. A number of features could only be described as 'prehistoric' as pottery from them could not be closely dated. Some features remained wholly unphased.

Phase I: Neolithic

Evidence for Neolithic activity on the site took the form of pits, postholes and gullies (Fig. 3). Three sub-phases of this period can be determined on the basis of the pottery fabrics and forms: a primary earlier Neolithic phase (Ia) based on the presence of pottery typified by simple rolled rims and carinated open bowls; a secondary earlier Neolithic phase (Ib) based on the presence of vessels comparable to pottery from Abingdon causewayed enclosure with the beginnings of Ebbsfleet traits; and a later Neolithic phase (Ic) represented by Mortlake and Grooved Ware pottery.

Phase Ia: Earlier Neolithic

Four pits (602, 622, 625 and 626) contained pottery reflecting the earliest phase of occupation on the site. Other finds from these pits comprised a few struck flints. The pits were between 0.5 m. and 1 m. in diameter and between 0.18 m. and 1.00 m. deep with U-shaped and bowl-shaped profiles (Fig. 4). Three of the pits occur in close proximity to each other (Fig. 3).

Phase Ib: Earlier Neolithic

The majority of the Neolithic features are assigned to this phase. The distinction between pits and postholes is somewhat arbitrary and is mainly based on size. However, some pit-sized features have been included in some of the possible structures discussed below.

Pits: Pits were attributed to this phase on the basis of five or more sherds of Neolithic pottery, and for several, small assemblages of struck flint (Table 4). These pits are: 5, 101, 103, 139, 207, 210, 217, 238, 402, 410-11, 432, 447, 506, 603, 610-11, 617 and 622. Seven pits (132, 213, 400-1, 522, 525 and 539) contained only 1-4 sherds of pottery, which raises the possibility that these sherds could be residual. Pit 213 also contained a flint flake and pit 401 contained a leaf-shaped arrowhead as well as a few sherds of Neolithic pottery and these are more likely to be of Neolithic date. Three other pits (205, 218 and 219) also produced small quantities of struck flint suggesting that they are of prehistoric, probably Neolithic date. Hazel nut fragments from two pits were radiocarbon dated (Table 11). Pit 103 produced a date of 3637-3377 cal BC, and pit 611 a date of 3630-3368 cal BC. The pits were variable in profile but were all circular or oval in plan. The majority were bowl-shaped, sometimes with flat bases, but others were near vertical-sided and a few had irregular plans and profiles. They ranged in width/diameter from 0.45 m. to 1.02 m. and depth from 0.08 m. to 0.33 m. A selection is illustrated on Fig. 4. The fills of these pits were unremarkable, with a simple, usually single fill containing a modest quantity of artefacts and very little animal bone. None of the pits contained obviously placed deposits.

Gullies: Four gullies (543, 1003, 1004 and 1011) are tentatively assigned to this phase. Gully 1004 was 2.2 m. long, 0.83 m. wide and 0.33 m. deep. It contained four sherds of Neolithic pottery. Gully 1003 was 14 m. long, 0.35 m. wide and 0.10 m. deep with a shallow U-shaped profile. It produced no pottery but was cut by gully 1004 and was also probably of Neolithic date. Gully 543 was 0.55 m. wide and 0.22 m. deep with a shallow flat-based profile, and continued beyond the edge of the excavated area. Gully 1011 was 2.2 m. long, 0.6 m. wide and 0.2 m. deep with a flat-based profile. These two gullies produced only one and three sherds respectively. These gullies do not form any coherent ground plan.

Postholes: Ten smaller features thought likely to be postholes (100, 202, 231, 237, 240, 245, 428, 537, 541 and 616) have been assigned to this phase. Postholes 202, 231, 245, 541 and 616 only produced small numbers of pottery sherds, which may be residual. Posthole 237 only produced small quantities of struck flint. It is not known what function these posts had.

Post-built structures?: Arrangements of postholes forming circular, oval and 4-post patterns have been identified across the site and these may represent structures (Fig. 3). Unfortunately none of these was well dated. They are likely to be of prehistoric date and probably of Phase II (late Bronze Age/Iron Age) and are described more fully below. However, there is a possibility that some or all could be of Neolithic date. Close to the centre of Structure 2 was posthole 100 containing 33 sherds of earlier Neolithic pottery. The ground plans of Structures 3 and 4 could be enhanced by the inclusion of postholes 428 and 411 attributed to Phase Ib. Posthole 428 produced only a single, possibly residual, sherd whereas 411 produced five sherds.

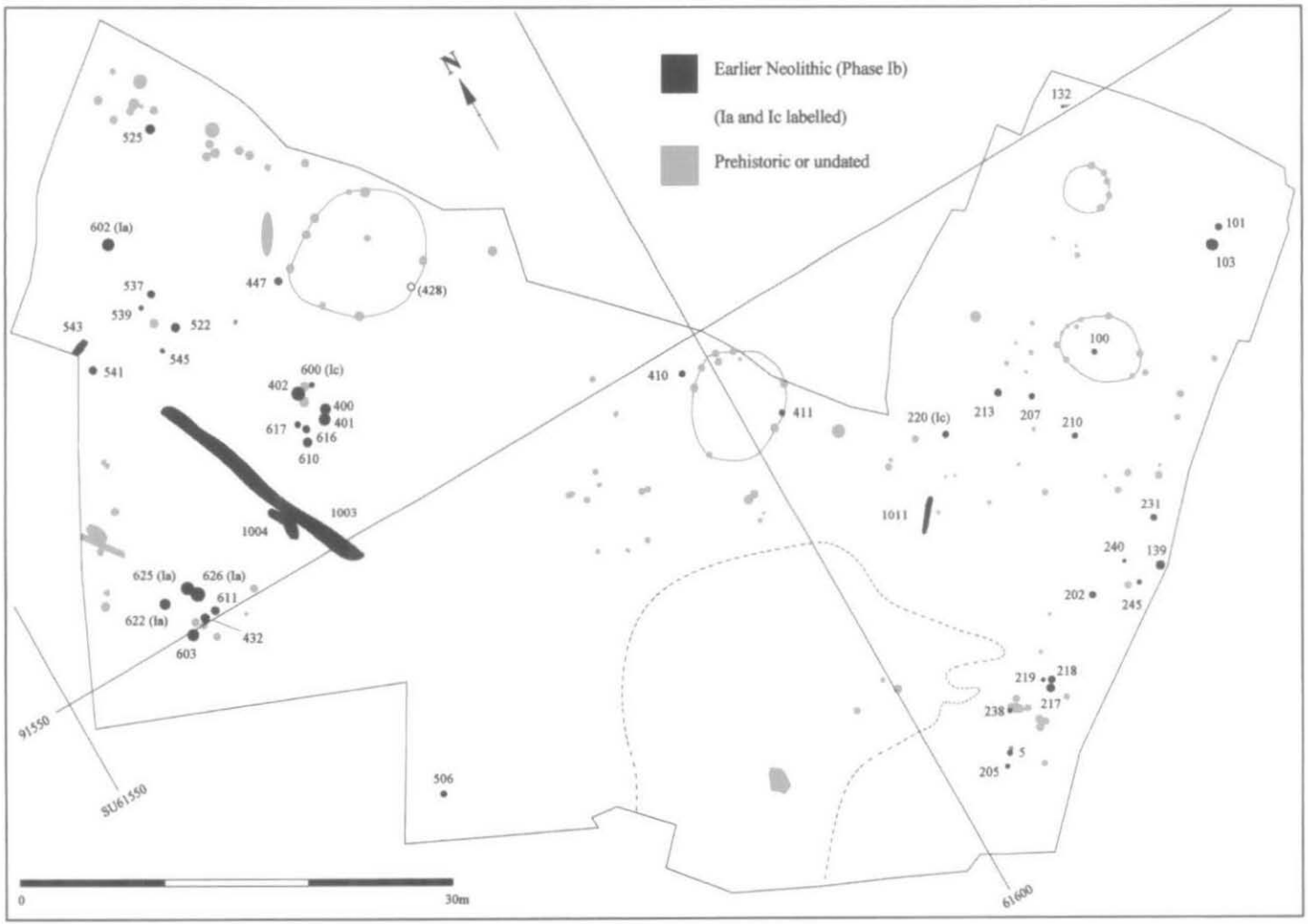

Fig. 3. Plan of Neolithic deposits (phase I). Also shown are undated and 'prehistoric' features. Modern disturbance has been removed.

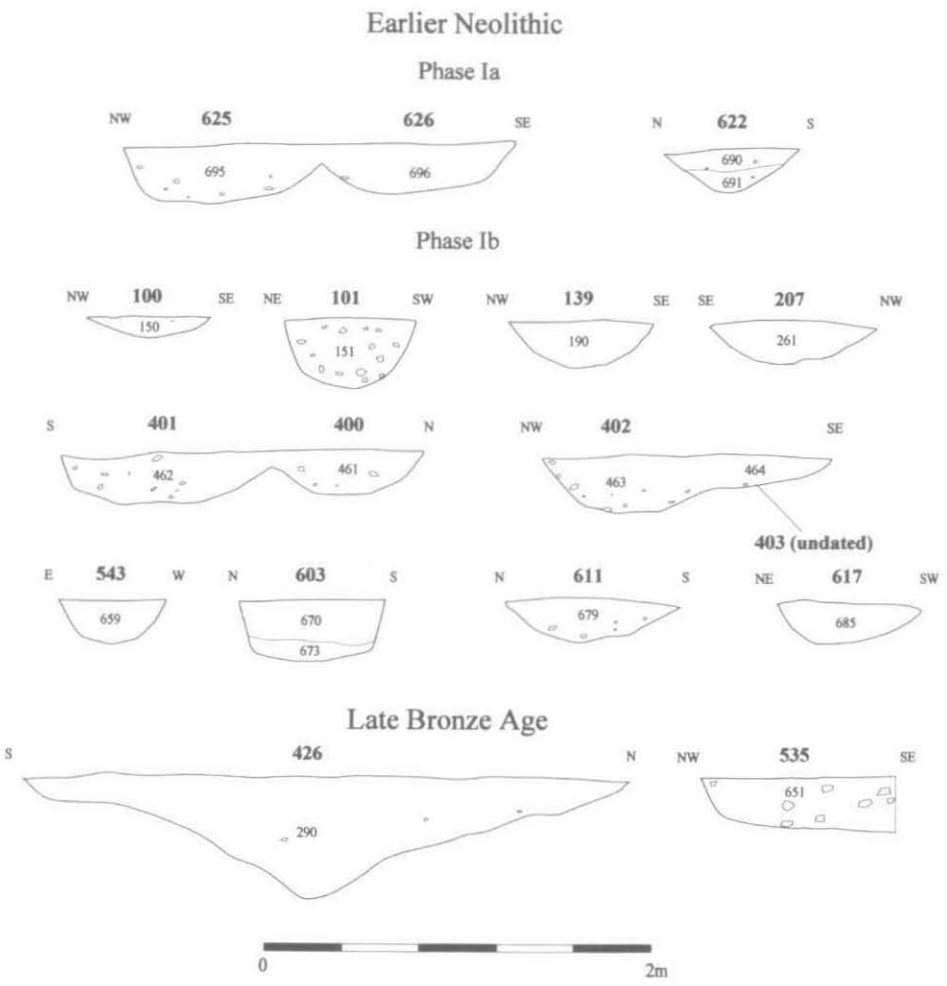

Fig. 4. Sections of Neolithic and late Bronze Age features.

Spatial distribution: The distribution of Neolithic features indicates a concentration in the west of the site with a smaller cluster to the east. The central area of the site was relatively empty of features. The pits in the western part of the site formed two marked clusters separated by gully 1003; these may represent two distinct phases of activity. It is possibly noteworthy that three of the southern group (622 and 625–6) produced pottery which allowed for the definition of Phase Ia. The northern cluster is adjacent to Structure 3 if this is to be regarded as belonging to this phase.

Phase Ic: Later Neolithic

One pit (600) produced eight sherds of Mortlake style pottery and is thus of later Neolithic date. Small pit (220) also produced an abraded sherd of Grooved Ware along with a small assemblage of struck flint (Table 4b).

Phase II: Late Bronze Age/early Iron Age

The majority of features belonging to this phase are dated to the late Bronze Age (phase IIa) (10th-8th centuries BC) with three features to the early Iron Age (phase IIb) 6th-5th centuries BC (Fig. 5).

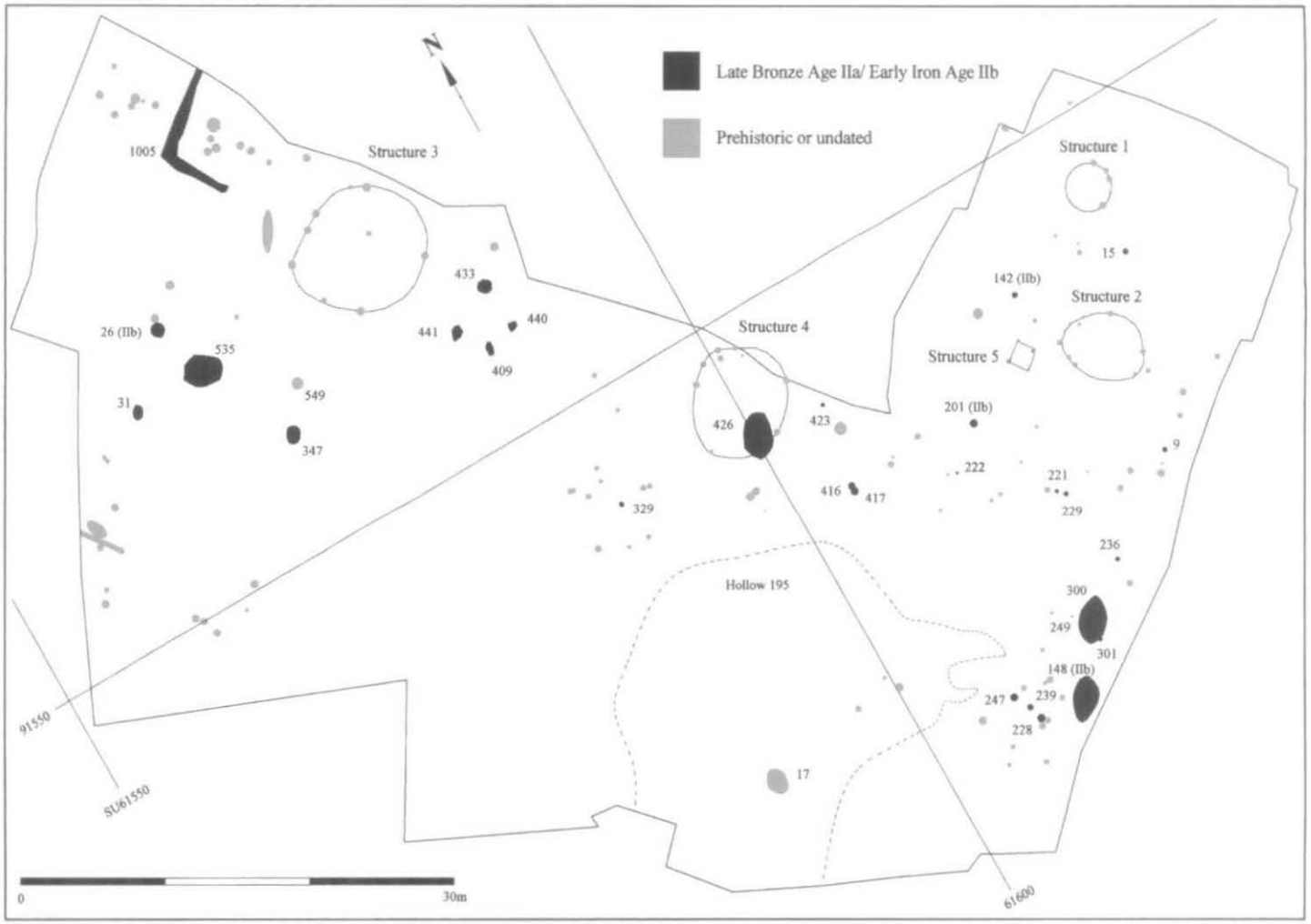

Fig. 5. Plan of late Bronze Age (phase IIa) and early Iron Age (phase IIb) deposits, undated and generally dated prehistoric features.

Phase IIa

Pits: Features attributed to Phase IIa include 13 pits (26, 31, 228, 300-1, 347, 409, 416-17, 426, 433, 440-1 and 535). These range in size between 0.36 m. and 2.40 m. in length, between 0.30 m.-1.80 m. in width and between 0.11 m.-0.54 m. deep (Fig. 5). The largest in this range is pit 300 which although truncated by ditch 1000 was 3.20 m. x 1.25 m. x 0.40 m. and may have been a quarry pit.

Gully: An 11 m. length of gully 1005 with a right-angled plan has been assigned to this phase. Its northern extent lies beyond the baulk and its southern terminal was truncated by ditch 1006.

Postholes: Ten postholes (9, 15, 221-2, 229, 236, 239, 247, 329 and 423) contained late Bronze Age pottery. These were distributed across the site and did not appear to represent the ground plans of any structures. However, one pit/posthole (409) and a number of undated postholes do suggest the ground plans of circular structures and apart from Neolithic sherds in postholes 100, 411 and 428 (discussed above), it is most probable that these buildings are of later Bronze Age/early Iron Age date (see above).

Posthole structures?: From an assessment of the ground plans of posthole-sized features, up to four circular or oval arrangements can be recognised which are possibly roundhouses (Fig. 6). None of these structures are well dated and whilst they are almost certainly of prehistoric origin, none produced phase II pottery. It is not possible therefore to assign these structures to either this phase or the earlier Neolithic phase. Roundhouses are the dominant type of structure in the late Bronze Age and Iron Age whereas the relatively few Neolithic structures recorded are frequently of square or rectangular plan.[13] Only one of these suggested roundhouses might have included additional structural evidence such as porches, floors, pits beneath the eaves, or central hearths. Structure 4 contained a large pit (426) partially across the projected line of the building.

Structure 1 (Fig. 6): This comprised an evenly spaced arc of 5 postholes (129, 116-18 and 130) located in a disturbed area of the site. Posthole 112 may also belong to this structure. By extrapolation, the diameter of this building would have been about 4 m.

Structure 2: This comprised an oval arrangement of 11 postholes (119, 123-6, 128, 138, 140-1, 144 and 212) with a central one (100) containing 33 sherds of earlier Neolithic pottery. The circuit is not complete and some truncation by later features such as Roman ditch 1000 and a modern wall foundation may have occurred (Figs. 6 and 7). This structure was up to 5.40 m. across.

Structure 3: This structure is represented by postholes (428-9, 431, 443-4, 448, 504-5 and 519) (Figs. 6 and 7). This had a diameter of 8 m. Posthole 428 contained a single sherd of Neolithic pottery.

Structure 4: This oval structure is represented by 9, possibly 10 postholes (possibly 411, with 412-15, 418-19 and 424-5). This structure measures up to 6.3 m. and may have had a double wall as represented by inner posts (414 and 419). Posthole 411 produced five sherds of Neolithic pottery.

Four-post structure: A single four-post structure (Structure 5) was identified (Fig. 6). It was not quite square and comprised four posts (115, 143, 206 and 208) set 1.1-1.5 m. apart. It lay to the west of Structure 2 but its orientation precludes its being a porch for the latter.

Phase IIb

Three pits (26, 148 and 201) and a posthole (142) contain pottery thought to be of early Iron Age date.

Prehistoric

A small number of pits and postholes could only be assigned to a broad prehistoric date.

Phase III: Roman

A small collection of six sherds of Roman pottery was recovered as residual material from SFBs 2 and 120. Ditch 1000 aligned NE.-SW. contained a single sherd of Roman pottery and cut prehistoric and Bronze Age features (Fig. 8). It was exposed for 50 m. and was up to 1.1 m. wide and up to 0.25 m. deep. It was aligned parallel to ditch 1002. This was 0.85 m. wide and 0.26 m. deep and contained no dateable finds but was truncated by SFB 2. These two ditches are tentatively dated to the Roman period, but could be of Saxon date.

[13] F. Audouze and O. Büchsenschütz, *Towns, Villages and Countryside of Celtic Europe* (1991); T. Darvill and J. Thomas (eds.), *Neolithic Houses in Northwest Europe and Beyond* (1996), 77-113.

