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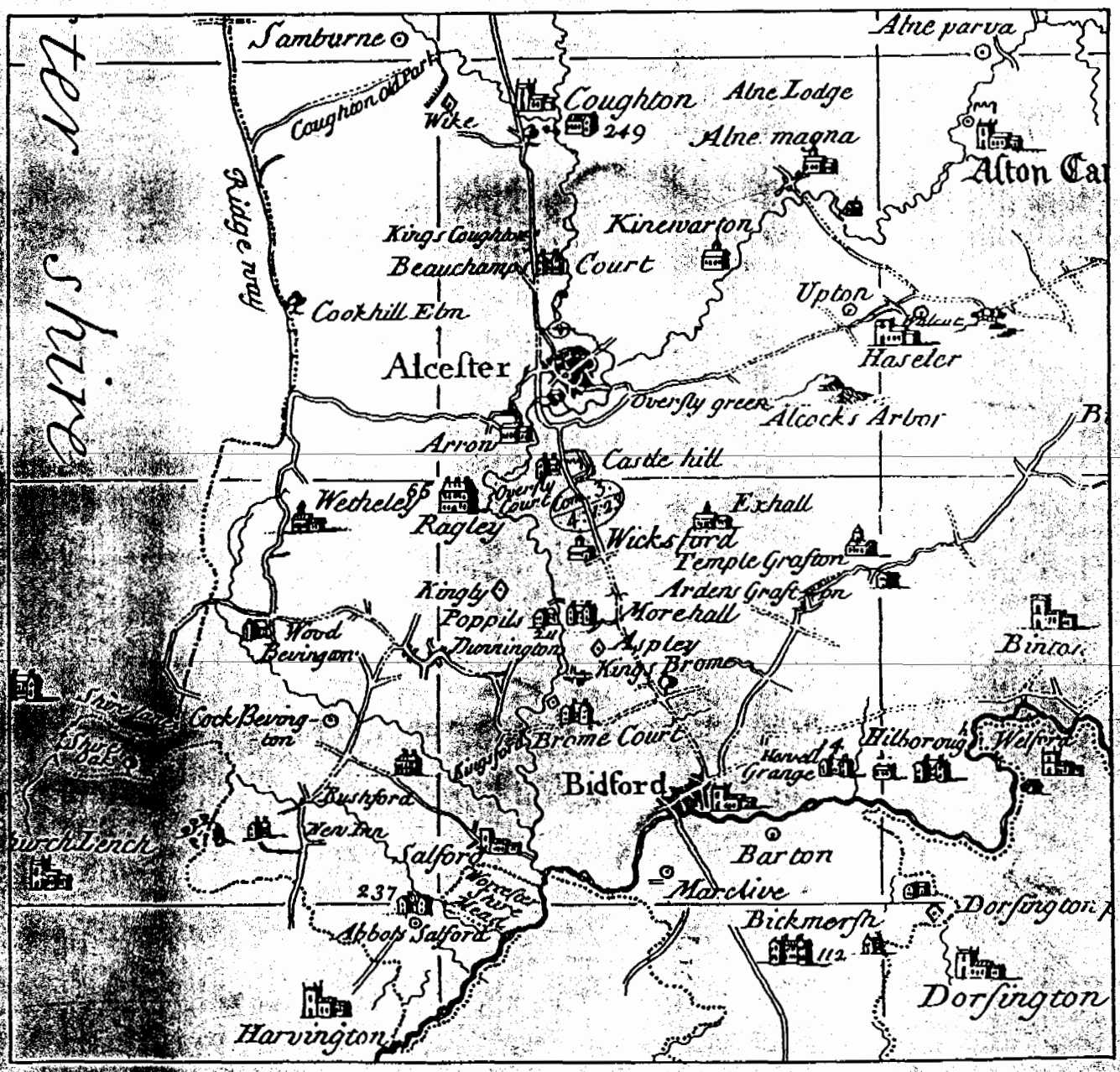
Excavations in the Outer Enclosure of Boteler's Castle, Oversley, Alcester, 1992-93

Christopher Jones, Graham Eyre-Morgan, Stuart Palmer and Nicholas Palmer



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BIRMINGHAM AND WARWICKSHIRE ARCHAEOLOGICAL SOCIETY

TRANSACTIONS FOR 1997

VOLUME 101

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SUMMARY

Excavations were carried out in 1992 and 1993 in advance of road construction to the east of Boteler's or Oversley Castle, a motte and bailey south of Alcester, Warwickshire. The castle was built by Ralph Boteler, a leading vassal of the Earl of Leicester, in the early 12th century. An evaluation involving geophysical survey and trial trenching was followed by the excavation of a series of open areas across a large enclosure on the east side of the castle surrounded by a defensive ditch which showed as a cropmark.

The excavations uncovered a small amount of evidence for pre-medieval activity including a scatter of neolithic flintwork, two early Bronze Age pits and fragments of a Romano-British field system aligned on the Roman road Ryknild Street which ran through the enclosure.

The main period of occupation belonged to the 12th–early 13th century and related to a settlement, established adjacent to the castle. The village was enclosed by a defensive ditch and probable bank. Within the enclosure there were plots aligned on two ditched trackways running from Ryknild Street to the castle. A few timber buildings, mainly supported on earthfast posts, were excavated along with a malting kiln, cess pits and other features. The village was never densely settled, possibly half the plots never being occupied, and it was abandoned by c 1225.

The medieval finds, which were well dated because of the short period of occupation, included pottery, copper alloy and ironwork, a few stone, bone, lead and glass objects, metalworking residues, animal bone and charred plant remains. Nearly all the pottery was locally produced Alcester ware, non-local fabrics forming less than 1% of the total. The metalworking residues produced possible evidence for small scale steelmaking. The animal bone reflected a consumer economy with most animals killed at prime meat age. The charred plant remains from a malting kiln and domestic contexts suggested that wheat was the main crop grown in the vicinity, along with smaller amounts of oats, rye, barley, peas and beans.

INTRODUCTION

by Christopher Jones and Nicholas Palmer

In 1992 and 1993 a series of archaeological excavations was carried out by the Warwickshire Museum on behalf of the Highways Agency across an enclosure on the east side of Boteler's Castle at Oversley, south of Alcester (Fig 1), in advance of the construction of the A46 (formerly A435) Norton-Lenchwick Bypass. Boteler's (or Oversley) Castle is a motte and bailey, set on the edge of a plateau of Arden Sandstone outcropping from Mercia Mudstone overlooking the River Arrow at NGR SP 086559 (Fig 2). To the north and west the land slopes steeply down to the first river gravel terrace of the Arrow valley. The castle motte and inner baileys are a Scheduled Ancient Monument (Warwicks Monument no 74). The true character and extent of the castle are however relatively little understood, although, according to the antiquarian Dugdale (1730, 854), it was built in the early 12th century by Ralph Boteler, one of the chief adherents of the Earl of Leicester.

Until the 1950s the castle survived as a series of earthworks, but since then cultivation has eroded the earthworks so that today most of the remains are visible only as cropmarks (Fig 2; Pl I). The castle motte, which lies at the very top of the hill, is very attenuated, being now visible at ground level only as two slight humps. It is surrounded on all but its north-western side by what was apparently a large ditch. To the south this ditch has a small enclosure attached to it with another narrower ditch to the south. Just north-east of the motte was the site of Oversley Court, the manor house that succeeded the castle and survived until the mid-18th century. To the east was an enclosure probably to be identified as the inner bailey although it is on a considerable slope which would seem to make it inconvenient for such a use.

Two further enclosures to the north probably represent additional baileys. They can be seen as terraces at ground level and slight banks are visible on the east side of each. Two parallel, semicircular cropmarks on the far western side of the hilltop, somewhat below the motte, appear to surround a spread of rubble and tile still visible in the topsoil. At the point where the southern arm of this semicircular cropmark (which appears as a slight bank) reaches the edge of the escarpment, a substantial stone wall protrudes from the side of the hill, some 2m below the present ground surface. A further wall which runs along the edge of the escarpment is apparent about 1m above the protruding wall. The place of these features in the site complex is uncertain.

To the east of the inner baileys a large outer enclosure is visible adjoining the castle. This covers c 4.93ha and has the Roman road, Ryknild Street, running north–south through its eastern side. This enclosure has gradually become more obvious in recent years as a number of field boundaries over the area have been removed (Pl I). It has been suggested (Hingley 1989, 143) that the enclosure originated as an Iron Age hillfort, but the layout of the cropmarks would suggest that if this were the case then it was reused in the medieval period in connection with the castle. Two sets of parallel linear cropmarks cross the outer enclosure and may suggest streets, although they also run parallel to recent and existing field boundaries. To the south of the enclosure there is a further set of parallel cropmarks as well other north–south ones which may also have been field boundaries forming enclosures with the east-west ditches. These appear to be aligned on Ryknild Street.

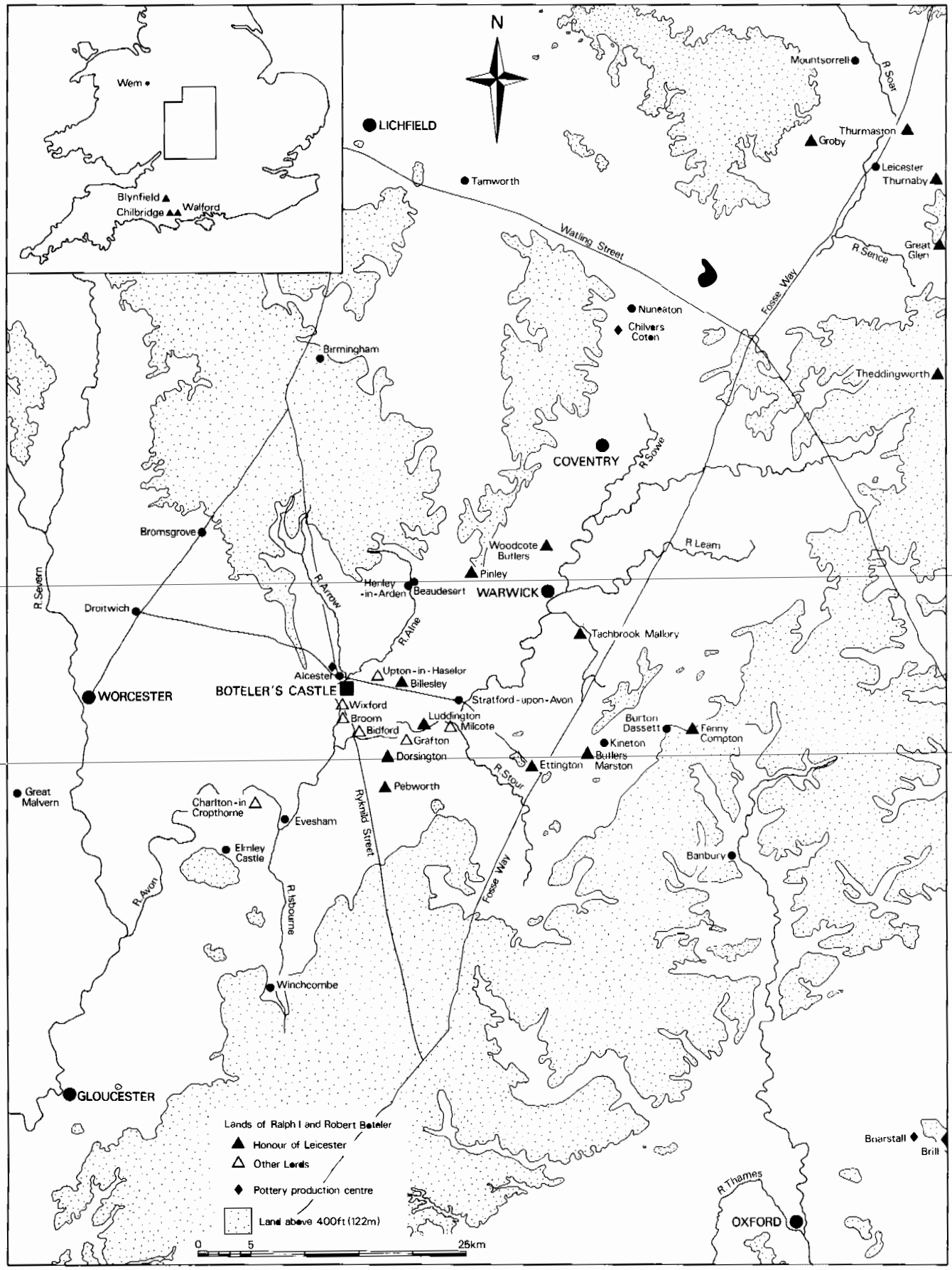

Fig 1 Location Plan

The archaeological implications of the proposals to route the Norton Lenchwick Bypass across the outer enclosure and a number of other sites to the south were first addressed in detail in a desktop assessment and initial field investigation in September 1992 (Warwickshire Mus 1992a). This recommended further field evaluation of the site to assess the nature, date and state of preservation of archaeological deposits within the proposed road corridor. This evaluation (Warwickshire Mus 1993) took place in December 1992 and involved extensive geophysical survey and the excavation of 14 trial trenches (Figs 2, 3). Two of the trenches lay outside the corridor in an area to be affected by the diversion in advance of the road construction of three water mains that ran across the site. This diversion work took place in January 1993.

The evaluation showed the enclosure to be defended by a large ditch and probable internal bank. Within the enclosure there was occupation evidence dating apparently from the late 11th/12th century to the 13th century. No evidence for any Iron Age activity was found. The two pairs of parallel ditches across the interior were revealed as medieval roads or trackways. They were flanked by features including pits, gullies, and a possible well, containing much domestic material, although no definite structural evidence of buildings was uncovered. Some probable medieval features were located south of the southern enclosure ditch and there was some evidence for pre-medieval settlement in the form of an early Bronze Age pit and some Roman field ditches. The work thus made it clear that significant archaeological deposits would be destroyed by the road construction and that rescue excavation in advance was required.

Rescue excavations were carried out between July and October 1993 and covered a series of open areas (A–H), amounting approximately to a 50% sample of the interior of the enclosure within the road corridor (Fig 2, Pl II). The work concentrated on the medieval settlement as the few earlier features located during the evaluation did not suggest any major earlier occupation. The most important problem to be investigated was the character of the settlement in the outer enclosure: whether it was an integral part of the castle or whether it was an associated defended village. Since the new road cut through the centre of the enclosure it was hoped that the sample transect might be representative. The evaluation trenches suggested some zoning of activity within the enclosure with concentrations along the trackways and it was hoped that a number of timber buildings might be excavated along with areas or structures with industrial or agricultural functions. Another priority was to be the collection of a large finds assemblage, particularly pottery, both to elucidate the chronology of the development of the site and its demise, and as evidence for its material culture. It was also hoped to recover charred and waterlogged plant remains which together with the animal bone assemblage would provide a good picture of the agricultural economy of the site.

Following the excavation an interim report and post-excavation proposal was produced (Warwickshire Mus 1994a) recommending further study leading to the production of an excavation archive to be deposited in the Warwickshire Museum and the present report which sets out the results of all the work carried out here in advance of the bypass.

ARCHAEOLOGICAL BACKGROUND

by Christopher Jones and Nicholas Palmer

The site of Boteler's Castle was first identified as such in the mid-17th century by Dugdale (1730, 854) although it is not clear whether the ruins of 'strength and compasse' that were then visible were earthworks, part of the later manor house, Oversley Court, or other ruined buildings. Beighton's map of Barlichway Hundred of 1725 which accompanies the 2nd edition of Dugdale (1730) shows Oversley Court and an enclosure extending to the east of Ryknild Street labelled 'Castle Hill', although on an estate map of 1747 (WRO CR 1998/M12) 'Castle Hill' was the field containing the motte (Fig 2).

1934–5 Excavations

The only archaeological excavations that have taken place on the motte and inner baileys were carried out in 1934–5 by B W Davis of Alcester. Only a short note of these was published (Chatwin 1940) but various manuscript notes, correspondence and plans survive (SBT DR 2; Warwickshire Mus 1935). The excavations consisted of eleven trenches (Fig 2, I-XI) most of which lay over the motte and the area to the north occupied by Oversley Court according to the 1747 map. At the time however it was believed that Oversley Court had lain 100m to the east on the site of the former Coney Gear Barn. It appears that the name Oversley Court had been transferred to the barn after the main building was demolished some time after 1747.

According to the published note (Chatwin 1940, 146), the trenching found large quantities of medieval pottery, tile and stone slates but only a small amount of stone and no foundations. The notes however mention larger quantities of stonework including the possible remains of a wall in Trench I, 'fallen stones' in Trench III and a 'cobble-stone pavement' in Trench II. Of the three trenches over the motte, Trench V to the north-west found a few stones and signs of mortar, Trench VI on top found pottery, stones and mortar while Trench VII to the south-east found nothing. Two final trenches, excavated near to the railway cutting (X and XI), contained quantities of tile, that in Trench XI being burnt and accompanied by burnt stone and stone slates, presumably from the remains of some form of oven. Most of the structural remains revealed by the trenching are likely to have related to Oversley Court,

Plate 1 Boteler's Castle, cropmarks of outer enclosure from NE, July 1990 (Photograph by R. F. Hartley, Leicestershire County Council Museums Arts and Records Service)

but while Chatwin's suggestion that the castle was of timber construction is likely to be broadly right the earlier castle may have included some stone structures.

The published note includes an air photograph of the site taken in 1933 (Chatwin 1940, pl XIII). At this time the motte had already been extensively ploughed, leading Chatwin to discount its existence, although the earthworks of the eastern and northern baileys are visible. Chatwin interpreted the northern baileys as gardens belonging to Oversley Court. The northern arm of the outer enclosure ditch is visible as a surviving hollow although Chatwin interpreted it as the road to the castle. Ridge and furrow is visible south of the inner baileys and north of the outer enclosure where there is a headland along the outer edge of the enclosure ditch. There also appear to be vestigial traces of ridge and furrow within the enclosure. Most of these earthwork remains have now been ploughed out and survive only as cropmarks (Pl I). The process of erosion can be charted on air photographs taken from the 1950s onwards by Cambridge University, James Pickering and others (Warwickshire Mus Coll SP0855/A-AK; Nat Libr Air Photography, Swindon, SP0855/1-70).

Observation of water main construction 1977

In 1977 a watching brief was conducted by West Midlands Archaeology Unit during the construction of the north-western of the three water mains running south-west/north-east across the outer enclosure (Ford 1977, 10-12). The conditions under which the work was carried out made it impossible to detect small features such as postholes or beam slots but a number of larger ones were recorded.

The pipe trench cut the southern arm of the outer enclosure ditch which was revealed as a U-shaped feature 7.0m wide by over 2.0m deep. Three layers of orange brown ditch fill were observed: the lowest was clean, the middle one contained charcoal and rubble fragments and the top one rubble and modern field drains; none contained finds. The ditch appeared to be cut through a very extensive cobbled layer which extended over the southern part of the enclosure and the area to its south. This layer may have been deliberately laid over this poorly draining part of the site but its very great extent makes it possible that it was actually of natural origin.

On the northern edge of the southernmost of the cropmark trackways was a possible east–west ditch or

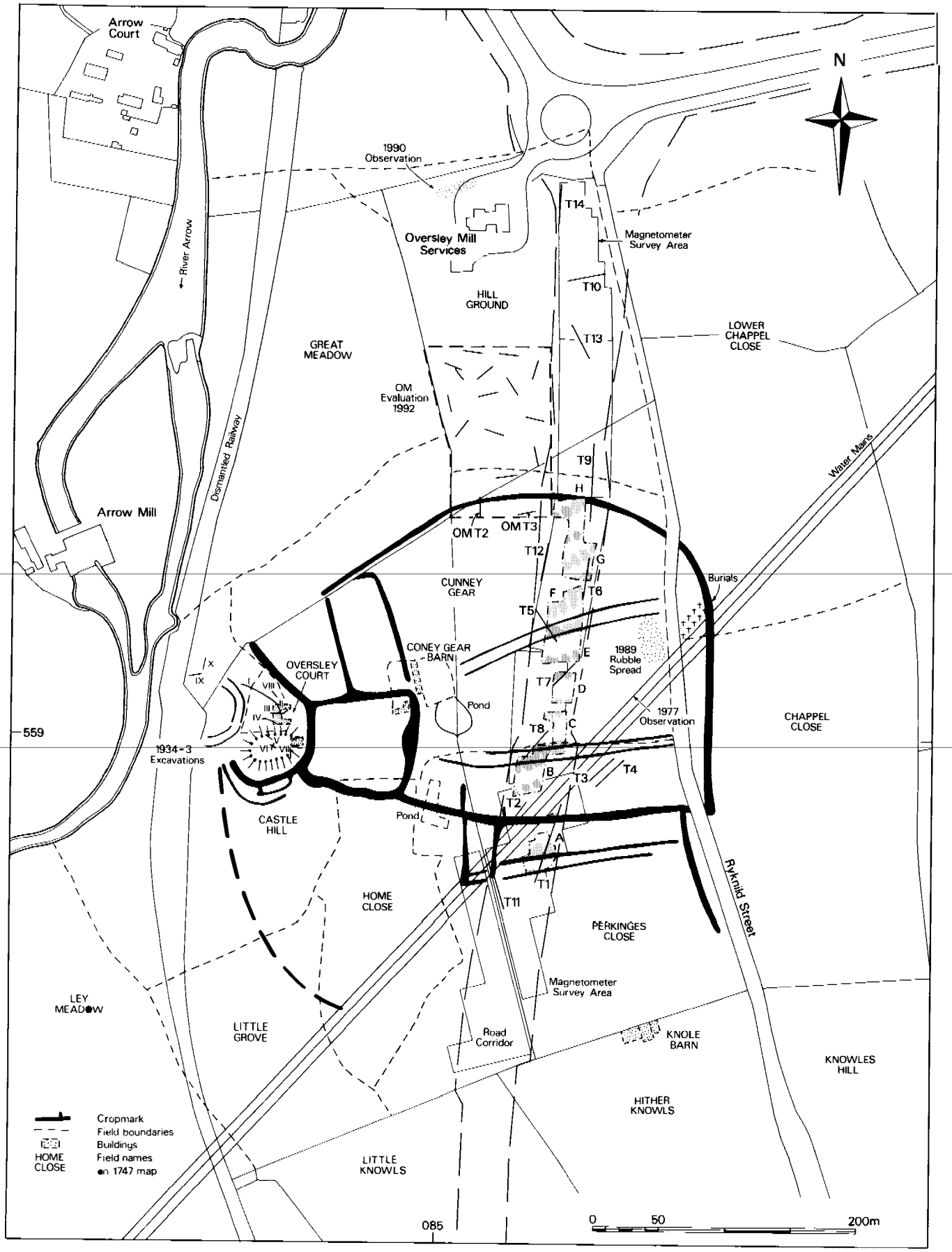

Fig 2 Boteler's Castle, General site plan

pit, measuring 1.7-2.0m wide by 1.2-1.5m deep with a U-shaped profile. Its fill contained large quantities of 12th/13th century pottery and animal bone. This feature could have been part of the northern trackway ditch or an adjacent rubbish pit.

Further to the north-east the trench cut through Ryknild Street which consisted of a flat, laid cobble surface 8.0-8.5m wide, the cobbles being 0.70m deep at the road centre. No roadside ditches were observed. Three sherds of 13th-century pottery came from the road surface, and larger quantities of similar pottery and animal bone came from the 0.3m depth of topsoil over it.

Between 8m and 29m to the north-east of Ryknild Street sixteen extended inhumation burials were discovered in graves cut between 0.20m and 1.3m into the underlying clay natural. These were aligned east–west, with feet to the east, and were sealed by a layer containing occupation debris (floor and roof tile, and pottery of both Roman and medieval date). No grave goods were recorded from the burials, though two of the grave fills contained a total of four Roman pottery sherds. Radiocarbon dates for two groups of bone came out at 1000bp ±80 (HAR 2732, AML 780003) and 880bp ±70 (HAR 3434, AML 791810) which calibrated (using the Univ Washington 1987 Program, Rev 2.0 with datasets after Stuiver & Becker 1986) give ranges at the one sigma level of 1031-1225AD and 980-1153AD.

The presence of the burials strongly suggests the presence of an accompanying church or chapel, and in fact the fields east of Ryknild Street where the burials were located were named Chappel Close and Lower Chappel Close on the 1747 estate map (WRO CR 1998/M12). These names are first mentioned in 1540 (SBT DR 5/930). There are documentary references (see below) both to a church at Oversley and to a castle chapel. The presence of the burials, which would normally go with a parish church, and the location well away from the inner baileys perhaps make it more likely that there was a church here rather than the castle chapel.

The eastern arm of the enclosure ditch was not located during this work; there was a natural limestone ridge which was felt to explain the cropmark, but a ditch backfilled with clay similar to the natural could easily have been missed. The line of the ditch also coincides with a row of inspection chambers whose construction may have obscured the feature.

Field survey 1989

The outer enclosure and its environs were fieldwalked on two occasions during 1989. On the first occasion (Adams & Jenkins 1989) a collection of flint, Roman and medieval pottery, tile, coins and other metalwork was recovered from across the whole of the outer enclosure and the area to the south. In the second examination (Dyer 1989b) a scatter of finds was recorded in the area immediately north-west of the water mains on the west side of Ryknild Street, at a point where it begins to drop northwards to form a hollow way (Fig 2). In a small area, some 40 sherds of 12th/13th-century pottery were recovered together with considerable quantities of roof tile and building rubble. It was suggested that the spread of material represented the site of a high status building, possibly a stone gatehouse onto Ryknild Street if the castle defences extended this far. A gatehouse seems unlikely, given the position in the centre of the enclosure, but a high status dwelling seems more plausible, or possibly even the church or chapel, although it is perhaps more likely that this would have been on the east side of Ryknild Street and not separated from its graveyard.

Observation of construction of Oversley Mill Services 1990

The recent development of the Oversley Mill Services north of the castle site has been accompanied by programmes of archaeological recording. In 1990 the construction of the present filling station was observed and a series of shallow pits and a small flint scatter dated to the late mesolithic/early neolithic period were recorded (Warwickshire Mus 1990).

Oversley Mill Services evaluation 1992

In June 1992 an evaluation involving the excavation of fifteen trial trenches was carried out on a plot of land proposed for a hotel development extending south from the filling station to just within the outer enclosure (Warwickshire Mus 1992b). In the north-western corner of the evaluation area (Fig 2) one trench contained an Iron Age gully and another found some nebulous hollows, probably also of Iron Age date. Two trenches were excavated within the outer enclosure, one (OM T2) across the enclosure ditch, the other (OM T3) just to its south, and both produced quantities of 12th/13th-century pottery. The enclosure ditch was found to be 3.75m wide and 2.0m deep (for a full account see below). At the time, pottery from the primary fill of the ditch was identified as Iron Age which was taken to support the then current theory (Hingley 1989, 143) that the outer enclosure had originated as a hillfort and was then reused in the medieval period. Subsequent re-examination has however shown this pottery also to be medieval.

HISTORICAL BACKGROUND *by G M D Booth*

Oversley Manor and the Botelers

The manor of Oversley is recorded in the Domesday Book of 1086 as one of the possessions of Robert de

Beaumont, Count of Meulan (Plaister 1976, 16, 63). It was held of the Count by one Fulk, but by the early 12th century it was in the hands of Ralph, butler to the Count and later to his son Robert, Earl of Leicester. Exactly when Ralph acquired the manor from his overlord is uncertain: he is first mentioned at Oversley in the foundation deeds of Alcester Abbey in 1139-1140, but is known to have acquired the adjoining manor of Wixford from Evesham Abbey in 1121 (*VCH Worcestershire II* 1906, 361). It is likely that he obtained Oversley before the death of the Count of Meulan in 1118.

Ralph is last mentioned in or shortly after 1143 (*VCH Leicestershire V* 1964, 324), and probably died shortly afterwards. His eldest son Robert succeeded not only to his father's estates but also to his office as butler to the next two Earls of Leicester (Crouch 1986, 175). He died about 1184, and was succeeded by his son, Ralph II (PRS 1913). This Ralph was succeeded about 1230 by his son Maurice, who in turn died before 1243 (CCR 1242-1247, 116). His son (Ralph III) married Matilda, one of the daughters and heiresses of William Pantulf, in or before 1243 (*Book of Fees II* 464), and through his wife inherited the lordship of Wem in Shropshire. Henceforth the family was usually styled 'of Wem' rather than 'of Oversley'. In the 14th century they rose to the ranks of the peerage, being personally summoned to attend parliament by both Edward II and Edward III (Peerage 1912, 232).

Even before the acquisition of Wem, the Botelers stood high in the ranks of the knightly class. Ralph I was an important official to two generations of the powerful Beaumont family: in 1118 he was a key figure in the council which managed the affairs of the Count of Meulan's twin sons during their minority, having overall responsibility for all the Count's English estates. He was already a substantial landholder by 1130 (Appendix 2), with estates in at least six counties (PRS 1929). By the 13th century the family was sufficiently well endowed in land to have granted some manors to their own vassals (eg Billesley, Luddington, Tachbrook Mallory; some of these fees may have owed castle guard at Oversley (Crouch 1986)). Although some of the Boteler fees held of the earldom of Leicester (particularly those outside Warwickshire) had been lost by the mid-13th century, probably through subinfeudation or endowments to younger sons and daughters, they gained other lands by marriage (eg the Somerset lands of Matilda, widow of Ralph Luvel, who was given in marriage by King John to Ralph II, and Northborough in Leicestershire: *Book of Fees I,* 261; Nichols 1795-1815, IV, 813). In the early 13th century Ralph II and his son, Maurice, appear prominently amongst those knights involved in the governance of Warwickshire. Ralph was one of the six knights most commonly called to select juries in 1220-1221 (Selden Soc 1940); he was appointed a collector of royal taxes in 1225 (CPR), as was his son in 1232 (CCR); Ralph was a member of Henry Earl of Warwick's court (Selden Soc 1940, no 406). Ralph III, who inherited Wem through his wife, was rewarded for his loyal service to Henry III at the time of the war of 1264-1265 with the manor of Kineton (and recompensed with a gift of £400 when this was returned to its previous holder under the provisions of the Dictum of Kenilworth (Dugdale 1730, 855)).

The manor of Oversley descended with the Botelers of Wem until the death of William Boteler on 14th August 1369 (Peerage 1012, 232). His daughter, Elizabeth, married Robert de Ferrers between 1369 and 1379. On her death in 1411 her estates were divided between the two daughters of her son, Ralph de Ferrers, Oversley being inherited by Mary, wife of Ralph Neville (CIPM, XIX no 823; PRO C139/168 no 21). On the death in 1482 of their son, John Neville, the estates were inherited by his grandson, Sir William Gascoigne of Gawthorpe in Yorkshire. In 1537 Sir William and his son Henry sold the manor of Oversley to Sir Thomas Cromwell, and after the latter's attainder the manor was sold by Henry VIII to Sir George Throckmorton in 1541 (WRO CR 1998/exhibition boxes, no 13). The manor remained in the Throckmorton family thereafter.

Oversley Castle

Foundation and Purpose

The only firm documentary evidence for Oversley Castle occurs in the foundation deeds of Alcester Abbey of 1139-1140, and in later confirmations of its endowments, when the 'chapel of the castle of Oversley' is mentioned (Dugdale 1823, 175-7). The founder of the abbey was Ralph the butler, acting with the assent and participation of his overlord, the Earl of Leicester. There is no evidence for a castle at Oversley before this period, and it is almost certain that Ralph was its builder.

Although the castle is first mentioned in the middle of the civil wars of Stephen's reign, it is unlikely to have been one of the notorious 'adulterine' castles of this era. It may well have predated Stephen's reign, for Ralph was an important official of the Count of Meulan and later of the Earl of Leicester, both of whom enjoyed the favour of Henry I. He also had extensive estates which would have been able to provide money and labour for building a castle.