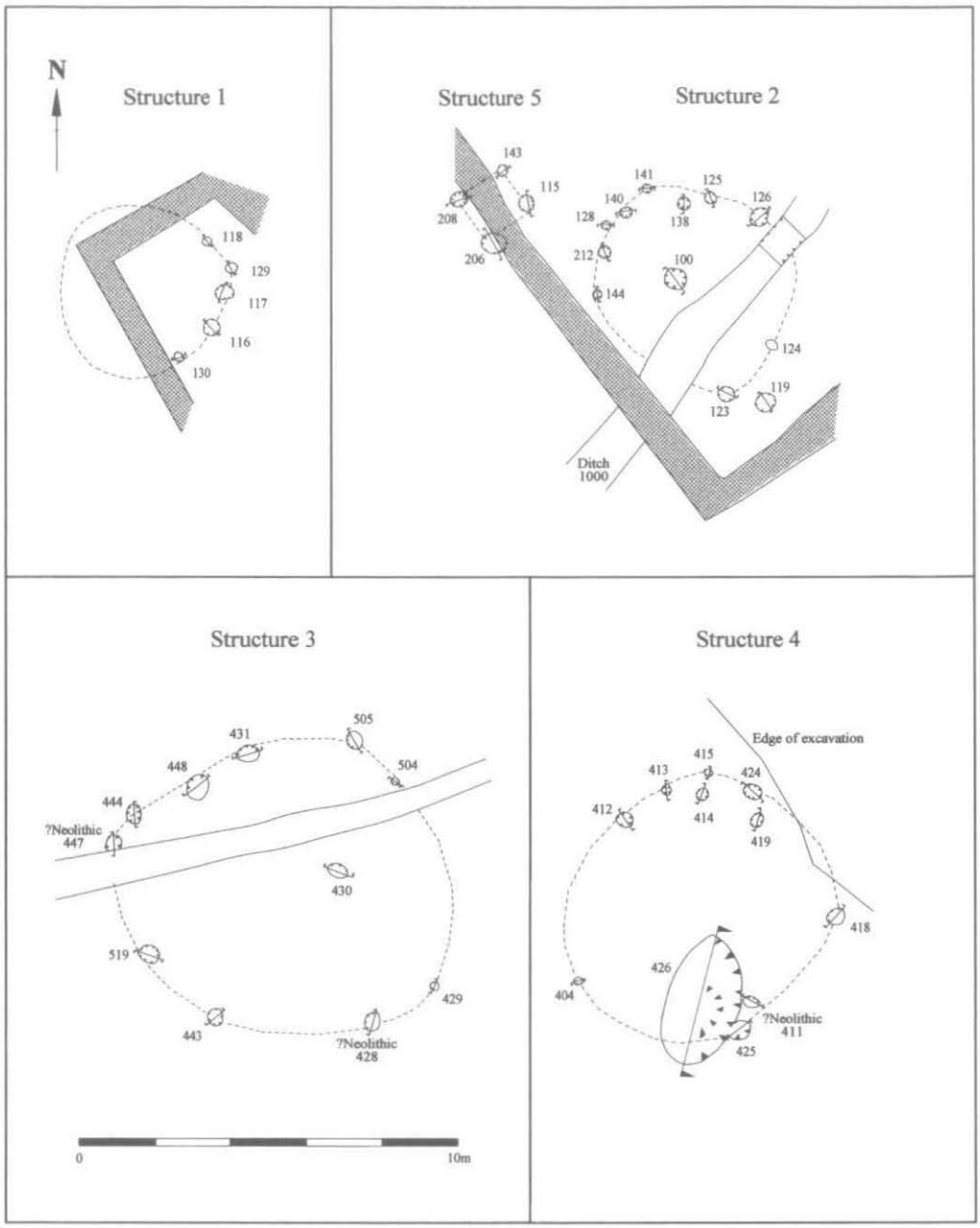

Fig. 6. Plan of possible late Bronze Age/early Iron Age post-built structures 1–5.

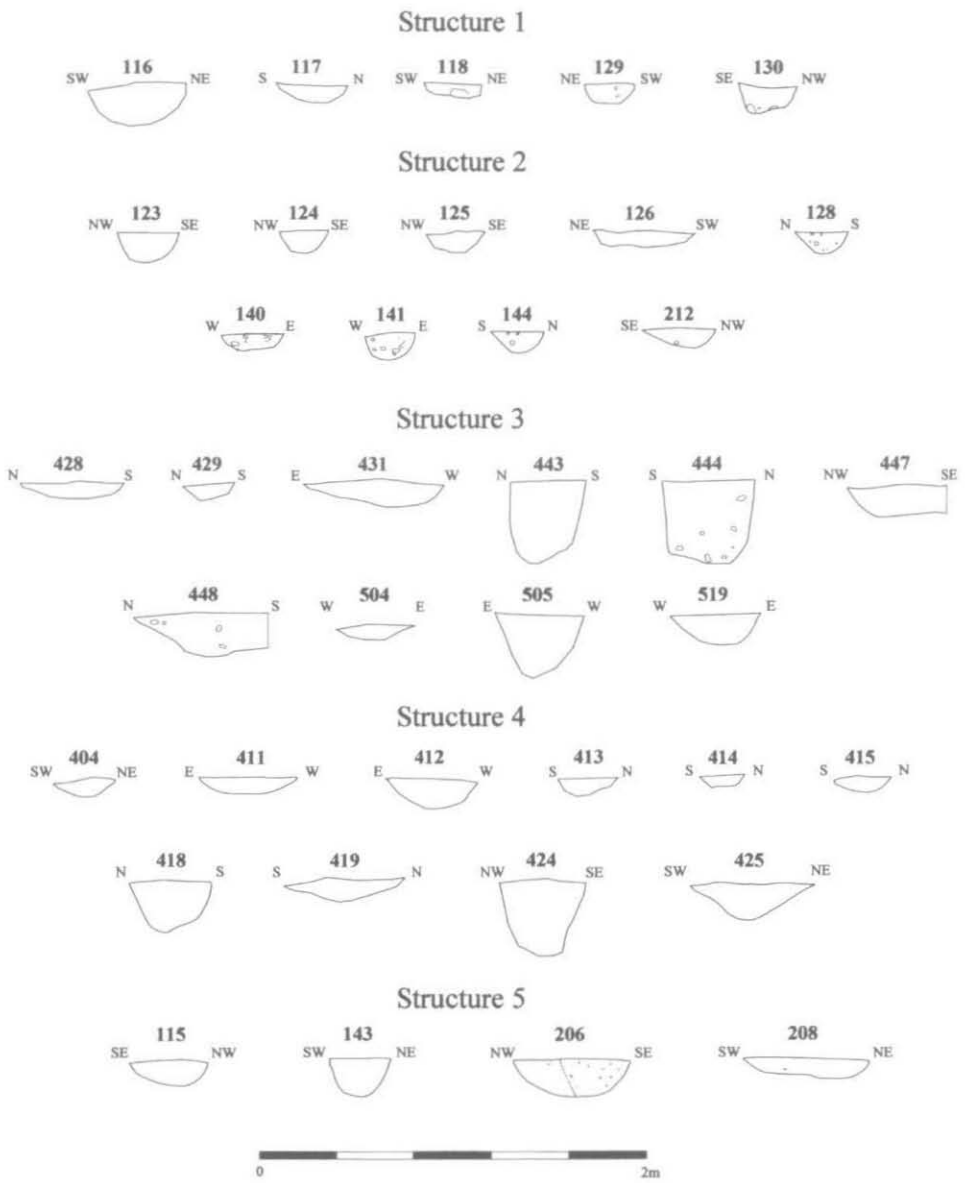

Fig. 7. Sections of late Bronze Age features.

Phase IV: Early Saxon

Three sunken-featured buildings (2, 120 and 307) and associated postholes were dated to this phase (Fig. 9).

Sunken-featured building 2: The ground plan for this structure was incomplete as the northern end had been truncated by a modern pit (Fig. 9). The structure was at least 2.7 m. long, 2.44 m. wide and 0.38 m. deep and was orientated NE.-SW. The southern end was ovoid in plan with gentle sloping sides and a flat base. It contained 80 sherds of Saxon and three sherds of Roman pottery, animal bone, a piece of daub, a copper alloy buckle plate, pieces of Roman tile, oyster shell and a struck flint. Due to truncation, only the southern gable posthole was recorded (309). This was 0.27 m. in diameter and 0.15 m. deep. It contained one piece of Saxon pottery and a single fragment of animal bone. Postholes 311 and 312 may also be part of this structure.

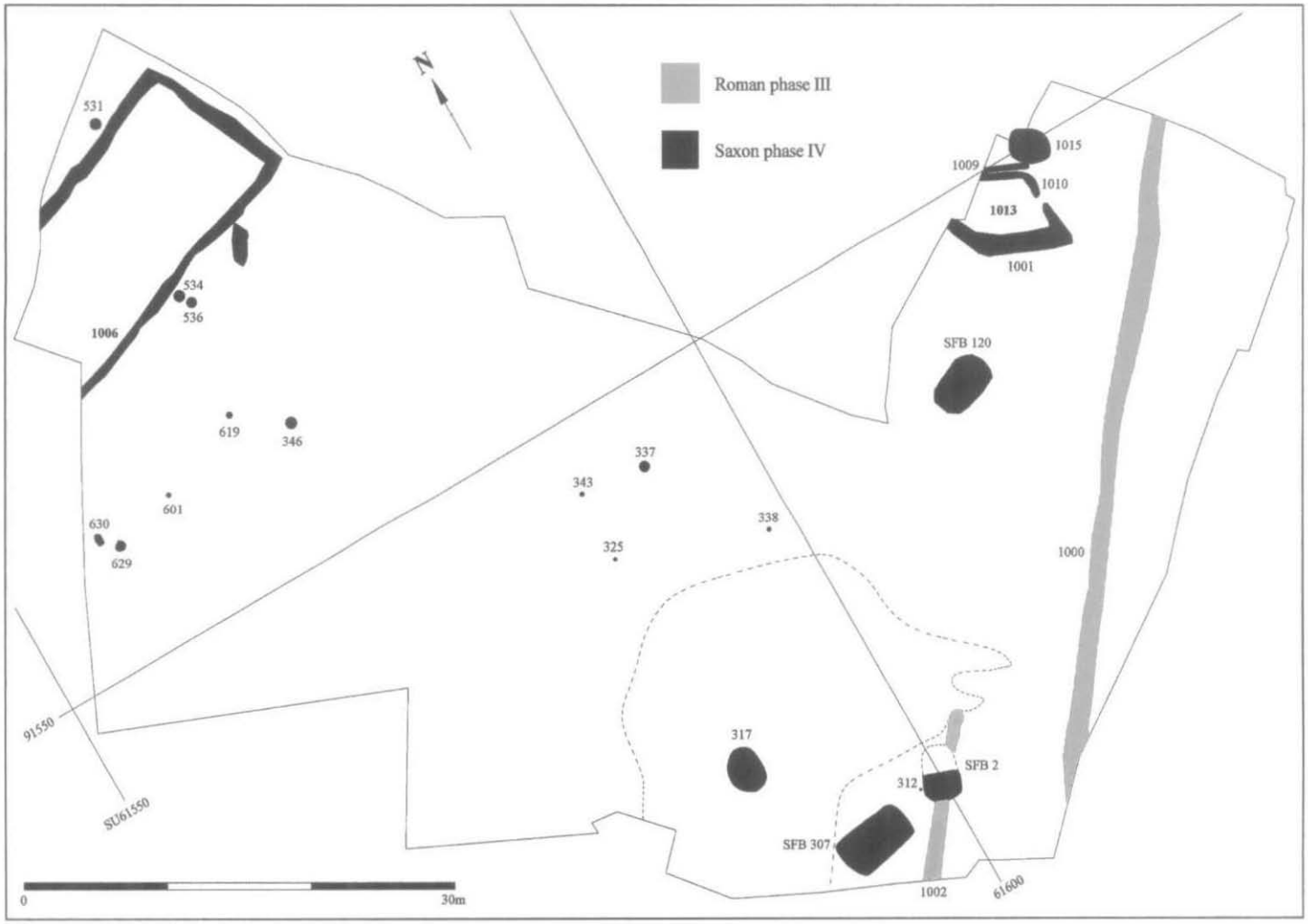

Fig. 8. Plan of Roman (phase III) and Saxon (phase IV) features.

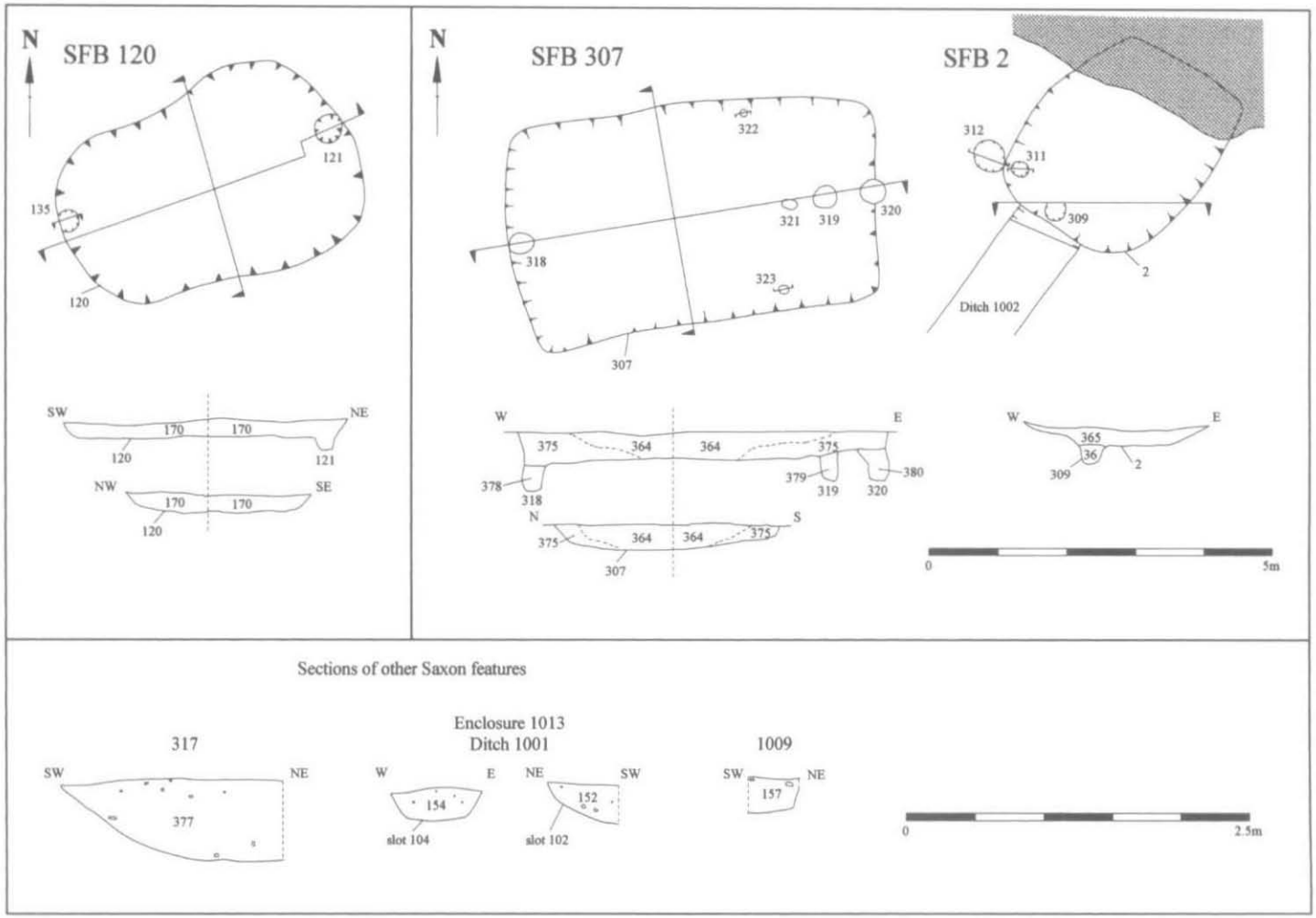

Fig. 9. Plans and sections of Saxon sunken-featured buildings 2, 120 and 307 and other features.

Sunken-featured building 120: This structure comprised an oval hollow (120) with relatively sharp shallow sides, and a flat base. It was 4.1 m. long, 2.65 m. wide and 0.24 m. deep and was orientated NE.-SW. (Fig. 9). The hollow contained 64 sherds of Saxon pottery, one complete and three fragments of spindle whorl, animal bone and a copper alloy ?bracelet. Positioned centrally within the hollow were substantial postholes 121 and 135. Posthole 121 (172) was 0.36 m. in diameter, 0.18 m. deep and contained two sherds of Saxon pottery and three fragments of animal bone. Posthole 135 (186) was 0.33 m. in diameter, 0.41 m. deep and contained one sherd of Saxon pottery.

Sunken-featured building 307: This comprised a hollow of roughly rectangular plan with rounded corners (Fig. 9). It had moderately steep sides and a flat base. It was 5.35 m. long, 3.2 m. wide and 0.38 m. deep and was orientated E.-W. Within the hollow were substantial central postholes at the E. and W. ends (318 and 320). Posthole 318 was 0.32 m. in diameter and 0.38 m. deep. Posthole 320 was 0.30 m. in diameter and 0.40 m. deep. Adjacent to posthole 320 was another substantial posthole 319, which may have been used to give added support to the gable post. This was 0.25 m. in diameter and 0.40 m. deep. Three stakeholes (321, 322 and 323) were recorded in the base of the hollow. Finds comprised 79 sherds of Saxon pottery, three of Roman, animal bone, fired clay, and a possible iron needle.

Gullies/ditches: Three sides of an elongated rectangular ditched enclosure 1006 dates to this phase. The ditch is 0.5-0.85 m. wide and 0.3 m. deep with a bowl-shaped profile. The full length of the enclosure could not be determined but was at least 20 m., and it was 10 m. across – dimensions which are much greater than recorded trench-founded structures.[14] The interior of the enclosure is void of any Saxon features and may have been for agricultural purposes, possibly a paddock. Another enclosure was small (5 m. across) and sub-rectangular in plan (1013) with an entrance 1 m. wide to the east. The ditch was 0.5-0.8 m. across and 0.2-0.3 m. deep. This may have been a small animal pen.

Other features dated to the early Saxon period are a gully (1009), pits (25, 312, 317, 337, 346, 531, 536, 1015 and possibly 534) and postholes (325, 338, 343, 601, 619, 630 and possibly 629). These latter features, even when considered in conjunction with undated postholes, do not obviously represent a ground plan of any structure such as rectangular halls.

Hollow?: At the southern edge of the site is a hollow which had been infilled by colluvium (Fig. 5). An undated pit (17) containing burnt flint was sealed by infill material (195) which contained Neolithic, Roman and Saxon pottery and was cut by Saxon pit 317. The most notable find from this hollow is the bone of an aurochs, a species extinct by the Bronze Age (see below).

Undated

A large number of postholes and pits did not contain datable finds and these have been included on each phase plan. Pit 17 was recorded during the evaluation as possible evidence of a burnt mound, however, excavation revealed it to be a wide shallow pit, 2 m. x 1.2 m. and 0.25 m. deep which contained a large amount of burnt flint (up to about 85% of the fill). It pre-dated Saxon occupation but is otherwise undated.

THE POTTERY by JANE TIMBY

The excavations resulted in the recovery of some 1,533 sherds of pottery (15.9 kg.) dating to the earlier Prehistoric, later Prehistoric, Roman and Saxon periods. The lack of stratigraphy, generally small size of the individual groups, and the presence of redeposited sherds meant that the assemblage was a particularly difficult one to analyse as similar inclusions and technology were used in the different periods. Details concerning internal relative chronology within the broad periods identified are difficult to address where there is little stratigraphic input.

Pottery was recovered from 115 features, just 36% of the features excavated. A small amount of further material came from surface collection. Sixty-nine percent of the contexts contained five sherds or fewer. Much of the material is in relatively good condition although quite broken up, in some cases due to the friability of the pastes. The preservation of the Neolithic material is particularly good. Although there were no complete profiles amongst the prehistoric material several joins could be made where multiple sherds derived from single vessels.

[14] P.J. Huggins, 'Anglo-Saxon Timber Building Measurements: Recent Results', *Medieval Archaeology*, 35 (1991), 6-28.

Methodology

The material was sorted macroscopically, aided with a x20 binocular microscope, into fabric groups based on the principal visible inclusions in fresh fracture. Each type was prefixed with a code to reflect its likely chronology, i.e. NEO, IA and SX. Where relevant the Roman sherds were coded according to the National Roman Fabric reference system.[15] The inclusions present were given two-letter codes as follows: FL flint, SA sand, SH shell, LI limestone, QZ quartz/quartzite, ST sandstone, IG igneous rock, OR organic matter, FE iron, GR grog. Some fabrics are defined both on the nature of the inclusions and the character of the paste, i.e. a sandy paste which implies the exploitation of different source material. Further numeric subdivisions were made according to the size and density of the inclusions but these divisions were kept fairly broad. Table 1 provides the full list of identified fabrics. Details of the terms used in the description of the fabrics can be found in the PCRG guidelines.[16]

Each diagnostic rim sherd was examined and assigned where possible to vessel form. Details of surface treatment, decoration and evidence of use, such as sooting, were noted. The data were entered onto an Excel spreadsheet which forms part of the archive. The pottery is discussed by chronological period below.