The castle built by Ralph seems to have been a motte and bailey. Its site, chosen for defensibility, may have been some distance from the existing village (it lies about half a mile south of Oversley Mill, mentioned in Domesday Book and therefore predating the castle). East of the main castle site lies the vast outer enclosure partly excavated in 1992-93 whose purpose is uncertain. It covers an area of about 4.93ha (15 acres), far larger than baileys in great castles such as Windsor or Warwick, but similar in size to the fortified villages associated with such contemporary castles as Pleshey,

Meppershall, Ongar, and Kilpeck. Twelfth-century lords often encouraged settlement in close proximity to their castles (Pounds 1990, 215). There is no evidence from the chronicles or other contemporary sources of any military activity at or very close to Oversley sufficient to explain such a fortification in purely military terms. Moreover, there is a dearth of military parallels: Stephen spent his troubled reign hastening from one corner of the country to another, besieging or relieving castles. Recorded instances of field fortifications are limited to the building of siege castles (usually in the form of mottes, though at Faringdon in 1145 as more extensive fortifications defended by a rampart and stockade (Potter 1976, 181)). Neither Stephen or any other military leader had time or reason to build fortifications like those at Oversley as fixed bases for their forces.

However, there was every reason for Ralph and his tenants to look seriously to their defences in the mid-12th century. His overlord, the Earl of Leicester, together with his brother, the Count of Meulan, occupied a pivotal position in the politics and fighting of Stephen's reign. Although Warwickshire does not appear to have suffered very heavily in the fighting (White 1985), there was considerable disturbance within the county, and much of the fighting between Stephen and his enemies took place in the neighbouring counties of Worcestershire and Gloucestershire, not so far from Oversley. Worcester was attacked by both sides on at least two occasions (in 1139 and in 1150-1151); Winchcombe in Gloucestershire was attacked by forces from Gloucester in 1140, and by Stephen in 1144; in 1147 the Earl of Chester besieged the royal castle of Coventry, until the king arrived and demolished the earl's siege castle; William Beauchamp of Elmley Castle built a siege castle to harry the abbey of Evesham, which was demolished after 1149; in 1153 Warwick Castle was taken by Henry of Anjou's men (Davis 1990; RS 1863, 100).

The end of the castle

There is no documentary evidence for the castle of Oversley after the mid-12th century, save for a possible reference in an Eyre Roll for 1262 (PRO JUST 1/954/m.48d). An entry in this roll refers to the drowning of t e laundress of the *domine de Castello* in the water of Oversley. The lady in question could be the wife of Ralph III, or, alternatively, a member of the de Castello family mentioned in 13th-century Alcester and Coughton deeds (WRO CR 1886, CR 1998). Ranulf de Castello of Coughton is in fact mentioned two entries before in the same Eyre Roll. He is recorded in deeds between 1244/5 (WRO CR 1886/73) and 1276 (WRO CR 1998/F3/2) and had a wife called Joan who outlived him. Although not styled *dominus* in the deeds, Ranulf was a prominent local landowner and his wife could conceivably be the lady in question. However, even if the entry refers to the wife of Ralph III it does not necessarily mean the castle was intact and functioning as such at this time.

By 1283 the castle had disappeared, replaced by an undefended manorial complex (CIPM, II no 529; PRO C135/206 no 15). It is possible that the defences of the motte and bailey were allowed to decay naturally, as happened to so many other castles at this period, but the ravaged form of the motte and some possible archaeological evidence from the excavation of the outer enclosure suggest that the defences may have been deliberately slighted.

If this were the case, it would probably have occurred during one of four periods of open warfare that affected the midlands between the mid-12th century and 1283: the Anarchy in Stephen's reign, the revolt of the 'young king' and his allies in 1173-1174, the civil war of 1216-1217, and the civil war of 1264-1265. Unfortunately, no mention is made of the castle in contemporary chronicles or the royal archives, but some conclusions can be drawn about the probability of any of these events causing Oversley to be slighted.

Destruction during the Anarchy is unlikely, for the Earl of Leicester remained at least nominally loyal to Stephen almost until the end (though the Earl took good care to ensure the safety of his possessions by making treaties with opposing barons, as with the Earl of Chester in about 1148–1153, and with the Earls of Hereford and Gloucester in the late 1140s). He changed his allegiance to Henry of Anjou, shortly after the latter's arrival in England on his successful bid for the crown, and became Henry II's chief minister in the 1150s and 1160s: it is therefore unlikely that any of his vassals would have had their castles dismantled at this time. Moreover, the confirmation issued by Henry II to Alcester Abbey between 1155 and 1158 refers to the chapel of the castle, as if the latter still existed (Dugdale 1823, 177).

The revolt of 1173-1174 is more promising as an explanation, because of the Earl of Leicester's active role on the losing side. Ralph I's heir, Robert, was butler to Earl Robert I and to his son, Robert II (who joined in the rebellion), and his younger brother, Geoffrey l'Abbe, was one of Earl Robert I's closest officials (Crouch 1986, 142). Robert was also a major vassal of the earldom of Leicester: most of his lands were held of the Earl, and comparatively few of other lords (see Appendix 2). The knights of the fee of the Earl of Leicester were made to pay an aid after the capture of the Earl, which suggests that all or most of them were involved in the Earl's rebellion (*Red Book II,* 768-9). It is therefore likely that Robert was involved at least peripherally in the disaster that overtook Earl Robert II in 1173-4.

There is no explicit mention in any source of Robert the butler or of Oversley in connection with the events of 1173-4, but the effects on the earldom of Leicester are recorded in some detail. Following the collapse of

the revolt, Earl Robert's castles of Leicester and Groby were demolished, and at the restoration of his lands in 1176 the *Gesta Henrici* states that his castles of Mountsorrel in Leicestershire and Pacey in France 'which alone remained standing of all his castles' were retained by the king (RS 1867, 134). This policy of destruction may well have applied to the castles of his vassals as well, as is recorded in one case: an entry in the Pipe Roll for 1174 records payment for soldiers at the castle of Geoffrey de Turville at Weston Turville, Buckinghamshire, before its demolition (PRS 1896, 82). The motte at Weston was partially demolished in 1174, and its materials used to backfill the surrounding ditch (Yeoman 1986, 170-1). Recent excavations on the motte at Groby found that it had been partially quarried away to undermine the buildings on top, and this probably happened at other castles slighted at this time (Renn 1973, 59). Similar action at Oversley might explain the present eroded and irregular shape of the presumed motte.

The next period of unrest occurred in 1216 to 1217, during the civil wars in the reign of King John. The last Beaumont earl died in 1204, and the honour of Leicester was seized by the King in 1207 (Warren 1978, 184). Ralph Boteler II fell foul of the King in 1216 (perhaps joining the rebels after the landing of Prince Louis in May that year), and his lands were committed to the custody of William de Cantilupe on 9 August. However, he had returned to the service of the infant king Henry by 30 April 1217, when William de Cantilupe was ordered to return his lands (*Rot Lit Claus,* 307, 280; it may be significant that reference is made only to Ralph's lands, not to a castle). Many other barons had rebelled and then returned to favour at this time, and in the absence of any specific documentary reference there is no explanation as to why Oversley Castle should have been singled out for destruction.

The last occasion on which widespread warfare occurred in the 13th century, resulting in sieges and destruction of castles in the midlands, was the civil war of 1264 to 1265. On this occasion the lord, Ralph III, was firmly on the King's side (Dugdale 1730, 855). Again, there is no mention in contemporary sources of any action involving Oversley, and although armed forces of both king and rebels may have passed close to the castle (there is a story that Simon de Montfort the son was at Alcester at the time of the battle of Evesham, *DNB* 1921-2, 743), the absence of any record argues against Oversley being attacked. Moreover, the description of the manor in the Inquisition Post Mortem less than 20 years later shows no sign of damage or destruction.

Conclusion

Oversley Castle was built in the early 12th century. The outer enclosure is probably a fortified 'castle gate' settlement, possibly added to the castle during the Anarchy. The castle survived the Anarchy, but had disappeared by 1283. While this may have been a peaceful result of changing conditions, it is possibly due to deliberate slighting during or after the civil wars of 1173 to 1174 or (less likely) 1216 to 1217. The Botelers retained Oversley as their chief residence until about 1240, and slighting of the castle would not necessarily mean that an adjacent village settlement immediately ceased to exist. However, it may have been adversely affected, and this, together with the shift of the family's centre of interest to Wem, might explain its eventual disappearance. An early 14th-century description of the manorial complex leaves no room for a settlement on this site, and the similarities between this extent and those of the Inquisitions Post Mortem of 1283 and 1286 make it likely that it had disappeared there by the late 13th century (see below).

Oversley Court

Whatever the eventual fate of Oversley Castle, the site was not abandoned. Successive Botelers are recorded in the documents as 'of Oversley', down to Maurice Boteler, who died around 1240. Even after his son inherited the barony of Wem, there is much evidence that the family continued to use Oversley as a residence. In 1339, a daughter of the family was married in Oversley chapel; documents are dated by William Boteler and Robert de Ferrers at Oversley in 1354 and 1378 (WRO CR 1886/97,107): the demesne is still being run directly in the accounts of 1379/80 and 1387/8 (SBT DR 5/ 2254, 2255), and in the latter year the lord stayed there for several weeks (in the same year the bailiff paid for the burial of a daughter of Elizabeth de Ferrers, presumably at Alcester Abbey). There is no direct evidence for the 15th century, but a recent history of 15th-century Warwickshire notes that both Ralph Neville (1411-1458) and John Neville (1443-1482) were active in local affairs, and gives their residence as Oversley (Carpenter 1992). Only when the Yorkshire family of Gascoigne inherited the manor in 1482 is it likely that Oversley Court ceased to be used by the lord on a regular basis. By the time Thomas Cromwell bought the manor in 1537, the Court and surrounding lands were occupied by Thomas Bickerson, the bailiff (SBT DR 5/ 93). From this time on, the Court was occupied by a succession of farmers until its eventual demolition in the 18th century.

In 1283 the manor is described as containing a capital messuage with two gardens, and having a park with two groves (Inquisition on William Boteler, CIPM, II no 529; PRO C135/206 no 15). It is described in greater detail in an early-14th-century extent as a capital messuage with gardens, orchards and a curtilage within an area of 38 acres, a park of 387½ acres, three woods of over 42 acres in all, and over 382 acres of arable land in three open fields in Oversley and Wixford (Appendix 3; SBT DR 5/ 2246b).

The acreage of the manorial complex is interesting, for it is greater than the area of the whole 12th-century

castle, including the outer enclosure. Its size is moreover confirmed by a document of 1540 (SBT DR 5/930). The bounds of this area are not identified as such on the earliest surviving plan of 1747, but presumably it was bounded by the line of the old defences on the steep slope to the north, by Ryknild Street to the east, and possibly by the hedge bounding Perkin's Close and Little Grove on the south.

This extensive area contained several buildings, of which the Court was the most important. This stood north of the knoll which is thought to be the remains of Ralph I's motte (as shown on the earliest surviving estate map of 1747: WRO CR 1998/M12). The house is shown in outline as having a half 'H' plan on the 1747 map, where it is marked as Oversley Court. There are a few medieval references to the house: a court roll of 1386 mentions the supply of 106 trees for the repair of a hall and chamber in the manor, which may refer to Oversley Court (SBT DR 5/2251); in 1387-1388 the wall of a bakehouse was repaired by a mason, and a 'couple' (roof truss) made for the hall (SBT DR 5/2255). From the 16th century a series of probate inventories give more information about the house: by 1590 it consisted of hall, a parlour (described as 'the new Parler' in the accompanying will), a chamber over the cellar, and a nether chamber, with chambers over the parlour and the hall (inventory of Edward Waringe: WoRO). Later inventories of 1699, 1704 and 1728 add a kitchen and pantry on the ground floor with rooms above, a cheese chamber, garrets, dairy and malthouse (inventories of Francis Garrett, Alice Garrett, and Richard Steward: WoRO). By this date it had been reduced to the status of a farmhouse, and was probably demolished soon after 1747 because it had been amalgamated with Upper Lodge Farm. It is not mentioned in a lease of both farms in 1782, and is not shown on the Ragley estate map of before 1793 (SBT DR 5/943; WRO CR 114A/188). It cannot have been the ruins noted by Dugdale in the mid-17th century, as Chatwin thought (1940, 146).

Besides the Court, the manorial complex contained a number of other buildings. The early-14th-century extent (SBT DR 5/2246b) mentions the gardens and orchards, and also a dovecote (also mentioned in 1387-8, SBT DR 5/2255). The account of 1379-80 (SBT DR 5/224) mentions the 'Lutelorchard' and the garden, the west stable, the long stable (thatched with straw), a timber-framed grange, and a pig house. It also contains a payment for the clearing of two ditches 'between the gate (*portam cast*) and the west stable' and 'between le Morclos and a way leading to the manor', and for making hedges (*haya*) above them, showing that even in the late 14th century this area was not a single open enclosure. The second ditch may be one of those flanking the two trackways found within the outer enclosure.

The particulars of 1540 refer to the site of the manor containing gardens, orchards, and pools, with the herbage of a grove (perhaps the Little Grove shown south of the Court in 1747), all within an area of 38 acres. The ponds perhaps include the pond beside the building shown on the first- and second-edition Ordnance Survey plans (possibly the barn mentioned in the 1728 inventory and called the Coney Gear Barn in 1747: WRO CR 1998/A70). Other buildings appear to be shown on the 1747 plan as roofless ruins, at the south-eastern and north-western corners of Perkins's Close: these may be remains of the stables and other buildings mentioned in the 1379-80 account, and could explain Dugdale's comment about the extent of the castle ruins (Dugdale 1730, 854).

Surrounding the curtilage in the early 14th century were meadows and open fields. One of the meadows can be identified: Lea Meadow, which lay south-east of the Court. An eight-acre meadow called 'Mormeduwe' may have lain north of the Court (where Great Meadow lies on the 1747 map). To the east, probably beyond one of the open fields, lay the park, which has been identified as the present Oversley Wood together with an equivalent area to its north (Saville 1982, 6–8).

By the early 16th century there had been considerable changes: the park had extended to include several closes around the Court (eg the Chappel Close, the Court Field, and part of the Knowls: SBT DR 5/940); a pasture called Conynger had appeared, which is probably connected with the 'lord's warren' mentioned in a court roll of 1423 (SBT DR 5/2253: the Cunney Gear Close shown on the 1747 map is presumably named after this warren, which may have been sited on the northern defences of the outer enclosure). All this is evidence for the conversion of open fields around the Court to parkland and pasture in the 15th century or before: it probably happened before the early 16th century as Oversley is not mentioned in the Warwickshire inclosure inquisitions of 1517, 1518, and 1549 (Leadam 1897).

Oversley Chapel

Oversley was until modern times part of the parish of Arrow. However, the foundation deeds for Alcester Abbey include a grant by Ralph I of 'the chapel of my castle of Oversley', and a later charter of Henry II of *c* 1155-1158 confirming grants to Alcester mentions this chapel together with 'the church of the same vill' (Dugdale 1823, 175-7). No later reference to a parish church of Oversley exists, but Ralph (or his son) may have founded one to serve a settlement attached to the castle. This could explain the cemetery found in 1977, some distance from the castle itself and therefore unlikely to mark the position of a castle chapel (Which would normally be close to the main domestic buildings).

The later history of both the castle chapel and the church mentioned in Henry II's confirmation charter is uncertain. Oversley either never developed into a separate parish, or returned to a non-parochial status by

the 13th century, for there is no mention of a church at Oversley in the Worcester bishops' registers (beginning in 1268), or in the ecclesiastical taxation of 1291, or in early-16th-century lists of churches (*Tax Ecc; Valor Ecc;* WoRO BA 2648/20(i); WoRO BA 2922). However, there are two 14th-century references to a chapel at Oversley: in 1339 the bishop of Worcester gave permission for the marriage of Henry de Braylesford and Beatrice Boteler to take place in Oversley Chapel (Haines 1966a, 14, no 71), and in the mid-14th century (probably in 1343) Simon de Merston, chaplain, indented with William Boteler to serve in the latter's 'chapel of Oversley' for 60s a year (SBT DR 5/2248). Whether this was the chapel of the former castle, or the church mentioned in Henry II's confirmation is not clear. The two 14th-century references show it being used as a private chapel, but there is no mention of a chapel in the surviving manorial records.

After 1339 there is no mention of the chapel in the published bishops' registered or in indexes to the unpublished registers (WoRO BA 2648/20(ii); WoRO BA 2678), but references to a chapel or church dedicated to the Virgin Mary occur in surveys and accounts of the possessions of Alcester Priory of 1535, 1539-40, 1541-2 and 1546-7, and this is described in the 1539-40 and 1546-7 accounts as being at Oversley (*Valor Ecc;* PRO Sup, no 4047; Dugdale 1823, 181; Dugdale Soc 1923, 119). This was clearly not a parochial church or chapel as it is absent from the 16th-century lists of church livings, and it is not mentioned in any subsequent record (including grants of property formerly belonging to Alcester Priory). All knowledge of the site of this chapel had been lost by Dugdale's day, the only clue to its whereabouts until the 1977 discovery being the existence of a field called Chappel Close, north of Ryknild Street, first mentioned in 1540 (SBT DR 5/930).

ACKNOWLEDGEMENT

I am indebted to Mr M W Farr for bringing the 1262 Eyre Roll entry to my notice.

APPENDIX 1: NOTE ON SOURCES CONSULTED

In addition to the works quoted in the text and appendices, many others have been consulted which have provided confirmatory or negative evidence. The most significant of these are as follows:

Chronicles
The Historia Novella by William of Malmesbury (Potter 1955); *The History of William de Newburg* (Stevenson 1856); *Giraldi Cambrensis Opera* (RS 1861-1891); *Radulphi de Diceto Opera Historica* (RS 1876); *The History of the English by Henry, Archdeacon of Huntingdon* (RS 1879); *The continuation of the Chronicle of Florence of Worcester by John of Worcester* (Stevenson 1853)

Calendars of the National Archives
Rotuli Litterarum Clausarum 1204-1227 (Rot Lit Claus); *Calendars of Close Rolls,* Henry III, Edward I to 1288 (CCR); *Rotuli Litterarum Patentium* (Rot Lit Pat); *Calendars of Patent Rolls, Henry III,* (CPR); *Calendars of Inquisitions Post Mortem* (CIPM); *Feudal Aids* (FA) and *Letters and Papers, Foreign and Domestic, Henry VIII* (LP HVIII)

Registers of the Bishops of Worcester
Register Sede Vacante (Willis Bund 1897); *Register of Bishop Godfrey Giffard,* 1269-1301 (Willis Bund 1902); *Register of William de Greynesborough, 1302-1307* (Willis Bund 1929); *Register of Walter Reynolds, 1308-1313* (Wilson 1928); *Register of Thomas de Cobham, 1317-1327* (Pearce 1930); *Register of Simon de Montacute, 1334-1337* (Haines 1966a), *Register of Wolstan de Bransford, 1339-1349* (Haines 1966b); *Register of Henry Wakefield, 1375-1395* (Marett 1972); *Register of Adam de Orleton, 1327-1333* (Haines 1979); and *The Register of Richard Clifford, Bishop of Worcester, 1401-1407* (Smith 1976)

Other published works
Warwickshire Feet of Fines (Dugdale Soc 1932); *The Cartulary of Worcester Cathedral Priory* (PRS 1968)

Public Record Office
List of deeds of the Honour of Leicester at Tutbury (PRO DL41/1/35); Chantry possessions in Warwickshire (PRO SC12, portfolio 28, no 13; PRO E301/31, 53); Inquisition post mortem on Robert Ferrers of Wem, 4 Richard II (PRO C136/14, no 11); Inquisition post mortem on John Neville, 22 Edward IV (PRO C139/168, no 26).

APPENDIX 2: LANDS OF RALPH THE BUTLER

It is impossible to establish exactly what lands Ralph the butler and his descendants held, and of what lords, largely because of the disappearance of the archives of the Beaumont honour of Leicester. In 1130 Ralph was granted exemption from the Danegeld by Henry 1 for his land in Warwickshire (60s), Wiltshire (22s), Leicestershire (16s), Gloucestershire (8s), Rutland (5s), and Northamptonshire (2s), indicating the scale of his estates (PRS 1929). Unfortunately, the only list of fees surviving for the honour of Leicester is dated 1210-1212, and deals with only that half of the honour granted to Simon de Montfort (*Red Book,* 552). Ralph Boteler III (grandson of the founder of the castle) is credited with holding eight knight's fees out of the total of 77 granted to de Montfort; he is the third greatest holder after William de Turville (descendant of Geoffrey de Turville of Weston Turville) with nineteen fees, and Hugo de Dunham with thirteen fees. Unfortunately there is no information about the other half of the original honour, given to the de Quincy earls of Winchester, in which Ralph may well have held more lands.

List of Lands held by Ralph I or his son

(Compiled from *VCH Warwickshire, VCH Leicestershire, VCH Worcestershire* and Alcester Abbey foundation deeds)

a) Lands held of the Honour of Leicester

Warwickshire
Billesley (until 1153, subsequently a fee of the earldom of Warwick); Butler's Marston; Ettington; Fenny Compton; Luddington; Oversley; Pinley; Tachbrook Mallory; Woodcote Butlers

Leicestershire
Great Glen (church given to Alcester Abbey); Groby (mill given to Alcester Abbey); Theddingworth (church given to Alcester Abbey); Thurnaby (church given to Leicester Abbey); Thurmaston (see Nichols 1795-1815, III pt I, 55)

Gloucestershire
Dorsington; Pebworth

Dorset
Blynfield, near Shaftsbury; Chilbridge and Walford, both near Wimborne Minster (Styles 1946, 24)

Wiltshire, Rutland and Northants
No information

b) Lands Held of Other Lords

Warwickshire
Billesley (earldom of Warwick, from 1153); Upton in Haselor (earldom of Warwick); Grafton (Abbots of Evesham); Wixford (Abbots of Evesham); Bidford, Broom, Milcote (Abbots of Evesham and the Crown?)

Worcestershire
Charlton in Cropthorne (Marmion)

APPENDIX 3: ABSTRACT OF THE OVERSLEY EXTENT OF *c* 1320
(from the original document in Latin, SBT DR 5/2246b)

The capital messuage with gardens, orchards and the curtilage, containing 38 acres, valued at 6d per acre (excluding the buildings), 19s per annum

Two water mills, valued at £6 4s per annum

Fisheries values at 13s 4d per annum

A park containing 387½ acres, of which the pasture, ramage and underwood are valued at £7 6s 8d per annum

Three woods called Caldehull', Budeleye, and Hoghwegrove, containing in all 42 acres 15 perches, profits with underwood valued at 16s per annum

East Field: in demesne 146 acres ½ rood, of which 94 acres ½ rood are under plough (worth 4d per acre), and 51½ acres 1 rood 28 perches are fallow (worth 1d an acre), £1 15s 8½d per annum

West Field: in demesne 118 acres 20 perches, of which 94 acres 20 perches are under plough (worth 5d per acre), and 24 acres are fallow (worth 1d an acre), £2 1s 2½d per annum

North Field: in demesne 118 acres ½ rood 13 perches, of which 108¾ acres 13 perches are under plough (of which 21¼ acres 13 perches are worth 7d per acre and 87½ acres 13 perches are worth 4d an acre), and 10 acres are fallow (worth 1d an acre), £2 2s 5¼d per annum

Meadow: one meadow called the Mormeduwe containing 8 acres 12 perches and another called the Leemeduwe containing 33 acres 15 perches, worth 2s an acre; another meadow in various parcels containing in all 20¼ acres 13 perches, worth 18d an acre: total £5 12s 9d per annum

Pasture: a pasture fenced in various parcels containing in all 7½ acres, worth 8d an acre, 5s per annum

A dovecote valued at 4s per annum

Fixed rents: paid on four occasions, totalling £16 7s 2½d per annum (excepting rent repaid to the abbots of Evesham and Bordesley)

Income from the Manor Court: £2 10s per annum

Customary Services: of Wixford, £1 12s 1d per annum; of Oversley with Arrow, £4 per annum

[Various small rents of hens, pepper, etc]

Total annual income [added in a 16th-century hand] is given as £52 11s 8½d

EXCAVATIONS 1992-93

by Christopher Jones and Nicholas Palmer

Introduction

The investigations carried out in advance of the bypass in 1992 and 1993 included the evaluation, consisting of a geophysical survey and the excavation of fourteen trial trenches, followed by rescue excavation of a series of eight open areas (A-H), these amounting to a 50% sample of the interior of the enclosure within the road corridor (Figs 2, 3; Pl II). A detailed surface contour survey of a section of the northern defences was also made in Area H before the topsoil was removed. In the following account the trial trenches and areas are described in five groups: those on the southern defences of the enclosure and the area to the south; those on the northern defences; those along the southern trackway; those along the northern trackway; and those to the north of the enclosure. In the northern defences section evidence is also presented from two trenches (OM2 and OM3) excavated in 1992 as part of the Oversley Mill Services Evaluation (Warwickshire Mus 1992b).

Magnetometer survey

The full width of the road corridor over a *c* 660m stretch between the roundabout east of Oversley Mill Services and the field boundary west of Knole Barn (Fig 2) was surveyed in a series of blocks using Geoscan FM36 Gradiometers. For a full account see Warwickshire Mus 1993, Appendix A; GSoB 1993.

The survey detected a number of anomalies of archaeological origin, almost all of which also showed as cropmarks. However it failed to detect a number of the other cropmark features including the northern arm of the enclosure ditch, presumably because the feature fills were not of sufficient magnetic contrast to the subsoil to produce a significant response. In the southern part of the survey area interpretation was hampered by a very strong response from the buried water mains which would have masked that from any archaeological features in the vicinity.

Methods of excavation

Both the evaluation trenches and the subsequent area excavations were stripped of topsoil using a Hymac-type mechanical excavator with a toothless ditching bucket under archaeological supervision and then manually cleaned. Excavation of the features revealed then proceeded by hand, except for some large or deep features which were partly excavated by machine. Layers were excavated stratigraphically, discrete features were at least half-sectioned and linear features were excavated at junctions and at intervals along their length. Finds were collected by context with particularly significant finds being three-dimensionally recorded. A programme of sampling to control the recovery of artefactual and faunal remains and to obtain charred plant remains was also carried out, concentrating on datable features of different types across the site. Anticipated waterlogged deposits did not materialise, and although a programme of phosphate sampling to detect areas used by animals and/or waste disposal was considered, it was not carried out because of the absence of surviving medieval ground surfaces over most of the site.

Site plans were drawn at 1:20 scale, sections at 1:10, and overall site plans at suitable scales. The site and features were photographed with both colour slide and monochrome film, using 35mm format cameras. All the site records are retained in the excavation archive held by the Warwickshire Museum.

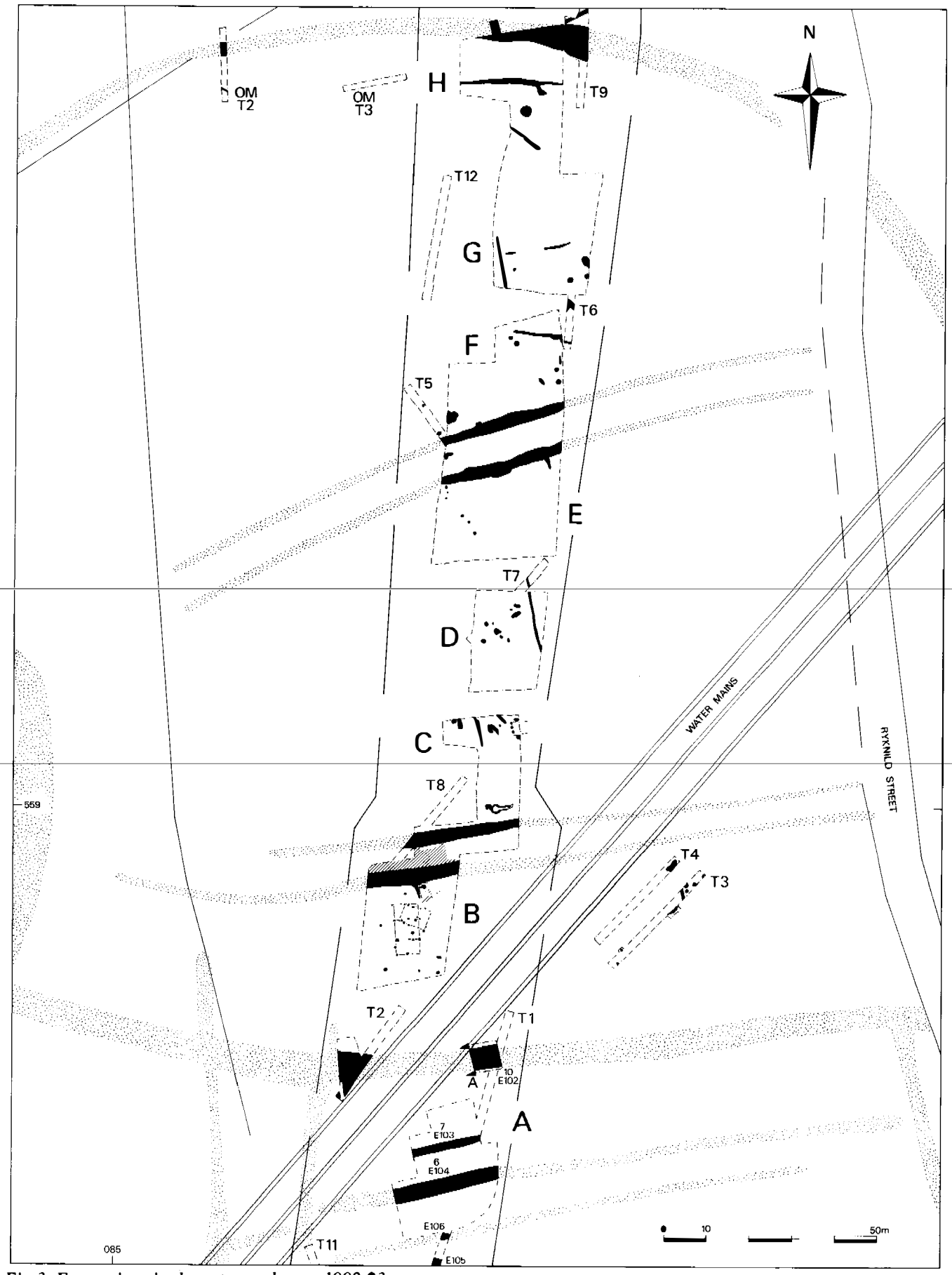

Fig 3 Excavations in the outer enclosure 1992-93

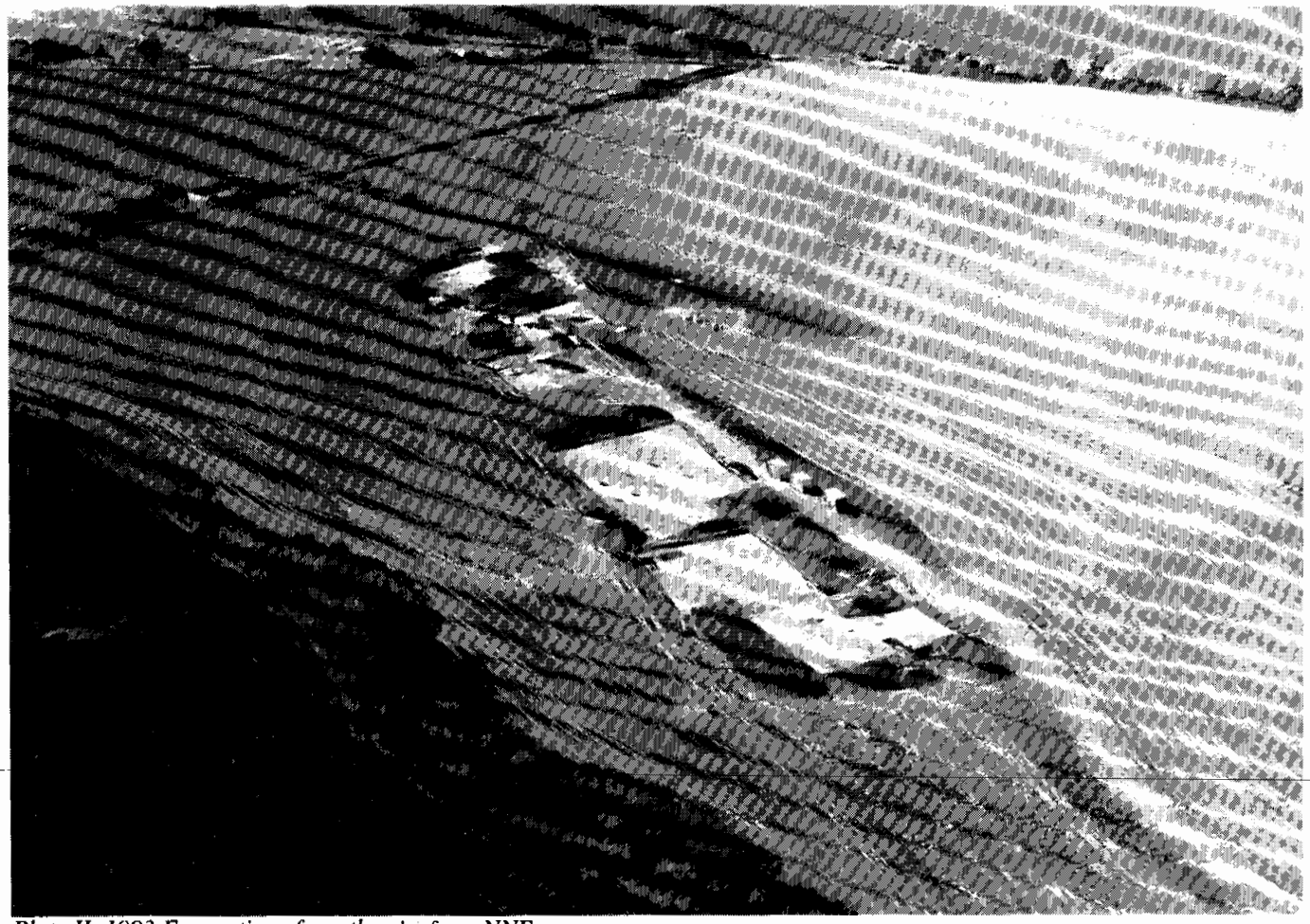

Plate II 1993 Excavations from the air, from NNE

Archaeological contexts were described using the Warwickshire Museum recording system which involved proforma sheets and standardised descriptions using Soil Survey (1976) texture terminology and Munsell (1975) soil colour descriptions. The system numbered all contexts (features and general layers) in one sequence with feature fills given sub-numbers (eg the fills of pit 101 might be layers 101/1 and 101/2) and samples further sub-numbers (eg a sample from pit fill layer 101/2 might be 101/2/1, or one from layer 36 might be 36/0/1). Separate number sequences were used for the Oversley Mill evaluation trenches, the 1992 evaluation trenches (Trenches 1–14) and for the 1993 area excavations (Areas A-H), so context numbers from the evaluation trenches are prefixed in this report with E (eg E102), and those from the Oversley Mill trenches with OM. Also, for brevity, the fills of features with only one fill are not separately numbered in the following description. In the finds reports and discussion contexts are prefixed with area letters (eg B 105, F 502/2) or trench numbers (5 E502/1).

Phasing

Although a handful of pre-medieval features were excavated (early Bronze Age and Romano-British), the large majority of those recorded were medieval, all dating to a relatively short period in the 12th–early 13th centuries. Although recuts were evident in the main enclosure ditch and the trackway ditches and successive phases of building were detected in Area B, the relative absence of vertical stratigraphy over most of the site meant that it was not possible to subdivide this medieval activity into general phases. The castle/manor site to the west continued to be occupied through the late medieval and post-medieval periods but the excavated area seems to have been returned to agriculture; hardly any material from this later period was recovered, although it appears that one of the trackways and some possible field ditches may have been in use. A few modern features connected with land drainage, the construction of the water mains and ground investigations for the bypass were also detected.

Southern defences and the area to the south

The southern arm of the enclosure ditch and the cropmarks to its south were investigated by Trial Trenches 1, 2 and 11 and subsequently by Area A (Figs 2, 3). Excavation of the enclosure ditch in this area was constrained by the presence of the water mains which cut across the enclosure ditch in the centre of the road

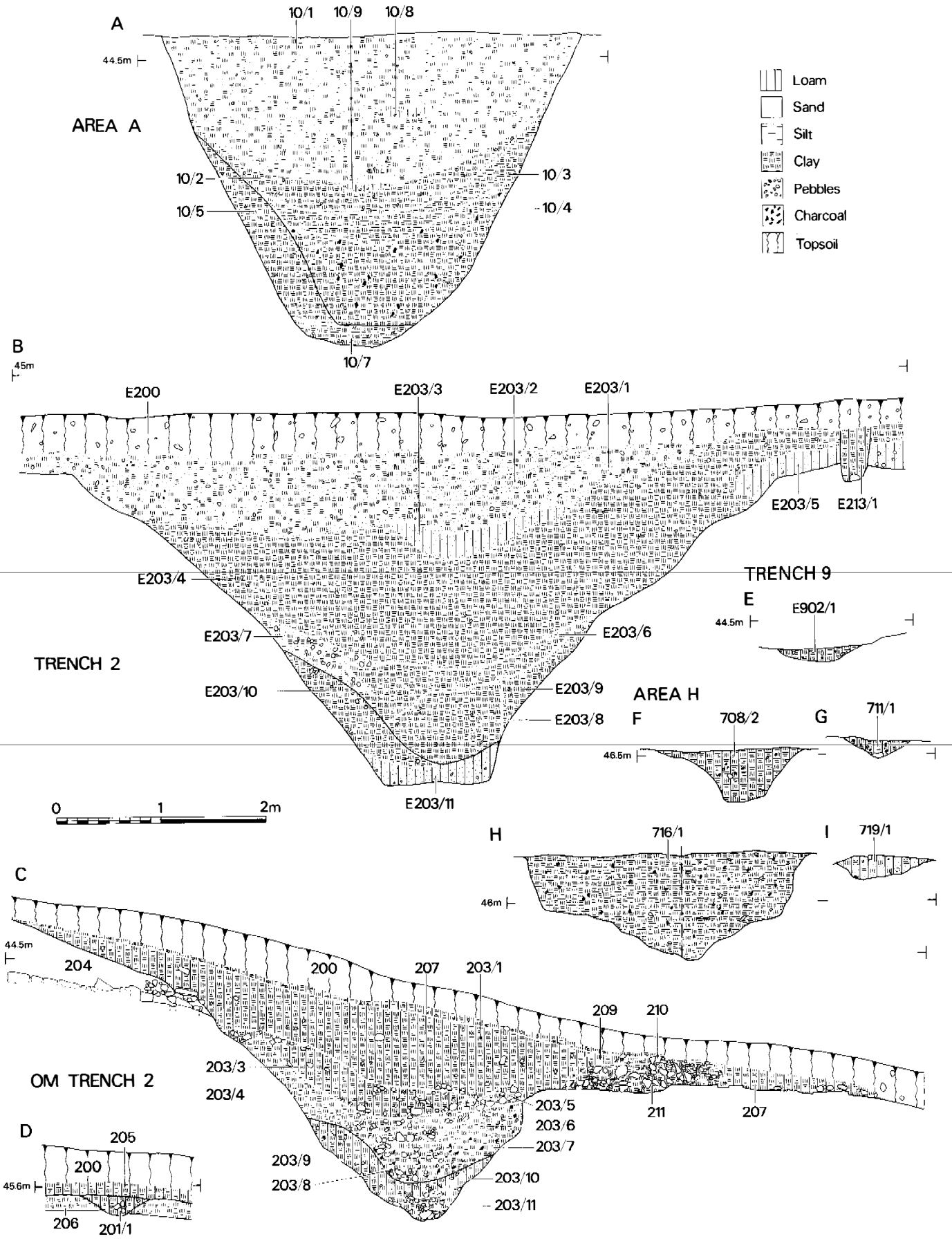

Fig 4 Areas A, H, Trenches 2, 9, OM2, Sections A-I

corridor leaving only small sections of undisturbed ditch to the west and east.

TRENCH 1 AND AREA A

Trench 1 and Area A lay south-east of the water mains (Fig 3). The trench was aligned NNE–SSW and measured 65m long by 2m wide. It was positioned to cross the cropmark of the enclosure ditch and the two east–west linear cropmarks to its south. All the features recorded in the trench had clay fills which, due to the weather conditions at the time of excavation, made their identification difficult. Area A was laid out across the middle part of the trench. It had an irregular, stepped shape and measured 28.5m north-south and between 11.5m and 25m east–west. Just to the north of the main area there was a small outlying trench, 7m by 7m, placed over the enclosure ditch. The natural clay sloped evenly down from 44.43m at the northern end of Trench 1 to 44.12m at the southern end.

Natural features

A number of features were recorded in Area A which turned out to be geological or caused by tree roots (not on plan). Along the southern edge of the area there was a short length of gully (4) and two small hollows (3 and 5) and at the northern end there were two pit/hollows (8 and 9).

Enclosure ditch

In Trench 1 the enclosure ditch (E102) was identified but the earlier water main laying operations had disturbed the northern end of the trench making its exact edges impossible to determine. When a larger area was cleared in Area A the ditch proved to be a rounded/V-shaped feature (10), *c* 4m wide and 3.09m deep, cutting into the natural clay (Fig 4, Section A).

The primary fill of the ditch was a dark brown silty clay (10/7), over which there was a layer of dark brown clay (10/5) which survived on the south side of the ditch. No finds came from these or any of the other ditch fills here. After the deposition of layer 10/5 the ditch was recut or cleaned out to a depth of *c* 2.8m. The recut ditch was then filled with layers of reddish brown clay (10/10, not on section A), dark brown clay (10/6, not on section A), a thick layer (0.8m) of brown/dark brown clay (10/4) and thinner layers of brown/dark brown clay (10/3) and dark reddish brown clay (10/2). Together these layers about half filled the ditch to a depth of *c* 1.35m, and it is likely that they derived largely from the demolition of the rampart. Over layer 10/2 there was a small patch of dark reddish brown sandy loam (10/9) which was overlaid by a final large layer of reddish brown sandy clay (10/1), *c* 1.3m thick, containing a patch of dark reddish brown sandy loam (10/8).

Undated ditches south of enclosure

To the south of the enclosure ditch the only early features identified were four undated ditched, all aligned east–west.

About 15m south of the enclosure ditch was a roughly V-shaped ditch (7, E103), *c* 1.6m wide and 0.5m deep, filled with brown-reddish brown clay (loam) (7/1, E103/1). This did not show as a cropmark. A further 5m to the south was another ditch (6, E104) which corresponded to the northern of the two parallel cropmarks. This was up to 1.95m wide and 0.60m deep and was filled with brown/dark brown clay (loam) (6/1, E104/1).

About 7m further south was another ditch (E106), 1.5m wide and 0.25m deep, filled with reddish brown clay. This, which corresponded to the southern of the parallel cropmarks, was only recorded in Trench 1 lying apparently just outside Area A. The final ditch (E105), 1.65m deep and 0.13m deep, filled with reddish brown clay, was a further 5m to the south. It also did not show as a cropmark.

A complete absence of medieval finds from this whole area makes it very unlikely that there was ever any medieval settlement south of the enclosure. The cropmark evidence suggested that ditches 7/E104 and E106 may have flanked a trackway running westwards from Ryknild Street, but if so, then it must have led only into the adjacent fields. No trace of any road surface survived. It is equally possible that the two ditches were unrelated, and, along with the others in the area, belonged to a later medieval or post-medieval field system or systems.

Modern features, ploughsoil and topsoil

The whole area was cut by two series of recent field drains, with ceramic pipes in trenches *c* 0.3m wide filled with brown clay loam. The main series was aligned east-west and lay at irregular intervals (11, 12, 13, E107, E108, E110, E111 and E112) while the second series involved occasional drains aligned north-south (E109) (none on plan).

At the northern end of Trench 1 there was a layer of red clay (E101), 0.2m deep, over the enclosure ditch which probably represented debris scattered during recent water main laying operations. Over most of the rest of the trench and over Area A there was a ploughsoil layer of dark reddish brown clay loam (2), *c* 0.3m deep, overlaid by a modern topsoil of brown/dark brown sandy loam/clay loam (E100, 1), 0.3m deep.

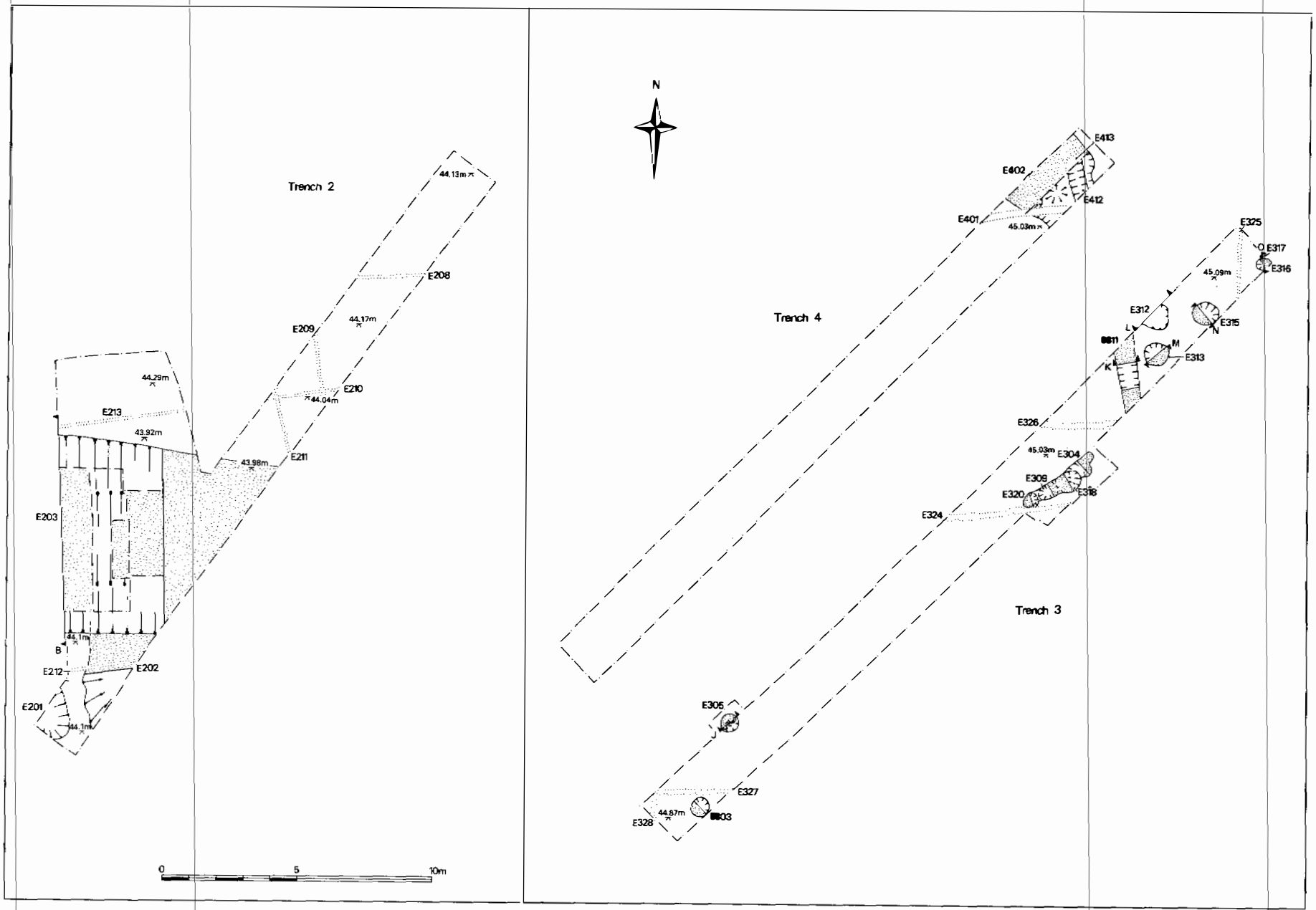

Fig 5 Trenches 2-4, Plans

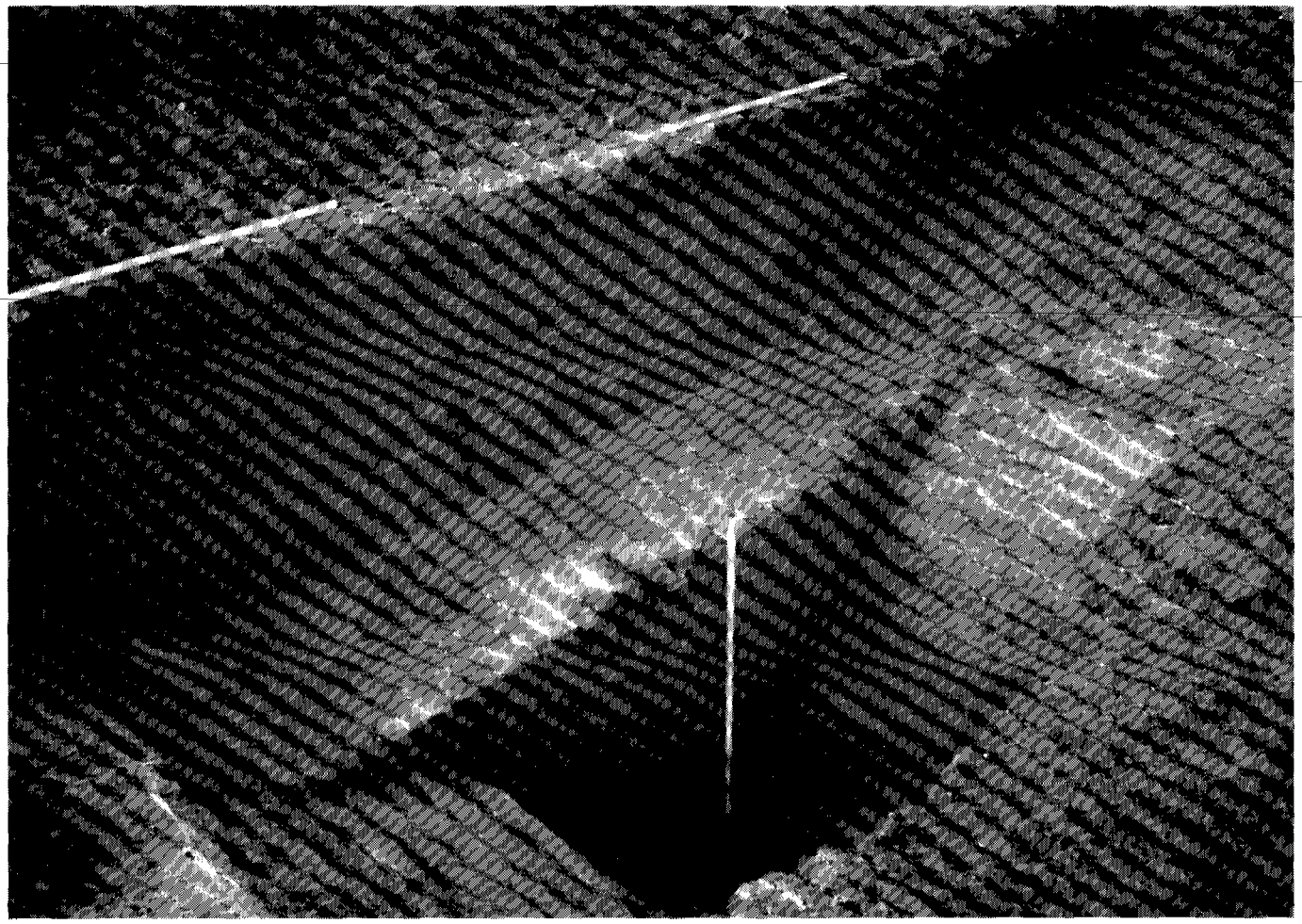

Plate III Trench 2, Southern enclosure ditch E203

TRENCH 2

Trench 2 lay north-west of the water main some 30m to the east of Trench 1 and was designed to investigate the intersection of the enclosure ditch with a north-south linear cropmark (Figs 3, 5). Initially it was aligned north-east–south-west and measured 26m long but once the enclosure ditch was identified a north–south spur *c* 10m and 4m was dug to give a stepped section across the ditch at right angles (Fig 5). The natural in this area, a succession of natural gravel and clay bands sandwiched between lenses of sandstone bedrock, sloped slightly down from 44.29m to the north-west to 44.10m to the south.

Enclosure ditch

The enclosure ditch (E203) at this point was 6.7m wide by 3.4m deep with a V-shaped profile with a narrow, flat bottom (Fig 4, Section B; Pl III). To the north there had almost certainly been a rampart which had subsequently been pushed back into the ditch although no evidence survived of its original dimensions.

The primary fills of the ditch consisted of brown sandy loam (E203/11) and reddish brown clay (E203/10). After their deposition the ditch was recut or cleaned out to a slightly lesser depth. The next sequence of ditch fill layers consisted of brown clay (E203/8), reddish brown clay (E203/9, E203/6) and reddish brown sandy clay (E203/7). Over these the next layers, of brown sandy loam (E203/5) and a thick layer of reddish brown clay (E203/4) and reddish brown clay loam (E207, not on plan), trailed up over the inside of the ditch and it is very likely that they represent demolished rampart material pushed into the ditch. Layer E207 in particular extended over the whole trench to the north-east. Over these there was a patch of brown sandy loam (203/3) succeeded by a final, thick layer of reddish brown sandy clay (E203/1) containing a patch with sandstone flecks (E203/2). This patch produced two medieval (12th-13th century) sherds and was the only ditch fill here to produce finds.

Ditches south of enclosure

To the south of the enclosure ditch there was an undated hollow (E201), possibly the end of a ditch, over 1.3m wide by 0.22m deep, and filled with reddish brown clay. To the east was another ditch E202, over 2.2m wide and 0.60m deep, aligned north–south and filled with reddish brown clay. Ditch E202 also produced no dating material but it cut the backfilled

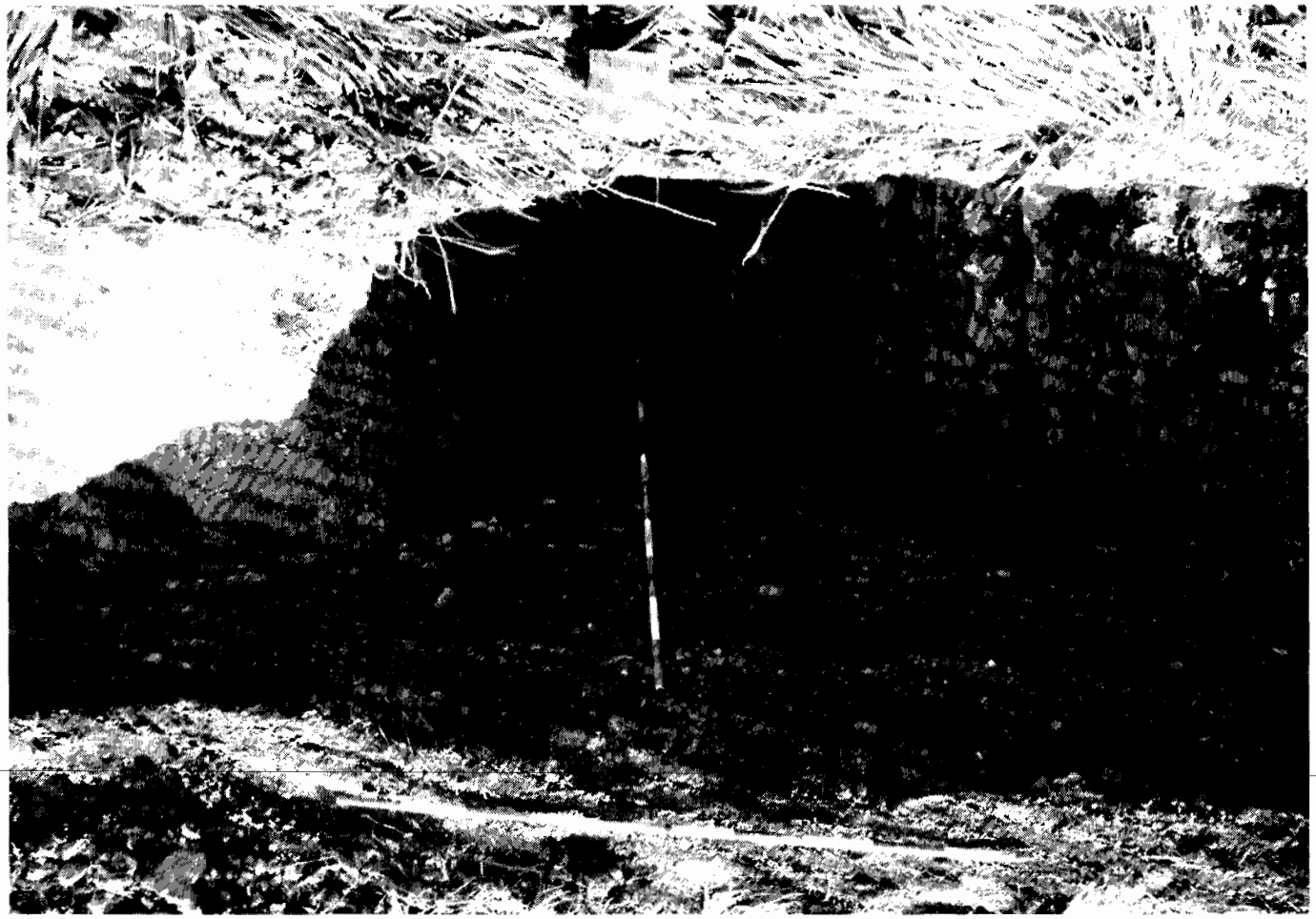

Plate IV Trench OM2, Northern enclosure ditch 203

enclosure ditch. It was not traced to the north of E203 but it is likely that it belonged, possibly along with those in Trench 1/Area A, to a late medieval or post-medieval field system.

Ploughsoil, modern features and topsoil

Overlying the infilled ditches E202 and E203 there was a ploughsoil of brown clay loam (E206). To the north-east this was overlaid by layers of reddish brown clay (E205) and reddish brown sandy clay (E204). It was initially thought that these layers were reworked rampart material but the fact that they overlay layer E206 and their location to the north-east makes it more likely that they were material disturbed when the water main was laid.

Layers E206 and E205 were cut by two series of field drains at irregular intervals, one set running east–west (E208, E210/E213 and E212), the other running north–south (E209, E211), all with ceramic pipes in trenches *c* 0.3m wide filled with brown clay loam. Over all these features was the modern topsoil (E200) of brown clay loam which was 0.3m deep.

TRENCH 11

Trench 11 lay south-west of Trench 1 and ran southwards from the southernmost linear cropmark (Fig 2). The trench was 30m long, 2m side and aligned NNW-SSE. Although the northern end ought to have located the cropmark no archaeological features were identified at all. Although this may have been partly due to waterlogged and frozen ground conditions it does not seem that there was any occupation in this vicinity.

Northern defences

Within the road corridor the northern defences of the outer enclosure were investigated by Trench 9 and Area H (Figs 3, 6). To the west, two of the 1992 Oversley Mill Services evaluation trenches also lay on the northern edge of the enclosure, Trench OM2 across the defences and Trench OM3 just to the south.

TRENCH OM2

Oversley Mill Services Evaluation Trench 2 lay across the enclosure ditch about 45m west of the road corridor

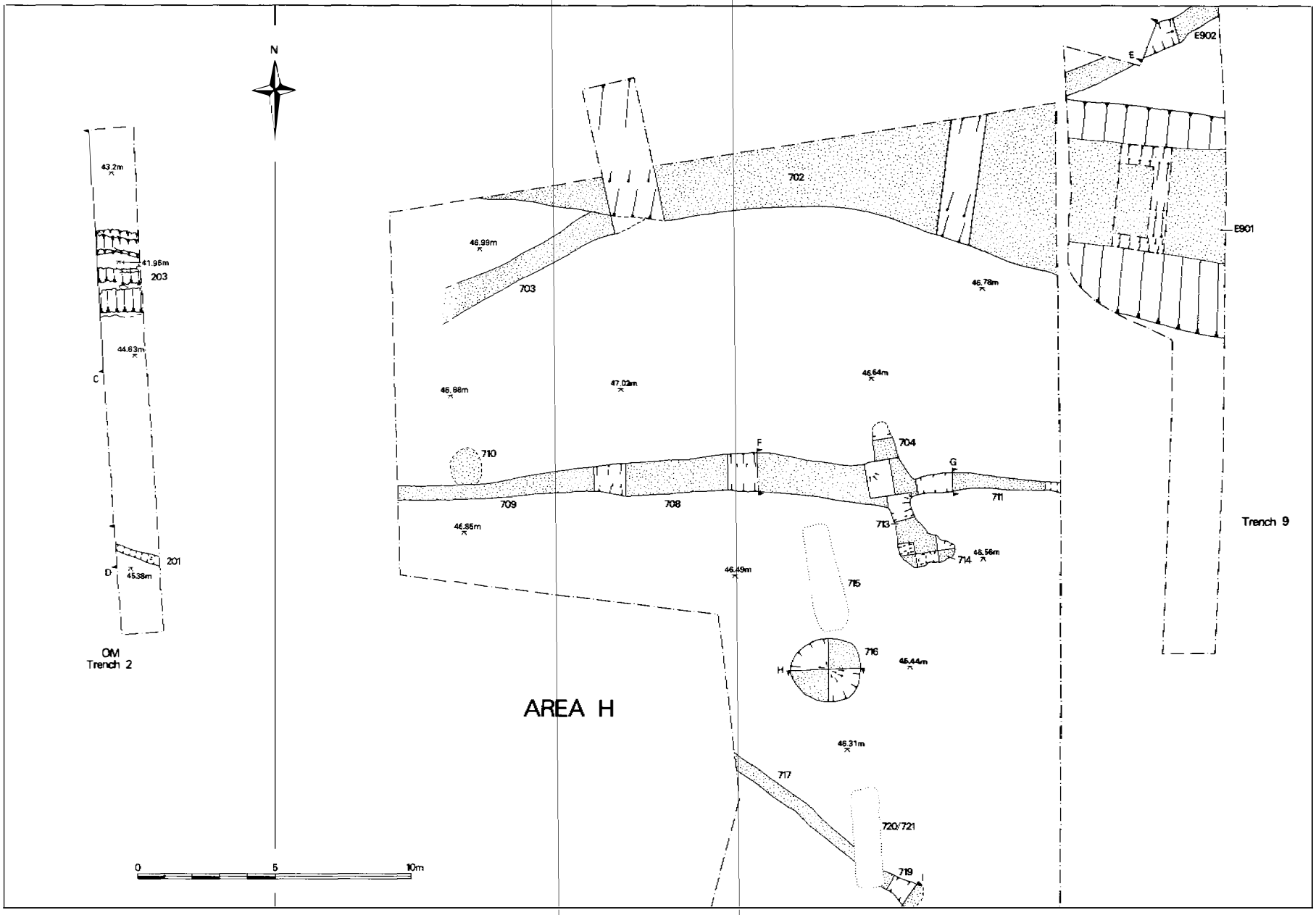

Fig 6 Trench OM2, Area H and Trench 9, Plans

(Figs 3, 6). It was aligned north–south and measured 18m long by 1.6m wide. The geological natural sloped down from 45.65m at the southern end of the trench to 43m at the northern end; to the north it consisted of sandstone (OM204) while south of the enclosure ditch this was overlaid by layers of light greenish grey sandstone (OM208) and reddish brown clay (OM206).

Enclosure ditch

At this point the enclosure ditch (OM203) was 3.75m wide and 2.0m deep with a rounded/V-shaped profile cut into the bedrock (Fig 4, Section C; Pl IV). The smaller size of the ditch here is probably to be explained by the steepness of the escarpment affording greater natural protection than to the east. On the northern edge of the ditch there was a slight bank of rubble and brown clay (OM211) overlaid by patches of brown clay loam (OM210, OM209), in total 1.6m wide and 0.3m high. It is unlikely that this represented a deliberately constructed external bank, being more presumably uncleared upcast from the ditch.

The primary fill of the ditch consisted of layers of sandstone rubble and dark grey clay (OM203/11), dark reddish grey clay (OM203/10) and brown/dark brown clay loam and sandstone rubble (OM203/9). At this point the ditch had been recut or cleaned out. The new cut was then filled with layers of brown/dark brown clay (OM203/7), brown/dark brown clay and sandstone ((OM208/8), dark greyish brown clay (OM203/6), brown/dark brown clay and some sandstone rubble (OM203/5), greyish brown clay (OM203/4), brown clay and sandstone rubble (OM203/3) and sandstone rubble and brown clay (OM203/2, not on section) which left a hollow only 0.7m deep. The final fill was a thick layer of brown clay loam with some sandstone rubble (OM203/1). Layers OM203/11, OM203/5, OM203/3 and OM203/1 contained medieval pottery and layers OM203/11 and OM203/9 contained charred grain, suggesting that there was a domestic rubbish component in the ditch fill.