Neolithic (Fig. 10.1-19 and Fig. 11.20-24)

Neolithic pottery accounts for approximately 45% by count, 34% by weight of the total recovered assemblage. In total 687 sherds were recorded, weighing 5377 g. Sherd size was quite variable and although the average overall was 7.8 g. there were quite a few quite large, well-preserved sherds. A number of sherds could be identified as redeposited finds in later assemblages and others may exist as unattributed prehistoric flint-tempered sherds.

Fabrics: Most of the sherds fall into two main fabric groups: calcined flint-tempered and a very vesicular shell-tempered fabric. In addition there are a small number of sandy sherds, a quartzite-tempered ware and a single limestone-tempered sherd, which by association are also likely to be of Neolithic date. The features could be divided into those which produced just shelly wares, those containing examples of both flint and shell and those with just flint-tempered sherds. Flint-tempered wares account for 77% (by count) of the Neolithic assemblage, shelly wares for 17.5%. Four small fragments of a grog and limestone-tempered ware may date to the later Neolithic period or may be slightly later.

NEOFL1: A fine, sandy textured paste containing a sparse to moderate frequency of angular, white, crushed calcined flint. Inclusion size is variable, the larger fragments reaching 6-7 mm.
NEOFL2: A moderately hard fabric containing fine quartz sand and a sparse to moderate temper of calcined flint. The flint comprises a mixture of white and coloured fragments (red, brown, black).
NEOFL3: A moderately hard ware with a finely micaceous paste containing a sparse to moderate frequency of angular, white calcined flint.
NEOSAFL: A small group of wares were distinguished with a much sandier, finely micaceous paste and a sparse scatter of angular flint fragments, up to 6 mm. in size but generally finer. At x20 a sparse frequency of ill-sorted, rounded quartz sand is visible.
NEOSH: A generally oxidised orange fabric, occasionally black with a very friable, vesicular texture. In fresh fracture the paste contains a common density of decomposing shell fragments, some pieces up to 4-5 mm. across.
NEOSA: A dark brown, smooth fabric with a finely micaceous, sandy texture. No macroscopically visible inclusions.
NEOQZ: A brown, moderately hard ware with a fine sandy texture. The paste contains a sparse scatter of coarse fragments of polycrystalline quartz/quartzite (up to 5 mm.). At x20 this is accompanied by a moderate scatter of rounded to sub-angular quartz less than 0.5 mm. in size.

Early Prehistoric: date uncertain

EPGRCA: An orange, friable, poorly consolidated fabric containing sparse sub-angular to rounded grog/clay pellets, 3 mm. or less in size, and voids from decayed calcareous material.

[15] R. Tomber and J. Dore, *The National Roman Fabric Reference Collection: a handbook* (MoLAS/English Heritage/British Museum, 1998).
[16] Prehistoric Ceramic Research Group, *General Policies and Guidelines for Analysis and Publication* (Occas. Paper 2, 1997).

Forms: Of the 687 sherds, 47 were rimsherds accounting for a minimum of 30 vessels. In addition two solid lugs (Fig. 11.20), one vertically pierced lug (Fig. 10.10) and one strap handle (not illustrated) were present. Most of the vessels appear to fall into the category of bowl, or bowl/jar with simple or carinated profiles. One particularly large vessel (Fig. 10.1) has a more globular, rounded, profile. Six main rim forms were present; simple out-turned (e.g. Fig. 10.5, 11-12); simple undifferentiated (Fig. 10. 6, 8); simple with an internal bevel (Fig. 10.1, 4, 15; Fig. 11.21); rolled, rounded (Fig. 10.2, 7, 9, 18); expanded (Fig. 10.17, 19; Fig. 10.20, 22-23); and triangular (Fig. 10.14). Two vessels were decorated on the upper rim surface, one with simple spaced incised lines (Fig. 10.9), the other with segmented lines (Fig. 10.18). Most, if not all, the pottery appears to have been round-based.

Catalogue of illustrated sherds

Fig. 10:
1. Wide diameter vessel with a slight beaded rim internally bevelled. Mid-dark brown. Fabric NEOQZ. Pit 101.
2. Small rounded rim in a dark brown sandy fabric with a slightly irregular surface. NEOSAFL. Pit 101.
3. Small diameter vessel with a rounded, slightly bevelled rim. Orange throughout with a fine flint temper. NEOSAFL. Pit 103.
4. Bowl with an internally bevelled rim. Diameter uncertain. Dark brown with a black core. NEOFL1. Pit 103.
5. Flared rim jar. Dark brown with a black core. NEOFL1. Pit 103.
6. Small curved wall bowl in an orange, finely micaceous paste. NEASA. Pit 103.
7. Rounded rim carinated bowl. Dark brown. NEOFL1. Pit 602.
8. Simple rim bowl or cup. Light orange-brown. NEOFL1. Pit 602.
9. Rounded, rolled rim, carinated bowl. The upper rim surface is decorated with lightly incised lines. Dark brown in colour with a smoothed interior. NEOFL1. Pit 602.
10. Joining bodysherds with an oval, vertically pierced lug. Mid brown. NEOFL1. Pit 602.
11. Flared rim bowl with a slight waist constriction and simple out-turned rim. Mid to light brown. NEOFL3. Pit 622.
12. Bowl with a simple out-turned rim. Mid brown. NEOFL3. Pit 625.
13. Expanded, flat-topped rim bowl/jar. Mid to dark brown. NEOFL2. 626.
14. Small bowl with a triangular rim. Mid orange in colour. NEOSH. Pit 411.
15. Jar or bowl with a simple vertical rim slightly bevelled internally. Light brown. NEOFL1. Pit 432.
16. Bowl with a simple out-turned rim. Dark brown. NEOFL3. Pit 626.
17. Bowl, with a very slightly expanded, flat-topped rim. Mid brown with a darker interior. NEOFL1. Pit 626.
18. Rim fragment decorated with impressed segmented lines. Dark brown with a red-brown core. NEOFL1. Pit 447.
19. Large diameter bowl with an externally expanded rim. Wall angle slightly uncertain, could be more vertical. Dark brown with a very pocked surface. NEOSH. Pit 432.

Fig. 11:
20. Expanded rim bowl with a solid oval lug. Brown with a dark grey core. Fabric NEOFL1. Posthole 240.
21. Simple rim bowl with a slightly concave inner surface. Mid to dark brown. NEOFL1. Pit 600.
22. Bowl/jar with a flat-topped internally expanded rim. Grey to mid brown. NEOFL1. Pit 600.
23. Bowl with a heavy flat topped expanded rim and carinated shoulder. Dark brown. NEOFL1. Pit 600.
24. Worn bodysherd decorated with a wavy line in relief on the interior. Brown to buff vesicular ware. NEOSH. Posthole 220.

Discussion: The Benson Neolithic assemblage appears to contain several different typological components which can perhaps be broken down into four elements which may have chronological significance. The earliest component is probably the simple rim vessels or the open carinated forms for which a date in the early Neolithic (start of 4th millennium cal BC) is likely. This includes material from 602, 622, 625, 626 and perhaps 432. In particular the vessel from 622 with a slightly concave outer profile, in a flint-tempered fabric (Fig. 10.11), could perhaps be seen as related to the Grimston-style. This does not preclude its contemporaneity with the other types.[17] Grimston-style vessels are generally very rare on sites in the Upper Thames Valley, although examples have been found at Dorchester, Corporation Farm, Abingdon and Gatehampton Farm, Goring.[18] Pit 103 has a slightly different group of material compared to the above examples both in terms of

[17] For discussion of the chronology of Grimston wares see A. Herne, 'A Time and Place for the Grimston Bowl', in J.C. Barrett and I.A. Kinnes (eds.), *The Archaeology of Context in the Neolithic and Bronze Age: Recent Trends* (1988), 9-29.

[18] Alistair Barclay, pers. comm.

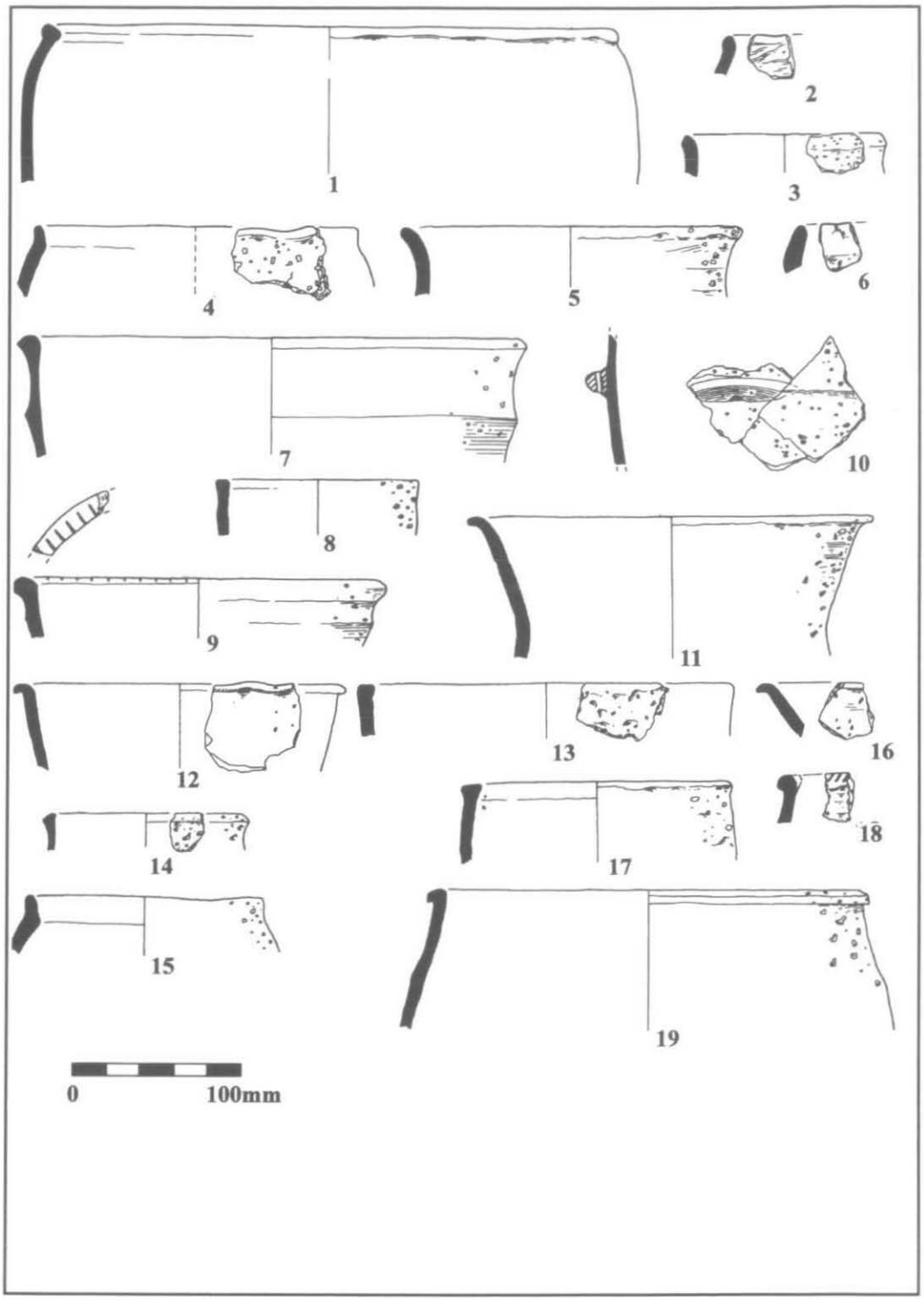

Fig. 10. Pottery: Neolithic.

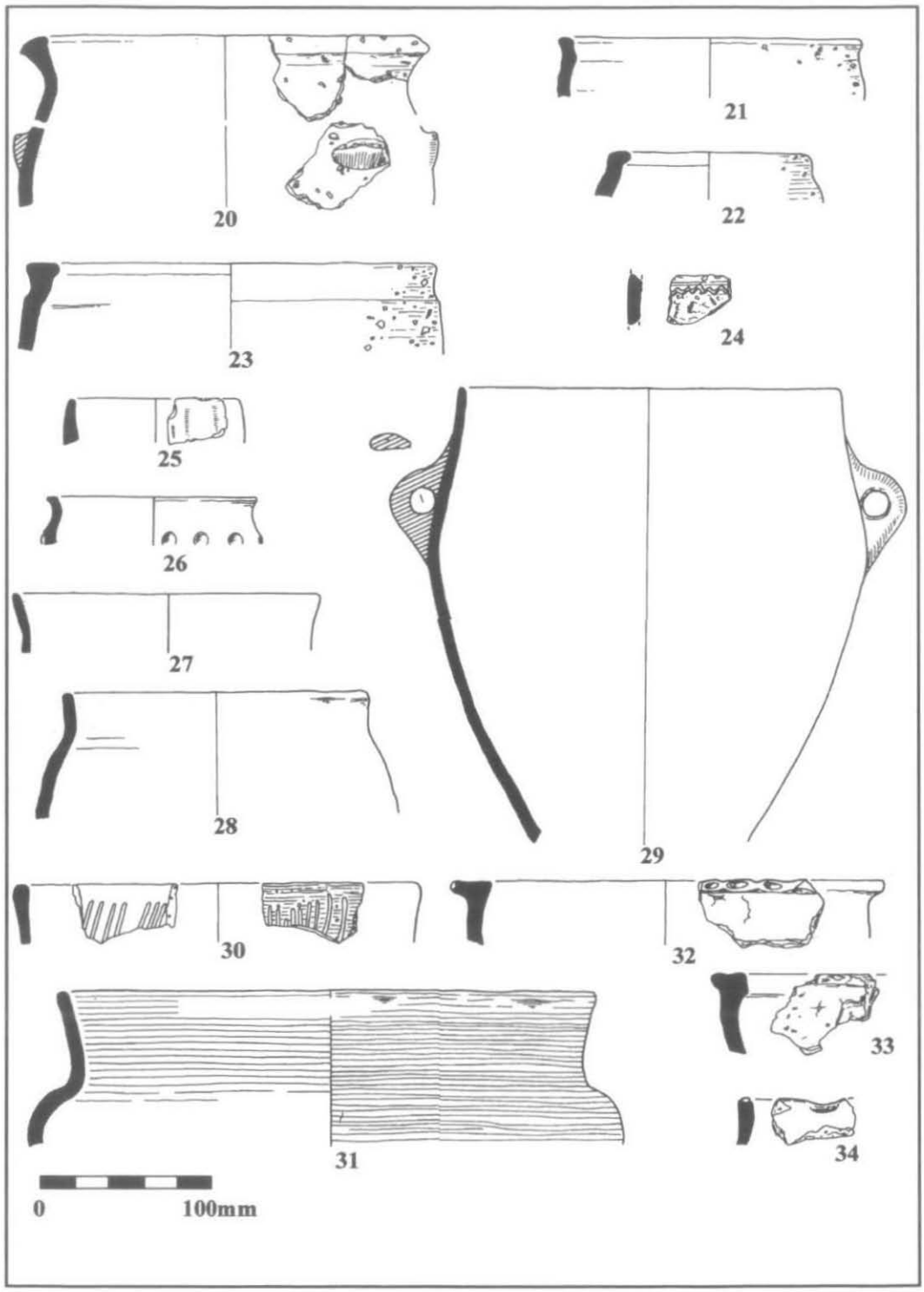

Fig. 11. Pottery: Neolithic and late Bronze Age/early Iron Age.

its fabric composition and vessel typology. It contains an association of fabrics NEOFL1, NEOQZ, NEOSAFL and NEOSA. Shell-tempered wares are absent. The forms, all plain, include vessels with more everted rims (Fig. 10.5), and one with an internal bevel (Fig. 10.4). This feature along with 101 are the only pits to produce the quartzite fabric and may thus be contemporary. Pit 101 produced similar everted rim vessels and a mixture of fabrics NEOFL1, NEOSH and NEOQZ (cf. Fig. 10.1 and 2). A rim in a harder, organic-tempered fabric is likely to be an intrusive Saxon sherd. Pit 611 with a similar radiocarbon date to 103 contained some 38 sherds of fabric NEOFL3 and 19 sherds of shelly ware (NEOSH) thus giving a slightly different range of material. Unfortunately none of these pieces were featured.

Of the other pits noted above, pit 602 contained 49 sherds of NEOFL1 amongst which were two carinated open bowls (Fig. 10.7, 9), a simple vertically walled bowl (Fig. 9.8), one vessel with a solid lug and one with a pierced lug (Fig. 11.10). Pit 622 contained 11 sherds of NEOFL1 and five of NEOFL3 with one flared wall bowl (Fig. 10.11); pit 625 one bowl in NEOFL3 with a simple out-turned rim (Fig. 10.12) associated with one sandy sherd, and pit 626 seven sherds of NEOFL2 and six sherds of NEOFL3 including one simple rim vessel (Fig. 10.16) and one with a flat-topped rim (Fig. 10.17). Pit 432 also has an assemblage dominated by flint-tempered fabrics with 14 NEOFL1 accompanied by nine sherds of NEOSH and one fine sandy ware (NEOSA). Two rimsherds are present: a jar or bowl with a simple vertical rim slightly bevelled internally (Fig. 10.15) and a large diameter bowl with an externally expanded rim (Fig. 10.19).

Typologically much of the remaining featured pottery appears to have some affinity with the large assemblages published from the causewayed camps at Abingdon and Staines,[19] broadly dating from the mid 4th millennium cal BC. The former, often referred to as the Abingdon style, has a high proportion of decorated ware and falls within the southern decorated-bowl tradition. Although Benson only contains a small proportion of decorated ware it shares other traits such as lugs and handles commonly found on the Abingdon vessels. The proportion of shelly ware is much greater at Abingdon, accounting for 95% of the group, with flint-tempered wares much less prominent. Other contemporary assemblages, for example Windmill Hill and Whiteleaf barrow,[20] show the same forms in either flint or shelly ware, the two occurring alongside each other with other fabrics such as limestone-tempered or sandy wares being present, but in very minor amounts. In the middle Thames Valley a further similar assemblage with developed rims such as those from Benson was recovered from a causewayed enclosure at Staines where flint-tempered wares were dominant accompanied by some sandy wares but no shelly ware. The proportion of decorated wares is considerably lower than was seen at Abingdon. The development of the heavier expanded rim, seen for example on Fig. 11.23 and on some of the material from Abingdon, Staines and Whiteleaf barrow, could be seen to have some connection with the Ebbsfleet style of the early Peterborough series, which seems to emerge in the later 4th millennium cal BC, originally considered to be a regional style within the Lower Thames Valley but now regarded by some authorities as less regionally specific. There is similar evidence for the merging of early Neolithic and Ebbsfleet traits at Windmill Hill.[21] The relative chronology of the various styles of Neolithic pottery at this time is still far from clear.[22] The use of decoration may be a means of displaying ethnic affiliation which might account for some regional differences between apparently contemporary assemblages. It may reflect functional differences. It is also uncertain whether the different fabrics represent chronological, functional or regional differences.

A third element in the Benson assemblage is seen in the vessel from pit 600 (Fig. 11.23) with a flat topped heavy rim and a slight shoulder carination, which seems to show some affinity with the Mortlake style. This generally appears to succeed the Ebbsfleet style in the Peterborough Ware sequence. Grog tempering first appears with Peterborough ware and it may be that the undesignated fabric EP1 belongs here. Finally, the single sherd from posthole 220 (Fig. 11.24) although very worn appears to be decorated in a style more typical of Grooved ware dating to the late Neolithic. A similar design appears on sherds from Roughground Farm,

[19] M. Avery, 'The Neolithic Causewayed Enclosure, Abingdon', in H.J. Case and A.W.R. Whittle (eds.), *Settlement Patterns in the Oxford Region: Excavations at the Abingdon Causewayed Enclosure and Other Sites* (CBA Res. Rep. 44, 1982), 10-50; R. Robertson-Mackay, 'The Neolithic Causewayed Enclosure at Staines, Surrey: Excavations 1961-63', *Proc. Prehistoric Soc.* 53 (1987), 23-138.

[20] A. Whittle, J. Pollard and C. Grigson, *The Harmony of Symbols: The Windmill Hill Causewayed Enclosure* (1999); V.G. Childe and I. Smith, 'Excavation of a Neolithic Barrow on Whiteleaf Hill, Bucks.', *Proc. Prehistoric Soc.* 20 (1954), 212-30.

[21] L. Zienkiewicz and M. Hamilton, 'Pottery', in Whittle et al., op. cit. note 20, pp. 257-317.

[22] J. Thomas, *Rethinking the Neolithic* (1991).