Gully to rear of possible rampart

About 8.75m to the south of the enclosure ditch there was a shallow gully (OM201), aligned *c* WNW–ESE. This was 0.36m wide, 0.14m deep and filled with dark reddish grey clay loam containing medieval pottery (Fig 4, Section D). Although it did not run on exactly the right alignment it is probable that this gully marked the rear of the rampart.

Any other trace of the rampart appeared to have been removed, presumably by later ploughing, and over the crest of the hill the geological natural lay only 0.20m below the surface.

Ploughsoil and topsoil contexts

Over the southern part of the trench, over gully OM201, there was a layer of dark reddish grey clay loam ploughsoil (OM205) 0.2m deep. Further north this became lighter (reddish grey clay loam (OM207)) and thinner. Just north of gully OM201 layer OM205 was cut by a shallow hollow (OM202, not on plan) of uncertain date, 0.90m across and 0.20m deep, filled with brown clay loam and pebbles. This and the ploughsoil layers were covered by topsoil layer (OM200), of brown/dark brown clay loam topsoil up to 0.25m deep.

TRENCH OM3

Trench OM3 was aligned east–west and measured 15m long by 1.6m wide (Fig 3). It lay within the enclosure 30m east of Trench OM2 and close to the rear of the putative rampart. Over the reddish brown clay natural (OM303) there were layers of reddish brown clay loam (OM302), 0.13m deep, and dark brown clay loam (OM304), 0.14m deep, both of which contained moderate quantities of medieval pottery (11 sherds in OM302 and 17 in OM304). It is possible that these layers were the remains of the back of the rampart, or alternatively, they may have been layers of rubbish dumped against the rampart.

Overlying layer OM304 there was a dark brown clay loam subsoil layer (OM301), 0.14m deep, over which was a 0.30m depth of modern topsoil (OM300), of brown/dark brown clay loam.

TRENCH 9

Trench 9 lay across the defences on the east side of the road corridor (Figs 2, 3, 6). It was aligned north–south and measured 62m long. It was generally 2m wide but was widened to 5.5m over a 10m length to permit a safe, stepped trench through the enclosure ditch.

Romano-British field ditch

The earliest feature recorded was shallow gully (E902), aligned ENE–WSW, 0.9m wide by 0.13m deep (Fig 4, Section E), and filled with brown clay loam containing Romano-British pottery. It is likely that the gully formed part of a Roman field system aligned on Ryknild Street; to the west in Area H it was cut by the enclosure ditch.

Enclosure ditch

The enclosure ditch (E901) in Trench 9 was 7.8m wide by 2.45m deep with a narrow, flat bottomed V-shaped

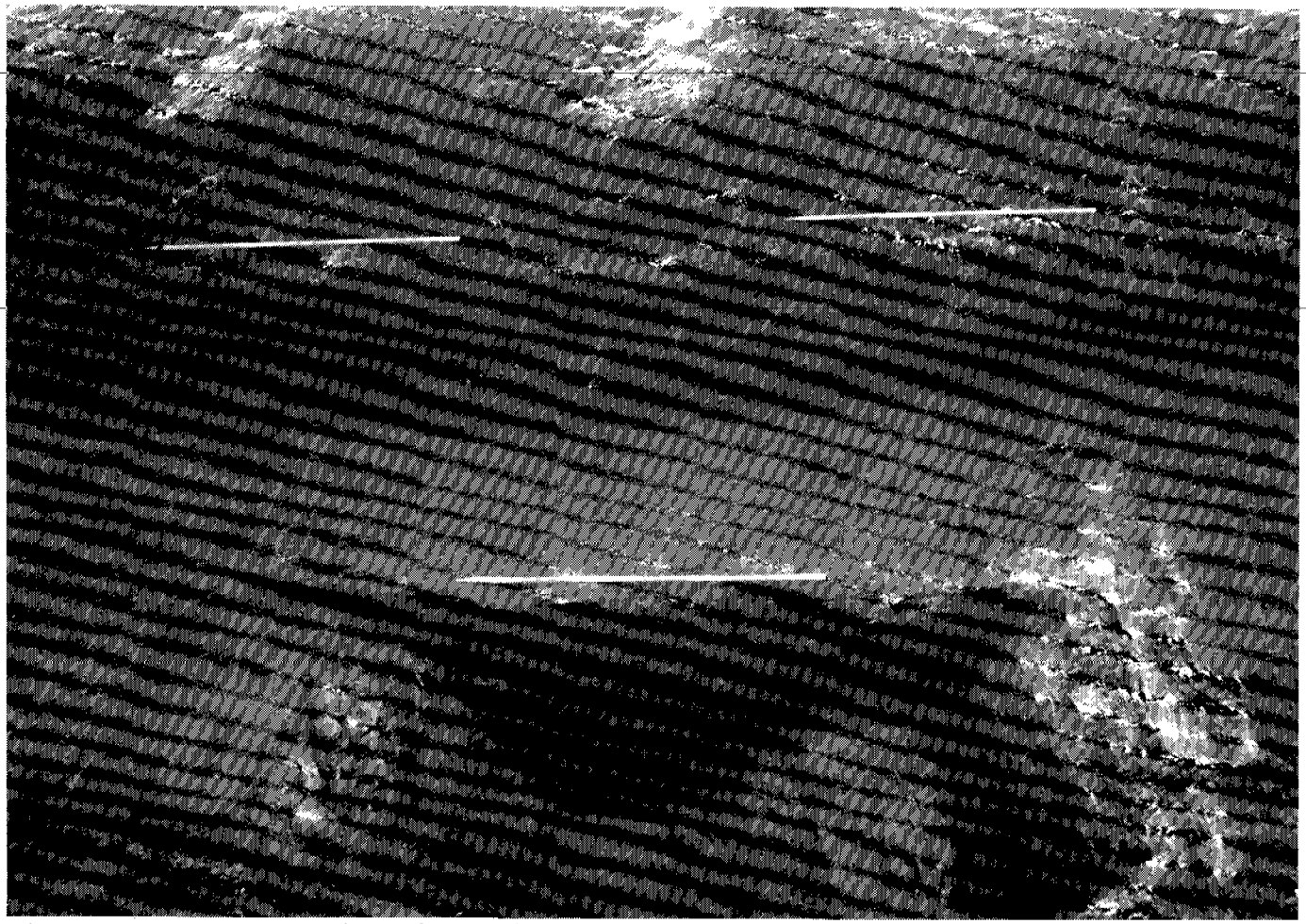

Plate V Trench 9, Northern enclosure ditch E901

profile (Pl V). Frozen ground conditions prevented detailed recording of the ditch fills, but generally they consisted of brown clay loam with quantities of sandstone rubble towards the bottom and a layer of red clay in the top. The only find from the ditch was a single fragment of bone.

Ploughsoil and topsoil

Covering the whole trench there was a brown/dark brown sandy loam ploughsoil layer (E903), 0.3m deep, and a modern topsoil layer of very dark greyish brown sandy loam (E900), also 0.3m deep.

AREA H

Area H lay immediately west of Trench 9 and formed and irregular L-shape measuring a maximum of 25m east–west and 35m north–south (Fig 6; Pl VI). The natural clay and sandstone sloped downwards from 46.99m in the north-western corner of the area to 46.35m in the south-east.

Contour survey

Before the topsoil was removed from Area H a surface contour survey was carried out on an area measuring 55m by 30m across the road corridor over the northern edge of the enclosure in an attempt to detect any surviving remains of a rampart. Readings were taken at 1m intervals. The western side of the corridor had been somewhat disturbed by the water main diversion contractors' trackway and the results of the survey were generally inconclusive (full details in site archive). Allowing for the general slope of the hillside there was a slight depression over the line of the enclosure ditch up to *c* 0.3m deep and a slight bank behind *c* 8-10m wide and up to *c* 0.5m high, although whether this bank represented the remains of the rampart or only the natural scarp of the hill could not be decided with confidence.

Natural features

A number of features initially recorded in Area H proved on investigation to be of natural origin (not on plan). In the centre of the area just south of the enclosure ditch there were three irregular north–south gully/hollows (705, 706 and 707), and to the south and east there were bands in the natural that were originally interpreted as gullies (712 and 718).

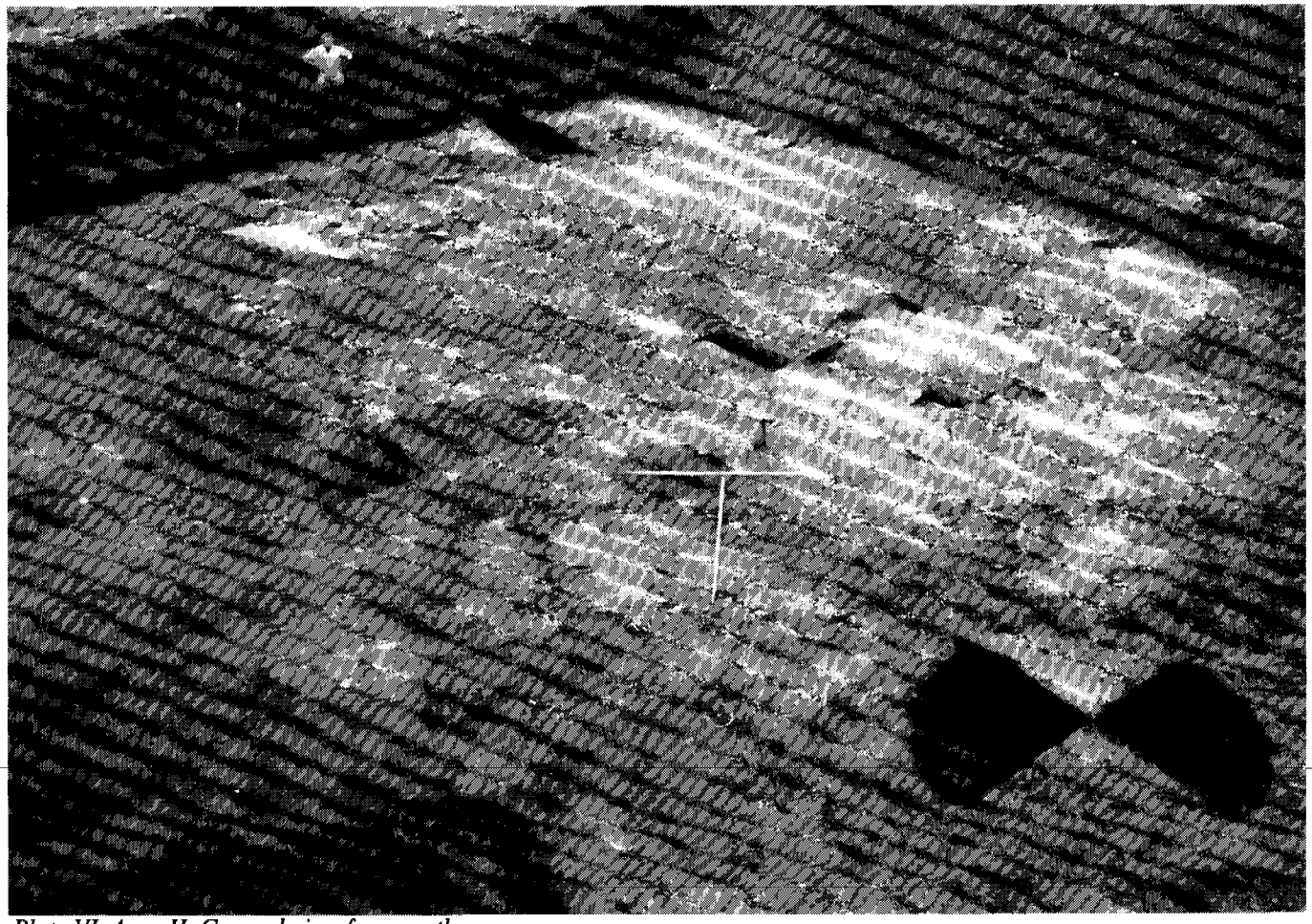

Plate VI Area H, General view from south

Romano-British field ditch

In the north-western corner of the area there was a gully (703) running WSW–ENE, 0.9m wide and filled with brown/dark brown clay (703/1). This was almost certainly the continuation of the Romano-British field ditch (E902) found in Trench 9. A fragment of medieval pottery purportedly from 703/1 will probably actually have come from 702/1 as there was some initial difficulty in disentangling the two features.

Enclosure ditch

The enclosure ditch (702) ran across the north edge of the area. At this point it measured *c* 6.0m wide by *c* 2.5m deep and had a rounded V-shaped profile. The ditch was filled with layers of reddish brown clay (702/5) and dark reddish brown clay (702/6). It is possible that the ditch was recut at this stage but the evidence was unclear. The remaining ditch fills consisted of brown clay (702/3), dark reddish brown clay (702/2), dark reddish brown clay (702/4) and brown/dark brown clay (702/1).

Ditch to rear of possible rampart

No upstanding trace of a rampart around the enclosure survived but its limits appeared to be marked by an east–west ditch (708/708/711) running 8.5-10m south of the enclosure ditch (Fig 4, Sections F. G). This ditch was up to 1.28m wide and 0.51m deep and was filled with brown/dark brown (silty) clay loam (708/1, 708/2, 709/1, 711/1). On the western side of the area ditch 708/709/711 ran across a gully (710) which was not fully recorded owing to flooding of this part of the site. Further east the ditch crossed another irregular gully (704/713/714) which ran *c* NNW–SSE curving to the east at its southern end. The relationship between the two was not established. The gully was up to 0.86m wide and 0.20m deep and filled with brown/dark brown silty clay loam (704/1, 713/1, 714/1).

Other medieval features

South of the probable rampart only two likely medieval features were recorded. One of these, a large, steep sided pit with a flattish bottom (716), 2.70m in diameter and 1.0m deep, filled with dark reddish brown silty clay (Fig 4, Section H), was possibly a rubbish pit although it contained only a moderate amount of pottery and animal bone. The other was a gully (717/719), aligned north-west–south-east, generally *c* 0.5m wide and 0.2m deep, but with an expanded terminal to the south-east (Fig 4, Section I).

The gully was filled with brown/dark brown sandy clay loam (717/1, 719/1).

Modern features, ploughsoil and topsoil

In the centre of the area there were two modern machine dug trial holes (715 and 720/721), each 3.75 long and *c* 1m wide, and presumably connected with ground investigation works for the bypass. With the probable exception of these last ones all the recorded features were sealed by a sandy clay loam ploughsoil layer (701), and by the modern dark brown sandy clay loam topsoil (700).

Areas on southern trackway

Within the enclosure the medieval activity concentrated along the two east–west trackways which showed as cropmarks running from Ryknild Street to the castle inner baileys. The southern trackway area was investigated by Trenches 3, 4, 7 and 8 and Areas B, C and D (Fig 3). Areas B, C and D and Trenches 7 and 8 lay within the road corridor, while Trenches 3 and 4 were excavated to the east in an area required for the works compound for the diversion of the water main necessitated by the construction of the bypass.

TRENCH 3

Trench 3 was aligned north-east–south-west and measured 30.5m long by 2m wide (Fig 5). The geological natural which varied between sand and gravel (E321), reddish brown sandy clay (E322) and greenish grey clay (E323) sloped evenly down from 45.09m at the north-eastern end of the trench to 44.87m at the south-western end.

Natural features

A number of features recorded turned out to be of natural origin (not on plan). These included two linear features in the central part of the trench (E306 and E308), and three hollow/patches (E307, E310 and E314).

Early Bronze Age pit

Towards the south-western end of the trench there was a small, circular pit (E305), 0.66m by 0.60m across and 0.14m deep, filled with brown/dark brown sandy clay with sandstone rubble (Fig 7, Section J) containing early Bronze Age pottery and flintwork.

Undated pit

Close to pit E305 to the south there was a similar but undated pit/hollow (E303), 0.75m in diameter by 0.07m deep, filled with dark brown sandy clay loam (but without rubble).

Medieval gully and pits

Most of the features located lay at the north-eastern end of the trench. The most prominent was a gully (E311), 0.70m wide by 0.18m deep (Fig 7, Section K), filled with brown/dark brown sandy clay loam, running on a NNW–SSE alignment at right angles to the trackway. This was probably a boundary gully between two plots within the enclosure.

To the east of the gully there was a group of small pits. One of these (E312) was sub-square, 0.8m across and 0.9m deep (Fig 7, Section L), containing a thin (0.08m) layer of greyish brown clay loam and charcoal (E312/3), overlaid by thicker layers of greyish brown clay loam (E312/2), 0.22m deep, and brown/dark brown sandy clay loam (E312/1) 0.60m deep. All these layers contained moderate quantities of pottery and some animal bone. This feature may have been a cess pit: its shape, the thin layer in its bottom and the presence of charcoal which was often used to seal cess all suggesting this. The other pits were shallower: E313, 1.03m by 0.80m and 0.14m deep (Fig 7, Section M), filled with brown/dark brown sandy clay loam; and, E315, 0.65m by 0.52m across and 0.15m deep (Fig 7, Section N), filled with very dark grey sandy clay loam. In the corner of the trench there was a pit/gully (E316) 0.34m across and 0.12m deep (Fig 7, Section O), filled with brown/dark brown sandy clay loam; and adjacent to it was a stakehole (E317), 0.8m in diameter and 0.07m deep (Fig 7, Section O), filled with brown/dark brown sandy clay loam. In the vicinity of these features the overlying ploughsoil contained a spread of charcoal *c* 0.15m deep (E302) which may have been reworked material from the pits or possibly from an associated occupation layer.

Immediately to the west of the boundary gully there was a cluster of pit/hollows of uncertain function. To the north-west of the cluster an irregular hollow/pit (E304) filled with brown/dark brown sandy loam (E304/1) was cut by a pit (E318), 0.80m by 0.70m across and 0.30m deep, filled with dark yellowish brown sandy clay loam. To the south-west was a shallow pit (E309), 0.76m across and 0.05m deep, filled with brown/dark brown sandy loam, and to the south-west of this was another small pit (320), 0.72m by 0.59m across and 0.17m deep, filled with dark yellowish brown sandy clay loam.

Ploughsoil, modern features and topsoil

Overlying these features and extending over the whole trench there was a ploughsoil layer of brown/dark brown sandy clay loam (E301), 0.20m deep. This was cut by two series of modern field drains, one aligned east–west (E324, E326 and E327), the other aligned north–south (E325 and E328), all filled with dark brown sandy clay loam and containing ceramic pipes. The modern topsoil (E300) was dark brown sandy clay loam, 0.30m deep.

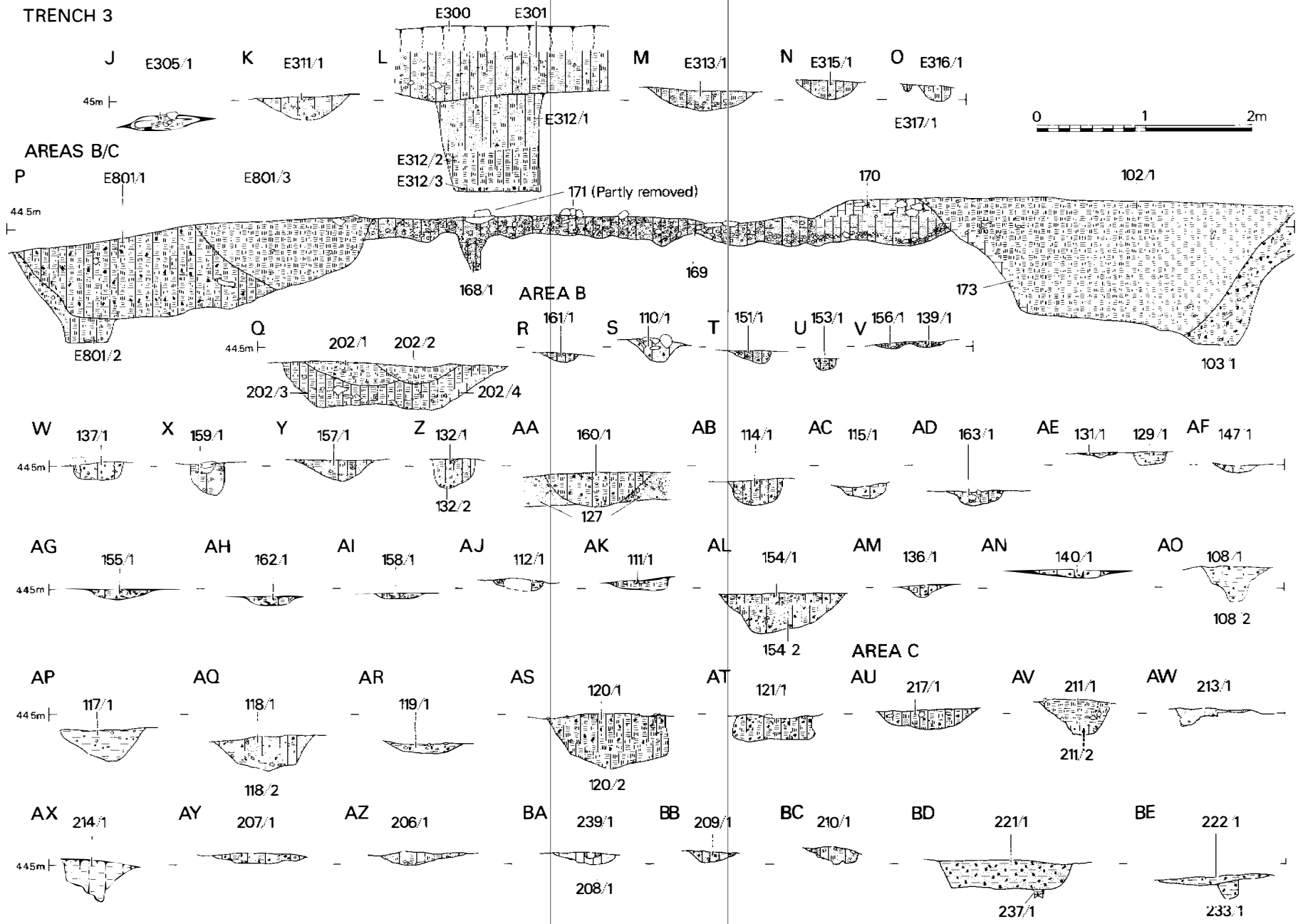

Fig 7 Trench 3, Areas B, C, Sections J-BE (for soil descriptions see Fig 4)

TRENCH 4

Trench 4 was aligned parallel to Trench 3, some 7m to the north-west and measured 27m in length (Fig 5). The geological natural consisted of strong brown sand and gravel (E414) which lay at a level of *c* 45.00m at the north-eastern end of the trench.

Natural features

A large number of hollows and gullies were initially recorded in the centre of the trench which proved on investigation to be geological in origin or tree root holes (E403, E404, E405, E406, E407, E408, E409 and E410, not on plan).

Medieval gully and hollow

The remaining features all lay at the north-eastern end of the trench. Running NNW–SSE there was a gully (E412), 0.50m wide and 0.33m deep, filled with brown/dark brown sandy clay loam. This was the continuation of the boundary gully E311 located in Trench 3.

Cutting the filled in gully there was a large shallow, irregular hollow (E402), 3.4m across and 0.2m deep, and filled with dark brown sandy clay loam. The hollow contained only medieval pottery, although its fill was quite similar to the topsoil layer above.

Modern features and topsoil

The hollow E402 was cut by a more certainly modern animal burial (E413), placed in a pit 1.20m across and 0.12m deep, filled with dark brown sandy clay loam. The trench was also cut by a number of modern field drains (including E411 and E401) on the same east–west and north–south alignments as in Trench 3. The topsoil (E400), of dark brown sandy clay loam, was 0.57m deep.

TRENCH 8, AREAS B AND C

Trench 8 was aligned north-east–south-west and measured 23m long by 2m wide; it lay within the road corridor and was placed to intersect the trackway cropmark which also showed on the magnetometer survey (Fig 3). Areas B and C were subsequently laid out south and north of the trackway. Area B was staggered to the west and angled to the south-west to avoid the water mains, forming a parallelogram 29.5m north–south and 20.5m east–west (Fig 8). Area C was originally laid out as a rectangle, 30m north–south and 25m east–west (Fig 9). However, once the topsoil was stripped it became clear that the north-western part of the area had been heavily disturbed during the diversion of the water pipeline and the excavated area was reduced to a truncated U-shape. (Trench 8 had been excavated across the damaged area before the diversion work and had not in fact located any features in this area). The natural subsoil in this area (E802), basically red clay with bands of green clay, sloped down from *c* 44.60m at the northern end of Area C to *c* 44.30m at the southern end of Area B.

Southern trackway (172)

The southern trackway (172) consisted of a metalled road running east–west, 5.5m wide, flanked to north and south by wide ditches that had been recut on a number of occasions (Figs 8, 9; Pl VII). Although no finds later than the early 13th century came from layers associated with the trackway, it is likely that it continued in use long after the settlement in the outer enclosure had been abandoned, as the access road to the late medieval and post-medieval manor house of Oversley Court that succeeded the castle and lasted into the 18th century. In fact the southern edge of the track survived as a field boundary until the early 1980s and it was noticeable that the field drains encountered in Trenches 1, 2, 3 and 4, and Areas A and B did not extend north of this boundary.

Underneath the surviving road surfaces, which extended over most of the western part of the excavated section, there was a small hole (168, not on plan), possibly connected with the original road construction (Fig 7, Section P). This was 0.3m in diameter and 0.32m deep, filled with dark greyish brown gravel and sandy silt loam. It was overlaid by a compacted layer (169), *c* 0.1m thick, of gravel and pebbles in a matrix of dark greyish brown sandy silt loam, which was probably an early road surface. This was overlaid by a layer of brown/dark brown sandy silt loam (170), 0.1-0.2m thick, which will have been make up for the later road surface immediately above, of medium-large rubble with occasional pebbles (171/203).

The northern drainage ditch (202, 230, E801) contained at least four cuts and was a total of 3.3m wide (Fig 7, Sections P, Q; Fig 8; Pl VII). The earliest cut (230, E801/2) lay to the north and was the deepest; it was probably *c* 1.3m wide and 0.9m deep, and steep sided with a flat bottomed slot in its base. To the east it terminated *c* 5.5m from the edge of the area where there must originally have been an entrance from the trackway to the plot to the north. In the two central sections a number of fills were recorded: a very dark greyish brown clay (230/2, 230/6, 230/7) was overlaid by thin bands of dark greyish brown clay loam and sandstone (230/5) or very dark greyish brown clay (230/3) which were then overlaid by a final layer of very dark greyish brown clay loam (230/1, 230/4). To the west a single fill layer of yellowish brown sandy loam (E801/2) was recorded.

The next cut was wider and shallower, with sloping sides and a wide flattish bottom, increasing in width

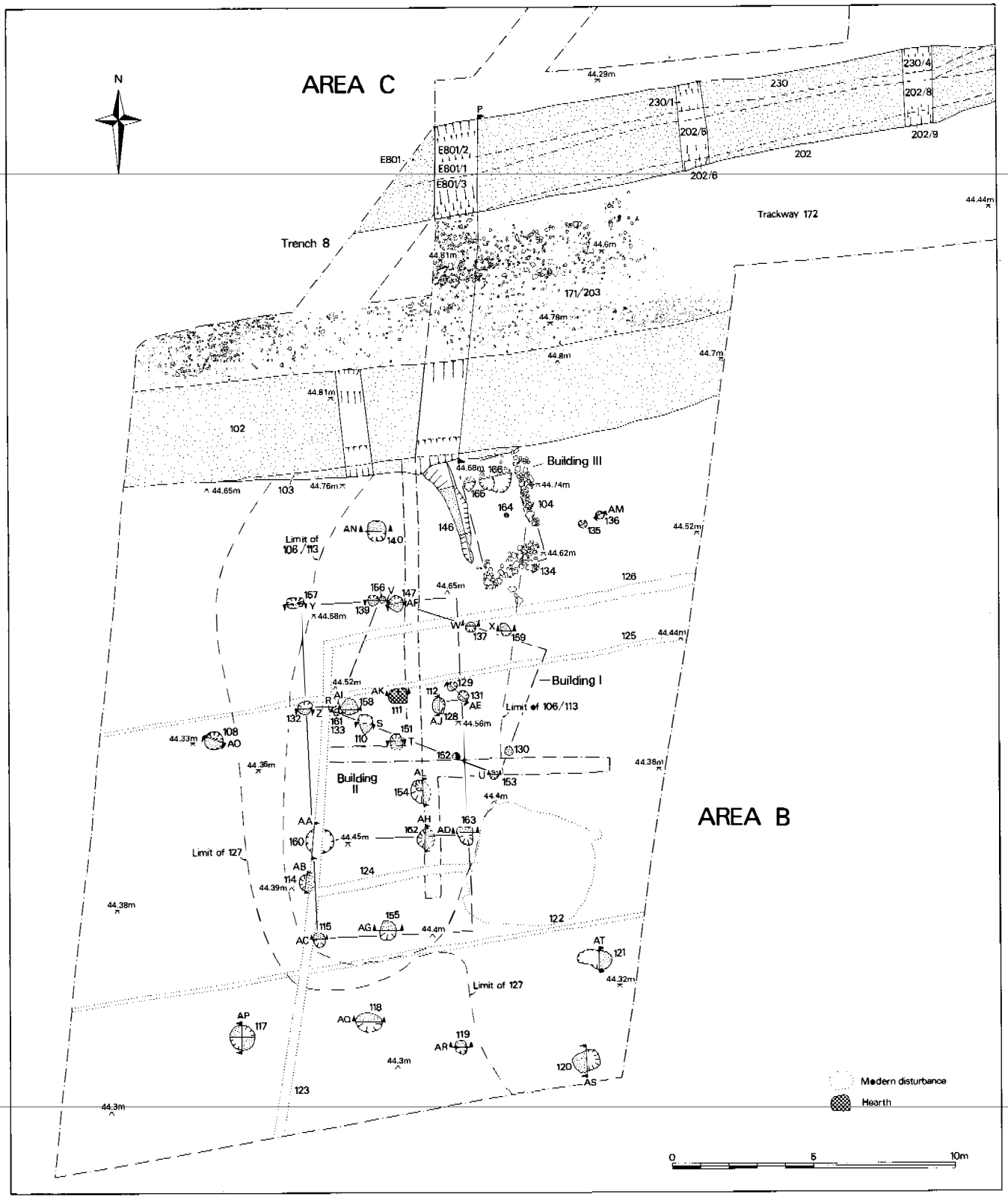

Fig 8 Area B, Plan

from 2m to 3.2m from east–west and from 0.4m to 0.8m in depth. Its shape to the east suggests that it may actually have contained two cuts although it was not possible to separate the fills in any of the sections. In two sections there was a shallow primary fill over the south side, of dark brown sandy loam (202/4), or dark brown/brown sandy clay (202/7), which was overlaid by the main fill of very dark greyish brown silty clay loam (202/3, 202/6, 202/9) or dark brown silty clay loam (E801/1).

The third cut which was much shallower was only recorded in the eastern section where it was probably *c* 1m wide, 0.2m deep, with sloping sides, and filled with yellowish red clay (202/1). The final cut was traced along the whole length; it was between 0.8m and 1.4m wide with sloping sides and a depth that increased from 0.15m to 0.3m from east–west. Its fill varied between reddish brown clay loam (E801/3), dark brown sandy loam (202/8) and yellowish red clay (202/2, 202/5).

The southern drainage ditch (102, 103) had two identifiable cuts totalling 3.75m in width (Fig 7, Section P). The earlier cut (103) lay to the south; it was over 1m wide and 1.3m deep, with steep sloping sides and a flat bottomed slot in its base, and filled with very dark grey clay (103/1). It was probably contemporary with a U-shaped gully (146), 0.4m wide running off at right angles to the south for a distance of 2.7m. Gully 146 was filled with very dark grey sandy clay loam. Ditch 103 was cut to the north by a wider ditch (102), 3.3m wide and 1.1m deep, with sloping sides and a wide flat bottom. This recut postdated the later road surface 171: its primary fill, a thin layer of dark brown sandy silt loam (173) along the north edge of the ditch overlaid the surface. The main fill of ditch 102 was a thick layer of brown/dark brown clay (102/1). This layer was undated by finds and may have been very much later in date than the other contexts here.

AREA B

Natural features

A number of patches and hollows recorded across Area B turned out to be of geological origin or tree roots (107, 109, 116, 142, 143, 144, 145 and 148, not on plan).

Buildings south of trackway

Overlying the natural in the eastern part of Area B was a layer of dark brown sand and gravel (127) *c* 0.30m thick (Fig 8). This appeared to have been deliberately laid, presumably to provide a free draining surface over the clay on which to build. No finds came from within the sample of the layer that was removed and no features were detected below it, but similar redeposited layers were identified to the east during the 1977 water main observation.

Cutting layer 127 were a large number of postholes and other features. These did not form immediately obvious structures while under excavation and they could not be sorted into separate stratigraphic groups, but study of them suggests the presence of two fairly convincing, successive, post-built buildings, the extent of the probable later one coinciding with an oval spread of occupation material (106/113) roughly at right angles to the trackway. A third building, a shed or outbuilding, was probably supported by a rubble footing.

Building I

The probable earlier post-built building, which was aligned WNW–ESE, consisted of a single cell *c* 4.5m wide and possibly 6.25m long. Its southern wall line was represented by a line of five irregularly spaced postholes: 161/133, 0.23m in diameter and 0.08m deep (Fig 7, Section R), filled with dark greyish brown sandy clay loam; 110, 0.65m by 0.60m across and 0.20m deep (Fig 7, Section S), containing stone packing and dark brown sandy loam; 151, 0.43m by 0.36m across and 0.12m deep (Fig 7, Section T), filled with dark brown clay loam; 152, 0.24m by 0.18m across and 0.11m deep, filled with dark brown sandy clay loam; and 153, 0.20m in diameter and 0.17m deep (Fig 7, Section U), filled with dark greyish brown sandy clay loam.

The northern wall was represented by a rough line of four postholes; others to the east were missing. The surviving postholes were: 139, 0.26m by 0.18m across and 0.07m deep (Fig 7, Section V), filled with dark brown sandy loam; 156 adjacent, 0.28m by 0.14m across and 0.04m deep (Fig 7, Section V), filled with dark brown sandy clay loam; 137, 0.62m by 0.47m and 0.18m deep (Fig 7, Section W), containing stone packing and dark brown sandy loam; and 159, 0.41m by 0.36m across and 0.29m deep (Fig 7, Section X), filled with dark brown sandy clay loam.

There was no definite trace of the western wall but the line of the eastern one may have been represented by a possible post pad (130), consisting of a limestone block set in a shallow hollow. No floor levels or evidence for internal structure appeared to survive within the building.

Building II

The second building which was aligned north–south lay across the west side of Building I. It was larger and more sophisticated, measuring 12.25m long by 6.25m wide, with a three bay structure, the north and south bays, which formed separate rooms, being 3.5m long, the central bay 4.75m long.

Its western wall was represented by a line of five postholes, four of them corresponding to the bays of the building. From north to south they were: 157,

0.66m by 0.57m across and 0.19m deep (Fig 7, Section Y), filled with dark yellowish brown sandy clay loam; 132, 0.5m by 0.43m across and 0.30m deep (Fig 7, Section Z), filled with dark grey clay loam (132/2) overlaid by very dark greyish brown sandy clay loam (132/1); 160, larger and more irregular, 1.39m by 0.98m across and 0.33m deep (Fig 7, Section AA), filled with dark brown clay loam; 114, 0.54m by 0.50m across and 0.23m deep (Fig 7, Section AB), filled with dark brown sandy clay loam; and 115, 0.45m by 0.30m and 0.12m deep (Fig 7, Section AC), filled with dark brown loamy sand. The odd posthole (114) may represent a repair to the wall.

Only two postholes survived in the eastern wall: 163, 0.61m by 0.51m across and 0.14m deep (Fig 7, Section AD), filled with brown/dark brown sandy clay loam; and 129, 0.35m by 0.30m across and 0.12m deep (Fig 7, Section AE), filled with dark yellowish brown sandy silt loam (129/2), overlaid by dark grey sandy silt loam (129/1). These lay at either end of the central bay, opposite 132 and 160. Adjacent to 129 was another shallow possible posthole (131), 0.40m in diameter and 0.05m deep, filled with very dark greyish brown sandy silt loam which may have been a replacement.

The north and south walls were represented by single postholes centrally placed: 147 to north, 0.44m by 0.38m across and 0.06m deep (Fig 7, Section AF), filled with greyish brown sandy loam; and 155 to south, 0.57m by 0.56m and 0.10m deep (Fig 7, Section AG), filled with very dark greyish brown sandy clay loam.

The partition between the central and southern rooms was supported by a single posthole (162), 0.47m by 0.40m across and 0.13m deep (Fig 7, Section AH), filled with dark brown clay loam; while that between the central and northern room was supported by two postholes: 158, 0.44m by 0.38m across and 0.04m deep (Fig 7, Section AI), filled with very dark greyish brown clay loam, and 112, 0.50m by 0.45m across and 0.17m deep (Fig 7, Section AJ), filled with very dark greyish brown sandy silt loam. Posthole 112 was cut by a stakehole (128), 0.16m by 0.10m across and 0.11m deep, filled with very dark greyish brown sandy silt loam, which may have supported some structure against the partition.

Approximately centrally placed across the building there was a hearth (111) consisting of a rounded patch of yellowish red burnt clay, 0.91m by 0.66m across and 0.09m deep (Fig 7, Section AK). This was however placed on the line of the northern partition, and is unlikely to have been in use at the same time. This may mean either that the partition was not continuous, forming two speres, or that it had been removed combining the two rooms before the hearth was laid. On the south-eastern side of the central room posthole 154, 0.99m across by 0.38m deep (Fig 7, Section AL), filled with dark yellowish brown sandy clay loam (154/2) overlaid by brown/dark brown sandy clay loam (154/1), may have supported some internal fixture.

Building III

A probable third, smaller building just south of the trackway was represented by an L-shaped wall footing consisting of an irregular spread of limestone and sandstone rubble (104, 134). This would presumably have supported a timber-framed superstructure. No trace of north and west walls survived, but the building appeared to be bounded by the trackway ditch and gully 146 and would therefore have measured *c* 4m long by 2.25m wide. This would suggest that it was an outbuilding or shed.

Within the building were three features that may have supported internal structures: a small posthole (164), 0.18m by 0.17m across and 0.05m deep, filled with brown/dark brown sandy clay loam; a posthole (165), 0.34m in diameter and 0.13m deep, filled with brown/dark brown sandy loam; and an irregular pit (166), 1.22m by 1.02m across and 0.13m deep, filled with dark yellowish brown sandy clay loam.

Features around buildings

To the east of Building III two postholes (135 and 136) aligned at right angles to footing 104 may have supported some structure against the building. Posthole 135 was 0.28m in diameter and filled with dark yellowish brown sandy loam while posthole 136 was 0.36m by 0.32m across, 0.14m deep and filled with dark greyish brown sandy loam (Fig 7, Section AM).

North of Building II there was a small pit (140), 0.70m by 0.54m across and 0.08m deep (Fig 7, Section AN), filled with dark brown sandy loam, and to the west there was another (108), 0.65m by 0.60m across and 0.38m deep (Fig 7, Section AO), filled with dark grey sandy silt loam (108/2), overlaid by dark greyish brown sandy silt loam (108/1). To the south of Building II there was a further scatter of pits: 117, 1.05m by 0.90m across and 0.35m deep (Fig 7, Section AP), filled with dark brown sandy silt loam; 118, 0.95m by 0.70m across and 0.30m deep (Fig 7, Section AQ), filled with dark brown loamy sand (118/2) overlaid by dark brown sandy loam (118/1); 119, 0.60m by 0.50m and 0.10m deep (Fig 7, Section AR), filled with dark brown loamy sand; 120, 1.18m by 1.12m across and 0.50m deep (Fig 7, Section AS), filled with light brown clay loam (120/2), overlaid by dark greyish brown clay loam (120/1); and 121, 1.58m by 0.68m across by 0.22m deep (Fig 7, Section AT), filled with very dark grey clay loam. Of these only 120 and 121 contained appreciable quantities of pottery and animal bone, and may have been used for rubbish disposal.

Over the area of the three buildings there was an occupation spread (106/113), *c* 0.15m deep, of dark

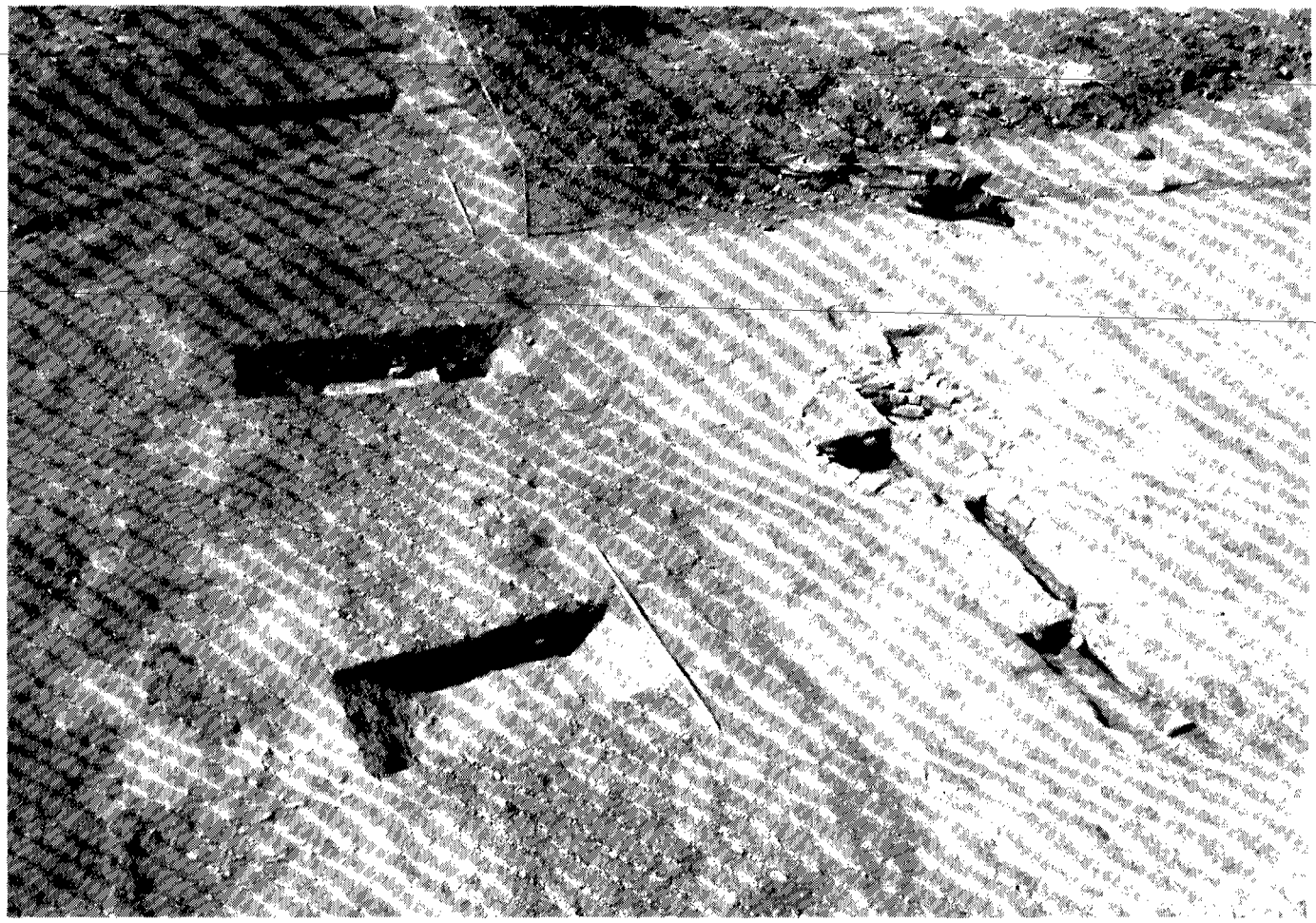

Plate VII Area C, Southern trackway and malting kiln 240

greyish brown clay loam containing pottery, animal bone and other finds presumably deriving from their use. In the area immediately south of the trackway layer 106/113 was overlaid by further layers of very dark greyish brown silty clay loam (105) and dark yellowish brown sandy clay (167), the former of which also contained quantities of pottery and animal bone.

Ploughsoil, field drains and topsoil

All the medieval feature in Area B were sealed by a ploughsoil layer (101), *c* 0.26m deep, of light brown sandy clay loam. This was cut by a pattern of field drains filled with dark brown silty clay loam and containing ceramic pipes, one aligned north–south (123), the others east–west (122, 124, 125 and 126). These were sealed by a 0.17m depth of silty clay loam topsoil (100).

AREA C

Natural features

A number of features over the northern part of Area C, initially recorded as archaeological, turned out to be geological or tree root holes (212, 215, 218, 219, 220, 223, 224, 225 and 226; not on plan).

Also in the northern part of the Area (Fig 9) in the course of the excavation a soil mark was briefly observed consisting of two parallel east–west linear features (228 to the south and 229 to the north, the latter over 15m long) each *c* 0.35m wide and 1.6m apart, linked at their western end by a north–south alignment (227). All attempts to excavate the mark proved unsuccessful although the excavators felt it might nonetheless represent the shadow of a building. However its proportions, over 15m long by 2.25m wide, as well as its insubstantial form, make it very unlikely to have been a building. An effect caused by differential drainage in the natural seems a more likely explanation.

Medieval malting kiln 240

On the east side of Area C 2.5m north of the trackway ditch was a malting kiln (240) aligned east–west , with a circular firing chamber to the west, and a straight flue and stokehole to the east (Figs 9, 10; Pl VII, VIII).

The chamber (204) was 1.7m in diameter, flat bottomed with a backward sloping lining of unmortared, rough, coursed sandstone rubble (238) of

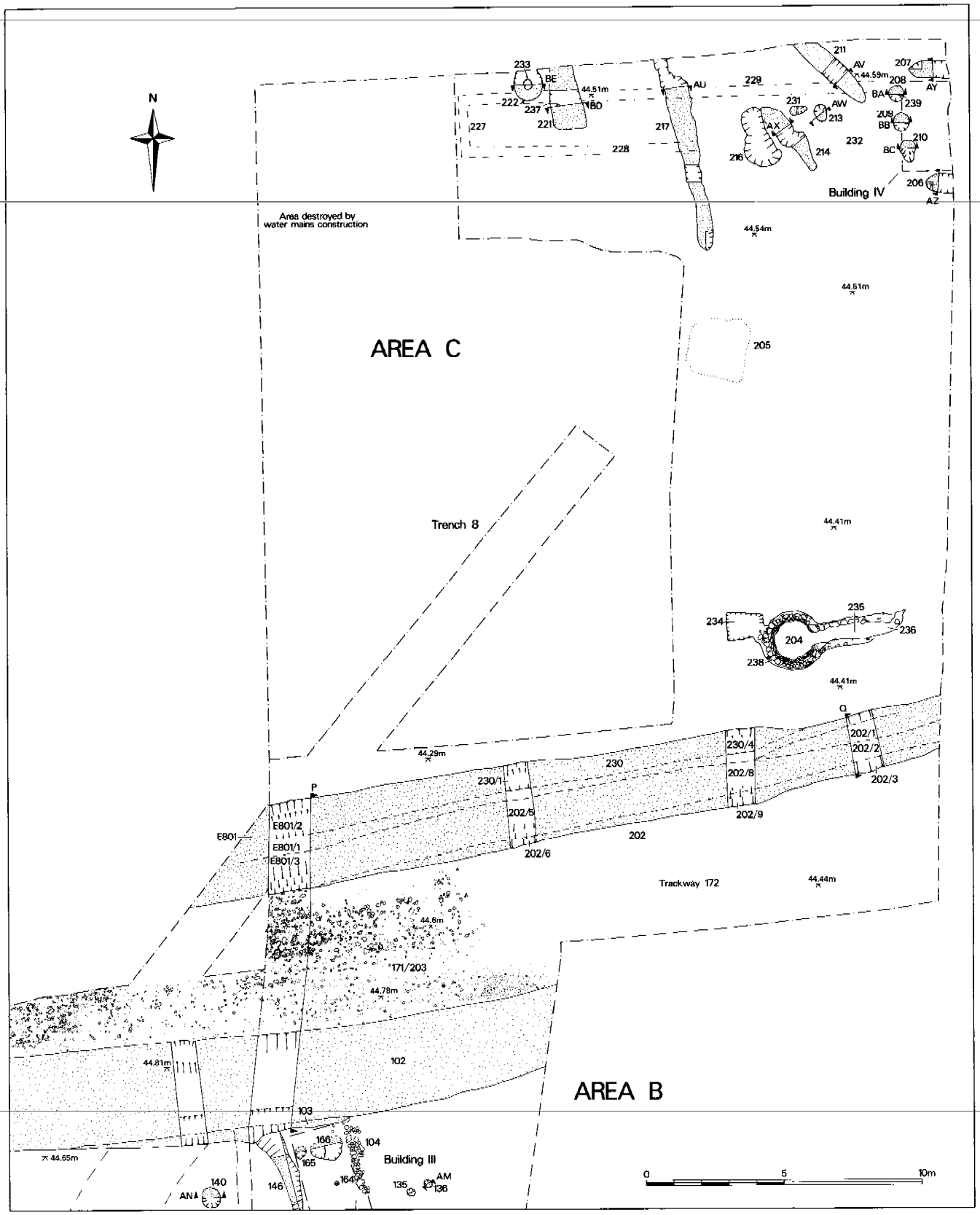

Fig 9 Area C and Trench 8, Plan

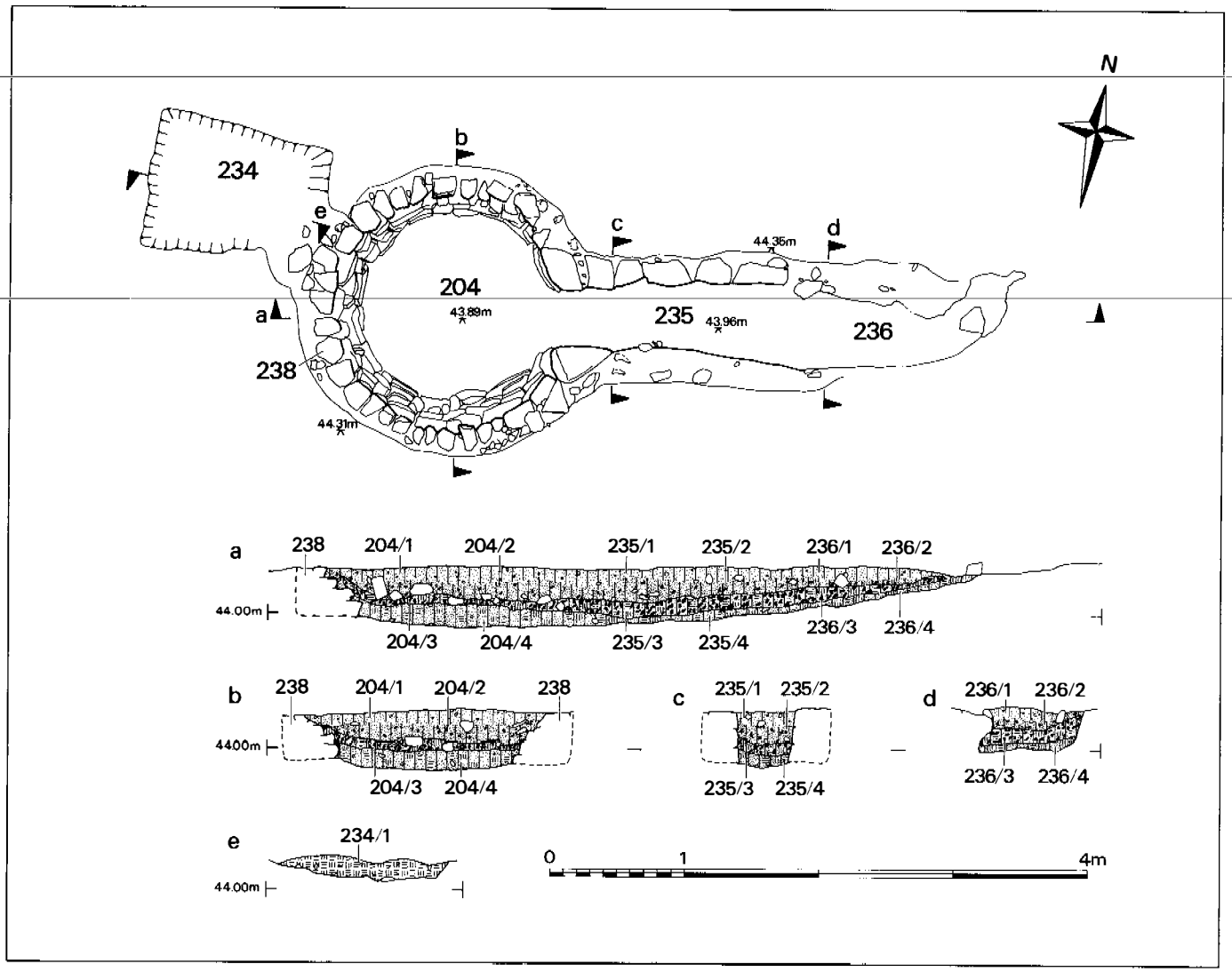

Fig 10 Malting Kiln 240, Plan and sections (for soil descriptions see Fig 4)

which four or five courses survived, set in a pit *c* 2.1m in diameter. The flue (235) was vertical sided, *c* 1.8m long, 0.40m wide and set in a trench *c* 0.95m wide lined with coursed sandstone rubble of which three courses survived. The stokehole (236) was 1.5m long by 0.8m wide and little more than an unlined continuation of the flue sloping up to ground level. On the north-western corner of the kiln chamber there was a shallow, vertical sided, rectangular pit (234), 1.17m by 1.02m across and 0.12m deep, filled with brown/dark brown clay.

The earliest layer in the kiln was of brown/dark brown sandy clay loam (204/4, 235/4, 236/4). It extended from the chamber to the stokehole and overlaid the linings of both flue and stokehole. In the chamber this was 0.14-0.18m deep, while in the flue it was only 0.8m deep. This was overlain by a layer of black charcoal and sandy loam (204/3, 235/3, 236/3) which ran from the chamber into the stokehole. In the chamber it was *c* 0.08m thick, increasing to 0.14m thick along the flue. This layer was clearly debris that had accumulated during the use of the kiln although whether it was the result of a number of firings or a single accident could not be said. Overlying the charcoal layer were two layers of brown/dark brown sandy loam and charcoal (204/2, 235/2, 236/2) and strong brown sandy loam (204/1, 235/1, 236/1). These filled the stokehole and flue and seemed to have belonged to the demolition of the structure.

Medieval features to north-east

Most of the medieval features in Area C lay to the north (Fig 9). Across the middle of the area was a probable boundary gully (217) running NNW–SSE, at right angles to the trackway. This was 0.90m wide by 0.18m deep (Fig 7, Section AU), and filled with dark brown clay loam. The line of the gully would have coincided with the eastern end of the original northern trackway ditch (230) and the side of the suggested access from the trackway. This suggests that the area may have straddled two medieval plots.

To the east of the gully the natural was covered by a thin layer of dark greyish brown silt loam (232) that appeared to be the remains of the medieval ground

Plate VIII Area C, Malting kiln 240

surface. Just to the east of the gully 217 this layer was cut by a group of rather amorphous features. Aligned north-west–south-east and running into the northern edge of the area was a length of gully (211), 0.61m wide by 0.32m deep (Fig 7, Section AV), filled with brown/dark brown sandy loam (211/2), overlaid by dark brown silty clay loam (211/1). South-west of this were two possible posthole/hollows (213, 1.06m across by 0.17m deep (Fig 7, Section AW), filled with dark reddish brown sandy loam, and 231, 0.35m by 0.24m across and 0.07m deep, filled with brown/dark brown sandy loam) and two larger irregular hollows (214, 0.66m wide and 0.40m deep (Fig 7, Section AX), filled with very dark grey sandy silt loam, and 216, 1.50m long, 0.60m wide and 0.16m deep, filled with dark brown sandy clay loam with some sandstone.

Building IV

In the north-eastern corner of the area, also cutting layer 232, there was the western end of a timber building extending beyond the area to the east. Along its north and south sides there were shallow east–west gullies: to the north 207, 1.00m wide by 0.11m deep (Fig 7, Section AY), and to the south 206, 0.7m wide by 0.12m deep (Fig 7, Section AZ), both filled with dark brown sandy clay loam. These showed no signs of

postholes cut into them and seemed more likely to represent drains than beam slots; this would suggest that the width of the building was *c* 3.5m. The west wall of the building was represented by a line of three postholes (208, 209 and 210). Posthole 208 consisted of a pit, 0.6m in diameter by 0.13m deep (Fig 7, Section BA), packed with brown/dark brown sandy loam around a post pipe (239), 0.20m in diameter by 0.09m deep, filled with dark brown sandy loam. Posthole 209 was 0.40m in diameter by 0.09m deep (Fig 7, Section BB) and filled with dark reddish grey sandy loam, while posthole 210 was 0.47m in diameter by 0.14m deep (Fig 7, Section BC) and filled with brown/dark brown sandy clay loam.

Medieval features to north-west

To the west of gully 217 there was a rectangular, flat bottomed pit (221), 1.30m by 1.10m across and 0.20m deep (Fig 7, Section BD), cut into the bottom of which there was a possible, rather jagged stakehole (237), 0.20m by 0.10m across and 0.09m deep, filled with brown sandy silt loam. The pit itself was filled with very dark greyish brown sandy silt loam (221/1), Adjacent to pit 221 was a shallow hollow (222), 1.5m by 1m across and 0.08m deep (Fig 7, Section BE), which also had a posthole (233) cut into its bottom. This posthole was 0.20m by 0.15m across and 0.17m deep and filled with very dark greyish brown sandy silt loam. The hollow was filled with dark greyish brown sandy silt loam (222/1). It is possible that these two similar features were associated, belonging to some structure of uncertain function.

Modern feature, ploughsoil and topsoil

In the centre of the area there was a machine dug test pit connected with the ground investigations for the bypass (205), *c* 2.05m by 2m across. Sealing all the features with the exception of this last was a ploughsoil layer (201), of light brown sandy clay loam, which was overlaid by the modern topsoil (200, E800), a layer of dark brown sandy silt loam, 0.66m deep.

AREA D AND TRENCH 7

Area D lay midway between the two trackways (Figs 3, 11). It was subrectangular and measured 24m north–south by 17m east–west. Trench 7 was 27m long by 2m wide and cut across the north-western corner of the area on a north-east–south-west alignment. The geological natural in this area consisted of strong brown sand and sandstone (324, E703) which sloped from *c* 44.50m in the north-west corner up to *c* 44.70 over the middle of the area and down to *c* 44.60m to the south.

Natural features

A number of features initially recorded as archaeological, particularly over the southern part of the area, turned out to be geological or tree root holes (302, 304, 305, 310, 313, 314, 315, 316, 317, 318 and 320; not on plan).

Medieval gullies, postholes and pits

The most prominent medieval feature in Area D was a gully (322/E702), 0.4m wide by 0.25m deep (Fig 12, Section BF) and filled with dark greyish brown sandy loam (322/1, E702/1), which ran across the east side of the area on a NNW–SSE alignment. There was no trace of this gully further north up to the northern trackway and it is likely that it bounded two plots aligned on the southern trackway. All the other features in the area lay west of the gully which would place them in the same plot as the malting kiln and building in Area C.

These features, which included five postholes, two pits and three gully/hollows, formed a cluster with no particular pattern. There were also very few finds from them suggesting a low level of activity. To the north, posthole 319/325 consisted of a pit, 0.74m in diameter by 0.42m deep (Fig 12, Section BG) packed with dark greyish brown sand (319/2), around a postpipe (325) 0.24m in diameter by 0.24m deep, filled with very dark grey sandy loam (325/1), overlaid by dark brown sandy loam (319/1). South-west of this there was posthole 306, 0.52m by 0.46m across by 0.41m deep (Fig 12, Section BH), filled with brown sandy loam (306/3), brown sand (306/2), and dark greyish brown sandy loam (306/1), possible posthole 311, 0.7m in diameter by 0.19m deep (Fig 12, Section BI), filled with brown sand (311/2) overlaid by very dark greyish brown sandy loam (311/1), and posthole 323/326, 0.4m in diameter by 0.26m deep (Fig 12, Section BJ), packed with brown/dark brown sandy loam (323/1) around a postpipe (326), 0.15 in diameter by 0.25m deep, filled with dark grey sandy loam (326.1). To the south-west again, there was posthole 312, 0.7m in diameter by 0.28m deep, filled with dark grey sandy loam (312/2) overlaid by dark brown sandy loam (312/1).

In the same area there were two larger pits: a large rounded, steep sloping sided feature (321/E701), 1.08m by 1.16m across and 0.40m deep (Fig 12, Section BK), filled with dark greyish brown sandy loam (321/1, E701/1) and a more irregular, possible pit (307), 1.25m by 1.05m across and 0.15m deep (Fig 12, Section BL), filled with very dark grey sandy loam. To the north were two gully/hollows, aligned west–east (303 and 309). Gully 303 was an irregular feature (possibly overcut on excavation) over 1.8m long, 0.76m wide and 0.40m deep (Fig 12, Section BM), and filled with layers of very dark grey sandy loam (303/2), overlaid by very dark greyish brown sandy loam (303/1), while gully 309 was 1.79m long, 0.84m wide and 0.13m deep (Fig 12, Section BN), and filled with layers of dark brown sandy loam (309/2 and 309/1).

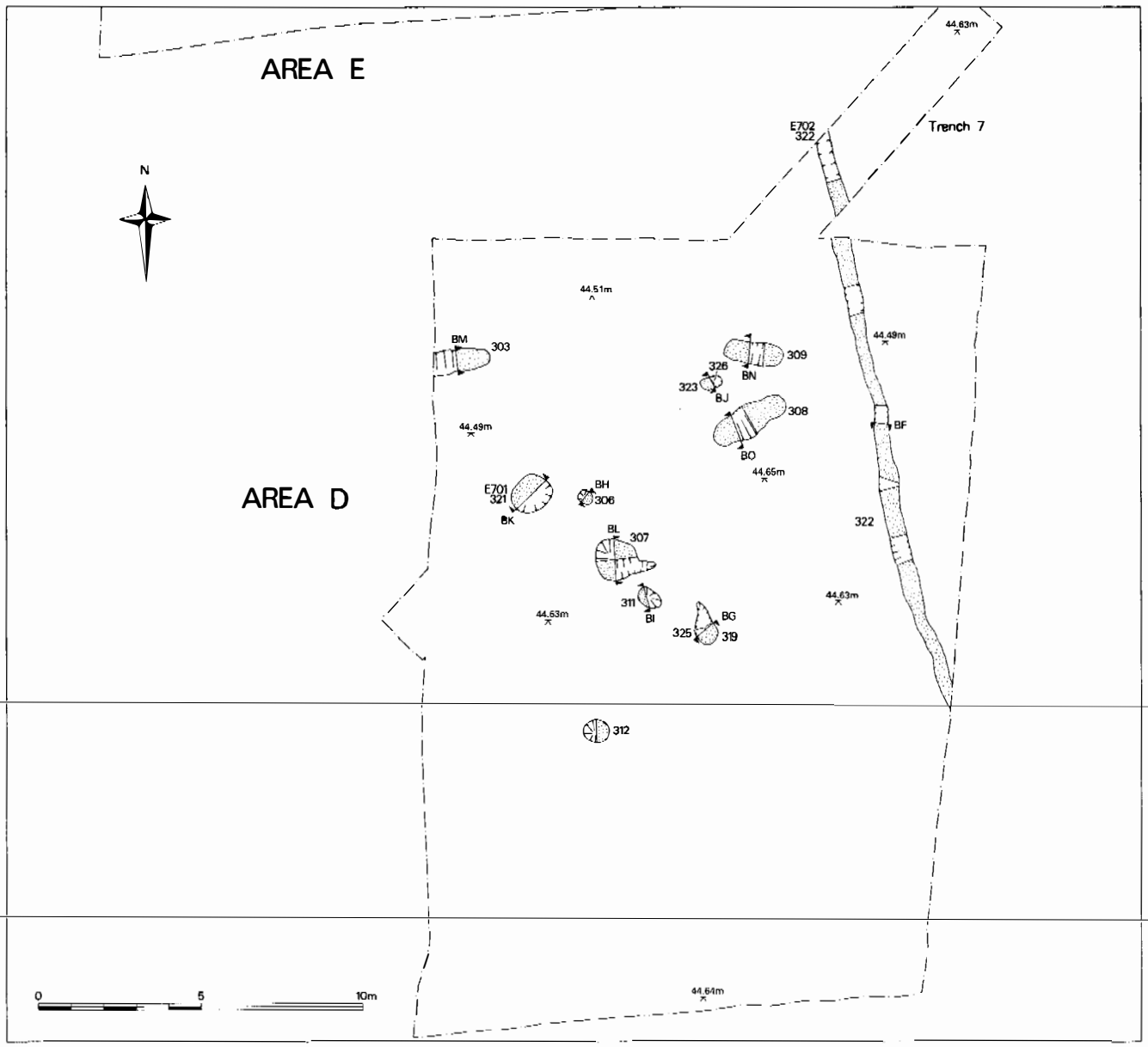

Fig 11 Area D and Trench 7, Plan

To the south of gully 309, was another similar feature (308), 2.26m long, 0.90m wide and 0.20m deep (Fig 12, Section BO), filled with layers of dark brown sandy loam (308/2 and 308/1).