Lechlade and amongst the material from Cassington.[23] A number of Grooved ware finds have come from the general Abingdon-Dorchester area.[24]

Although certain elements have been selected above it is difficult to link in the features with undiagnostic sherds. In the eight potentially earlier features flint-tempered wares dominate. However, 103, 625 and 432 contained single sandy sherds and 101 and 103 produced the quartzite fabric. Shelly ware was present in 101 and 432. No other features contained the quartzite fabric and the only other sandy sherds came from pits 5 and 12. The Mortlake-style vessel is a flint-tempered ware and the Grooved ware sherd is shelly. Looking at the distribution of fabrics no clear spatial patterning is evident which might reflect a chronological distinction. A total of eight pits and postholes yielded just shelly ware (139, 213, 220, 401, 410, 537, 539 and 616); ten features, mainly pits and one gully, contained a mix of shelly and flint-tempered sherds (101, 241, 245, 400, 411, 432, 603, 610-11), whilst 22 features produced just flint-tempered wares. Very few features produced more than one form, the exceptions being 103 (Fig. 10.3-6); 602 (Fig.10.7-11); 626 (Fig. 10.13, 16-17); 432 (Fig. 10.15, 19) and 600 (Fig. 11.21-3). At Windmill Hill it was noted that the same materials were used for the Ebbsfleet vessels as had been identified amongst the early Neolithic pottery and that the flint-gritted fabric predominated amongst the later Peterborough (Mortlake) wares.[25]

Although most of the Neolithic pottery came from discrete pits and postholes, four gullies (three with pottery) were investigated which are suggested to be Neolithic. The ceramic evidence is slight; gully 543 with one flint-tempered sherd (NEOFL2) and gully 1011, with one small sherd of NEOFL1 and two fragments of NEOSH, and 1004 with one sherd of NEOF2.

I am most grateful to Alistair Barclay for reading and commenting on the Neolithic pottery report.

Later Bronze Age/Early Iron Age (Fig. 11.25-34, Fig. 12.35-36)

Approximately 25% of the total assemblage by sherd count, 20% by weight, appears to date to the later Bronze Age/early Iron Age. An additional 83 sherds, mainly flint-tempered, are difficult to assign to period but could be contemporary.

Fabrics: A variety of fabrics are identified on the basis of the macroscopically visible inclusions, which appear in a number of combinations. Basically there are five distinct categories of ware: I flint-tempered; II calcareous (limestone and/or fossil shell-tempered); III organic-tempered; IV sandy and V ferruginous. Within these five groups some 13 sub-types have been distinguished (Table 1). Not included in this is a distinctive oolitic iron-tempered ware which may be Iron Age or Saxon in date. Unfortunately the sherds were not found in association with other material. The use of oolitic iron has been documented elsewhere in middle Iron Age contexts, for example Wyndyke Furlong, Abingdon,[26] and has yet to be recognised in the Saxon repertoire. The source of this material is likely to be the Banbury outcrops of the Lower Jurassic ironstone.

Flint-tempered wares and sandy wares equally dominate the assemblage, accounting for some 41% and 30% respectively, by count of the later Prehistoric assemblage. The remaining 29% is split between the calcareous, organic and ferruginous groups.

I: flint-tempered
IAFL1: A fairly hard (i.e. just scratched with a finger-nail), black or red-brown ware containing a moderate frequency of finely crushed, white calcined flint, the larger fragments up to 3 mm. in size.
IAFL2: A moderately hard, brown or dark grey-black ware containing a moderate frequency of finely crushed, calcined flint, up to 2 mm. in size but mainly finer.
IASAFL: Fine sandy textured ware, brown or reddish-orange in colour with a black core. The paste contains a sparse frequency of angular flint up to 6 mm. in size but generally finer. At x20 a sparse frequency of ill-sorted, rounded quartz sand is visible.

[23] T.C. Darvill, 'The Early Prehistoric Period', in T.G. Allen, T.C. Darvill, L.S. Green and M.U. Jones, *Excavations at Roughground Farm, Lechlade, Gloucestershire: a prehistoric and Roman landscape* (Thames Valley Landscapes: The Cotswold Water Park, vol . 1, 1993), 9-26; H.J. Case, 'Cassington 1950-2: Late Neolithic Pits and the Big Enclosure', in Case and Whittle, op. cit. note 19, pp. 118-51, esp. fig. 69.

[24] A. Barclay, 'Grooved Ware from the Upper Thames Region', in R. Cleal and A. MacSween (eds.), *Grooved Ware in Britain and Ireland* (1999).

[25] Zienkiewicz and Hamilton, op. cit. note 21, p. 288; I.F. Smith, *Windmill Hill and Avebury: Excavations by Alexander Keiller 1925-1939* (1965), esp. 43-84.

[26] J. Timby, 'The Pottery', in J. Muir and M.R. Roberts, *Excavations at Wyndyke Furlong, Oxfordshire, 1994* (Thames Valley Landscapes, monogr. 12, 1999), 31-40, Appendix A.

TABLE 1. SUMMARY OF POTTERY FABRICS FOR THE WHOLE SITE

Period	*Fabric*	*Description*	*No*	*%*	*Wt*	*%*
Neolithic	NEOFL1	calcined flint temper	437	28.5	3440	21.5
	NEOFL2	calcined flint temper	14	1	131	*
	NEOFL3	calcined flint temper	65	4	567	3.5
	NEOSH	shelly	121	8	505	3
	NEOSA	sandy	10	*	29	*
	NEOQZ	coarse quartz sand, quartzite	25	1.5	571	3.5
	NEOSAFL	sandy with sparse flint	15	1	134	*
Early Prehistoric	EPGRCA	grog and calcareous inclusions	4	*	13	*
Prehistoric uncertain	PREHFL	calcined flint-tempered	61	4	506	3
	PREHSF	sandy with flint	19	1	52	*
	PREHLI	limestone-tempered	2	*	19	*
LBA/EIA						
I – flint	IAFL1	medium-coarse flint	58	4	259	1.5
	IAFL2	finer flint-tempered	66	4	363	2
	IASAFL	sandy paste with flint	35	2	352	2
II – calcareous	IASH1	fossil shell	4	*	95	*
	IASH2	fossil shell and limestone	15	1	79	*
	IASH3	very coarse fossil shell	13	*	102	*
	IASALI	sandy with limestone	3	*	77	*
III – organic	IAOR	organic-tempered	8	*	174	1
	IAFLOR	flint and organic-tempered	42	2.5	207	1
IV – sandy	IASA1	fine sandy	112	7.5	1403	9
	IASA2	medium sandy	5	*	12	*
V – ferruginous	IAFELIFL	ferruginous, flint & limestone	20	1	10	*
	IAFESA	ferruginous, sandy, some shell	5	*	89	*
Iron Age/Saxon	IA/SXFE1	oolitic iron-tempered	3	*	30	*
Roman	DOR BB1	Dorset black burnished ware	1	*	19	*
	GREY	grey sandy ware	3	*	72	*
	OXID	oxidised sandy ware	1	*	10	*
	OXF RS	Oxon red-slipped ware	7	*	46	*
	OXF FR	Oxon reduced ware	3	*	24	*
Saxon						
I – organic	SXOR	organic-tempered	135	9	2016	12.5
	SXORSA	sandy paste with organic	139	9	3062	19.5
	SXSAFLOR	sandy with flint and organic	14	1	66	*
II – sand	SXSA1	fine sandy	43	3	870	5.5
	SXSA2	medium sandy	1	*	17	*
III – limestone	SXLI	limestone	7	*	138	*
	SXSALI	sandy with limestone	12	*	167	1
IV – sandstone	SXST	sandstone inclusions	1	*	26	*
V – igneous	SXIG	igneous rock	4	*	76	*
Total			*1533*	*100*	*15828*	*100*

II: calcareous
IASH1: A very hard, well fired dark grey or red-brown fabric with a sparse to common frequency of flat angular voids up to 5 mm. erupting from the surfaces. In fresh fracture the paste contains sub-angular limestone and fossil shell.
IASH2: A dark brown ware containing a sparse frequency of fossil shell and limestone with some coarser fragments in amongst a fine background scatter. At x20 occasional iron and a sparse scatter of fine, rounded quartz is visible.
IASH3: A moderately hard, brown or orange-brown ware containing a sparse scatter of very coarse fossil shell fragments up to 15 mm. in length. No other visible inclusions.
IASALI: Sandy fabric with a sparse to moderate frequency of limestone/shell.

III: organic
IAOR: A hard, dark brown ware with a laminar fracture and a smooth feel. The paste contains a moderate frequency of coarse organic matter very visible on the surfaces. Also present are rare fragments of angular flint and, at x20, a sparse frequency of fine, ill-sorted sub-angular quartz.
IAFLOR: Dark brown fabric with a sparse frequency of organic matter and a scatter of angular flint grits.

IV: sandy
IASA1: A brown or black, moderately hard, ware containing a moderate to common frequency of well-sorted sub-angular to rounded quartz sand (*c.* 0.7 mm.) and rare angular white angular flint.
IASA2: Dark grey with a red-brown core. The clay is very fine textured with a laminar fracture. At x20 a very fine sandy matrix is visible, the individual grains appearing as specks, with sparse organic matter. Slightly micaceous.

V: ferruginous
IAFELIFL: A brown or orange-brown sandy ware containing a sparse but distinctive scatter of red-brown iron grains, up to 2 mm. in size. At x20 the paste can be seen to contain very fine calcareous inclusions, including shell fragments, and a sparse to moderate frequency of well-sorted, fine rounded to sub-angular quartz sand and occasional flint.
IAFESA: A fine sandy textured clay fired brown with a black core. The matrix contains a distinctive sparse scatter of red-brown iron, 1-2 mm. across. At x20 a moderate frequency of fine, well-sorted sub-angular to rounded quartz sand and fine calcareous inclusions and shell fragments.

Iron Age or Saxon
IASXFE1: A brown, moderately hard fabric with a dark grey core containing a moderate frequency of polished, oolitic grains of brown iron along with occasional grey argillaceous rock fragments (?limestone), which are clearly the parent rock from which the ooliths are derived as it contains discrete spherical voids. Some of the rock fragments are up to 12 mm. in size breaching both the interior and exterior surfaces. In addition there is a scatter of sub-angular to rounded flint and occasional rounded, polished grains of clear or white quartz.

Forms: The majority of the vessels are coarsewares and although some showed evidence of careful finishing through burnishing, there are no obvious finewares in the group. Featured sherds were not prolific but recognisable forms include slack-sided vessels with simple rims and rounded wide diameter bowls typical of the later Bronze Age (Fig. 11.27, 28, 32). A small simple rim bowl shows finger grooves on the walls (Fig. 11.25). At least two vessels had finger depressed rims (Fig. 12.36) and one finger depressions around the body (Fig. 11.26). There were no examples of slashed or incised decoration and no sharply carinated vessels were noted. A large flared wall bowl (Fig. 11.31) with a rounded body from Saxon pit 1015, and a much smaller version with a burnished finish from pit 26, along with two expanded rim vessels from posthole 142 and pit 201 are more typical of the early Iron Age of this area (Fig. 11.34; Fig. 12.35). Several sherds from a large jar with two loop handles in a sandy fabric from pit 300 (Fig. 11.29), may also be early Iron Age. A flint-tempered bowl from 148 has tooled line decoration on both the interior and exterior (Fig. 11.30). This vessel is difficult to parallel and was not associated with other ceramic material.

Some vessels showed evidence of use with sooting on the exterior or interior surfaces.

Catalogue of illustrated sherds

Fig. 11:
25. Small simple rim bowl vertically smoothed. Dark brown. Fabric IASA1. Pit 201.
26. Small necked bowl with finger depressions around the body. Red-brown with a dark grey core. IAFL1. Posthole 423.
27. Simple rim bowl. Dark grey. IAFL2. Pit 440.
28. Simple vertical rim vessel with an ovoid body. Dark brown with a smooth exterior surface. Some external sooting. IASALIFL. Pit 433.

29. Large jar with a simple undifferentiated rim and two loop handles on the upper body. Dark grey brown with a black interior. The exterior body is burnished. IASA1. Pit 300.
30. Simple rim bowl decorated with lightly tooled lines on both the interior and exterior surfaces. The exterior is burnished. Dark brown to black. IAFL1. Pit 148.
31. Wide diameter flared rim bowl well burnished in the exterior and interior rim face. Brown. IASAFL. Ditch 1.
32. Rounded simple rim bowl. Dark to mid brown with a dark grey core. Horizontal scratch lines on the body. IASA1. Saxon pit 1015.
33. Jar with a beaded rim. Mid brown to dark grey. IA/SXFE1. Pit 31.
34. Expanded rim bowl. Mid brown. IASH1. Posthole 142.

Fig. 12:
35. Externally expanded rim with a finger-depressed outer edge. Orange-brown. IASH1. Pit 535.
36. Rim with a finger-depressed upper surface. Dark brown. IASA1. Pit 201.

Discussion: Certain elements of the assemblage point to a late Bronze Age date, in particular the flint-tempered wares, which are very typical of the later Bronze Age of this area, being replaced by more calcareous based and sandy wares in the early Iron Age. Flint-tempered wares are very rare at Abingdon where the occupation is considered to start around the 6th century BC but were quite common at Appleford to the south where occupation dates back to the later Bronze Age.[27] Flint-tempered wares also dominate the later Bronze Age assemblages to the east at sites like Carshalton, Surrey, Heathrow and Hurst Park, East Molesey.[28]

Ovoid bodied jars with handles similar to that from Benson feature in the Carshalton assemblage. The general lack of decorated wares suggests that this is a plainware assemblage following Barrett's definition.[29] Plain ware assemblages are generally replaced by more decorated ones from the 8th century BC onwards into the early Iron Age. However, both the Benson and Carshalton groups lack the angular bowls and jars which are one of the characteristics of this phase.

The range of fabrics at Benson is slightly more diverse than some of the other later Bronze Age assemblages from the area. Both the groups from Hurst Park, East Molesey and Prospect Park, Harmondsworth are dominated by flint-tempered wares with a small amount of sandy ware and at the latter a calcareous ware.[30] It is possible that some of the fabrics should belong to other less clear phases of use of the site at Benson. However, at Carshalton organic-tempered wares, sandy wares and a ferruginous fabric occurred alongside the flint-tempered wares mirroring more closely the Benson range. A date from the 10th to the 8th century has been proposed for the Carshalton group and provisionally the same is proposed for Benson.

The expanded rim vessels (Fig. 11.34; Fig. 12.35) suggest occupation extending into the early Iron Age perhaps just overlapping with that at Abingdon. These types of vessels can be paralleled at many other sites across the Thames Valley, for instance, Mount Farm, Dorchester and Farmoor, Cumnor.[31]

[27] C.D. DeRoche, 'The Iron Age Pottery', in M. Parrington, *The Excavation of an Iron Age Settlement, Bronze Age Ring Ditches and Roman Features at Ashville Trading Estate, Abingdon, Oxfordshire 1974-76* (CBA Res. Rep. 28, 1978), 40-74; J. Hinchcliffe and R. Thomas, 'Archaeological Investigations at Appleford', *Oxoniensia*, xlv (1980), 18-73.

[28] L. Adkins and S. Needham, 'New Research on a Late Bronze Age Enclosure at Queen Mary's Hospital, Carshalton', *Surrey Archaeol. Collect.* 76 (1985), 11-50; W.F. Grimes and J. Close-Brooks, 'The Excavation of Caesar's Camp, Heathrow, Harmondsworth, Middlesex, 1944', *Proc. Prehistoric Soc.* 59 (1993), 303-60; M. Laidlaw, 'Pottery', in P. Andrews, 'Hurst Park, East Molesey, Surrey: Riverside Settlement and Burial from the Neolithic to the Early Saxon Periods', in P. Andrews and A. Crockett (eds.), *Three Excavations along the Thames and its Tributaries, 1994* (Wessex Archaeol. Rep. 10, 1996), 51-104.

[29] J.C. Barrett, 'The Pottery of the Later Bronze Age in Lowland England', *Proc. Prehistoric Soc.* 46 (1980), 297-319.

[30] Laidlaw, op. cit. note 28; M. Laidlaw and L. Mepham, 'The Pottery', in P. Andrews, 'Prospect Park, Harmondsworth', in Andrews and Crockett, op. cit. note 28, pp. 1-50.

[31] J.N.L. Myres, 'A Prehistoric and Roman Site on Mount Farm, Dorchester', *Oxoniensia*, ii (1937), 12-40; G. Lambrick and M. Robinson, *Iron Age and Roman Riverside Settlements at Farmoor, Oxfordshire* (CBA Res. Rep. 32, 1979); Alistair Barclay, pers. comm.

There are, however, no haematite slipped wares, no incised decorated wares and no carinated fineware bowls at Benson which occur alongside such vessels on many contemporary sites. The proportion of calcareous wares is too low at Benson to know whether the later Prehistoric assemblage represents a continuum of activity or whether there is a break of activity between 8th-6th centuries, with one phase of activity dating to around the 10th-8th centuries and another phase of activity around the 6th century. It has been suggested from the various sites excavated in Surrey that the flint-gritted fabrics more typical of the later Bronze Age give way to more sandy wares. At Benson the flint-gritted wares accounting for over 65% of the later Prehistoric assemblage and sandy wares for 24% would also support a date well within the later Bronze Age but does not preclude a possible sandy LBA/EIA transitional phase.

Roman

Just 15 sherds of Roman date were recovered, mainly from features of Saxon date. The commonest ware is Oxfordshire colour-coated ware dating to the 4th century. A Dorset black burnished ware flanged, conical bowl sherd is likely to be of similar date. The remaining seven sherds comprised various local grey sandy wares and a single oxidised sherd.

Saxon (Fig. 12.37-54)

Saxon sherds account for *c.* 23% by sherd count of the total assemblage: 356 sherds, 6438 g. The material is relatively well preserved with an average sherd weight of 18 g. Most of the sherds came from the three SFB (2, 120 and 307), which collectively account for 92% of the Saxon material (Table 2).

Fabrics: At least nine fabrics were recognised which can be divided into five main groups: I organic; II sandy; III calcareous; IV sandstone and V igneous. Organic-tempered wares very much dominate, accounting for 74% by count (78% by weight) of the Saxon assemblage. The sandy wares account for 12% and the calcareous wares for 10%. Whilst most of the wares could have been made locally, the sandstone, igneous and possibly the calcareous vessels are more likely to be regional imports.

I: organic-tempered
SXORG: A generally dark brown, or black, ware containing a dense frequency of quite coarse organic matter in a fine sandy-textured clay.
SXORSA: A moderately hard brown or black ware with a sparse scatter of macroscopically visible quartz sand and rare flint along with a sparse to common frequency of organic material.
SXSAFLOR: A moderately hard, brown ware with a dark grey core and interior. Macroscopically the paste contains a moderate to common frequency of fairly coarse, organic matter. At x20 the matrix contains a moderate to common frequency of ill-sorted, rounded, quartz, less than 1mm. In addition there are rare occurrences of flint, iron and discrete calcareous inclusions.

II: sandy
SXSA1: A dense, black, sandy ware with a slightly granular texture. At x20 the paste contains a moderate to common frequency of well-sorted quartz sand (5 mm. and less in size).
SXSA2: A hard dark grey to brown ware with a granular texture. The paste contains a moderate to common frequency of well-sorted, rounded, polished quartz, some iron stained, around 1 mm. in size.

III: calcareous
SXLI: Brown with a dark grey core. The matrix contains a sparse frequency of decaying calcareous inclusions up to 2 mm. visible in fresh fracture with voids on the surfaces. Rare flint and visible quartz.
SXSALI: Similar to SXSA but with a sparse scatter of fine (1 mm. and less) calcareous inclusions, including bryozoa, in a dark brown finely micaceous clay. The calcareous inclusions appear as voids on the surfaces particularly the interior surfaces.
SXSALIOR: A moderately hard black ware containing a moderate to common frequency of well-sorted, rounded to sub-angular, fine quartz in a finely micaceous paste. In addition there is a sparse to moderate frequency of organic matter and sparse calcareous inclusions, 2 mm. and less in size. The latter appear as voids on the surfaces, particularly the interior.

IV: sandstone
SXST: An orange, very hard ware with a light grey core. The paste contains a sparse frequency of quartz sandstone, fragments up to 1.5 mm. along with sparse organic matter. At x20 the matrix shows a moderate scatter of ill-sorted, rounded to sub-angular quartz sand, up to 1 mm. in size and some white mica flecks.

V: igneous rock
SXIG: A hard, pale greyish brown or darker brown ware with a black core. The paste contains a sparse frequency of degraded fragments of igneous rock the most distinctive of which are plates of biotite mica up to 1.5 mm. across. Angular white fragments of quartz and feldspar are also present. One sherd contains sparse organic inclusions in a finely micaceous clay along with a sparse scatter of igneous rock fragments.

TABLE 2. COMPOSITION OF POTTERY FABRICS FROM SAXON SUNKEN-FEATURED BUILDINGS

	SFB 2				*SFB 120*				*SFB 307*			
Fabrics	*No*	*%*	*Wt*	*%*	*No*	*%*	*Wt*	*%*	*No*	*%*	*Wt*	*%*
Prehistoric	1	*	8	*	2	3	54	3.5	1	1	13	*
Roman	7	6	74	3.5	0	0	0	0	2	2.5	58	3
SXOR	13	11	265	13	36	51.5	837	52	28	34	389	21
SXORSA	55	46	850	42	9	13	393	24.5	49	59	1327	72.5
SXSAFLOR	14	12	66	3	0	0	0	0	0	0	0	0
SXSA1	23	19	647	32	12	17	127	8	2	2.5	29	1.5
SXSALI	2	1.5	16	1	6	8.5	101	6	1	1	18	1
SXLI	1	*	4	*	5	7	91	6	0	0	0	0
SXST	1	*	26	1	0	0	0	0	0	0	0	0
SXIG	3	2.5	68	3	0	0	0	0	0	0	0	0
Total	*120*	*100*	*2024*	*100*	*70*	*100*	*1603*	*100*	*83*	*100*	*1834*	*100*

* = *less than 1%*

Forms: The majority of the vessels are jars, many with a burnished finish (Fig. 12.37-39, 44-48). Other forms include a large vessel with a simple undifferentiated rim (Fig. 12.49) and a flared wall jar/bowl (Fig. 12.53). Bases are either slightly sagged/rounded or more rarely flat (Fig. 12.43). Decoration is generally sparse and only four decorated vessels are represented, one with impressed double cross-in-circle stamps (Fig. 12.41), one with incised diagonal lines (Fig. 12.40) and two with incised girth grooves (not illustrated). A further sherd shows part of a solid ?elongated boss (Fig. 12.51). The only other forms present are two lids (e.g. Fig. 12.42) and a small 'cup' or perhaps crucible (Fig. 12.52). This vessel had traces of a whitish deposit on the interior but did not appear to be blackened or heated as might be the case with a lamp. A possibly similar small cup featured amongst the assemblage from Prospect Park, Harmondsworth.[32]

Several of the vessels showed evidence of use either from blackening or sooting or from a more vesicular interior surface where calcareous inclusions have leached out. One jar (Fig. 12.44) has a double drilled hole below the rim made after firing.

Catalogue of illustrated sherds

37. Rounded necked bowl well burnished on the exterior and interior surface. Fabric SXSA1. SFB 2 surface.
38. Everted rim wide diameter jar. Dark grey with a brown interior. Burnished exterior. SXLI. SFB 120 (170).
39. Everted rim jar. Grey-brown to dark grey. Burnished exterior and haphazardly burnished interior. SXORG. SFB 120 (170).
40. Bodysherd from a small fineware vessel burnished on the exterior. Decorated with incised diagonal and horizontal lines. Dark grey. SXSALI. SFB 120 (170).
41. Bodysherd from an urn decorated with double cross-in circle stamps set in a horizontal scheme defined by girth grooves. Brown with exterior burnish. SXORSA. SFB 120 (170).
42. Small lid. Dark brownish grey. Exterior burnish. SXSA. SFB 120 (170).
43. Base with a slight foot, quite crudely formed. Matt brown exterior with black patches; smoothed dark grey interior. SXSALI. SFB 120 (170).
44. Necked jar with a burnished exterior. Black. The neck has a double drilled hole made after firing. SXORG. SFB 307 (364).

[32] Laidlaw and Mepham, op. cit. note 30.

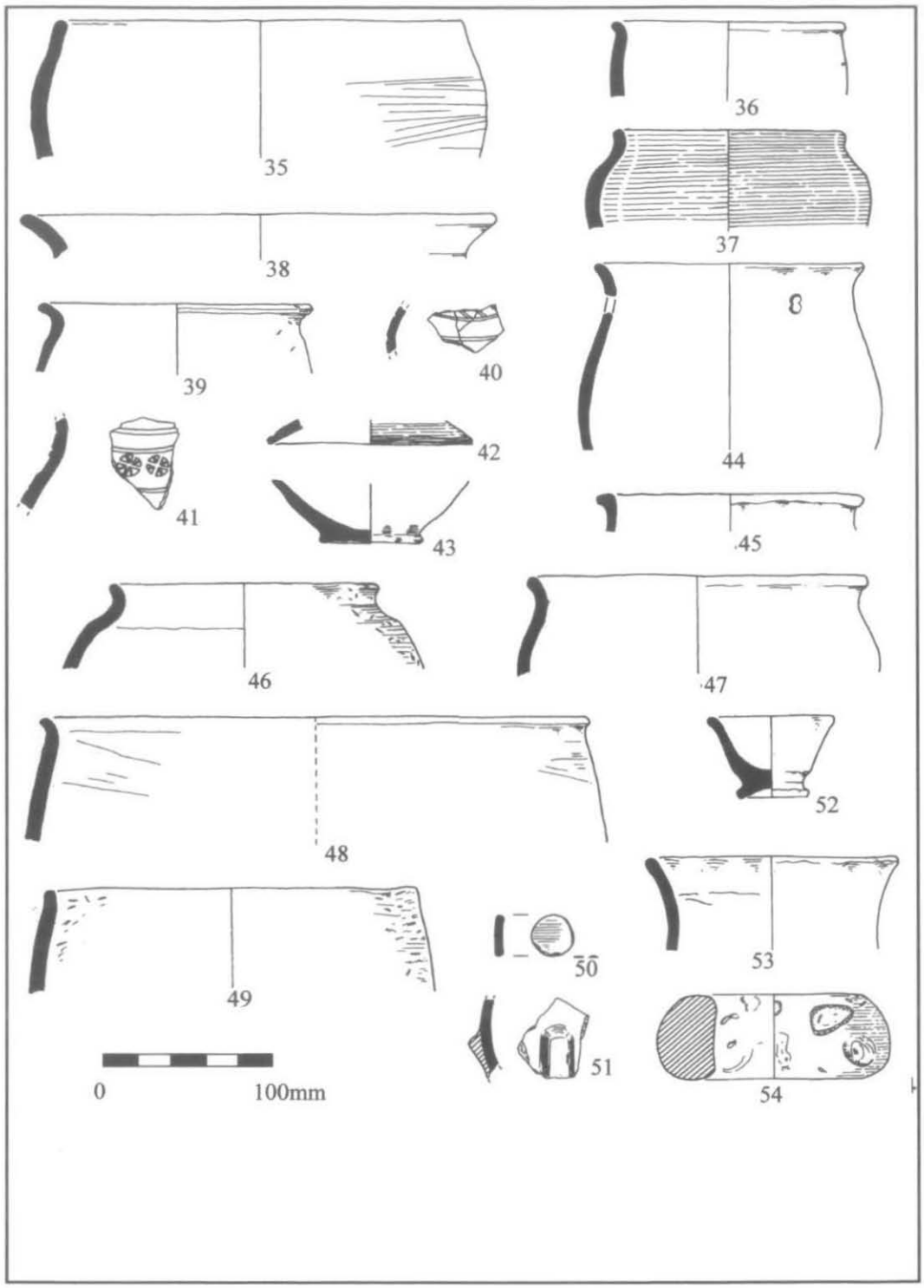

Fig. 12. Pottery: late Bronze Age and Saxon.

45. Necked jar with a slightly thickened rim. Black with an external burnish. SXORG. SFB 307 (364).
46. Necked jar. Black with a burnished exterior. Traces of blackened residue on the interior. SXORG. Posthole 338.
47. Necked jar. Dark grey. SXSA1. SFB 2 (368)
48. Wide diameter vessel, dark grey in colour with a burnished exterior. SXSA1. SFB 2 (365).
49. Simple rim bowl. Dark brown, matt exterior but burnished in the interior. SXORG. SFB 2 (365).
50. Small counter made from a sherd of OXF RS. SFB 2 (365).
51. Bodysherd from an urn with an applied, solid, vertical boss. Orange. SXSA1. SFB 2 (365).
52. Unusual small 'cup' with a slightly pedestal base. Dark grey. SXSAFLOR. Traces of a whitish residue in the interior. No evidence of sooting or burning which might indicate a lamp or crucible. SFB 2 (54).
53. Flared wall vessel with an undifferentiated rim. Brownish-orange. SXSA1. SFB 2 (365).
54. Annular loomweight. Sandy fabric with sparse organic material. Poorly wedged with large air pockets. Pit 337.

Loomweights and counters: Eleven fragments representing two loomweights were present, one from enclosure 1013, the other from pit 337 (Fig. 12.54). A small counter made from a sherd of Oxfordshire colour-coated ware (Fig. 12.50) came from SFB 2.

Discussion: The Saxon assemblage from Benson appears to be a fairly standard group of domestic wares that one might expect to date to around the 6th-8th centuries. This date is confirmed by the radiocarbon date obtained from SFB 307 with a calibrated range of AD 545-659. Most of the fabrics are likely to be local products but there are clearly a small number of regional imports present, especially with the igneous based fabrics and the sandstone-tempered sherd. The former is a type that is being increasingly recognised in early-middle Saxon pottery assemblages and a potential source from the Charnwood Forest area, Leicestershire has been postulated.[33] This ware shows a wide distribution in all directions from the source area. To the south comparable vessels have been noted from Prospect Park, Harmondsworth and London, and examples may have been present in the middle Saxon assemblage from *Hamwic*.[34] Decorated wares are sparse. The only stamped sherd can be paralleled with a similarly decorated sherd from Abingdon for which a 6th-century date is suggested.[35]

Most of the Saxon sherds came from the three SFBs. Table 2 shows the relative proportion of wares in each feature. There is clearly some difference between the groups which may reflect temporal differences. SFB 2 has the most diverse group of wares and the highest number of Roman sherds. This is the only SFB to produce the igneous rock-tempered ware and is the group containing the bossed vessel (Fig. 12.47) and small cup. The commonest ware present is fabric SXSAOR accounting for 43% by count, followed by SXSA at 18%. SFB 120 had slightly fewer sherds overall and the group was very much dominated by organic-tempered wares, SXOR at 51.5%. This group contained the only stamped sherd and the three sherds with incised decoration. SFB 307 has a slightly different profile again with sandy, organic-tempered wares (SXSAOR) as the dominant fabric at 59% followed by organic wares at 34%. Sandy wares tend to be more prominent in the early Saxon period with organic wares becoming increasingly common from the 6th to 9th centuries. It could be inferred from this that SFB 2 may be the earliest of the three, perhaps dating from the 5th-6th century, as it not only has the most diverse group, but the most Roman sherds. An SFB excavated at Dorchester containing mainly non-organic fabrics and very little decorated ware was dated to the 5th century.[36] On this basis SFB 307 may be next in the sequence followed by SFB 120 which has by far the greatest quantity of organic-tempered ware.

This group of pottery is a further valuable addition to the growing corpus of Saxon material from the middle Thames Valley. Comparable groups of domestic pottery have been found at various sites in and around Abingdon, Dorchester, and Sutton Courtenay.[37] A number of sites have recently been investigated in the Thames Valley east of the Chiltern ridge, of which the assemblage from Prospect Park, on the edge of London, has some similarities in that it has a number of regionally imported types, including Charnwood Forest wares. This group is provisionally dated to the 5th to mid 6th century.[38]

[33] A.G. Vince and D.F. Williams, 'The Characterization and Interpretation of Early to Middle Saxon Granitic Tempered Pottery in England', *Medieval Archaeology*, xli (1997), 214-20.

[34] Laidlaw and Mepham, op. cit. note 30, p. 32; J.R. Timby, 'The Middle Saxon Pottery', in P. Andrews (ed.), *Southampton Finds, vol. 1: The Coins and Pottery from Hamwic* (1988), 73-124: fabrics 71-3.

[35] M. Avery and D. Brown, 'Saxon Feature at Abingdon', *Oxoniensia*, xxxvii (1972), 66-81, fig. 8.38.

[36] S.S. Frere, 'Excavations at Dorchester on Thames, 1962', *Archaeol. Jnl.* cxix (1964), 147-9.

[37] Avery and Brown, op. cit. note 35; Frere, op. cit. note 36; G.D. Keevill, 'An Anglo-Saxon Site at Audlett Drive, Abingdon, Oxfordshire', *Oxoniensia*, lvii (1993), 55-79; D. Miles (ed.), *Archaeology at Barton Court Farm, Abingdon, Oxon.* (CBA Res. Rep. 50, 1986); E.T. Leeds, 'A Saxon Village at Sutton Courtenay, Berkshire: Third Report', *Archaeologia*, xcii (1947), 79-94.

[38] Laidlaw and Mepham, op. cit. note 30, p. 37.

PETROLOGICAL AND CHEMICAL ANALYSIS OF SAXON IGNEOUS ROCK-TEMPERED WARES by ALAN VINCE

Three sherds of Saxon pottery were identified by eye as containing acid igneous rock fragments. Such igneous rock-tempered pottery is found over a wide area of the English Midlands with outliers in the Thames Valley and Yorkshire. There is little doubt, based on both petrological analysis and the distribution of these wares, that the majority of the Midlands examples contain granodiorite derived from the Charnwood Forest, although possibly displaced south and west by glacial action.[39] However, at the extremes of this distribution the possibility of the use of glacial erratics or importation of vessels from the northwestern European plain has to be borne in mind. Consequently, the three Benson sherds were submitted for analysis using thin-sectioning and chemical analysis (Inductively Coupled Plasma Spectroscopy). Details of the methodology are in the archive; the results are summarised here.

Petrological analysis

The thin-section revealed a sample tempered with sparse to moderate subangular fragments of igneous rock up to 1.5 mm. across and a well-sorted abundant rounded quartz sand with grains up to 0.5 mm. across. The groundmass consisted of sparse to moderate angular quartz silt and sparse muscovite up to 0.1 mm. long in a matrix of variegated anisotropic clay minerals.

The igneous rock was composed of perthite, biotite and minor quartz. The predominance of feldspar and biotite is consistent with the Mountsorrel granodiorite but no examples of zoned feldspars (characteristic of this rock) were present. Furthermore, the colour of the biotite is similar to that noted in granitic inclusions seen both in Scandinavian/northwest European coarsewares and in wares composed of glacial till from the east coast. The sand has too few distinctive characteristics to narrow down the potential source of the sample, although similar sands are found in Scandinavian coarsewares. Sandstone fragments are a frequent inclusion in 'Charnwood ware' and their absence from the Benson sample casts further doubt over the origin of the sample.

Chemical analysis

The Benson sample was compared with analyses of igneous rock-tempered wares from five sites: Barton on Humber; Southam (Warks); Catholme (Staffs); Tallington (Lincs); and West Heslerton (Yorks). The Benson sample is not closely comparable with any of the others, but neither is it clearly distinguished from them. Using PCA, a plot of the first and second components shows that the data fall into two loose clusters. The first contains all the Catholme samples, a sample from Barton on Humber which thin-sectioning suggests is of east midlands origin and a sample from Tallington, for which an east midlands origin is most likely. Two samples from Southam, for which again an east midlands source is suggested, the West Heslerton samples and a sample from Barton for which an erratic origin for the granitic inclusions is suggested by thin-section analysis, form the second cluster. The Benson sample lies to one end of this second cluster. However, this split is not seen when other components are plotted and in some of these the Benson sample lies closer to the Catholme samples. No clear division into two clusters is found using cluster analysis.

As a second step, the data from England were compared with data from granite- and quartz sand-tempered wares from Birka. A plot of the first two components for this dataset shows that the Swedish data are distinguished from the English data (including Benson).

Conclusions

Both the petrology and chemical analyses leave open the possibility that the Benson sample comes from a source other than the Charnwood Forest. However, the possibility of a Scandinavian source is not supported by comparison of the chemistry of the Benson sample with that of samples from Birka. Given the choice of a source in an area where Scandinavian or northern British granitic rocks form a significant element in the local glacial deposits versus a source in the Charnwood Forest, the latter option still seems to be most likely.

OTHER CERAMICS

Twenty-eight undiagnostic fragments of tile were recovered from three Saxon contexts, all of which is likely to be residual Roman material. A total of 23 pieces of fired clay weighing 367 g. was recovered; this includes a single piece of possible burnt daub from SFB 2. A complete spindle whorl and three fragments were recovered from SFB 120. The complete example was a low conical whorl with eccentric perforation, diameter 51 mm., perforation diameter 8 mm., thickness 23 mm.

[39] Vince and Williams, op. cit. note 33.

STRUCK FLINT by STEVE FORD

A modest collection of 581 struck flints were recovered excluding 6 rolled pieces, which are probably a result of natural attrition during formation of the gravel, and one flake that may be modern accidental damage. Several of the pieces had been burnt, utilised, possibly retouched (flakes) and were patinated.

The majority of the flint, where positively identifiable from areas of remaining cortex, was from a gravel source. A few pieces may have derived directly from a chalk source. One piece, with a distinctive orange-stained band beneath the cortex, is likely to be bullhead flint derived from a Reading Beds source although this too could have been collected from a gravel deposit.[40] Although the site lies within the Upper Thames Valley where the river gravels contain little flint, the local gravels at this position close to the chalk outcrop of the Chilterns are flint based and it is probable that the majority of the raw materials were collected locally.

Table 3 summarises the composition of the collection. For this table the categories of broad flake/narrow flake have been assigned by eye but it is clear that approximately 11% of all flakes (broken and intact) are narrow flakes/blades, which is a characteristic of earlier Neolithic assemblages. Other distinctive items such as blade cores, serrated flakes/blades and leaf-shaped arrowheads confirm the earlier Neolithic as forming a significant component of the collection.

TABLE 3. ALL STRUCK FLINT

Category	*Number*
Intact flakes	210
Intact narrow flakes/blades	25
Broken flakes	98
Broken narrow flakes/blades	10
Possible broken narrow flakes/blades	5
Spalls	161
Cores	5
Narrow flake/blade cores	3
Bashed lumps	3
Core fragments	12
Scrapers	8
Denticulate scraper	1
Serrated flakes	21
Serrated blades	3
Leaf-shaped arrowheads	2
Knives	4
Burin?	1
Retouched flakes	9
Miscellaneous retouched pieces	1

The assemblage of struck flint from stratified Neolithic contexts is presented in Table 4. Although relatively small in size, there was sufficient material to conduct a metrical analysis of the flake component of the assemblage for the Earlier Neolithic features (phases Ia and Ib).

Several attributes of the assemblage can be examined to indicate the chronology, broad uses and origins of the material. The assemblage was subject to four strands of analysis: metrical analysis of intact and broken flakes; functional analysis of the same; composition of the retouched component, and the proportion of the retouched component compared to the whole.

[40] H. Dewey and C. Bromehead, *Windsor and Chertsey: Geology of the Country Around, Explaining Sheet 269* (Geological Memoirs, 1915).

TABLE 4a. SUMMARY OF FINDS FROM EARLIER NEOLITHIC FEATURES (PHASES Ia AND Ib)

Feature	*Flint*				*Bone*	*Pottery*	
	Flake	*Spall*	*Core*	*Other*	*frags*	*sherds*	*Wt (g)*
5	6	8	1	serrated flake; retouched flake bashed lump; 2 core frags		23	109
100	2	1				33	510
101	76	43	2	6 serrated flakes; 2 retouched flakes; leaf arrowhead; scraper ; 5 core frags	9	58	723
103	42	11		2 serrated flakes; retouched flake; bashed lump; core frag	1	135	844
132						1	14
139	3	1				10	5
202	7	4		serrated flake; denticulate scraper		8	21
205	7	5					
207						11	35
210	4					8	42
213	5	2				1	4
217	3	1				6	17
218	5	1		scraper			
219	3	1					
231	1					3	11
238	4	2		serrated flake; serrated blade; retouched flake		12	54
240	3	4		serrated flake		104	847
245	8	2		serrated flake		5	43
400	1					4	13
401	1			leaf arrowhead		3	7
402						1	7
410	1					16	34
411	2					5	16
428	1					1	2
432	7	5		2 knives; 2 retouched flakes; scraper	2	7	74
447						5	28
506					1	16	197
522	3	3				3	33
525					1	1	1
539						2	3
541	1					1	2
543						1	4
602	2		1		3	49	398
603	6	2	1	knife; serrated flake; retouched flake		9	33
610	1					16	103
611	15			knife		57	323
617	2	2		burin?		1	20
622	2					16	306
625	25			2 serrated flakes; retouched flake		2	35
626	10	8		scraper; serrated flake; serrated blade; retouched flake	1	13	112
1003	2						
1004						5	12
1011	1	1		serrated flake	1	3	3

TABLE 4b. SUMMARY OF FINDS FROM LATER NEOLITHIC FEATURES (PHASE Ic)

220	23	11	1	scraper	1	3	3

Metrical analysis

The 184 intact flakes from phases Ia and Ib contexts were subject to a metrical analysis of length:breadth ratio following the method of Saville.[41] The results are presented in tabular form in a series of length:breadth classes (Table 5). These figures can be compared with the summarised data from other stratified assemblages.[42]

The proportion of blades and blade-like flakes exceeding a length:breadth ratio of 2:1 is 25.5%. This is clearly a characteristic of earlier Neolithic assemblages.[43] Similarly, broken blades and possible broken blades as a proportion of all broken flakes at 19.2% is also a characteristic of earlier Neolithic assemblages. This is reflected in the combined figure for broken and intact flakes with a blade component of 23.6%. The proportion of flakes with bladescars can also be indicative of chronology and the combined figure here of 7.3% falls within the earlier Neolithic limits.