Ploughsoil and topsoil

All the features were sealed by a ploughsoil layer of brown/dark brown sandy loam (301, E704) which was overlaid by the modern topsoil also a brown dark brown sandy loam (300, E700).

Areas on Northern Trackway

The activity along the northern trackway was investigated by Trenches 5, 6 and 12 and Areas E, F and G (Fig 3).

AREAS E, F AND TRENCH 5

Trench 5 ran across the northern trackway on the western side of the road corridor. It was aligned north-west–south-east and measured 30m long by 2m wide. Its south-eastern end fell within Areas E and F which were laid out as a rectangle with its north-western corner cut out, measuring *c* 55m north–south and *c* 28m east–west, straddling the trackway, Area E to the south and Area F to the north (Figs 13, 14). The natural here consisted of strong brown sandstone and sand with bands and patches of greenish grey and reddish brown clay (411, E509). It sloped down from 45.45m at the northern end of Area F to *c* 44.60m at the southern end of Area E.

Northern Trackway

The northern trackway ran east–west between Areas E

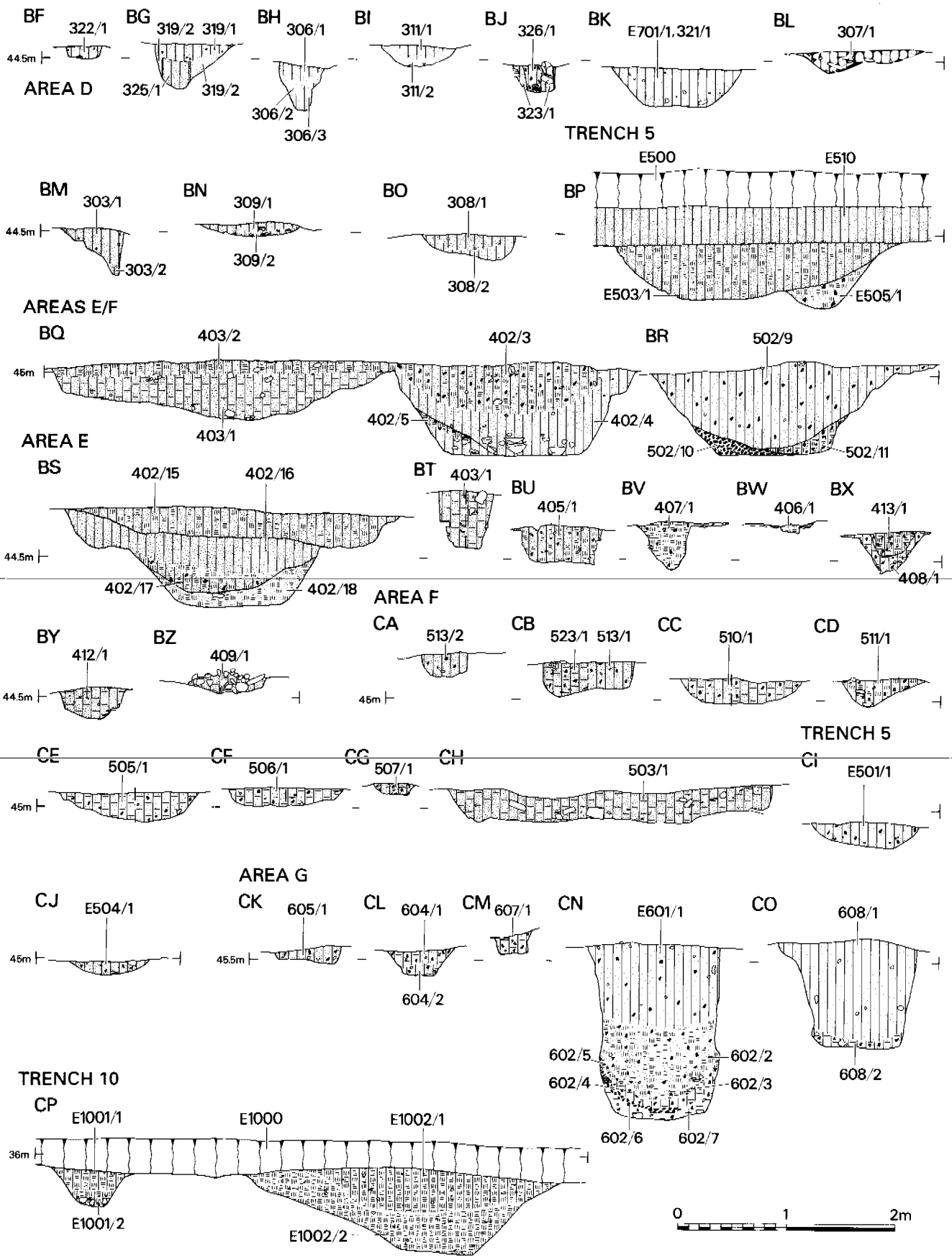

Fig 12 Areas D, E, F, G, Trenches 5, 10, Sections BF-CP (For soil descriptions see Fig 4)

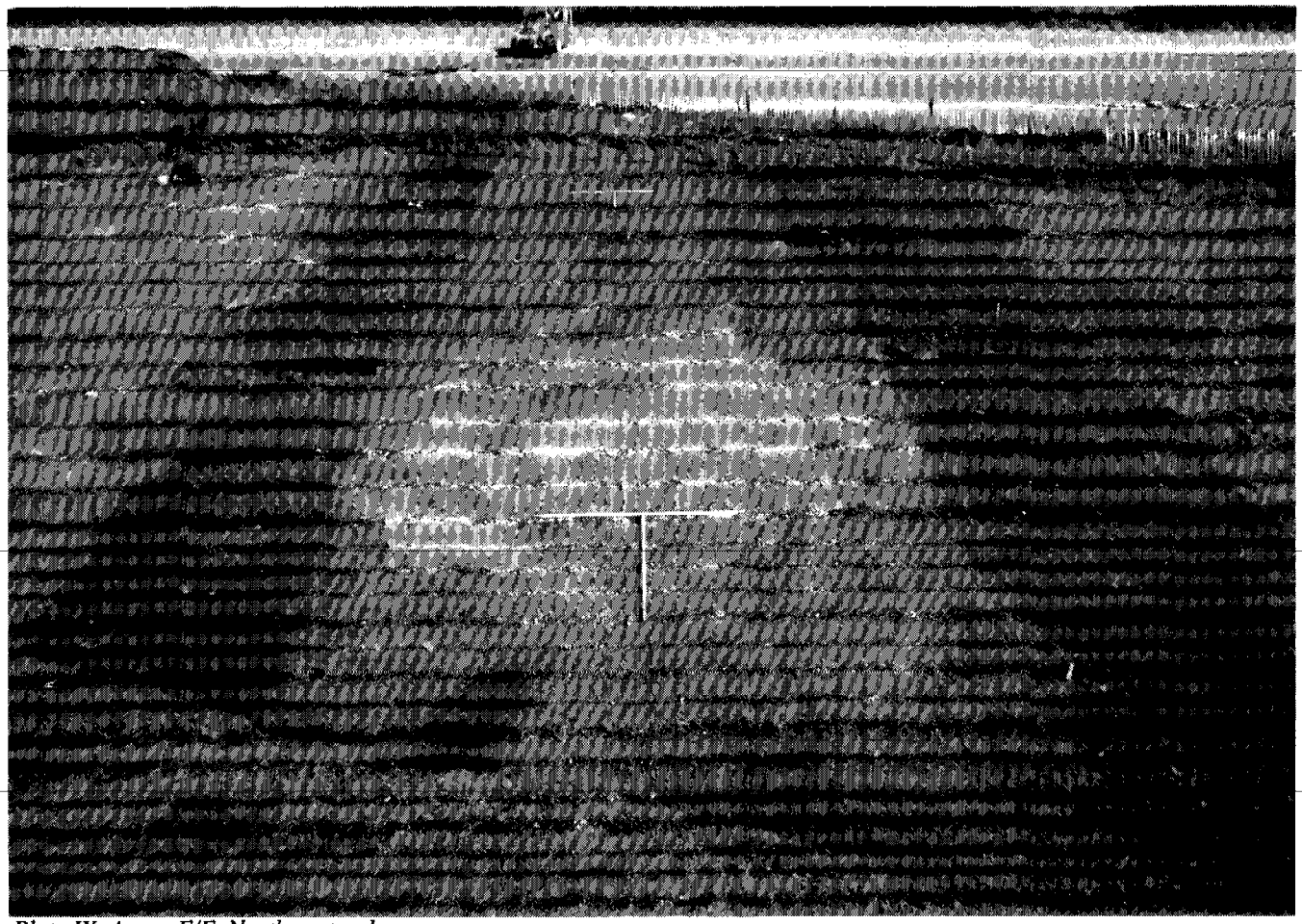

Plate IX Areas E/F, Northern trackway

and F (Fig 13; Pl IX). No roadway surfaces survived but the trackway was 7m wide and flanked by recut drainage ditches on either side.

The southern drainage ditch (402, E502) varied markedly in width, between 1.75m and 3.2m (Fig 12, Sections BQ, BS). It was sectioned in four places and three of the sections contained the butt ends of different cuts suggesting that there had been a number of entrances leading from the trackway to the plots to the south. The various cuts and fills were not fully differentiated on excavation but a fairly plausible sequence can be reconstructed which involves three main cuts, although given the small amount of excavation the true sequence may have been more complicated.

In the two central sections the earliest cuts both butt-ended suggesting that the original entrance to the plot to the south had been between them and been 7m wide. To the west (Fig 12, Section BS), this original cut was 0.9m deep, of uncertain width and filled with brown/dark brown sandy clay (402/18). To the east, it was 0.7m deep and filled with dark greyish brown sandy loam (undifferentiated from 402/7).

This was succeeded by a recut of the ditch (402/2, 402/5, 402/8, 402/11, 402/14, 402/17) which ran right across the excavated area cutting through the former entrance causeway. This was *c* 2.2m wide and 0.9m deep, with sloping sides and a rounded, flattish bottom. The primary fill of the recut varied between brown/dark brown sandy clay (402/2, 402/14), dark grey sandy clay loam (402/5), very dark grey clay loam (402/8, 402/11) and very dark grey sandy clay loam (402/17), but over these there was a fairly consistent layer of dark greyish brown sandy loam (402/1, 402/7, 402/10, 402/13, 402/16).

The final cut of the ditch (402/4, 402/6, 402/9, 402/12, 402/15) ran across the area but stopped *c* 3m from the eastern edge of the area, making a new access here from the trackway to the south. The new ditch had sloping sides and a flattish bottom; to the east it measured 2.2m wide by 0.85m deep but further west it was wider, up to 3m, and shallower down to 0.3m. At the eastern end (Fig 12, Section BQ) the cut had a primary fill of dark greyish brown sandy loam (402/4), which was overlaid by a main fill of dark grey sandy clay loam (402/3). This latter was the only fill along most of the ditch (402/6, 402/9, 402/12 and 402/15) except to the west where the fill was dark greyish brown sandy loam (E502/1).

The northern drainage ditch (502, E503, E505) was between 1.5m and 3.3m wide, but this width also

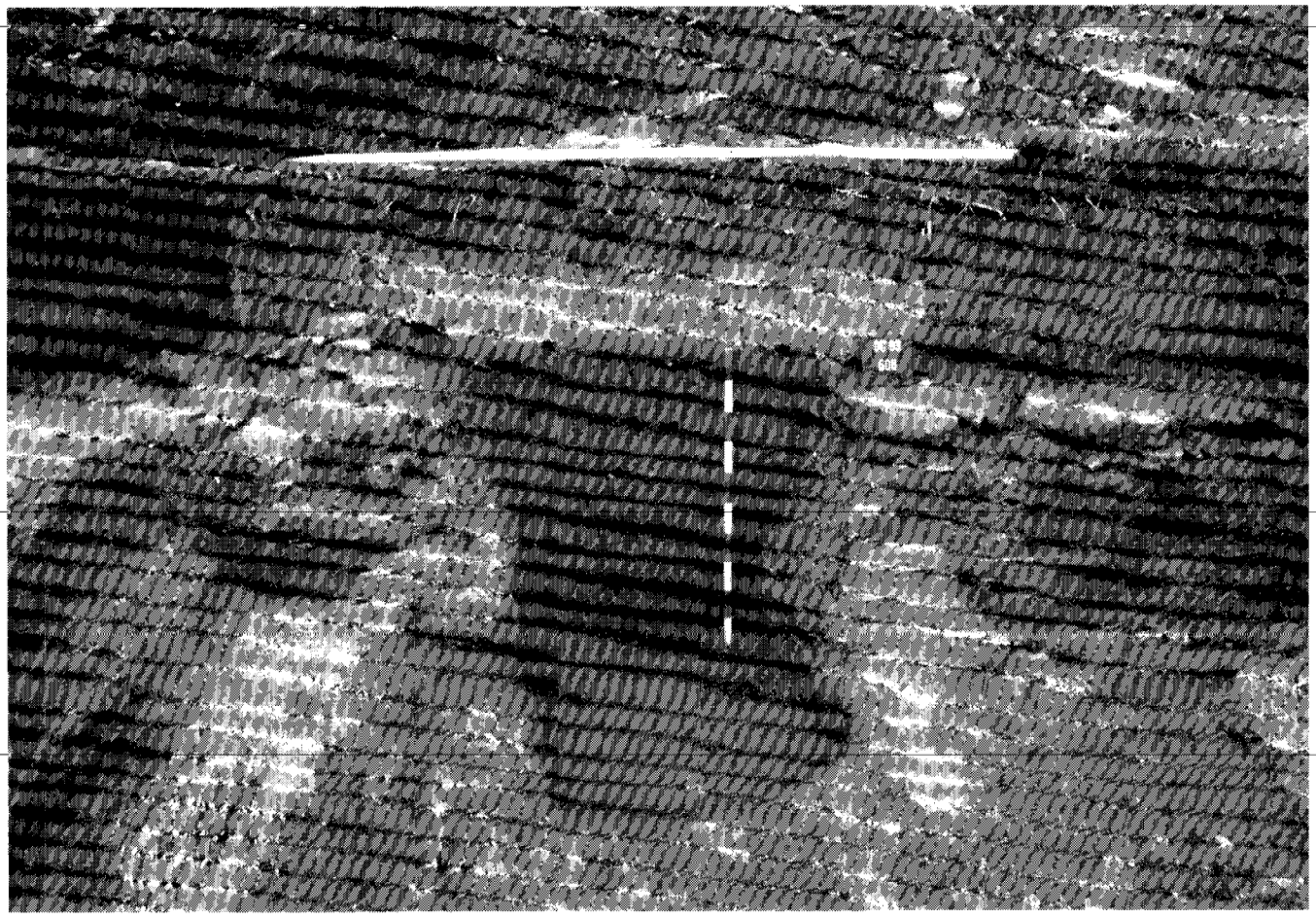

Plate X Area G, Cess pit 608

boundary marked by two discontinuous sections of gully (606 and 607). Gully 606 was 2.4m long, 0.33m wide, 0.15m deep and filled with dark yellowish brown sandy silt loam, while gully 607, was 6.3m long, 0.26m wide, 0.5m deep (Fig 12, Section CM), and filled with brown/dark brown sandy silt loam.

Within this enclosure were two probable cess pits (602/E601 and 608). Pit 602/E601 was vertical sided and flat bottomed, measuring 1.10m in diameter by 1.60m deep (Fig 12, Section CN). In the bottom of the pit there were a number of thin layers which may have been deposited when it was in use: at the bottom was a layer of dark grey silt loam and rubble (602/7), over which there was a layer of charcoal (602/6), followed by layers of very dark grey silt loam (602/4), brown/dark brown sandy clay (602/5) and dark greyish brown clay loam (602/3). The interpretation of the feature is also supported by the fact that animal bone from its fill was distinctively decayed and it was one of two features to produce (from 602/6) mineralized concretions of material that could have been faeces (the other was a trackway ditch C 230/2). Layers of charcoal were often used to seal cess pits. Above these layers the pit had been infilled with thicker layers of dark reddish brown sandy clay (602/2) and dark grey sandy clay loam (E601/1). (Layer 602/1 was the evaluation trench backfill).

The second probable cess pit (608) lay 2.5m to the east; it was a similar size, 1.2m across, but not as deep, only 1.0m (Fig 12, Section CO; Plate X). It contained a thin layer of very dark greyish brown silt loam (608/2) in its bottom, above which it was filled with brown/dark brown sandy loam (608/1).

North of pit 608 on the edge of the area was a gully/hollow (610), 0.75m wide by 0.12m deep filled with very dark greyish brown sandy clay. This was cut by another steep sided, flat bottomed pit (609), 2.0m in diameter by 0.28m deep, filled with brown/dark brown sandy clay loam.

To the south in Trench 6 there was a section of ditch (E603) running north-west–south-east; this was 1.60m wide by 0.48m deep, and filled with layers of light greyish brown sand (E603/5), brown sand (E603/4), very dark grey sandy loam (E603/3), dark greyish brown sand (E603/2) and greyish brown clay (E603/1). The ditch appeared to be cut to the south by a possible pit (E604), 1.05m across by 0.33m deep, and filled with brown layers of sand and sandstone fragments

(E604/2) overlaid by brown/dark brown clay (E604/1).

Topsoil

Over the features in Area G and Trench 6 there was a ploughsoil layer 0.4m deep of brown/dark brown sandy loam (601, E605) over which there was a topsoil layer *c* 0.3m deep of very dark greyish brown sandy loam topsoil (600, E600).

TRENCH 12

To the west of Area G lay Trench 12 which was aligned NNW–SSE and measured 30m in length by 2m wide (Fig 3). No archaeological features were identified in it and no finds came from the topsoil (E1200).

Trenches north of enclosure

North of the enclosure (Fig 2), three trial trenches were excavated (Trenches 10, 13, 14). These located little of significance and following the evaluation no further excavation was undertaken in this area. During the road construction, north of Trench 10, Ryknild Street was observed to have flanking ditches, each *c* 1m wide, although it was not possible to record them in detail.

TRENCH 10

Trench 10 was aligned east–west and measured 30m long by 2m wide (Fig 15). It was positioned as close as possible to the line of Ryknild Street without obstructing the existing bridle path. The natural here, a reddish brown clay, lay at a level of *c* 35.90m

Two features and a tree root hole (E1003) were recognized, all running parallel to the line of the Roman road. About 5m from the eastern end of the trench there was a small north–south gully (E1001), 0.8m wide by 0.32m deep (Fig 12, Section CP), filled with dark reddish brown clay loam and gravel (E1001/2) and dark reddish brown clay loam (E1001/1), the latter containing fragments of abraded Romano-British pottery. About 1.5m to the west was a deeper, post-medieval ditch (E1002), 2.20m wide and 0.76m deep (Fig 12, Section CP), filled with layers of reddish brown clay (E1002/2) and reddish brown clay loam (E1002/1) containing fragments of clay tobacco pipe. All these features were overlaid by a dark reddish brown clay loam topsoil (E1000), 0.3m deep.

TRENCHES 13 AND 14

Trenches 13 and 14 lay respectively to the south and north-north-west of Trench 10 (Fig 2). Each was 30m long by 2m wide, but neither contained any archaeological features.

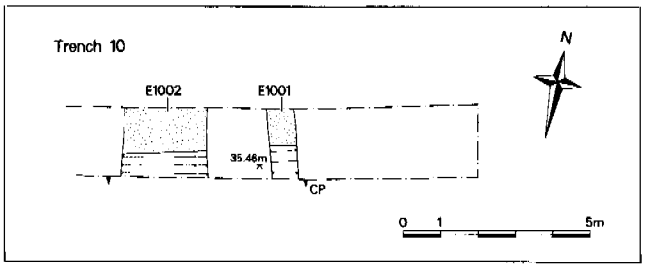

Fig 15 Trench 10, Plan

MEDIEVAL POTTERY AND TILE

by Stephanie Ratkai

Introduction and methodology

The medieval pottery recovered from Boteler's Castle formed three main groups: pottery from the 1993 area excavation, pottery from the 1992 evaluation trenches (including the Oversley Mill Services evaluation) and pottery from the 1989 fieldwalking.

The pottery from the area excavation was examined in the most detail. It was apparent from the initial assessment that nearly all the pottery fell within the fabric range of sherds found at waster dumps at School Road, Alcester (Cracknell & Jones 1989). Accordingly only unusual or non-local sherds were examined under x20 magnification. All the stratified pottery was recorded on a pro forma and the resultant records were computerized using DBase IV. The pottery was quantified by weight, sherd count, minimum vessel (ie minimum number of rims) and rim percentage. Rim fragments which were either very small or too distorted for accurate measurement were all recorded as 1%. Other data recorded were sherd type, vessel type, rim form, rim diameter, decoration, sooting, and abrasion. Pottery from topsoil/unstratified contexts was divided into fabrics, rim form recorded and quantified in the same way as the stratified material but sherd type, sooting, abrasion etc were not recorded.

The pottery from the evaluation trenches was counted and spot dated as part of the assessment process. It was decided that only the pottery from trenches which fell within the outer enclosure or across the boundary ditches would be examined again. A brief note on the pottery from the assessment is included in this text.

The fieldwalking material was examined briefly, divided into fabric groups in accordance with the existing Alcester type series (Ratkai forthcoming a) where possible, counted and weighed. It was not felt necessary to record the pottery in detail, the most salient points being the chronology and fabric which could be compared with the excavated material.

Vessels were illustrated to show the range of forms present and any odd forms. The illustrations (Figs 16-18, nos 1-60) are arranged by area.

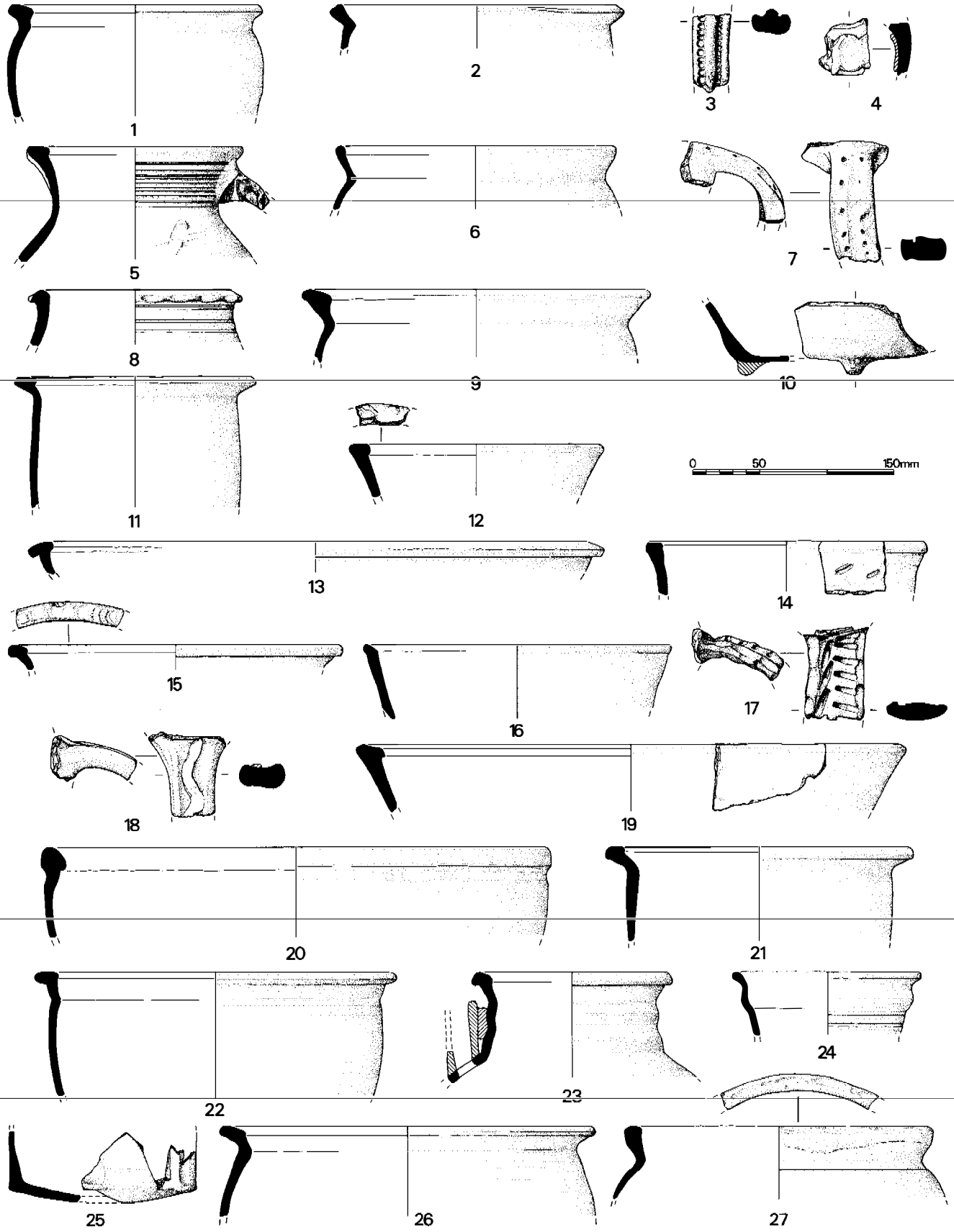

Fig 16 Medieval Pottery, Areas B, C and E (All Fabric 1). 1. B103; 2-3. B104; 4. B105; 5. B105/106; 6-7. B 105; 8-10. B106; 11-12. B121/1; 13. B U/S; 14. C 202/2; 15. C202/3; 16. C202/6; 17. C 202/9; 18. C 204/3; 19-27. E 400.

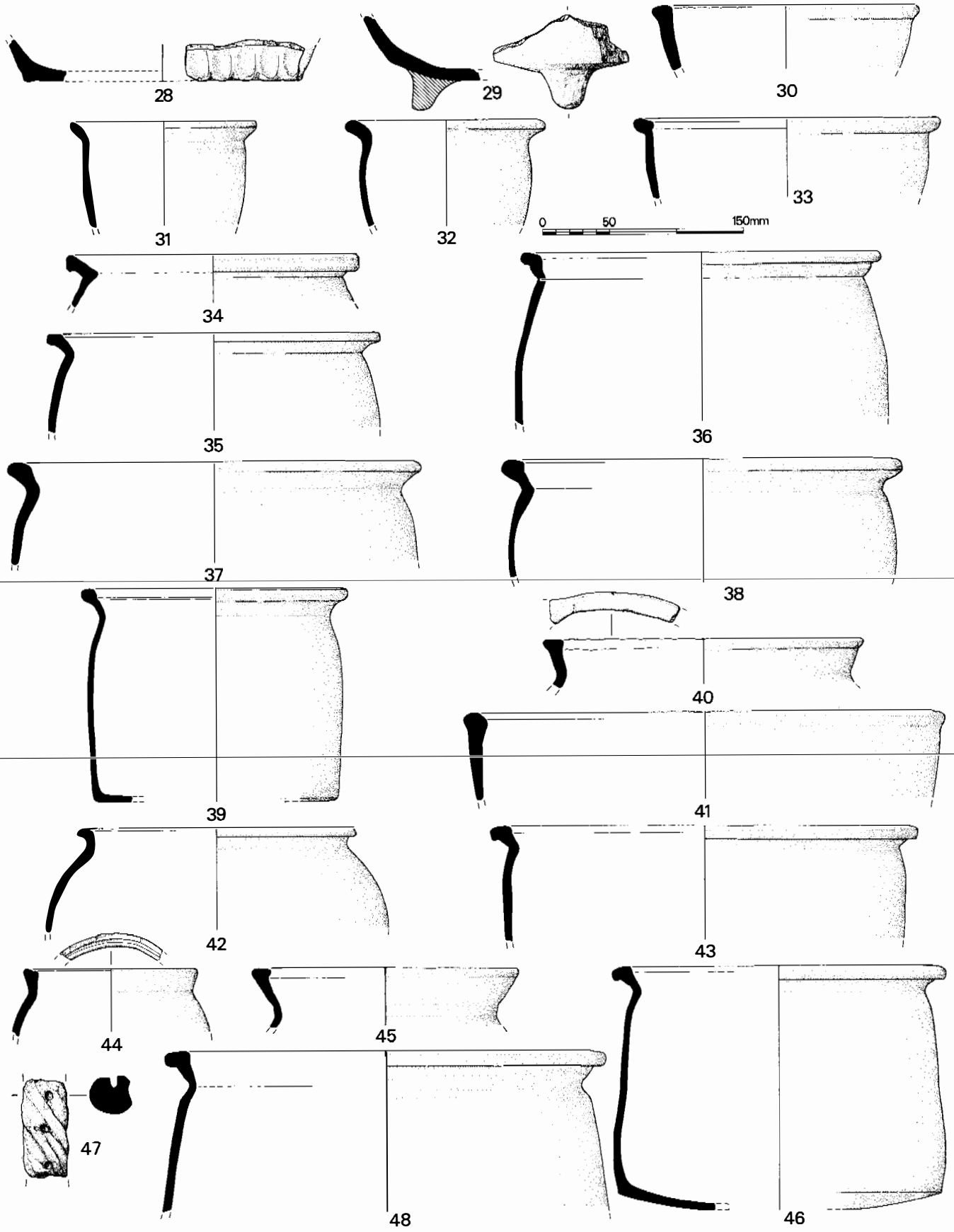

Fig 17 Medieval Pottery, Areas E and F (All Fabric 1). 28. E 402; 29-30. E402/1; 31-34. E 402/2; 35-36. E 402/5; 37-38. E 402/7; 39. E 402/8; 40-41. E 404/1; 42. E U/S; 43-44. F 502/1; 45-48. F 502/2.