In comparison to two local earlier Neolithic sites, the figure for combined broken and intact flakes here is comparable with Abingdon causewayed enclosure (24.5% blades, 9.7% flakes with bladescars) but contrasts with North Stoke bank barrow and southern enclosure (8% blades, 1.7% flakes with bladescars).[44] For sites in the middle Thames Valley the figures are similar to those from Manor Farm, Horton (inner ditch) with 20% blades, 10% flakes with blade scars, and lower than at Staines (ditches) with 31% L:B>3:5, but much lower than at Eton Wick with 14% blades, 2.5% flakes with blade scars.[45] The assemblages from Eton Wick and North Stoke are thought to include a large proportion of quarry debris in contrast to the other 'domestic' assemblages.

Cortex remaining

Cortical flakes are poorly represented (Table 5) with just 10% of flakes having more than $^2/_3$ cortex remaining. This figure is comparable to Abingdon (8%), lower than at Horton (15%), but much lower than at North Stoke (34%) and Eton Wick (27%).

Function

An assessment was made of the functional capability of the assemblage.[46] Unlike microwear analysis, this assessment was not intended to detail what activities took place, but instead as a measure of the overall origin of the assemblage. The 'waste' component of the assemblage is fairly high (38.9%) and indicates a degree of preliminary knapping debris. This figure is much lower than at Abingdon (19%), similar to Horton (38%) but less than at North Stoke (45%) and Eton Wick (48%). For cutting flakes, the figure of 36% is more appropriate for 'domestic' assemblages and is comparable with that from Abingdon (40%) and Horton (38%). It is much higher than that for North Stoke (14%) and Eton Wick (12%) which are likely to be 'quarry' assemblages.

Cores

Only five cores were recovered along with eight core fragments and a bashed lump (tested nodule). One of the cores was last used to produce narrow flakes.

Retouched flints

The retouched component of the assemblage comprises a range of tool types typical of the earlier Neolithic (Table 4). The retouched component is 13.8% of the whole assemblage (flakes, cores and implements) which falls within the 'high' category and is a distinctive characteristic of Neolithic pits.[47] Serrated flakes and blades,

[41] A. Saville, 'On the Measurement of Struck Flakes and Flake Tools', *Lithics*, 1 (1980), 16-20.

[42] S. Ford, 'Chronological and Functional Aspects of Flint Assemblages', in A.G. Brown and M.R. Edmonds (eds.), *Lithic Analysis and Later British Prehistory* (BAR 162, 1987), 67-85.

[43] Ibid. table 2.

[44] Avery, op. cit. note 19; H.J. Case, 'The Linear Ditches and Southern Enclosure, North Stoke', in Case and Whittle, op. cit. note 19, pp. 60-75.

[45] For all the comparative figures in this section: S. Ford and J. Pine, 'Neolithic Ring Ditches and Roman Landscape Features at Horton (1989-1996)', in S. Preston (ed.), *Prehistoric, Roman and Saxon Sites in Eastern Berkshire* (TVAS monograph 2, 2003), 13-86; E. Healey and R. Robertson-Mackay, 'The Lithic Industries from Staines Causewayed Enclosure and their Relationship to other earlier Neolithic Industries in Southern Britain', *Lithics*, 4 (1983), 1-27; S. Ford, 'Excavations at Eton Wick', *Berks. Archaeol. Jnl.* 74 (1991-3), 27-36.

[46] As in Ford, op. cit. note 42.

[47] Healey and Robertson-Mackay, op. cit. note 45, p. 21; Thomas, op. cit. note 22, p. 60.

TABLE 5. SUMMARY OF METRICAL ANALYSIS OF FLAKES FROM EARLIER NEOLITHIC CONTEXTS (PHASE Ia AND Ib)

A) Intact flakes

Length:Breadth ratio:

>=2.5	*>=2<2.5*	*>1<2*	*<=1*	*Total*
17	30	115	2	184
9.2	16.3	62.5	12.0	%

Functional analysis:

Waste	*Cutting*	*Awls*	*Other*	*Total*
64	72	9	39	184
34.8	39.1	4.9	21.2	%

Flakes with blade scars: 12 (6.5%)

Thickness:

Mean	*Standard deviation*
6.1mm	3.43

Remaining cortex:

<1/3	*>1/3<2/3*	*>2/3*	*Total*
150	14	20	184
81.5	7.6	10.9	%

B) Broken flakes

Broken blade	*Possible broken blade*	*Broken flake*	*Total*
6	9	63	78
7.7	11.5	80.8	%

Functional analysis:

Waste	*Cutting*	*Awls*	*Other*	*Total*
38	23	1	16	78
48.7	29.5	1.3	20.5	%

Flakes with blade scars: 7 (9.0%)

Remaining cortex:

<1/3	*>1/3<2/3*	*>2/3*	*Total*
60	10	8	78
76.9	12.8	10.3	%

C) Combined figures of intact and broken flakes

Broken blades and possible broken blades	*Total flakes*
62	262
23.7%	

Functional class:

Waste	*Cutting*	*Awls*	*Other*	*Total*
102	95	10	55	262
38.9	36.3	3.8	21.0	%

Flakes with blade scars: 19 (7.3%)

Remaining cortex:

<1/3	*>1/3<2/3*	*>2/3*	*Total*
210	24	28	262
80.2	9.2	10.7	%

frequently showing a band of polish parallel to the edge on one side of the flake only, comprise 46.5% of the whole retouched assemblage.[48] The serrated flakes and blades show a range of shapes and extent of serration. None are on fine blades.

Summary

The analysis has shown that the assemblage is clearly of earlier Neolithic character and is broadly comparable with other 'domestic' assemblages of similar date elsewhere, with a greater emphasis on used material rather than by-products of production. There is little to suggest deliberate deposition of specially selected material either from individual pits or as a whole.[49] The proportion of retouched material in general and the serrated pieces in particular is comparable to a number of other pit groups such as the Sussex sites of Bishopstone (pit 357) and North Marden, and appears to represent an emphasis of material used for specific activities.[50] This contrasts with assemblages from Horton and at Eton Wick where retouched material is just 6% and 1.7% respectively, but is identical to Staines (ditches) (13.8%).

ANIMAL BONE by SHEILA HAMILTON-DYER

Over 1,600 animal bone specimens were recovered from this site. The majority of the bone was recovered from the early/middle Saxon SFBs.

Methodology

Species identifications were made using the author's modern comparative collections. Ribs and vertebrae of the ungulates (other than axis, atlas, and sacrum) were identified only to the level of cattle/horse-sized and sheep/pig-sized. Unidentified shaft and other fragments were similarly divided. Any fragments that could not be assigned even to this level have been recorded as mammalian only. Sheep and goat were separated using the methods of Boessneck and Payne.[51] Recently broken bones were joined where possible and have been counted as single fragments. The small number of bones from sieved samples is included. Measurements follow von den Driesch in the main.[52] Withers height calculations of the domestic ungulates are based on factors recommended by von den Driesch and Boessneck.[53] Archive material includes metrical and other data not presented in the text.

The animal bone fragments recovered amounted to 1,439 individual bones. The condition of the material is variable but well preserved on the whole. Gnawing and butchery marks are clearly visible on many bones and several are measurable. Much of the material is chopped or broken pieces of vertebrae, ribs, and shaft fragments of cattle and sheep/pig size. Over 60% of the bone is classified to these categories. In the 546 identified bones at least 13 taxa are represented: horse, cattle, sheep, goat, pig, red and roe deer, aurochs, dog, domestic fowl, goose, duck, and vole. Most of the identifiable bones are of the main domestic ungulates cattle, sheep/goat and pig, with those of cattle dominant. Horse is present but uncommon, bones of other taxa are rare. Both sheep and goat are present in the ovicaprid material. A summary distribution of the taxa recovered by phase is given in Table 6.

Phases Ia, Ib, Ic: Neolithic

There are just 24 fragments from all of the contexts in this phase. One pig femur had been gnawed, giving indirect evidence of dog. Several of the samples included calcined material, most of which could not be identified but the sample from pit 101 contained a calcined pig carpal.

[48] E.C. Curwen, 'Non-crescentic Sickle Flints from Sussex', *Antiq. Jnl.* 16 (1936), 85-90.

[49] Thomas, op. cit. note 22, p. 60.

[50] M. Bell, 'Excavations at Bishopstone', *Sussex Archaeol. Collect.* 115 (1977), 1-299; S. Ford, 'North Marden 1987: The struck flint', in A. Down and M. Welch (eds.), 'Chichester Excavations 7' (archive report, 1990).

[51] J. Boessneck, 'Osteological Differences between Sheep (*Ovis aries* Linné) and Goat (*Capra hircus* Linné)', in D. Brothwell and E.S. Higgs, *Science in Archaeology* (1969), 331-58; S. Payne, 'Morphological Distinctions between the Mandibular Teeth of Young Sheep, Ovis, and Goats, *Capra*', *Jnl. Archaeol. Science*, 12 (1985), 139-47.

[52] A. von den Driesch, 'A Guide to the Measurement of Animal Bones from Archaeological Sites', *Peabody Museum Bulletin*, 1 (1976).

[53] A. von den Driesch and J. Boessneck, 'Kritische Anmerkungen zur Widerristhöhenberechnung aus Längenmaßen vor- und frühgeschichtlicher Tierknochen', *Säugetierkundliche Mitteilungen*, 22 (1974), 325-48.

Phase II: Late Bronze Age/early Iron Age

This phase contributed 73 bones. The 22 identified bones are all of cattle, sheep/goat and pig, sheep dominating. Several bones from this phase are slightly eroded. Pit 17 offered two fragmented metapodia, one of pig and one of cattle. Although this feature contained a mass of burnt flint, neither of the bones had been subjected to burning. A cattle-sized rib and a sheep/goat atlas bear knife marks. The marks across the atlas indicate the removal of the head from the carcass.

Phase III: Roman

The 24 bones include five cattle bones, one a complete radius with an estimated withers height of 1.118 m. Also present is a much-fragmented mandible from an old animal. A fragment of cattle pelvis had been dog gnawed.

Phase IV: Saxon

The majority of the bone (1,235 fragments) is from features assigned to this phase. Bones identified to taxon number 477. In addition to the bones of the expected domestic ungulates there are a few bones of deer, goat, dog, domestic fowl, goose, and duck.

SFB 307 is the most productive feature with 594 specimens (Table 6). The majority of the identified bone is of cattle (97) with sheep/goat not far behind (79) and pig in third place (25). Other taxa present are horse, red deer, dog, fowl, and duck. Goat is positively identified in this feature; a pair of horn cores chopped from the skull and a jaw of a different, younger, animal. Bones positively identified as sheep number six and include four jaws from lambs. There are 14 sheep and goat jaws in total, from at least nine different animals. Five animals had, or would have had, full permanent dentition and could be of either sheep or goat, three were lambs under a year old, and one was from a goat kid of about the same age. The cattle bones include 21 jaw fragments of at least five individuals, both young and old. One was recovered without the teeth but the enlarged root alveoli imply that the jaw was abscessed and the teeth, where still present, would have been quite loose. One of the seven pig jaws is from an adult female and has malocclusion of the third and fourth premolars. Another jaw fragment is from a young animal, and a lower canine and a maxilla can be identified as adult male. The red deer bone is a small piece of burnt antler, and one of only two remains of this species from the site. The single dog bone is the only physical representation of this animal in the assemblage, although numerous gnaw marks on bones attest to the presence of dogs throughout. This bone, a complete humerus, is slightly damaged but gives an estimated shoulder height of 0.62 m., which is a good size for the period. One cattle sized fragment shows distortion and new bone growth, it could not be positively identified but may have been from a cattle femur which had been broken and healed with displacement.

SFB 2 and SFB 120 offered smaller assemblages of 101 and 102 bones respectively. Both contained cattle, sheep/goat, pig, and fowl in the identified material. SFB 2 has four bones of calf in the 13 cattle bones. There are just five bones of sheep/goat and three of pig, but sheep-sized fragments (which may also include pig) are more common than those of cattle-size (37 versus 34). In SFB 120 sheep/goat bones (15) and sheep-sized fragments (39) are more common than those of cattle (10) and cattle-size (23). Pig bones include one of a neonate. One of the cattle-sized ribs (almost certainly cattle) shows new bone growth round a broken edge, but the healing process had not progressed far enough to knit the two parts together before the death of the animal.

Pit 317 offered a useful assemblage of 244 bones. Cattle bones (61) and cattle-sized fragments (109) are dominant over sheep/goat (19), sheep-sized (24), and pig (15). The four horse fragments from this feature are from at least two animals; one specimen is of a distal epiphysis of a humerus not yet fused, indicating a young animal of no more than 18 months old. This bone, and several others, has evidence of dog gnawing. A fragment of tibia, however, is fused and as this bone does not fuse until two years this must be from a different animal.

Enclosure ditch 1006 contributes 104 fragments. In addition to the main domestic ungulates there is a fragment of red deer scapula, the only other evidence of this species at the site. A complete sheep metacarpus offers an estimated withers height of 0.62 m. Gully 1013 contributes 28 fragments including 21 of cattle, most of these are the remains of two fragmented skulls. One is likely to have been a castrate; the horn cores are quite large but thin. The other has much smaller, almost solid horn cores.

Other features offered just 62 fragments between 14 contexts. Identified bone is all of the main domestic ungulates, with the exception of a roe scapula from context 156 in gully 1009. This is the only representation of this species from the site. Pit 1015 contained several neonatal lamb bones.

Discussion of Phase IV material: The majority of the bone is of cattle and sheep/goat together with fragments of these sizes. Pig, horse and domestic fowl are present at low levels. Other taxa occur but as one or two bones only: red and roe deer, dog, goose, and duck. The condition of the material varies both within and between features. The majority is in good condition with little weathering or other

TABLE 6. SUMMARY OF ANIMAL BONE SPECIES BY PHASE

Phase			*horse*	*cattle*	*sheep/ goat*	*pig*	*red deer*	*roe*	*aurochs*	*cattle -size*	*sheep -size*	*mammal*	*dog*	*fowl*	*goose*	*other birds*	*small mammal*	*Totals*
1a			-	-	-	-	-	-	-	-	3	1	-	-	-	-	-	4
1b			-	1	-	2	-	-	-	1	4	7	-	-	-	-	-	15
1c			-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
1-2			-	-	1	-	-	-	-	2	1	-	-	-	-	-	-	4
		phase 1 total	**0**	**1**	**2**	**2**	**0**	**0**	**0**	**3**	**8**	**8**	**0**	**0**	**0**	**0**	**0**	**24**
		Percent	0	4.2	8.3	8.3	0	0	0	12.5	33.3	33.3	0	0	0	0	0	
		% cattle, sheep, pig		20	40	40												5
2		**phase 2 total**	**0**	**8**	**12**	**2**	**0**	**0**	**0**	**19**	**24**	**8**	**0**	**0**	**0**	**0**	**0**	**73**
		Percent	0	11	16.4	2.7	0	0	0	26	32.9	11	0	0	0	0	0	
		% cattle, sheep, pig		36.4	54.5	9.1												22
3		**phase 3 total**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**16**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**24**
		Percent	0	20.8	4.2	0	0	0	0	66.7	8.3	0	0	0	0	0	0	
		% cattle, sheep, pig		83.3	16.7	0												6
4	Pit 317	Total	4	61	19	15	-	-	-	109	24	12	-	-	-	-	-	244
		Percent	1.6	25	7.8	6.1	0	0	0	44.7	9.8	4.9	0	0	0	0	0	
		% cattle, sheep, pig		64.2	20	15.8												95
	Encl 1006	Total	2	16	17	7	1	0	0	43	18	0	0	0	0	0	0	104
		Percent	1.9	15.4	16.3	6.7	1	0	0	41.3	17.3	0	0	0	0	0	0	
		% cattle, sheep, pig		40	42.5	17.5												40
	Encl 1013	Total	0	21	2	1	0	0	0	1	1	2	0	0	0	0	0	28
		Percent	0	75	7.1	3.6	0	0	0	3.6	3.6	7.1	0	0	0	0	0	
		% cattle, sheep, pig		87.5	8.3	4.2												24
	SFB 2	Total	0	13	5	3	0	0	0	34	37	5	0	4	0	0	0	101
		Percent	0	12.9	5	3	0	0	0	33.7	36.6	5	0	4	0	0	0	
		% cattle, sheep, pig		61.9	23.8	14.3												21
	SFB 120	Total	0	10	15	9	0	0	0	23	39	0	0	3	3	0	0	102
		Percent	0	9.8	14.7	8.8	0	0	0	22.5	38.2	0	0	2.9	2.9	0	0	
		% cattle, sheep, pig		29.4	44.1	26.5												34
	SFB 307	Total	8	97	79	25	1	0	0	175	155	42	1	6	0	5	0	594
		Percent	1.3	16.3	13.3	4.2	0.2	0	0	29.5	26.1	7.1	0.2	1	0	0.8	0	
		% cattle, sheep, pig		48.3	39.3	12.4												201
4		**phase 4 total**	**14**	**227**	**147**	**64**	**2**	**1**	**0**	**405**	**286**	**67**	**1**	**13**	**3**	**5**	**0**	**1235**
		Percent	1.1	18.4	11.9	5.2	0.2	0.1	0	32.8	23.2	5.4	0.1	1.1	0.2	0.4	0	
		% cattle, sheep, pig		51.8	33.6	14.6												438
Unphased		**unphased total**	**0**	**11**	**14**	**6**	**0**	**0**	**1**	**19**	**16**	**12**	**0**	**0**	**0**	**1**	**3**	**83**
		Percent	0	13.3	16.9	7.2	0	0	1.2	22.9	19.3	14.5	0	0	0	1.2	3.6	
		% cattle, sheep, pig		35.5	45.2	19.4												31
		Grand total	14	252	176	74	2	1	1	462	336	95	1	13	3	6	3	1439
		percentage overall	1	17.5	12.2	5.1	0.1	0.1	0.1	32.1	23.3	6.6	0.1	0.9	0.2	0.4	0.2	
		% cattle, sheep, pig		50.2	35.1	14.7												502

damage visible (Table 7). Over 90% of the bone from pit 317 is unaffected and is likely to have been buried quickly after a brief period where some bone was available to dogs.

The highest proportion of eroded bone is from a gully, 1013 but this is based on a sample of only 28 bones and is unlikely to be representative. Gully 1006 had no eroded material despite offering a much larger sample. SFB 2 has a noticeably higher level of burnt material than any other feature, and similarly SFB 120 has a higher number of ivoried bones. This notable variation between the SFBs was also present at Collingbourne Ducis.[54] The amount of dog gnawing in the material is more consistent, ranging from 3.2–9.1%.

TABLE 7. CONDITION OF ANIMAL BONE FROM PHASE IV SAXON CONTEXTS

fragments		*unaffected*	*gnawed*	*eroded*	*Burnt*	*ivoried*	*total*
pit	317	220	16	7	1		*244*
gully	1006	97	6			1	*104*
gully	1013	18	1	8		1	*28*
SFB	2	69	5	2	21	4	*101*
SFB	120	75	7	3	2	15	*102*
SFB	307	503	54	5	24	8	*594*
other features	49	2	6	2	3	62	
	total	*1031*	*91*	*31*	*50*	*32*	*1235*

percentages		*unaffected*	*gnawed*	*eroded*	*Burnt*	*ivoried*	*total*
pit	317	90.2	6.6	2.9	0.4		*244*
gully	1006	93.3	5.8			1	*104*
gully	1013	64.3	3.6	28.6		3.6	*28*
SFB	2	68.3	5	2	20.8	4	*101*
SFB	120	73.5	6.9	2.9	2	14.7	*102*
SFB	307	84.7	9.1	0.8	4	1.3	*594*
other features	79	3.2	9.7	3.2	4.8	62	
	total	*83.5*	*7.4*	*2.5*	*4*	*2.6*	*1235*

Most anatomical elements are represented in the bones of the major taxa, with the expected bias against small and/or fragile bones (Table 8). In the sheep bones the tibia and radius are the most frequent elements. These bones are tough but also easily recognisable even as small fragments. Although irrelevant as a true representation of animal numbers, the MNI count (minimum number of individuals) is a useful indicator of what may be missing. The sheep/goat jaws, for example, represent 11 animals whereas only one is represented by a count of axis and none at all from the number of astragalus or phalanges. The cattle bones are less biased, almost certainly because their larger size makes them more resistant to destruction and more easily seen in excavation. Smaller taxa are, therefore, highly likely to be under-represented. Most of the samples from individual features are quite small but the two major collections of bone, from pit 317 and SFB 307, are large enough for meaningful comparison of the cattle composition (Table 9). Pit 317 has a high proportion of limb bones, scapula, and limb-shaft fragments but very little from the head. SFB 307 on the other hand, has a high proportion of skull and jaw bones and fewer scapula and limb bones. The amount of rib is apparently high in this feature but these are almost all small fragments of under 100 mm. whereas in pit 317 the ribs are largely complete. The percentage of foot bones is also higher in pit 317. A direct comparison

[54] S. Hamilton-Dyer, 'Faunal Remains', in J. Pine, 'The Excavation of a Saxon Settlement at Cadley Road, Collingbourne Ducis, Wiltshire', *Wilts. Archaeol. Mag.* 94 (2000), 102-8.

of the fragment numbers reveals that, apart from the head, the representation is in fact rather similar and it is the large number of skull and jaw bones in SFB 307 that is the true difference between the features.