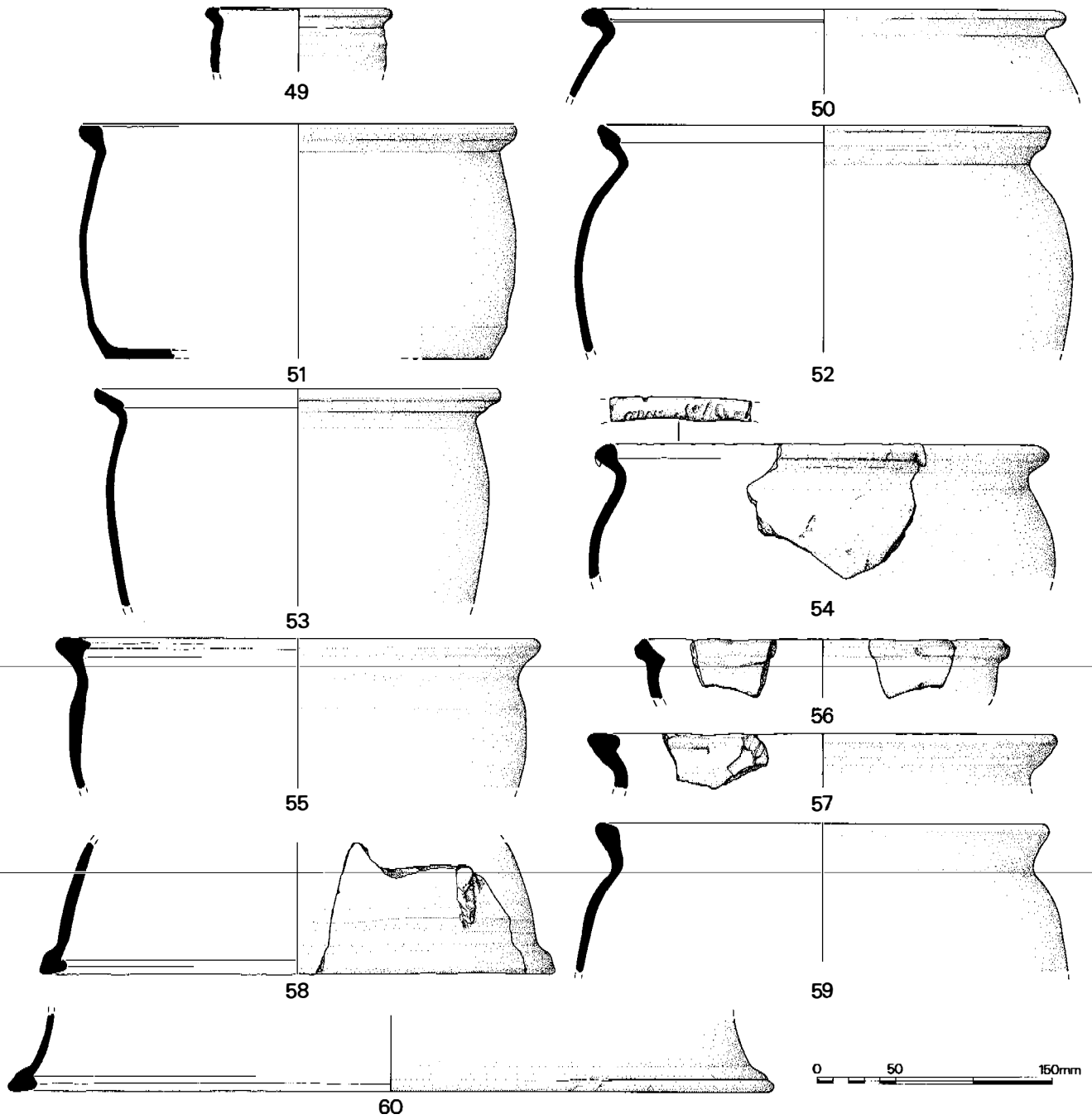

Fig 18 Medieval Pottery, Area F (All Fabric 1). 49. F 502/3; 50. F 502/4; 51-53. F 502/6; 54-59. F 503/1; 60. F503/2.

pot was 42cm, of which there were two examples. Sixteen per cent of the cooking pots had diameters between 31cm and 35cm. There was generally no very marked correlation between rim diameter and rim/vessel form.

Jugs and Pitchers

These formed only 3.4% of the assemblage (MV 21). Those in Fabrics 1 and 2 seemed to be from very large jugs or pitchers (nos 5, 8, 23, 24), generally with a poor or decayed glaze or a glaze which appears to have degenerated into small lead globules. Presumably the latter reflects poorly mixed or applied glazes or other technological shortcomings. There were examples of stub feet (nos 10, 29) and a tubular spout (no 23) so some at least of the vessels were spouted pitchers and tripod pitchers. Decoration was varied, although many of the decorative motifs have been previously recorded (Cracknell & Jones 1989, Ratkai 1994, 1996a, 1996b). Previously unrecorded decoration was found on two sherds from F 502/2: one having complex rouletting and the second a ring and dot motif. Both sherds were too small for illustration. Some handles were highly

decorated (nos 3, 7, 17, 18, 47). Only one handle was paralleled from previous excavations. There were also seven plain strap or oval sectioned handles and two plain rod handles. Bases were normally plain but there were examples of thumbed bases from contexts B 106, E 402 (no 28) and E 400 (no 25).

Bowls

Like jugs and pitchers, bowls were not well represented in the assemblage (3.4%, MV 21). They were either plain with slightly sloping sides and slightly thickened rims (nos 12, 16, 19, 30) or, occasionally, with 'flanged' rims (no 13), or the bowls were straight-sided with bulbous rims (nos 20, 33, 41). Most of these forms were found among the School Road dumps.

Other forms

Two large rim sherds most probably came from curfews (nos 58, 60). The sherds were rather uneven and it is not certain whether the sherds were from a single vessel or two. A similar form, described as a lid, is illustrated in Cracknell and Jones (1989, fig 6, 41).

NON-LOCAL FABRICS

The non-local sherds were most commonly from jugs/pitchers. However cooking pot/jars and bowls were also represented. Generally the non-local sherds were too small to enable a more detailed description of the vessels from which they came.

Chronology

Unfortunately there was no complex vertical stratigraphy on the site and the stratified pottery was mainly recovered from the fills of discrete features. There was also a large collection of material, 1,008 sherds, from topsoil and unstratified contexts which will have derived from the medieval ground surface and the tops of features.

Many of the vessel forms from Boteler's Castle are paralleled by material from the School Road waster dumps in Alcester. However there was no independent dating evidence for these dumps. On stylistic grounds the pottery was dated to the 12th–13th century. The question is whether this can be further refined for the Boteler's Castle pottery. Firstly it should be noted that the assemblage from the site is unlike some previous groups from Alcester, such as those from the Explosion site (Ratkai forthcoming a), Gas House Lane (Ratkai 1996a) and the Gateway Supermarket (Ratkai 1996b). These sites tended to have more rounded cooking pots/jars and a larger quantity of non-local pottery, most noticeably Boarstall-Brill, Chilvers Coton and Malvernian wares. Warwickshire Grey/Blackwares were also present at these sites. There is a greater similarity with the Bar-o-Mix (Glew 1985; Cracknell forthcoming) and Birch Abbey sites (Ratkai 1994). However, neither of these sites contained well-stratified material or independent dating evidence.

It is unlikely that fine Boarstall-Brill jugs or Chilvers Coton products reached Alcester before *c* 1250 AD. Likewise it is the contention of Vince (1977) that the largest geographical distribution of Malvernian Wares occurs in the 13th century. A 13th–early-14th century date has been argued for the Warwickshire Grey/Blackwares (Ratkai 1990; 1992). This would suggest that sites which do not contain these fabrics are earlier than the mid-13th century and possibly earlier than the first quarter of the 13th century. The non-local pottery from Boteler's Castle would tend to support this view. Highly decorated pitchers in Worcester sandy ware are known from the 12th century and the highly decorated jugs are somewhat later. In general calcareous wares, both shelly and oolitic, seem to be present in 12th–early 13th century levels in other sites in Warwickshire (Ratkai 1990; Ratkai forthcoming b). The Early Oxford ware sherd and the Stamford ware sherds are likely to be earlier than 1200 and the Developed Stamford Ware is unlikely to be later than 1225. All this suggests that the Boteler's Castle material belongs to the 12th–early 13th century. The vessel forms present would support such a date, as would the relative percentages of vessel forms within the assemblage.

There is no medieval pottery from the excavated site which could be definitely identified as pre-Conquest and there is no reason to suppose that any of the pottery is earlier that the construction of the castle in the early 12th century.

Site Formation

There were several groups of pottery from the site containing over 100 sherds and these formed the core material for study and comparison. The groups came from trackway ditches C 202, E 402, F 502, pits B 121, C 221, gully C 206, occupation layers B 105, B 106 and pit/midden F 503. The contents of the remaining features were also examined in detail but in some cases, particularly when less than 50 sherds were present, the results of study may be unrepresentative.

The pottery was studied in various ways to see if the fills of different types of features contained particular types of pottery. There was no concentration of jugs/pitchers in any feature nor did any particular type of rim form or groups of rim forms cluster in any particular area.

There was a noticeable difference between the fills of the southern trackway ditches B 103 and C 202 and the northern trackway ditches E 402 and F 502. The southern ditches contained a much more concentrated range of rim size (Table 1), whilst the northern ditches seemed to contain more cooking pots of different sizes, the ratio of rim sizes being similar to the overall totals

for the site (see above). The pit/midden F 503, adjacent to F 502, contained a very similar range of rim size cooking pots as the northern trackway ditches, suggesting that either the source of their fills was the same or, if F 503 was a midden, that material from the midden provided the fill of the ditches. Interestingly the occupation layers B 105 and B 106, particularly the former, which might have been expected to provide the material dumped in the southern ditches, were very different in character.

Table 1 Medieval pottery: percentages of sizes of rim diameters from trackway ditches and other major contexts

Context	*Minimum Vessels*	*Measurable Rims*	*Diameter 25-28 cm*	*Diameter 24-30 cm*
B 103	6	6	50%	83%
B 105	26	16	19%	25%
B 106	38	26	42%	62%
C 202	27	20	55%	75%
C 206	29	11	18%	55%
C 221	12	10	20%	60%
E 402	116	93	36%	54%
E 403	12	6	33%	66%
F 502	119	103	32%	48%
F 503	41	35	31%	51%

Secondly, the average sherd weight and the degree of brokenness (Orton 1989) of the pottery within the fills was calculated (the higher the number the greater the degree of brokenness). As can be seen from Table 2, there is a certain degree of variation. If domestic debris had been allowed to accumulate, eg as middens, and had subsequently been cleared and dumped into the trackway ditches and large pits, it would be reasonable to assume that there would be a close correlation between occupation levels and middens and the fills. This is not very apparent from the data. The pottery from occupation layer B 105 shows a relatively high level of brokenness, which would be expected of material which had been trampled and open to the elements for some time. However only the fills in gully C 206 and gully E 403 approximate to this. It should also be noted that occupation layer B 106 which is immediately below B 105 is less broken. This may perhaps suggest that it was not exposed for as long as B 105. The figures for the southern trackway ditch fills should be treated with some caution as B 102 only contained 14 sherds and B 103 only 31 sherds, although the relative paucity of pottery within this ditch is of interest in itself. The material from B 105 and ditch fill C 202 shows the same degree of brokenness and the fills of F 502 and F 503, which are adjacent, are very similar. However the general picture presented has no clear pattern. Likewise, when the fills of the northern trackway ditches are broken down into their individual contexts (Table 3) they too are not consistent.

Table 2 Medieval pottery: degree of brokenness and average sherd weight of pottery from major features and unstratified pottery

Feature	*Degree of brokenness*	*Average sherd weight*
B 102	4	11
B 103	18	14
B 104	15	8
B 105	27	12
B 106	17	8
B 121	11	13
C 202	17	11
C 206	32	9
C 221	13	16
E 402	18	15
E 403	21	7
F 502	14	14
F 503	13	13
U/S	17	11

Table 3 Medieval pottery: brokenness and sherd weight within fills of northern trackway ditches containing 100 or more sherds

Context	*Degree of brokenness*	*Average sherd weight*
E 402/1	17	14
E 402/2	15	17
E 402/5	12	18
E 402/7	50	14
F 502/1	15	12
F 502/2	14	13
F 502/5	17	18
F 502/6	9	16

Within the individual fills the general picture is of numerous fairly small sherds, which weigh very close to the average sherd weight, rim sherds usually representing about 10% or less of the total rim circumference, with a very much smaller number of large sherds. The greatest number of large fragments occurs in the northern trackway ditches. This in fact is a very similar pattern to that exhibited by the animal bone. The nature of the fills would tend to suggest that they mainly represent the secondary deposition of rubbish but the larger vessel fragments indicate different depositional events eg (but not exclusively) primary rubbish deposits. However the study of site

formation processes, including rubbish dispersal, has not been sufficiently advanced to provide a framework against which hypotheses can be tested.

Table 4 Medieval pottery: ratios of bone fragments to pot sherds *(denotes small sample)

Ratio 1:1	*Ratio 1:1.5*	*Ratio 1:2*	*Ratio 1:3-3.5*
Ditch (C 230)	Ditch (E 402)	Ditch (B 103)	Ditch (B 102)
Ditch (F 502)	Gully (F 513)	Occupation (B 105)	Pit (B 121
Gully (B 146)	Pit (G 716)	Ditch (C 202)	
Gully (H 703)*			
Cesspit (G 602)			
Pit (B 120)			

Ratio 1:4	*Ratio 1:5-5.5*	*Ratio 1:6*	*Ratio 1:8.5*
Gully (E 403)	Gully (F 513)	Occupation (B 106)	Cess pit (G 608)
	Pit/Midden (F503)		

Ratio 1:15	*Ratio 1:39*	*Ratio 8:1*	*No Bone*
Pit (C 221)	Gully (C 206)	Gully (H 708)*	Gully (C 207)
			Gully (C 217)
			Pit (G 609)

The ratio of bone fragments to pottery sherds from negative features was also studied. As can be seen from Table 4 this was not consistent. However, it is noticeable that the putative beam slots C 206 and C 207 have a low incidence of bone. This is also true of pit C 221, which is associated with another possible building. This would tend to suggest that noisome rubbish did not generally accrue in the immediate vicinity of occupied dwellings. A similar phenomenon has been noted by Scobie (1993) in Winchester.

There was a marked difference in the degree of brokenness of the pottery between the two occupation layers B 105 and B 106, which was interpreted as representing different degrees of exposure to the elements. The evidence from the animal bone presents further problems. The bone from both these layers was generally small with most less than 50mm in length and Pinter-Bellows (below) considers that the bone had not been open to the elements for any substantial period of time. However, as already noted, site formation processes are often difficult to establish, particularly in the absence of an accepted corpus of case studies, and there may be other reasons for the difference between the two deposits.

The least consistent ratios were founds within the pits and gullies, whilst the most consistent were within the ditch fills, which varied between 1:1 and 1:3. However the ratios for each layer within the ditches varied considerably. If the fills of the ditches were derived from occupation debris then it might be expected that the same ratio would pertain to the occupation surfaces. This was certainly the case for layer B 105, with a ration of 1:2, but not for layer B 106 which had a ration of 1:6. There is therefore a possibility that the fills of B 102, B 103 and possibly C 202 were derived from B 105, and that B 106 represented pre-ditch fill occupation.

Elsewhere a relatively greater proportion of bone to pot has been recorded. For example, at Dudley Castle deposits down the motte side associated with a kitchen annexe to the keep contained vast quantities of animal bone. At present there is no exact quantification but the ratio is at a conservative estimate 10:1 by volume (Inf S Linnane). These deposits are somewhat later than those at Oversley Castle but they do give some indication of the type of assemblage clearly associated with the eating habits of the occupants of a high status site.

The foregoing sections have demonstrated that the pottery does not present a consistent picture throughout the site. This may well reflect different functional biases within the site although this cannot be proved. Evidence from the study of the animal bone would tend to support the idea of activity zoning, in that there is a concentration of butchery and industrial waste in the fills of ditches E 402 and F 502. The general distribution of the pottery across the site is dominated by the material from the trackway ditches (Table 5).

Table 5 Medieval pottery: distribution of pottery by area (minimum vessels)

Area	A	B	B/C	C	D	E	F	G	H	Total
Stratified	-	99	-	92	-	108	165	8	1	473
Topsoil/u/s	-	54	6	-	-	36	23	3	1	123
Total	-	153	6	92	-	144	188	11	1	596
%	-	26	1	16	-	24	32	2	-	

The general impression is not that of high status occupancy. However this does not elucidate the type of settlement in this area of the site. The quantity of pottery vessels present, 596 minimum vessels, is difficult to interpret. Firstly, it is impossible to know how many dwellings were in the outer enclosure altogether or at any one time. Secondly, it cannot be proved that all of the pottery was derived from the outer enclosure, although it seems unlikely that much of it travelled far. Finally there has been little research into the quantity of pottery required by an 'average' peasant household, both in terms of the number of vessels needed for basic cooking and storage and in the life expectancy of a pottery vessel. Most households could afford pottery (Dyer 1989a, 173) but people at the lower end of the social scale were careful in its use and sometimes repaired rather than replaced broken vessels. In these terms 596 vessels is quite a large

hunting use, the latter two are a military type that appeared during the 13th century (cf LMMC 1940, 65-70, Type 9).

46. Arrowhead, socketed with leaf-shaped blade. L. c 80mm (F 500, SF 62).
47. Arrowhead, with leaf-shaped blade, socket lost. (B 100, SF 6).
48. Arrowhead, socketed with square sectioned point. L. 60mm (F 502/1, SF 112).
49. Arrowhead, socketed with square sectioned point. L. 75mm (F 502/2, SF 169).

OTHER (50-68 unillustrated)

50. Spatula. Thin rod with spatulate end. L. 124mm (C 202/3, SF 21).
51. Strip fragment with beginning of loop, possibly from shears (E 403/2, SF 132).
52-60. Strip fragments (52. C 204/4, SF 70; 53. E 400, SF 65; 54. E 403/1, SF 113; 55. F 500, SF 76; 56. F 502/1, SF 86; 57. F 502/2, SF 184; 58. F 502/2, SF 189; 59. F 503/1, SF 97; 60. F 513/1, SF 130).
61-62. Rod fragments (61. F 500, SF 52; 62. H 602/2).
63-68. Fragments (63. B 106, SF 42; 64. C 200, SF 11; 65. C 200, SF 16; 66. E 403/1, SF 123; 67. F 502/1, SF 161; 68. 6 E 601/1).

Metalworking Residues *by A Russell and P Budd (Ancient Metallurgy Research Group, Department of Archaeological Sciences, University of Bradford)*

DESCRIPTION OF THE MATERIAL

Several kilograms of slag were examined (Table 6). The slags fall into two broad categories. The great majority of the material, in terms of both weight and volume, is made up of relatively large and dense pieces of 'fayalitic' type. A number of these pieces have the loosely plano-convex morphology typical of 'smithing hearth bottoms'. There are also a number of smaller pieces of light, highly vesicular, fuel ash slag. A selection of the fayalitic slag material from each area of the site was subject to detailed microstructural and analytical study. The largest piece of fayalitic slag recovered from the site (from C 204/2) is of unusual morphology. After reconstruction from three fragments, it was clear that the original slag was formed from two partially fused 'hearth bottoms' featuring an unusual central cavity or void between the two part-melted pieces. The morphology suggested that the slag may have been deliberately manipulated at high temperature in a softened plastic state to enclose a iron billet of roughly cubic form. This hypothesis and the possible function of this particular slag piece were investigated.

Fuel ash slags

Fuel ash slags are formed when silicate-rich materials, such as clay, come into contact with alkalis (most commonly from the ash within a fire) at elevated temperatures. The silicates are fluxed by the alkali to form a vitreous slag which is usually very porous, highly vesicular and light in weight. Fuel ash slags are commonly associated with metalworking (both ferrous and non-ferrous), but are not, in themselves, diagnostic of any particular process as they can be formed under any circumstances where a fire is burning in contact with a silicate material at a suitably high temperature.

Fayalitic slags

Fayalitic slags contain a significant proportion of iron silicates, the most common of which is often the mineral fayalite ($2FeO.SiO_2$). They have a considerably higher iron content than fuel ash slags (typically as much as 50% metallic iron by weight) and are therefore far more dense. Fayalitic slags can be formed in the process of smelting either iron or copper ores (where iron oxides may be deliberately added as a slag forming flux to encourage the formation of a liquid slag) or in iron smithing processes. In the medieval period, fayalitic metal smelting slags were normally 'tapped' from the furnace in the liquid state and then allowed to solidify before being discarded as waste. These 'tap slags' are usually very dense with comparatively few large vesicles and typically display a ropy surface texture. Those associated with copper smelting normally feature numerous copper prills. In this case the morphology of the slags, with many small vesicles and comparatively low density, strongly suggests that they are smithing slags, formed at lower temperatures and associated with iron working in the blacksmiths's hearth. This interpretation is confirmed by the identification of many of the pieces as smithing hearth bottoms.

Smithing hearth bottoms

Smithing hearth bottoms have been discussed in detail by McDonnell (1991). They are generally thought to have been formed from reactions at high temperature between iron oxide scale from the objects being worked and the flux used to clean them as well as the hearth lining. Under the air blast from the tuyere the temperature is thought to have been sufficient for the slag to melt and agglomerate, forming a liquid or semi-liquid pool in the bottom of the hearth giving rise to the characteristic shape. Smaller, irregular, pieces of fayalitic smithing slag were probably formed in a similar manner, but removed before they were allowed to become so large.

MICROSTRUCTURAL INVESTIGATION OF THE FAYALITIC SLAG

Four samples of fayalitic slag, including the large piece of unusual morphology, were sampled and subject to microstructural examination and analysis.

1. A smithing hearth bottom (from B 106) of typical morphology was sampled. Optical microscopy revealed a structure of large euhedral fayalite crystals

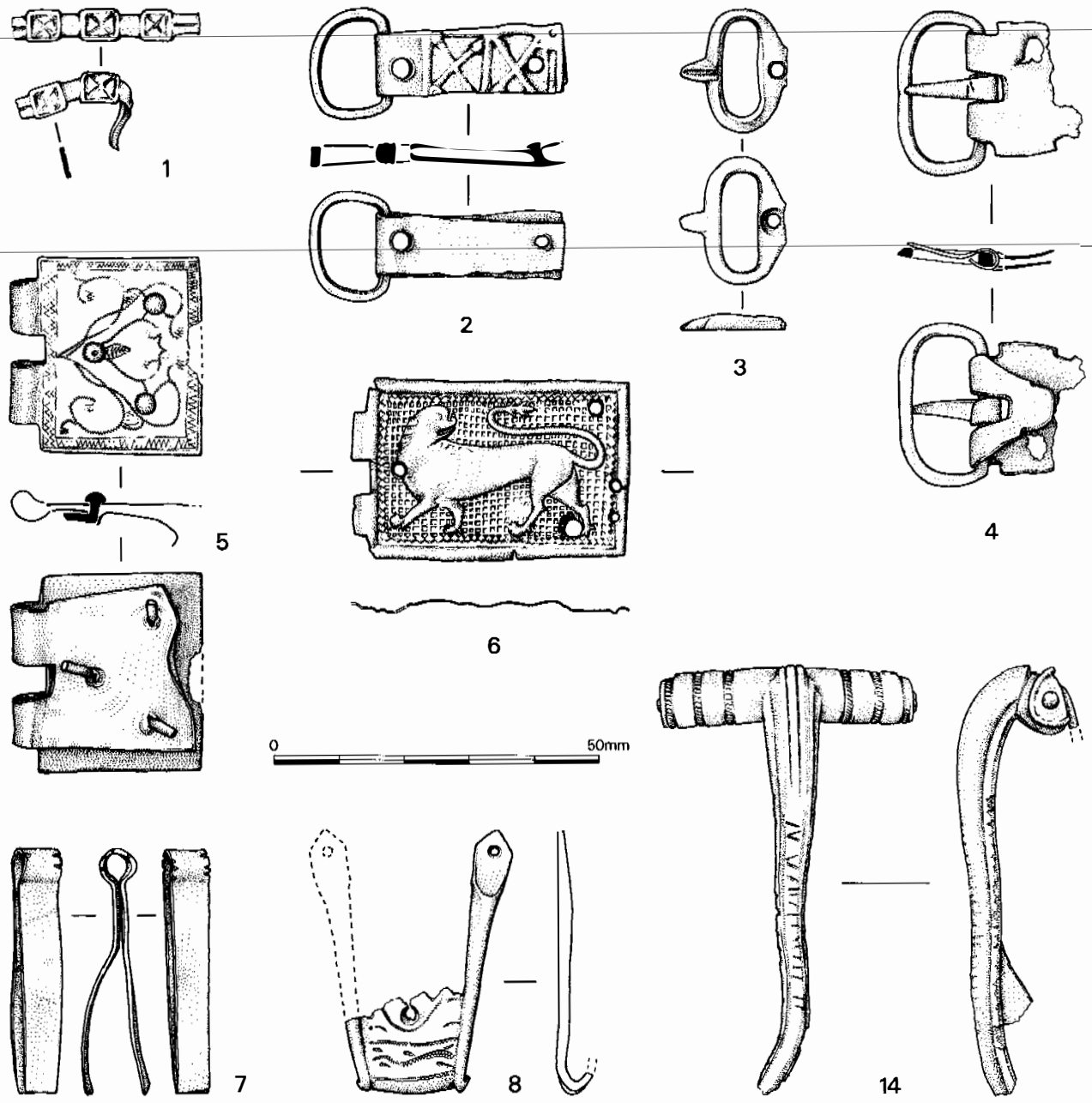

Fig 19 Copper alloy and silver objects 1-8, 14

1980, fig 25, fiche C02, no 73). These parallels are from 13th-century contexts and the absence from the site of common objects from the 14th century, such as strap ends, suggests the group as a whole belongs to this period. A Roman brooch (14) is presumably residual.

CATALOGUE (Fig 19, 1-8, 14; 9-13 unillustrated. All copper alloy unless specified)

1. Finger ring fragment, silver, with a thin flat hoop and three projecting panels, each decorated with a cross pattée. Surviving L. *c* 38mm (E 402/3/1, SF 290).

2. Buckle, oval frame with rectangular folded plate, hole for missing pin, single rivet, decorated on front with impressed panel of two relief diagonal crosses. L. 39.5mm (F 502/1, SF 80).

3. Buckle, oval lipped frame with hole and notch for pin. L. 17mm, W. 19mm (F 502/1, SF 163).

4. Buckle, oval frame, pin of folded sheet with two grooves by loop, and fragmentary folded plate, rectangular to front, triangular to rear, recessed for frame with slot for pin, single jagged rivet hole, traces of gilding. Surviving L. 29mm, W. 25.5mm (C 202/1, SF 13).

5. Buckle plate, rectangular, recessed for frame with slot for pin, decorated on front with engraved foliage within zig-zag border strip, traces of gilding, pierced by three dome headed pins, back recessed. L. 31mm, W. 29.7mm (F 502/1, SF 84).

6. Buckle plate fragment, rectangular, recessed for frame with slot for pin, decorated with an embossed lion on a hatched background within a border of small triangles, back missing. L. 43mm (E 402/1, SF 111). Cf. an almost identical example from Lower Brook Street, Winchester from a late-13th/early-14th century context (Hinton in Biddle 1990, 516-517, fig 130,

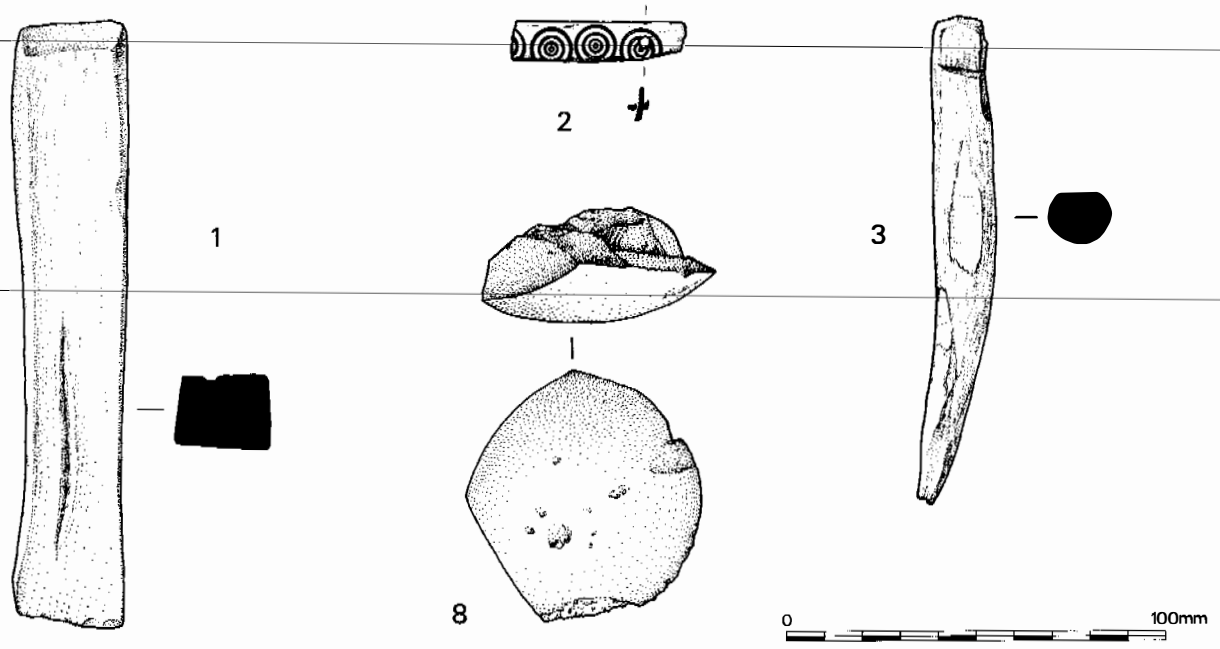

Fig 20 Stone, bone and glass objects 1-3, 8

no 1145); plates decorated with lions are fairly widespread, eg. an early-13th-century example from example from Billingsgate, London (Egan & Pritchard 1991, 111-2, no 500) and a late-12th/early-13th century stamp that may have been used for the production of such objects is known from Horndon-on-the-Hill, Essex (Alexander & Binski 1987, 387, no 434).

7. Tweezers, made from folded strip, pinched shape at top possibly caused by missing slide. L. 38mm, W. 5.5-6.5mm (F 502/1, SF 83). Tweezers with slides are medieval; plain folded ones can be Roman or medieval.

8. Scabbard chape fragment with crude engraved line decoration. Bottom Ht. 41mm, W. 11.8mm (C 202/7, SF 22). Cf similar examples from an early/mid-13th-century context in Oxford (Goodall in Palmer 1980, fig 25, fiche C02, no 73); mid/?late-13th-century and 13th-century contexts at Brook Street, Winchester (Hinton in Biddle 1990, 1082, fig 348, nos 4030-1).

9. Pin stem fragment, diam. 1.3mm, L. 51mm (C 202/7, SF 26).

10. Sheet fragment from binding (G 602/1, SF 159).

11. Small sheet fragment, perforated (F 502/1, SF 162).

12-13. Fragments (12. F 502/1/1, SF 287; 13. F 502/4/1, SF 291).

Roman Brooch *by G Lloyd Morgan*

14. Dolphin brooch, hinged pin lost, catch plate damaged and incomplete, present L. 66mm (B 106, SF 46). Cf examples from Nor'Nour (Hull in Dudley 1967, 36, fig 15, no 50), Richborough (Bushe-Fox 1949, 113, pl XXVII, no 28, area XVI, before AD 85 but probably Flavian); and Tiddington, Warwickshire (Palmer forthcoming b, no 31).

Stone, Bone, Lead and Glass objects
by Nicholas Palmer

This small group of miscellaneous items provides evidence for trade and craft activity at the site. The 'Norwegian ragstone' hone (1) is the only object from the excavations with a foreign origin, although such items were widely traded and are not uncommon. The glass linen smoother (8) is evidence for textile finishing and the crude antler peg (3) will have been made locally. A decorated bone strip fragment (2) probably comes from a fine decorated casket. The fragment of lead window came (4) is unlikely to derive from a building within the excavated area and probably came from the castle chapel or church.

CATALOGUE (Fig 20, 1-3, 8; 4-7 unillustrated)

1. Hone, grey quartz biotite muscovite schist, probably from Eidsborg, Norway (Ellis 1969, 137-43, Type IA[1]). rectangular section, worn at one end; L. 15.8mm (E 402/1, SF 133). 'Norwegian ragstone' hones were widely traded in medieval England and are found in quantity on sites of all types. At St Peter's Street, Northampton, 22 examples came from late-Saxon–15th-century contexts (Williams 1979, 280-2, H1-H22); 23 examples came from the village of Lyveden, Northants (Steane 1967, 32; Bryant & Steane 1969, 36; 1971, 69-71; 1975, 142-4); and in Warwickshire 36 examples came from the village of Burton Dassett Southend from late-13th–late-15th-century contexts (Palmer forthcoming a, Domestic Stonework 27-62).