Relatively few butchery marks were observed, just 68. Most of these were positive chop marks and are mainly on cattle and cattle-sized bones. Chopped vertebrae indicate splitting of the carcass while those on limb bones and ribs indicate division of meat into manageable portions for cooking. Finer marks on limb bones indicate the stripping of meat from the bone; similar marks on jaws indicate removal of tongue and cheek. A few of the finer marks indicate skinning and separation of feet from the carcass.

Metrical data are limited but comparable with other Saxon material. The most frequent measurements are very similar to the mean from Melbourne Street, Southampton.[55]

TABLE 8. SAXON PHASE IV, ANATOMICAL DISTRIBUTION OF THE MAIN DOMESTIC UNGULATES

Phase 4	*cattle*		*sheep/goat*		*pig*		*cattle-sized*		*sheep-sized*	
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
skull	34	15.1	12	8.2	4	6.3	8	2.0		
maxilla/premaxilla	4	1.8	5	3.4	3	4.7				
jaw	36	16.0	16	10.9	12	18.8				
loose teeth	7	3.1	12	8.2	4	6.3				
atlas	3	1.3			1	1.6				
axis			1	0.7						
other vertebrae							57	14.1	11	3.8
ribs							152	37.5	171	59.8
scapula	21	9.3	8	5.4	6	9.4				
pelvis	9	4.0	6	4.1	1	1.6				
humerus	12	5.3	5	3.4	3	4.7				
radius	11	4.9	17	11.6	6	9.4				
ulna	10	4.4	3	2.0	6	9.4				
femur	17	7.6	7	4.8	2	3.1				
tibia	12	5.3	33	22.4	5	7.8				
astragalus	4	1.8								
calcaneum	4	1.8	2	1.4						
other carpal/tarsal	3	1.3								
metacarpus	11	4.9	9	6.1	1	1.6				
metatarsus	16	7.1	11	7.5	3	4.7				
metapodial					4	6.3				
phalanges	9	4.0			1	1.6				
shaft fragments	1	0.4					162	40.0	101	35.3
other	1	0.4			2	3.1	26	6.4	3	1.0
Total	*225*		*147*		*64*		*405*		*286*	

sheep/goat includes 12 sheep, 3 goat
cattle-sized may include some horse and red deer, sheep-sized may include some pig and roe

[55] J. Bourdillon and J. Coy, 'The Animal Bones', in P. Holdsworth (ed.), *Excavations at Melbourne Street, Southampton, 1971-76* (CBA Res. Rep. 33, 1980), 79-121.

TABLE 9. COMPARISON OF CATTLE ANATOMICAL DISTRIBUTION IN THE PHASE IV FEATURES 317 AND 307

cattle	*pit 317*		*grouped*		*SFB 307*		*grouped*	
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
skull	3	*4.9*			12	*12.4*		
maxilla/premaxilla		*0.0*	10	*16.4*	2	*2.1*	38	*39.2*
jaw	5	*8.2*			21	*21.6*		
loose teeth	2	*3.3*			3	*3.1*		
atlas	1	*1.6*	1	*1.6*	2	*2.1*	2	*2.1*
scapula	7	*11.5*	7	*11.5*	7	*7.2*	7	*7.2*
pelvis	2	*3.3*	2	*3.3*	6	*6.2*	6	*6.2*
humerus	7	*11.5*			3	*3.1*		
radius	5	*8.2*			5	*5.2*		
ulna	3	*4.9*	25	*41.0*	4	*4.1*	26	*26.8*
femur	5	*8.2*			8	*8.2*		
tibia	4	*6.6*			6	*6.2*		
patella	1	*1.6*				*0.0*		
astragalus	3	*4.9*				*0.0*		
calcaneum		*0.0*			2	*2.1*		
other carpal/tarsal	2	*3.3*	16	*26.2*	1	*1.0*	18	*18.6*
metacarpus	3	*4.9*			4	*4.1*		
metatarsus	5	*8.2*			6	*6.2*		
phalanges	3	*4.9*			4	*4.1*		
shaft		*0.0*			1	*1.0*		
total	*61*				*97*			
cattle-sized								
skull		*0.0*			5	*2.8*		
other vertebrae	18	*16.5*			22	*12.5*		
ribs	14	*12.8*			85	*48.3*		
shaft fragments	77	*70.6*			64	*36.4*		
total	*109*				*176*			

Information on ageing can be obtained from examination of epiphysial fusion and tooth eruption and wear. The data from epiphysial fusion are less reliable than those from the teeth, as the bones from younger animals are less robust than those from older ones, and often preferred by scavengers. The relatively good state of the collection is demonstrated by the low number of loose teeth and the presence of neonatal bone. Even so there is inevitably a bias against young animals; jaws of lambs under six months are present but the bones are not (Table 10). Almost all sheep and goat jaws with teeth are from SFB 307. Estimations of age from tooth eruption and wear suggest that five would have been over three years old, two between 2-4 years, two under a year, and two under 6 months. The goat kid would have been around nine months. From the fusion data most cattle survived to 18 months and many were kept to an age of at least three years (Table 10). Toothwear data for cattle came again mainly from SFB 307. At least five animals would have had full permanent dentition but three others still had deciduous teeth.

The proportions of cattle, sheep/goat and pig bones in pit 317 are heavily biased in favour of cattle and against sheep/goat. This is not so marked in other features, though it should be noted that many offer only small amounts of bone. The major assemblage from SFB 307 has a much higher proportion of sheep/goat than pit 317. The overall proportions of cattle, sheep/goat, and pig are 52:34:15. These are remarkably similar to those of urban *Hamwic*.[56] Pig is more common here than at Lechlade and Collingbourne Ducis.[57]

[56] Ibid.

[57] M. Maltby, 'Animal Bone from Sherborne House, Lechlade', and pers. comm.; Hamilton-Dyer, op. cit. note 54.

TABLE 10. PHASE IV (SAXON) EPIPHYSIAL FUSION STATES, SHEEP/GOAT AND CATTLE

	sheep/goat		*cattle*	
	fused	*unfused*	*fused*	*unfused*
distal scapula	1	0	9	1
pelvis acetabulum	1	0	1	0
proximal radius	3	1	6	0
distal humerus	3	0	5	2
proximal phalanx	0	0	8	0
distal metapodial	1	1	2	3
distal tibia	8	2	3	1
femur	0	2	4	2
proximal tibia	1	2	0	1
proximal calcaneus	1	0	0	3
distal radius	1	1	1	1
proximal humerus	0	0	0	1
ulna	0	2	1	1
total	*20*	*11*	*40*	*16*

survival percentages

sheep/goat	*fused*	*unfused*	*cattle*	*fused*	*unfused*
6–10 months	*100*	*0*	7–10 months	*90.9*	*9.1*
13–16 months	*85.7*	*14.3*	12–18 months	*90.5*	*9.5*
18–28 months	*75*	*25*	24–36 months	*55.6*	*44.4*
30–42 months	*30*	*70*	42–48 months	*40*	*60*

Even though sheep and pig are probably under represented, due to taphonomic bias, beef would still have provided the most meat in the diet. Sheep also provided a substantial proportion of the meat, while pig appears to have been less important. The meat supply was supplemented by birds (mostly domestic fowl), but exploitation of wild resources is typically negligible, in contrast to the unusual middle Saxon smelting site at Ramsbury.[58] Exploitation of the domestic stock for secondary products such as milk and wool is likely, but difficult to prove from the bone evidence. The chopped goat horn cores and the presence of red deer antler probably indicate bone/horn/antler craft.

The bones are not uniformly distributed; although most of the major elements of the main taxa are represented in each feature they vary in their proportions. While some of the bone from the SFB may be contemporary occupation debris the material is not substantially different from other features and includes bone usually regarded as slaughter and butchery waste. The bone may well have been deposited after a period of disuse of the buildings.

Unphased

The remaining 83 fragments are from features that could not be securely placed within the date sequence. Almost all of the bone is of cattle, sheep/goat and pig, and fragments of these sizes. Colluvium deposit 195 offered four fragments; a sheep-sized vertebral fragment, two of cattle-size and the distal portion of a very large bovid humerus. This dark reddish-brown bone is heavily mineralised and can be identified as aurochs. This extinct species has not been found in British contexts after the middle Bronze Age. Pottery from this deposit was mixed and included Saxon material; it is likely, therefore, that the aurochs bone is residual.

[58] J.P. Coy, 'The Animal Bones', in J. Haslam, 'A Middle Saxon Iron-smelting Site at Ramsbury, Wiltshire', *Medieval Archaeology*, xxiv (1980), 41-51.

A multi-period site at Lechlade also contained residual aurochs remains.[59] The butchery marks on material from pit 534 were made with an axe or cleaver; this suggests that this material is probably Roman or Saxon rather than prehistoric. This feature also contained a fragment of bird bone and three bones of a vole.

Conclusion

The majority of the bone is from the Saxon features. Although broadly similar to bone collections from other Saxon sites there are subtle inter- and intra-site differences. Taking taphonomic factors into account, there seem to be distinct differences in the utilisation of stock and wild resources at Saxon sites in central southern England, which examination of further assemblages may clarify. The high level of cattle at this site, for example, may reflect the quality of local pasture. Chronological changes could also be present but assemblages may not be closely dated within the period.

CARBONISED PLANT REMAINS by MARK ROBINSON

In all, 115 samples were taken and these were mostly of around 30 litres, except that the entire fills of 25 potential Neolithic features were recovered. A sub-sample, generally of 10 litres, from each of the non-Neolithic samples and the full samples from the potential Neolithic contexts, were examined.

Although the concentrations of carbonised seeds are very low, they fall into a familiar pattern. The most numerous remains from Neolithic contexts are fragments of *Corylus avellana* (hazel) nut. The only cereal grains in the Neolithic samples are a single grain of *Hordeum* sp. (hulled barley) from pit 611 and an unidentifiable grain from gully 1011. Collected wild plant foods such as nuts appear to have played a more important part in the diet during the Neolithic than in subsequent periods.[60]

The pip of *Pyrus* or *Malus* sp. (pear or apple) came from late Bronze Age/early Iron Age pit 228 (283) and three cereal grains, including *Triticum* sp. (wheat), were identified from pit 441. Two undated features (114, 115) contained single grains of *Triticum* sp.

A few grains of hulled *Hordeum* sp. (barley) are present in a sample from a Saxon sunken-featured building (307). Barley, including grains of hulled *Hordeum vulgare* (six-row hulled barley) and a rachis fragment of *Hordeum* sp. was also identified from Saxon pit (337). Hulled six-row barley was a significant crop throughout the Saxon period and its occurrence is unsurprising.

CHARCOAL by MARK ROBINSON

Three samples contained much charcoal: Saxon sunken-featured building (307) and undated pits 114 and 115. In all cases the charcoal is *Alnus* or *Corylus* sp. (alder or hazel). Otherwise, there is only a slight presence of charcoal. The majority of the records are of cf. Pomoideae (hawthorn, apple etc.), *Alnus* or *Corylus* sp. and *Quercus* sp. (oak). cf. *Prunus* sp. (sloe, plum etc.) is present in three samples and is the only charcoal from pit 234. There are also examples of cf. *Acer* sp. (maple) and cf. *Ilex aquifolium* (holly) from a Saxon posthole 338 and *Ulmus* sp. (elm) from a late Bronze Age/Iron age pit 441. cf. Pomoideae, much *Alnus* or *Corylus* sp. and *Quercus* sp. are all represented in SFB 307. They had possibly been derived from a domestic hearth. Much of the other charcoal could have resulted from prehistoric domestic activity exploiting woodland and scrub for fuel.

STONE by DAVID WILLIAMS

Seven items of stone were recovered from the site, five from posthole 338 and two from SFB 2. The five pieces from posthole 338 are possibly burnt Cretaceous Lower Greensand. Benson lies close to the upper Greensand, with lower Greensand deposits a few miles to the north-west. The upper Greensand was also utilised for querns at Coles Pit near Faringdon in Oxfordshire.[61] The pieces from posthole 338 may have originally been part of a quernstone. The two fragments from SFB 2 (365) are Upper Greensand and have not been worked.

[59] M. Maltby, pers. comm.

[60] L. Moffett, M.A. Robinson and V. Straker, 'Cereals, Fruit and Nuts: Charred Plant Remains from Neolithic Sites in England and Wales and the Neolithic Economy', in A. Milles, D. Williams and N. Gardener (eds.), *The Beginnings of Agriculture* (BAR Int. Ser. 496, 1989), 243-61.

[61] O.G.S. Crawford, *Archaeology in the Field* (1953), 103.

METALWORK by NICOLA POWELL

Thirty-nine pieces of metalwork were recovered: 36 of iron and three of copper alloy. The two identifiable copper alloy pieces are probably items of personal adornment. The first, from SFB 2 (65), appears to be a buckle plate[62] with a square hole at one end for a rivet and, along the outside edges of what is probably the uppermost surface, a row of small round punched indentations. The fragmentary piece from SFB 120 may be part of an item of jewellery. Long, thin and curved, it has a small hole at one end and a scalloped pattern following the outside edge.

Iron nails dominate the remainder of the assemblage. All are fragmentary and corroded. Two needles came from SFB 307 and pit 317. Both are heavily corroded. Two fragments from a natural hollow (316) may be parts of the same pin or needle. One end is turned back on itself and the point is lost.

WORKED BONE by NICOLA POWELL

Two objects of worked bone include a point from SFB 2 and a comb from SFB 307. The point has a round cross-section, with the other end sawn or broken. The surface is highly polished through use, suggesting it is probably a pin-beater. Used in weaving, pin-beaters with double points are common finds on Saxon settlements and those from building 8 at West Stow are close parallels.[63]

The comb is in fragments, but appears to be a double-sided composite type, fastened with iron rivets. The two end plates are rounded and plain, with the teeth cut staggered in a straight line until they meet the side plate. The side plate shows the scars of tooth-cutting, indicating that the teeth were not sawn until the comb had been assembled. Six rivets are still in place and several of the teeth have become separated. Those that remain in place show that they have been cut evenly spaced with narrow gaps. This style of comb can be paralleled with West Stow Type 2A.[64] The double-sided composite combs from West Stow do not show any clear chronological development throughout the period of occupation (5th-7th century). This type of bone comb was manufactured and in use relatively unchanged for a long period up to the 12th century, after which time wood became the preferred material for comb manufacture.[65]

BURNT FLINT

Burnt flint was recovered from 12 features, in addition to the fill of pit 17, which was composed mainly of burnt flint.

SHELL by SHEILA HAMILTON-DYER

Eighteen pieces of oyster shell were recovered from eight contexts. One fragment from the top of phase II pit 441 is thought to be intrusive.

RADIOCARBON DATING

Three radiocarbon determinations were obtained by the University of Kiel on animal bone and hazel nut fragments as documented in Table 11. The calibrated dates were calculated using the INTCAL98 curve.[66]

62 G. Egan and F. Pritchard, *Dress Accessories: Medieval Finds from Excavations in London, c. 1150-1450* (1991), 55-7.

63 S.E. West, *West Stow: The Anglo-Saxon Village* (E. Anglian Archaeol. Rep. 24, 1985), figs. 48, 6 and 7.

64 Ibid. 127.

65 Egan and Pritchard, op. cit. note 62, p. 243.

66 M. Stuiver, P.J. Reimer, E. Bard, J.W. Beck, G.S. Burr, K.A. Hughen, B. Kromer, G. McCormac, J. van der Plicht and M. Spurk, 'INTCAL98 radiocarbon age calibration', *Radiocarbon*, 40 (3) (1998), 1041-84.

TABLE 11. RADIOCARBON DATES

Context	*Reference number*	*Result, years BP*	*Calibrated age ranges calendar years AD*	
			68.2% probability	*95.4% probability*
Pit 103 (153) hazel nut shell	KIA 9530	4736±32	3630–3578 3569–3562 3538–3515 3411–3383	3637–3547 3544–3499 3458–3377
Pit 611 (679) hazel nut shell	KIA 9531	4697±35	3619–3605 3522–3497 3463–3376	3630–3578 3570–3562 3538–3368
SFB 307 bone	KIA 9529	1440±30	601–648	545–546 558–659

DISCUSSION by STEVE FORD and JO PINE

Earlier Neolithic

The Upper Thames Valley is well known for its Earlier Neolithic settlement,[67] yet the evidence for study of the region was, until recently, largely derived from the discovery of monumental sites by aerial photography, and their subsequent excavation.[68] The evidence from subsoil deposits relating to occupation sites is much less well known but would allow us to address questions relating to the organisation and use of the landscape, subsistence practices and the basis of the economy. A plan published in 1984 located only a single Earlier Neolithic pit and five clusters of pottery.[69] Subsequent fieldwork and rescue excavation have begun to redress this imbalance somewhat.[70]

The site at Benson lies in a section of the valley between an important monument complex at Dorchester-on-Thames and the bank barrow complex at North Stoke.[71] Aerial photography has also revealed a *cursus* monument 800 m. to the east of the site and possibly an oval barrow[72] (Fig. 1). This *cursus* is undated but could easily be of earlier Neolithic date.[73] Stray finds of flint and polished axeheads, arrowheads, and earlier and later Neolithic pottery are also well represented in this stretch of the Thames Valley.[74]

[67] C. Renfrew, 'Monuments, Mobilisation and Social Organisation in Neolithic Wessex,' in C. Renfrew (ed.), *Explanation of Culture Change* (1973), 539-57; A. Whittle, *The Earlier Neolithic of Southern England and its Continental Background* (BAR Int. Ser. 35, 1977); H.J. Case, 'The Mesolithic and Neolithic in the Oxford Region', in Briggs, Cook and Rowley, op. cit. note 4, pp. 18-37.

[68] Case and Whittle, op. cit. note 19; R. Bradley, 'The Excavation of an Oval Barrow beside the Abingdon Causewayed Enclosure, Oxfordshire', *Proc. Prehistoric Soc.* 58 (1992), 127-42; A. Whittle, R.J.C. Atkinson, R. Chambers and N. Thomas, 'Excavations in the Neolithic and Bronze Age Complex at Dorchester on Thames, Oxfordshire 1947-52 and 1981', *Proc. Prehistoric Soc.* 58 (1992), 143-201.

[69] Bradley and Holgate, op. cit. note 6, fig. 8.3.

[70] A. Barclay, R. Bradley, G. Hey and G. Lambrick, 'The Earlier Prehistory of the Oxford Region in the Light of Recent Research', *Oxoniensia*, lxi (1996), 1-20.

[71] Whittle et al., op. cit. note 68; Case, op. cit. note 44.

[72] Benson and Miles, op. cit. note 5; A. Barclay and J. Harding (eds.), *Pathways and Ceremonies: The Cursus Monuments of Britain and Ireland* (Neolithic Studies group seminar paper 4).

[73] R. Loveday, 'The Barford Ritual Complex, Further Excavations (1972) and a Regional Perspective', in A. Gibson (ed.), *Midland Prehistory* (BAR Brit. Ser. 204, 1989), 51-84.

[74] Case, op. cit. note 67, map 4.

Fieldwalking at North Stoke 4 km. to the south of the site and at Abingdon further away to the north was specifically designed to examine prehistoric settlement patterns primarily by the recovery of lithic artefacts.[75] In recent years, much attention has been paid to the possibility that many earlier Neolithic occupation sites, and indeed sites of earlier periods in general, are largely represented by scatters of struck flints within the topsoil.[76] In terms of settlement distribution, at North Stoke, two approaches to an analysis of the distribution of earlier Neolithic material were applied. Both pointed towards a greater emphasis on the lower lying areas or immediate flanks of the Thames in contrast to later periods where a wider use of the landscape was recorded. Although less clear-cut, a similar pattern was suggested for Abingdon.[77]

Models of earlier Neolithic settlement have considered that earlier Neolithic occupation took the form of small units which were dotted around the landscape and probably not occupied for great lengths of time;[78] perhaps the majority of the population lived 'in rather flimsy and temporary dwellings'.[79] The extensive but chronologically imprecise evidence from fieldwalking, and other finds, has indicated that earlier Neolithic settlement in this stretch of the valley is not widely distributed across the landscape but is concentrated on the valley floor.[80] The discovery of earlier Neolithic deposits more or less on the banks of the Thames at Benson and a probable site to the south of Wallingford[81] adds substance to this pattern. Rather less clear is whether occupation sites only lie within the immediate zones around the monuments, as both of these sites are relatively close to monuments and the latter are well represented in this stretch of the valley.

The nature of the site: Subsoil deposits, and stray and residual finds, were discovered across the whole of the stripped area. The deposits comprised typical shallow bowl-shaped pits in addition to postholes and deeper pits or post-pits. This evidence of a small number of pits and postholes is typical of many earlier Neolithic occupation sites such as Hemp Knoll, Wilts, but in our case, comparisons with larger groupings, as at Hurst Fen, Broome Heath or possibly Reading Business Park, may be more appropriate.[82] The quantity and spread of the deposits and the possibility of two phases of use (based on the evidence of the pottery typology) is likely to indicate that the site was a preferred location for occupation and was repeatedly visited over a span of time, rather than reflecting a single, larger settlement. There is evidence that the site was reused, if only briefly, in the later Neolithic.

[75] S. Ford, 'Flint Scatters and Prehistoric Settlement Patterns in South Oxfordshire and East Berkshire', in A.G. Brown and M.R. Edmonds (eds.), *Lithic Analysis and Later British Prehistory: Some Problems and Approaches* (BAR 162, 1987), 101-35; R. Holgate, 'Mesolithic, Neolithic and Early Bronze Age Settlement south-west of Oxford', *Oxoniensia*, li (1986), 1-14.

[76] A.J. Schofield (ed.), *Contributions to Ploughzone Archaeology* (1991), 107-13.

[77] Holgate, op. cit. note 75, fig. 5.

[78] F. Healy, *Spong Hill pt. 6: 7th-2nd millennium BC* (E. Anglian Archaeol. rep. 39, 1988); F. Pryor, *Excavations at Fengate, Peterborough, England: The first report* (1974), 203-5.

[79] J. Thomas 'Neolithic Houses in Mainland Britain and Ireland – a sceptical view', in Darvill and Thomas, op. cit. note 13, p. 2.

[80] Ford, op. cit. note 75.

[81] A. Barclay, pers. comm.

[82] M.E. Robertson-Mackay, 'A Head and Hooves Burial beneath a Round Barrow, with other Neolithic and Bronze Age Sites, on Hemp Knoll, near Avebury, Wiltshire', *Proc. Prehistoric Soc.* 46 (1980), 123-76; J.G.D. Clark, E. Higgs and I.H. Longworth, 'Excavations at the Neolithic Site at Hurst Fen, Mildenhall, Suffolk 1954, 1957 and 1958', *Proc. Prehistoric Soc.* 26 (1960), 202-45; G.J. Wainwright, 'Broome Heath, Ditchingham, Norfolk, England', *Proc. Prehistoric Soc.* 38 (1972), 1-107; J. Moore and D. Jennings, *Reading Business Park: a Bronze Age Landscape* (Thames Valley Landscapes: the Kennet Valley, 1, 1992).

In terms of the chronology of the Neolithic deposits on the site, the two radiocarbon determinations have been invaluable in determining the sequence of the bulk of the earlier Neolithic occupation (phase Ib), especially concerning the difficulties encountered in ascribing date on the basis of pottery alone (Timby above). The two calibrated dates which lie within the period 3630-3377 cal BC (Table 11) are internally consistent and could reflect a single phase of site use within the main part of the earlier Neolithic period. These dates are broadly contemporary with the long enclosure site I at Dorchester (3940-3196 cal BC), the bank barrow and southern enclosure at North Stoke (3640-3370 cal BC) and the main phase of earlier Neolithic use of the Abingdon causewayed enclosure (broadly dated to 3970-3050 cal BC).[83] The pottery analysis also identified a group of four pits (phase Ia) that could pre-date this main phase of occupation, but this cannot be confirmed independently.

There was some evidence from the pattern of postholes for the presence of circular or oval structures. These features were poorly dated and on morphology alone are more likely to belong to the subsequent, late Bronze Age/early Iron Age phase (II). Structural remains interpretable as houses are rare on earlier Neolithic sites.[84] Where earlier Neolithic houses have been recognised, they are often of square or rectangular form. Circular structures have been recorded, most frequently in Ireland, whereas in Britain these are usually of later Neolithic date.[85]

A closer examination of the building styles presented by Darvill shows a wide range of foundation types which could have penetrated the subsoil and thus be able to survive on subsequently ploughed sites.[86] The structures presented by Darvill comprise posthole, stakehole and beam slot types, or a combination of these. Some of the structures are only represented by a single line of posts to form a tent-like structure, or irregular groupings of posts and hearths.[87] If this discussion is extended to include later Neolithic structures, the simplest buildings can be represented by six-post configurations.[88] On a multi-period site it is perhaps inevitable that simple configurations can be recognised or imagined and that these may be thought to represent Neolithic houses. However, in this case there is a lack of supporting evidence and the subsoil presence of Neolithic structures can only be regarded as tentative.

The above discussion has concentrated on the opinion that the Neolithic features are a domestic component of the settlement pattern and this is the preferred interpretation. Yet Thomas has drawn attention to the distinctive characteristics of many earlier Neolithic pits such as their shallowness, which would be unsuitable for storage, evidence for burning, rapid backfilling with artefacts often in pristine condition and struck flint with a high ratio of tools.[89] These attributes, it is argued, may reflect activity besides mere rubbish disposal and could represent ritual deposition. Assessment of the finds from the Benson pits did not suggest that there was any marked emphasis on the placement of objects or that they represented special deposition. Distinctive finds such as fine leaf-shaped arrowheads were few, the pottery and flint assemblages small and orthodox, and there was no obvious placement of distinctive animal bones such as red deer antlers or cattle skulls. There is little at Benson to suggest that subsoil features are not just infilled deliberately or passively with mundane occupation debris.

[83] Whittle et al., op. cit. note 68, table 12; Avery, op. cit. note 19.
[84] Darvill and Thomas, op. cit. note 13.
[85] E. Grogan, 'Neolithic Houses in Ireland', in Darvill and Thomas, op. cit. note 13, pp. 41-60; T. Darvill, 'Neolithic Houses in England, Wales and the Isle of Man', in ibid. pp. 77-113.
[86] Darvill, ibid.
[87] Ibid. fig. 6.5.
[88] Ibid. fig. 6.8.
[89] Thomas, op. cit. note 22, pp. 60-1.

The extensive programme to retrieve charred plant remains led to the recovery of wild, rather than domestic products. Plant remains were few in number but were mostly fragments of hazelnut shells. Only a single grain of barley was found. This does conform to an observed pattern of earlier Neolithic plant remains being frequently dominated by wild plants such as crab apple and hazelnut shells, with fewer cereals or even none at all.[90] Benson adds further data to this pattern, the radiocarbon dates indicating that it is prevalent within the main period of the earlier Neolithic. Somewhat disappointingly, there was an absence of faunal remains with which to assess husbandry practices in the Neolithic phase. A single bone of an aurochs was recovered from the infilled hollow on the western margin of the site but the dating evidence indicates that this bone is residual. There is a possibility that the general absence of Neolithic faunal remains is a product of social or husbandry practices. Bone survival for later (Saxon) phases of the site's history was good and the depths of the later features were in the same general range as for the prehistoric features. Similarly, the Neolithic features include those of sufficiently large size to take large animal bones, either from deliberate rubbish disposal or from accidental inclusion from disturbance of middens. This absence of bone contrasts with the assemblages from the excavation of causewayed enclosures such as at Abingdon, and downstream at Eton Wick and Staines, which produced sizeable assemblages.[91] If the causewayed enclosures are foci for communal gatherings including exchange, slaughter, butchery of animals followed by feasting with ceremonial deposition of discarded remains, then perhaps only small quantities of meat on the bone returns to the occupation sites. A note of caution has to be introduced into this argument regarding the possibility of differential preservation. Hamilton-Dyer (above) has pointed out that the few Neolithic faunal remains retrieved include those elements more resilient to decay (teeth). Although the Saxon features on the site used for comparison are no more massive, they are (obviously) much younger. One or more changes of soil regime over the intervening millennia could have led to differential decay of Neolithic bone. The ditches of causewayed enclosures on the other hand are large and bone within them tends to achieve much greater stability.

Later Neolithic

In contrast to the earlier phases, the later Neolithic period is hardly represented. Distinctive pottery (Mortlake Bowl and Grooved Ware) was present in small quantities and some struck flint also belongs to this phase. Subsoil deposits representing later Neolithic occupation are often rarer than for the earlier Neolithic although large groupings of pits are recorded at Yarnton and Sutton Courtenay.[92] This is frequently in marked contrast to expectations based on the large quantity of contemporary flintwork that can be present in the topsoil when controlled excavation of both types of context takes place.[93] The process of later Neolithic monument construction in the Upper Thames Valley is as well documented as for the earlier period yet the lithic data from the North Stoke fieldwalking survey point to a much more widespread use of the landscape.

[90] Moffett et al., op. cit. note 60; Barclay et al., op. cit. note 70, p. 12; A. Richmond, *Preferred Economies: The Nature of the Subsistence Base throughout Mainland Britain during Prehistory* (BAR 290, 1999), 77.

[91] Avery, op. cit. note 19; Ford, op. cit. note 45; Robertson-Mackay, op. cit. note 19.

[92] G. Hey, 'Yarnton, Worton Rectory Farm', *S. Midlands Archaeol.* 21 (1991), 86-92; Case, op. cit. note 21.

[93] F. Healy, 'Are first impressions only topsoil deep? The evidence from Tattershall Thorpe, Lincolnshire', *Lithics*, 4 (1983), 28-33.

Late Bronze Age/early Iron Age

A recent assessment of the nature of later Bronze Age and earlier Iron Age settlement of the region has stressed the diversity that new fieldwork has begun to document in detail.[94] In addition to occupation sites which have only recently come to light, as at Yarnton, this diversity includes rich riverside/island 'emporia' as at Wallingford, field systems as at Radley and hill top enclosures at Rams Hill and possibly Bozedown.[95] Earlier studies had observed that following the end of large scale monument building in the upper Thames region in the earlier part of the Bronze Age, the emphasis of settlement and burial and the hoarding and discard of fine metal tools and weapons had markedly shifted downstream into the middle and lower Thames valley.[96] Whilst several sites of early Iron Age date were known, it was not until a detailed re-assessment of the pottery identified a post-Deverel Rimbury component corresponding to the late Bronze Age and early Iron Age.[97] It is within this framework that the Benson finds have to be considered. The majority of the pottery of this phase from Benson is thought to belong to the late Bronze Age, 10th-8th centuries BC, but a small number of features produced pottery better compared with early Iron Age assemblages, i.e. *c.* 6th century BC. Although there is a possibility of a continuum of development, this difference was reflected in the division of this period into two subphases.

The form of the late Bronze Age/early Iron Age occupation at Benson conforms to a pattern that is better known from sites recorded in the middle and lower Thames valley or even the Berkshire Downs.[98] Recent development-led fieldwork has added new locations to the small corpus of occupation sites within the upper Thames region.[99] One aspect of this pattern is spatially limited clusters of postholes and shallow pits accompanied by one or more circular and four-post built structures. Such sites are unenclosed and artefact-poor and are frequently interpreted as short-lived occupation sites. The site at Benson does not appear to be integrated within an enclosed and well ordered landscape such as evidenced at Reading Business Park, nor part of a widespread and long lived site such as Knights Farm.[100] This

[94] D. Miles, 'Conflict and Complexity: The Later Prehistory of the Oxford Region', *Oxoniensia*, lxii (1997), 1-20.

[95] G. Hey, C. Bell and M. Parsons, 'Yarnton Floodplain', *S. Midlands Archaeol.* 23 (1993), 81-5; R. Thomas, M.A. Robinson, J. Barrett, and R. Wilson, 'A LBA Riverside Settlement at Wallingford, Oxon.', *Archaeol. Jnl.* 143 (1986), 174-200; A. Mudd, 'The Excavation of a Late Bronze Age/Early Iron Age Site at Eight Acre Field, Radley', *Oxoniensia*, lx (1995), 21-66; S. Needham and J. Ambers, 'Redating Rams Hill and reconsidering Bronze Age Enclosures', *Proc. Prehistoric Soc.* 60 (1994), 225-43; L. Howell, 'The Excavation of a Bronze Age Ditch at the Field Test Centre at Castrol Technology Centre, Pangbourne, Berkshire', *Oxoniensia*, lxi (1996), 35-9.

[96] J.C. Barrett and R.J. Bradley, 'The Later Bronze Age in the Thames Valley', in J.C. Barrett and R.J. Bradley (eds.), *Settlement and Society in the British Later Bronze Age* (BAR 83, 1980), 247-69.

[97] Barrett, op. cit. note 29.

[98] S.J. Lobb, 'The Excavation of a Late Bronze Age Settlement at Furze Platt, Berkshire', *Berks. Archaeol. Jnl.* (1979), 9-17; P. Andrews, 'Hurst Park, East Molesey, Surrey: Riverside Settlement and Burial from the Neolithic to the early Saxon Periods', in Andrews and Crockett, op. cit. note 28, pp. 51-104; R.J. Bradley, S.J. Lobb, J. Richards and M.A. Robinson, 'Two Late Bronze Age Settlements on the Kennet Gravels: Excavations at Aldermaston Wharf and Knight's Farm, Burghfield, Berkshire', *Proc. Prehistoric Soc.* 46 (1980), 217-95; J. Pine, 'Late Bronze Age Occupation, Roman Enclosure and Early Saxon Occupation at Waylands Nursery, Wraysbury', in S. Preston (ed.), *Prehistoric, Roman and Saxon Sites in Eastern Berkshire* (TVAS Monograph 2, 2003), 119-37; S. Ford, *Excavations at Cippenham, Slough, Berkshire 1995-7* (TVAS Monograph 3, 2003); J.C. Richards, 'The Excavation of a Late Bronze Age Settlement and Ditch at Beedon Manor Farm, Berkshire', in P.D. Catherall, M. Barnett, and H. McClean (eds.), *The Southern Feeder: The Archaeology of a Gas Pipeline* (1984), 56-70.

[99] Mudd, op. cit. note 95; Hey et al., op. cit. note 95; G. Hey, 'Yarnton Floodplain 1998', *S. Midlands Archaeol.* 29 (1999), 85-8.

[100] Moore and Jennings, op. cit. note 82; Bradley et al., op. cit. note 98.

pattern also contrasts with succeeding middle Iron Age sites where enclosure, deep pit digging and ring-gully houses are more frequently recorded.[101] Only some of these characteristics are shared with the recently excavated site at Radley.[102] There, a short-lived site belonging to the period *c.* 1020-800 CAL BC includes a number of ditched field boundaries and trackways and the site of a house defined by a ring gully structure. There were no four-post structures and few finds in general. At Benson, economic data are limited; the few charred plant remains include wheat grains and apple/pear pips and the faunal remains the typical species of cattle/sheep/pig. The site would appear to be a small, short-lived, perhaps impoverished farmstead, belonging to the early part of the period.

Roman

Two NE.-SW. aligned ditches (1000 and 1002) have been assigned to the Roman period and may represent elements of a much larger field system. Evidence of Roman activity on the site was minimal, but does add to the growing body of evidence for Roman settlement in Benson (Fig. 1).

Early Saxon

The excavation has uncovered Saxon occupation in the form of three sunken featured buildings (SFB), two small enclosures and a small number of pits and postholes. A single radiocarbon date from SFB 307 of cal AD 545-659 indicates that the Saxon occupation is of mid 6th- to 7th-century date. The pottery from this feature and elsewhere on the site can also be dated to the 6th-8th centuries with the stress on the earlier part of the range.

Economic data (charred plant and faunal remains) from the site were typical if not exceptional for this period. Charred plant remains were few but included barley, while the faunal assemblage included the usual cattle, sheep and pig forming the bulk with a minor element of horse, goat, birds and deer. In contrast to chalk downland sites, there was a greater emphasis on cattle and this may reflect the local availability of land suitable for grazing cattle in the vicinity of the Thames.

Petrological analysis of some of the pottery revealed a tempering agent from a non-local igneous rock source. The source of this material was not determined and may be from a glacial erratic, but the Charnwood Forest area of Leicestershire is a known production area of Saxon pottery and is the best suggestion available at present. This may reflect a Midlands (Mercian) connection for the site which is well known from the documentary sources.

It is doubtful that the excavation has uncovered the complete area of settlement and Blair has pointed out that Saxon pottery finds are widespread from the village.[103] The evidence from more extensive excavations shows that early Saxon settlements often occupy large areas (2-3 ha.) without marked formal limits as at the well known sites of Mucking and West Stow.[104] A detailed chronological study at the latter two sites showed that they had been utilised over several centuries with small settlement units shifting over time. Dispersed occupation with frequent shifts of location is thought to be typical of early and middle Saxon settlement but this may not be applicable in this instance because of the historic significance of Benson.

[101] T. Allen, D. Miles, and S. Palmer, 'Iron Age Buildings in the Upper Thames Region', in B. Cunliffe and D. Miles (eds.), *Aspects of the Iron Age in Central Southern Britain* (Oxf. Univ. Comm. for Archaeology, Monograph 2, 1984), 89-101.

[102] Mudd, op. cit. note 95.

[103] H. Hamerow, *Excavations at Mucking, vol. 2: The Anglo-Saxon Settlement* (Eng. Heritage Archaeol. Rep 21, 1993); West, op. cit. note 63.

[104] K. Tiller, pers. comm.

Benson was the site of a royal settlement and was first mentioned in an annal ascribed to 571 as a *tunas*. This has been interpreted as meaning a *vill* and that Benson was the central place of an early king.[105] The dates and authenticity ascribed in this annal are highly debatable.[106] However, the radiocarbon date from the site does indicate the possibility of a Saxon settlement at Benson in the mid 6th century. More reliable documentary sources for Benson being a royal *vill* are of later date, such as land grants in 730 when the *vill* belonged to King Aethilbold of Mercia and when Offa attacked Cynewulf and captured the *vill* in 779.[107]

There is little from the Benson excavations to indicate that the deposits represent a rich or palatial site typical of a royal residence. Excavation at Yeavering, the 7th-century royal complex of the Northumbrian kings, revealed a succession of very large timber halls and a grandstand-like structure along with a single sunken featured structure.[108] From a later period, the 9th-century Saxon royal complex at Cheddar consisted of a succession of large timber halls associated with small rectangular buildings.[109] Closer to Benson, 12 km. to the west at Drayton in Oxfordshire, an unexcavated royal palace site has been inferred from the plan and scale of a series of cropmarks. Here a large group of L-shaped buildings associated with a scatter of SFBs is thought to represent a high status site which may date to before the 7th century.[110] Other high status sites such as at Cowdery's Down, Basingstoke and Flixborough revealed large and elaborate buildings even though the former produced very few artefacts.[111]

The excavated remains at Benson comprise modest SFBs and other subsoil features with no evidence for rectangular halls or rich artefactual remains. There is no evidence for defensive structures such as those present at other royal strongholds nor for catastrophic destruction such as could have occurred during the several battles fought in the area, and it is most probable that at best our site was peripheral to any royal complex.[112] Further assessment of the significance and relationship of these excavated Saxon deposits to royal use of Benson will have to await further opportunity to explore the topography of the village.

105 Blair, op. cit. note 8, p. 38.
106 Ibid. 27 and fig. 26.
107 Edwards, op. cit. note 10, pp. 178-9; Blair, op. cit. note 8, p. 55.
108 B. Hope-Taylor, *Yeavering, an Anglo-British Centre of Early Northumbria* (1977); A. Reynolds, *Later Anglo-Saxon England, Life and Landscape* (1999), fig. 15.
109 P. Rahtz, *The Saxon and Medieval Palaces at Cheddar* (1979); Reynolds, op. cit. note 111, fig. 39.
110 Blair, op. cit. note 8, p. 31.
111 M. Millett and S. James, 'Excavations at Cowdery's Down, Basingstoke, Hampshire 1978-81', *Archaeol. Jnl.* 140 (1983), 151-279; C.P. Loveluck, 'A High-status Anglo-Saxon Settlement at Flixborough, Lincolnshire', *Antiquity*, 72 (1998), 146-61.
112 Blair, op. cit. note 8, p. 27.