2. Bone strip fragment, decorated with irregular line of four triple ring-and-dot motifs, perforation at one end containing iron rivet. Possibly a mount for a wooden casket; L. 46.7mm (F 502/2, SF 99).

3. Antler peg, crudely whittled to chisel point; L. 12.7mm (F 502/1, SF 82).

4. Lead window came fragment, Knight (1983-4) Type B/C, medieval (E 403/1, SF 127).

5. Folded lead sheet (B 105, SF 41).

6. Folded lead sheet (F502/1, SF 116).

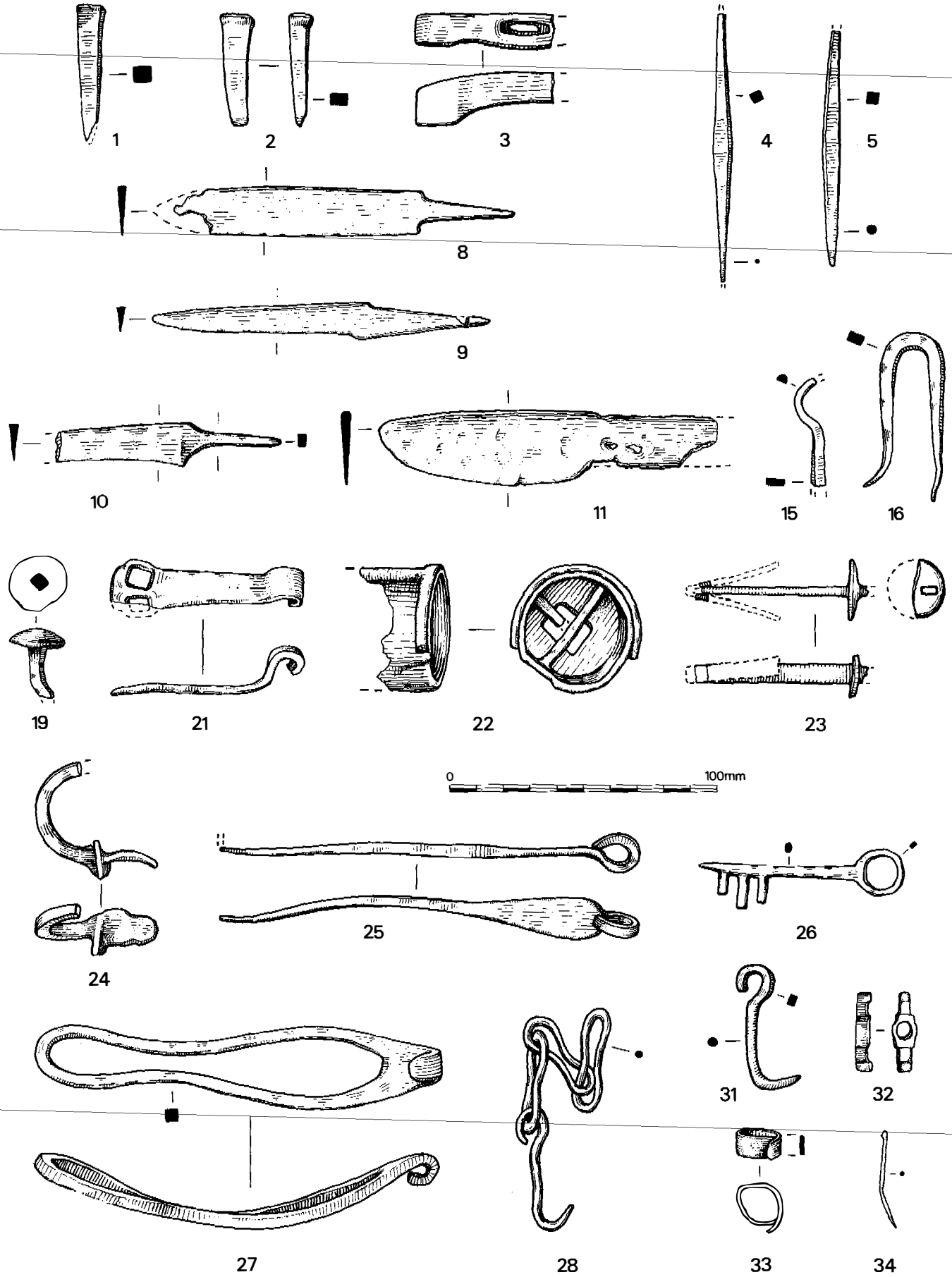

Fig 21 Ironwork 1-5, 8-11, 15-16, 19, 21-28, 31-34

7. Melted lead fragment (F 502/2, SF 185).

8. Glass linen smoother, opaque greenish grey glass. Diam. 62mm, Th. 28mm (F 500, SF 71). Such implements, used to polish linen to a smooth finish, are commonly found on sites from the Roman period onwards (Wild 1970, 85). Other medieval examples are known from 13th-century and late-13th-century contexts at St Peter's Street, Northampton (Williams 1979, 296-8, GI. 36-39); from a late 13th/14th-century context at Hangleton, Sussex (Holden 1963, 163-5); and from a 14th-century workshop floor at Lyveden, Northants (Bryant & Steane 1969, 44, fig 15o).

Ironwork *by Nicholas Palmer*

The iron finds included tools, knives, building ironwork, lock fittings, domestic equipment, buckles and personal fittings, horse furniture and weaponry. The range of material is undiagnostic and could have been found on an urban, village, manor or castle site. The limited internal dating evidence supports the external evidence suggesting a 12th–13th century date for the group: there was only one scale tang knife, a type coming in in the 13th century (Goodall in Biddle 1990, 838), most having the earlier whittle tangs; and the horseshoes and horseshoe nails were all with or for countersunk nail holes, rather than the rectangular nailholes that came in in the 14th century (*Ibid,* 1056).

TOOLS (Fig 21, 1-5; 6-7 unillustrated)

A small group of tools included two metalworking punches (1-2), their size possibly indicating non-ferrous working, although they could also have been used for small-scale ironworking. There was also a small hammer fragment (3) and two awls (4-5) probably used for carpentry or possibly for leatherworking. Two blade fragments may have come from agricultural tools, a weedhook (6) and a scythe (7).

1. Punch, square sectioned. L. 55mm (F 502/3, SF 92).
2. Punch, rectangular sectioned. L. 44mm (E 400, SF 143).
3. Hammer fragment. (D 322/1, SF 27).
4. Awl. L. 101mm (F 502/2, SF 170).
5. Awl. L. 91mm (F 500, SF 63).
6. Curved blade fragment, possibly from a weedhook (F 513/1, SF 129).
7. Heavy blade fragment, W. c.40mm, possibly from a scythe (B 106, SF 44).

KNIVES AND SHEARS (Fig 21, 8-11, 15; 12-14 unillustrated)

The site produced three whittle tanged knives (8-10), and one scale tanged (11), the latter not dating before the 13th century. The wide tang and offset blade of no 9 is paralleled by knives from London, of the late 12th and early/mid 13th centuries (Cowgill, de Neergaard & Griffiths 1987, 78, fig 54 no 3; 80, fig 55, no 17), where the effect is said to have been produced by sharpening. There were also three probable knife blade fragments (12-14) and one shears handle fragment (15).

8. Whittle tang knife L. *c*.130mm (E 402/1, SF 109).
9. Whittle tang knife L. 127mm (G 600, SF 77).

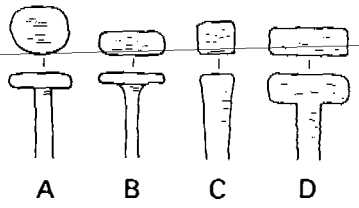

Fig 22 Ironwork, Timber nail types A-D

10. Whittle tang knife fragment (8 E 801/2).
11. Scale tang knife with rounded blade, handle incomplete (C 202/10, SF 31).
12-14. Knife blade fragments (12. C 221/1, SF 34; 13. B 103/1, SF 57; 14. F 502/5, SF 89).
15. Shears handle fragment (B 156/1, SF 54).

BUILDING IRONWORK (Fig 21, 16, 19, 21; 17-18, 20 unillustrated)

There was only a small quantity of structural ironwork, including U-shaped staples (16-17) and circular headed studs (19-20). A small rectangular staple (18) may be from furniture rather than from a building. The site produced no hinge pivots and there was only one small hinge strap (21), probably from a shutter or box. The 56 timber nails found fell into four types (Fig 22): 10 Type A, flat, subsquare-round head; 3 Type B flat, long rectangular head; 14 Type C, rectangular, slightly expanded head; and 5 Type D, thick, long rectangular head. A further 8 were of uncertain type and 16 were headless shanks.

16-17. U-shaped staples (16. Ht. 67mm, 8 E801/1; 17. F 500, SF 75).
18. Rectangular staple. L. 29mm (F 503/1, SF 96).
19. Circular stud with domed head. Diam 20mm (F 502/2, SF 173).
20. Circular stud head (F 502/2, SF 179).
21. Hinge strap (D 300, SF 18).
Timber nails (Type A: B 100, SF 137; B 117, SF 39; C 202/6, SF 25; F 500, SF 73; F 502/2, SF 171; F 502/2, SF 177; F 503/1, SF 93; G 602/4, SF 160; G 604/1, SF 147; 5 E 502/1. Type B: E 400, SF 139; E 400, SF 140; E 402/3, SF 117. Type C: B 100, SF 2; B 100, SF 9; B 100, SF 12; B 103/1, SF 56; B 106, SF 49; C 202/3, SF 20; E 400, SF 60; F 500, SF 64; F 502/1, SF 131; F 502/2, SF 172; F 502/2, SF 176; F 503/1, SF 100; F 503/1, SF 106; 5 E502/1. Type D: F 500, SF 74; F 500, SF 135; F 502/2, SF 178; F 502/2, SF 186; F 502/6, SF 107. Uncertain type: B 108/2, SF 38; E 402, SF 59; E U/S, SF 191; E 402/5, SF 121; F 500, SF 68; F 502/1, SF 85; F 502/2, SF 182; F 503/1/1. Nail shanks: B 106, SF 40; B 106, SF 45; C 200, SF 15; C 235/2, SF 104; E 402/1, SF 114; F 402/3, SF 118; E 403/1, SF 122; E 403/1, SF 124; E 403/1, SF 128; F 502/1, SF 134; 502/1/1; F 502/2, SF 168; F 502/2, SF 180; F 502/2, SF 188; F 502/2, SF 190; OM3 304, SF 204.

LOCK FITTINGS (Fig 21, 22-27)

The site produced three fragments from barrel padlocks (22-24) and one padlock key (25). There was also one key for a mounted lock (26) and a figure-eight shaped hasp (27).

22. Padlock case end fragment with strengthening straps and inset bolt entry plate with three rectangular holes for bolt (F 502/2, SF 166).
23. Padlock bolt fragment, single spine with traces of double leaf spring (F 502/2, SF 91).
24. Padlock bolt fragment with U-shaped staple (F 502/2, SF 167).
25. Padlock key stem, bit missing. L. 158mm (F 503/1, SF 98).
26. Key with ring bow and solid stem projecting over three toothed bit. L. 80mm (5 E502/1).
27. Figure-eight hasp. L. *c* 160mm (F 500, SF 67).

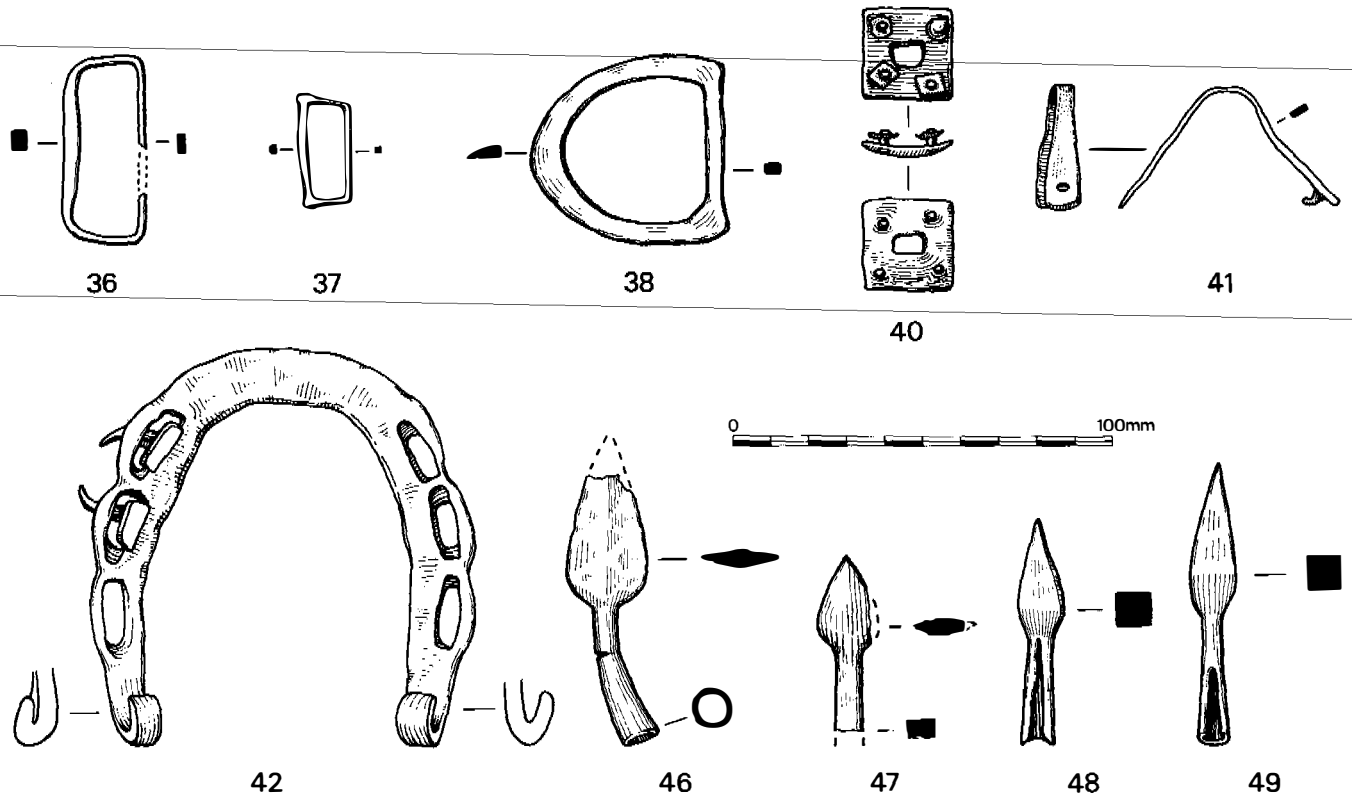

Fig 23 Ironwork 36-38, 40-42, 46-49

DOMESTIC EQUIPMENT
(Fig 21, 28, 31-34; 29-30, 35 unillustrated)

Miscellaneous domestic fittings from the site included chain fragments with both figure-eight (28) and oval links (29-30). No 28 retains a terminal hook and another similar hook was found loose (31), along with a swivel bar (32) also probably from a chain. Other items were a collar (33) and pins of various sizes (34-35).

28. Chain, with figure-eight shaped links and a terminal hook (5 E 502/1).
29-30. Link fragments (29. F 502/1, SF 126; 30. F 502/1, SF 81).
31. Looped hook. L. 47mm (F 502/2, SF 94).
32. Swivel bar with expanded terminals. L. 31mm (F 502/2, SF 187).
33. Collar, Diam. 21mm, W. 9mm (F 502/5, SF 95).
34-35. (34. L. 40mm, F 502/2, SF 165; 35. L. 98mm, B 103/1, SF 36).

BUCKLES AND PERSONAL FITTINGS
(Fig 23, 36-38, 40-41; 39 unillustrated)

Buckles also came in various sizes (36-38). The larger ones of these could have come from harness rather than belts, as could a large buckle pin (39), a square strap mount with copper alloy rivets (40) and a U-shaped strap loop (41).

36. Subrectangular buckle with thick outside edge. L. 23mm, W. 51mm (F 503/1, SF 105).
37. Subrectangular buckle with two knops on outside edge. L. 71mm, W. 33mm (F 502/2, SF 174).
38. Large D-shaped buckle with narrowed bar. L. 53mm, W. 51mm (F 502/3, SF 164).
39. Buckle pin, flat sectioned with damaged loop. L. 55mm (F 502/2, SF 90).
40. Square strap mount with central hole and four copper alloy rivets. 24mm x 24mm (F 502/2, SF 88).
41. U-shaped strap loop, distorted. L. 43mm. (E 402/4, SF 120) cf Goodall in Biddle 1990, 1045, fig 334, no 3894, for a similar object from an early-12th-century context interpreted as a harness fitting.

HORSE FURNITURE (Fig 23, 42; 43-45 unillustrated)

All four horseshoes found (42-45) were of the typical 12th/13th-type with countersunk nailholes, and all the 25 horseshoe nails were of the fiddle-key pattern designed for such shoes, with a generally semicircular-shaped head, although some were flattened by wear.

42-45. Horseshoes with countersunk nail holes (42. 5 E 502/1; 43. C 200, SF 14; 44. H 700, SF 78; 45. fragment, 502/1, SF 87).
Horseshoe nails, fiddle-key pattern (B 100, SF 8; B 100, SF 138; B 104, SF 48; B 106, SF 43; B 106/1, SF 37; C 200, SF 10; E 400, SF 66; E 400, SF 141; E 400, SF 142; E 402, SF 61; E 402/7, SF 115; E 403/1, SF 125; F 500, SF 136; F 500, SF 53; F 500, SF 72; F 502/1, SF 145; F 502/2, SF 183; SF 502/2, SF 181, F 502/2, SF 175; F 502/4; F 502/6, SF 101; F 503/1, SF 103; G 609/1, SF 149; G 609/1, SF 148; H 708/1, SF 158).

WEAPONRY (Fig 23, 46-49)

Four socketed arrowheads were recovered, two leaf shaped (46-47) and two with square sectioned points (48-49). The first two could have had either military or

hunting use, the latter two are a military type that appeared during the 13th century (cf LMMC 1940, 65-70, Type 9).

46. Arrowhead, socketed with leaf-shaped blade. L. c 80mm (F 500, SF 62).
47. Arrowhead, with leaf-shaped blade, socket lost. (B 100, SF 6).
48. Arrowhead, socketed with square sectioned point. L. 60mm (F 502/1, SF 112).
49. Arrowhead, socketed with square sectioned point. L. 75mm (F 502/2, SF 169).

OTHER (50-68 unillustrated)

50. Spatula. Thin rod with spatulate end. L. 124mm (C 202/3, SF 21).
51. Strip fragment with beginning of loop, possibly from shears (E 403/2, SF 132).
52-60. Strip fragments (52. C 204/4, SF 70; 53. E 400, SF 65; 54. E 403/1, SF 113; 55. F 500, SF 76; 56. F 502/1, SF 86; 57. F 502/2, SF 184; 58. F 502/2, SF 189; 59. F 503/1, SF 97; 60. F 513/1, SF 130).
61-62. Rod fragments (61. F 500, SF 52; 62. H 602/2).
63-68. Fragments (63. B 106, SF 42; 64. C 200, SF 11; 65. C 200, SF 16; 66. E 403/1, SF 123; 67. F 502/1, SF 161; 68. 6 E 601/1).

Metalworking Residues *by A Russell and P Budd (Ancient Metallurgy Research Group, Department of Archaeological Sciences, University of Bradford)*

DESCRIPTION OF THE MATERIAL

Several kilograms of slag were examined (Table 6). The slags fall into two broad categories. The great majority of the material, in terms of both weight and volume, is made up of relatively large and dense pieces of 'fayalitic' type. A number of these pieces have the loosely plano-convex morphology typical of 'smithing hearth bottoms'. There are also a number of smaller pieces of light, highly vesicular, fuel ash slag. A selection of the fayalitic slag material from each area of the site was subject to detailed microstructural and analytical study. The largest piece of fayalitic slag recovered from the site (from C 204/2) is of unusual morphology. After reconstruction from three fragments, it was clear that the original slag was formed from two partially fused 'hearth bottoms' featuring an unusual central cavity or void between the two part-melted pieces. The morphology suggested that the slag may have been deliberately manipulated at high temperature in a softened plastic state to enclose a iron billet of roughly cubic form. This hypothesis and the possible function of this particular slag piece were investigated.

Fuel ash slags

Fuel ash slags are formed when silicate-rich materials, such as clay, come into contact with alkalis (most commonly from the ash within a fire) at elevated temperatures. The silicates are fluxed by the alkali to form a vitreous slag which is usually very porous, highly vesicular and light in weight. Fuel ash slags are commonly associated with metalworking (both ferrous and non-ferrous), but are not, in themselves, diagnostic of any particular process as they can be formed under any circumstances where a fire is burning in contact with a silicate material at a suitably high temperature.

Fayalitic slags

Fayalitic slags contain a significant proportion of iron silicates, the most common of which is often the mineral fayalite ($2FeO.SiO_2$). They have a considerably higher iron content than fuel ash slags (typically as much as 50% metallic iron by weight) and are therefore far more dense. Fayalitic slags can be formed in the process of smelting either iron or copper ores (where iron oxides may be deliberately added as a slag forming flux to encourage the formation of a liquid slag) or in iron smithing processes. In the medieval period, fayalitic metal smelting slags were normally 'tapped' from the furnace in the liquid state and then allowed to solidify before being discarded as waste. These 'tap slags' are usually very dense with comparatively few large vesicles and typically display a ropy surface texture. Those associated with copper smelting normally feature numerous copper prills. In this case the morphology of the slags, with many small vesicles and comparatively low density, strongly suggests that they are smithing slags, formed at lower temperatures and associated with iron working in the blacksmiths's hearth. This interpretation is confirmed by the identification of many of the pieces as smithing hearth bottoms.

Smithing hearth bottoms

Smithing hearth bottoms have been discussed in detail by McDonnell (1991). They are generally thought to have been formed from reactions at high temperature between iron oxide scale from the objects being worked and the flux used to clean them as well as the hearth lining. Under the air blast from the tuyere the temperature is thought to have been sufficient for the slag to melt and agglomerate, forming a liquid or semi-liquid pool in the bottom of the hearth giving rise to the characteristic shape. Smaller, irregular, pieces of fayalitic smithing slag were probably formed in a similar manner, but removed before they were allowed to become so large.

MICROSTRUCTURAL INVESTIGATION OF THE FAYALITIC SLAG

Four samples of fayalitic slag, including the large piece of unusual morphology, were sampled and subject to microstructural examination and analysis.

1. A smithing hearth bottom (from B 106) of typical morphology was sampled. Optical microscopy revealed a structure of large euhedral fayalite crystals

Table 6 Slag Catalogue

Context	*Smithing hearth bottoms*		*Other fayalitic slags*	*Alkali silicate slags*
OC92				
5 E503/1	-		1 (poss SHB) frag	-
8 E801/1	-		-	2 frags
OC93				
B 100	800g	(c 10cm x 10cm x 6cm)	-	-
B 105	-		4 frags	4 frags
B 106	600g	(c 12cm x 8 cm x 4cm) [*sample 1*]	-	-
C 200	850g	(c 9cm x 10cm x 5cm)	-	-
C 202/4	-		-	2 frags
C 202/10	-		-	1 frag
C 204/2	c.2kg	(c 15cm x 16cm x 9cm, Probably 2 SHBs welded together) [*sample 2*]	1 (poss SHB) frag	1 frag
E 400	-		2 frags	-
E 402/1	-		2 (poss SHB) frags [*sample 3*]	1 frag
F 500	1650g	(c 11cm x 10cm x 5cm, 850g; 10cm x 9cm x 6cm, 800g) [*sample 4*]	1 (poss SHB) frag	1 frag
F 502/1	-		-	1 frag

with a small amount of glassy phase at the crystal boundaries and fine dendritic wüstite throughout the whole of the section. This is a typical microstructure for an iron smithing slag and no further examination was made.

2. A fayalitic slag of unusual morphology (from C 204/2) was sampled for more detailed study. Three sections were taken from one of the smaller pieces, and examined both by optical and scanning electron microscopy. Optically, all three sections consisted of dendritic lath fayalite in a glassy matrix. No free oxide was visible in any form. This is consistent with the colour of the slag, which is pale green-grey and usually indicates the slag has a high silica content. This was seen to be the case. The samples were subject to compositional analysis by EDX/SEM. The bulk composition of the slag was 40-45% SiO_2, 40-45% FeO, about 5% $A1_2O_3$, 5% CaO, 3% K_2O, and about 0.5% P_2O_5. The Fayalitic phase was 50-60% FeO, about 35-40% SiO_2, with the other elements mentioned making up the remainder. The glassy phase was fairly variable, but was generally 10% CaO, 45-55% SiO_2, 20-30% FeO, 5% $A1_2O_3$, 5% K_2O and up to 2% P_2O_5.

3. A fayalitic slag fragment (from E 402/1), possibly from a smithing hearth bottom, was examined. The sample was almost black in colour, and quite vesicular. Microscopically, the sample consisted of coarse lath silicate surrounded by glassy phase, with some fine dendritic wüstite, mostly in the glassy phase. There were large areas of amorphous, flowed iron oxide, which appeared to be a mixture of magnetite and wüstite. As with the sample from Area B, this is a common structure for a smithing slag and no further examination was undertaken.

4. A complete hearth bottom (from F 500) was selected for examination. On sectioning, it was found to have a particularly heterogeneous structure, the upper part being light coloured, high silicate material, the central parts being dense and dark, and the lower part being fairly vesicular. A group of particularly large metal prills were noted in the upper part of the slag. Optical microscopy showed that the uppermost part consisted of fine lath fayalite in a matrix of glassy phase, with the fayalite laths growing coarser lower down. Etching of the iron prills in this area with 2% nital showed that they consisted of coarse-grained ferrite, with no cementite.

The central portions of the slag consisted of euhedral fayalite crystals with glassy phase between them and a little fine dendritic wüstite. There were two patches of massive dendritic wüstite and an unusual fourth phase which was slightly darker in colour than the glassy phase and occurred in small semi-dendritic formations. The lowest parts of the sample proved to have a similar structure to the central portions. Analysis by scanning electron microscopy confirmed that the upper parts were silica-rich, whilst the central and lower portions contained a greater amount of iron, as expected. The unknown phase was found to consist of around 48% SiO_2, 20% FeO, 15% $A1_2O_3$, 15% K_2O, and 2% CaO, which cannot be positively identified without XRD analysis.

INTERPRETATION

In general, most of the metalworking residues are

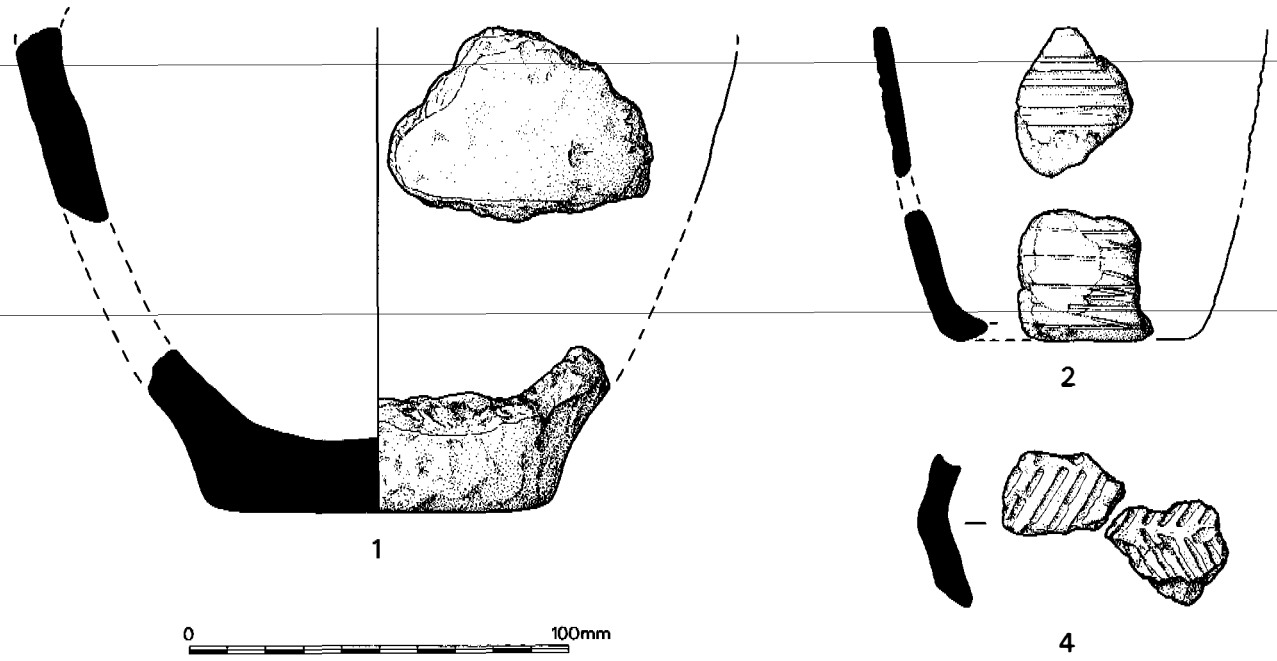

Fig 24 Prehistoric pottery (1-2. Trench 3 E305/1; 4. G 605/1; 3. Unillustrated)

typical of iron smithing operations. The Boteler's Castle metalworking debris assemblage is uncommon in having such a high proportion of smithing hearth bottoms to other, less morphologically distinct, pieces of smithing slag and particularly unusual in featuring a slag which appears to have been deliberately manipulated, or even created, for a specific purpose. The conventional interpretation of smithing hearth bottoms is that they were an undesirable waste product which developed during forging operations, clogged up the hearth and had, periodically, to be removed and discarded. There are, however, other possible interpretations on which the Boteler's Castle material may have a bearing. It has been observed (inf J McDonnell) that smithing hearth bottoms tend to predominate in some assemblages whilst being rare or absent in others. This has tended to be interpreted in terms of differential disposal, with larger slag pieces selected for use as road metalling or as ditch fills away from the smithing area. However, it might be that the formation of hearth bottoms was, at least is some cases, deliberate and associated with certain specific processes. A liquid slag bath within the hearth could conceivably have advantages in terms of the efficiency of heating the workpiece, temperature control and the prevention of oxidation (inf J McDonnell).

In this case, it would appear that one of the slag pieces (Sample 2) was deliberately made by fusing two 'hearth bottoms' around a billet of iron. We suggest that this was associated with a small-scale carburization process to convert an iron billet to steel by cementation within the forge. We propose that this involved packing iron and charcoal between two existing smithing hearth bottoms. This may have involved sealing the assembly with clay and then heating or may have been achieved by manipulating one of the hearth bottoms whilst plastic at elevated temperature until it was plastic enough to cover the iron and fuse with the lower hearth bottom. Once sealed the assembly would be heated to a high temperature (around 900°C or greater) for several hours allowing carbon monoxide in the enclosed chamber to diffuse into the iron. After heating, the slag would be allowed to cool, broken open, and the carburized iron removed for forging.

During such an operation the slag would be relatively plastic and would tend to slump downwards. It is noteworthy in this context that one of the two hearth bottoms which make up the assembly is noticeably larger than the other. The 'upper' piece is also highly vesicular which may be a result of gas from the internal chamber escaping through the slag at high temperature. It is also possible that, had the two hearth bottoms been sealed together with clay, the heating would have promoted a reaction with the slag. This might explain the high silica content of the slag.

It is likely that all of the material examined was generated as a result of ironworking within a blacksmith's hearth. Many of pieces were probably formed in the bottom of the hearth during normal smithing operations, but one piece in particular suggests that these 'hearth bottoms', which are normally considered to have been waste products, may – at least on one occasion – have been used in a small-scale carburization process to make steel. It is of course not possible to be sure how typical this operation was on the site or how widespread the practice may have been.

Prehistoric Pottery *by Alex Gibson*

A small quantity of prehistoric pottery came from two features: Pit E305 in Trench 3 and Pit 605 in Area G. This derives from four vessels, 1-3 from Pit E305 and 4 from Pit 605.

Vessel 1 (3 E305/1) (Fig 24, no 1)

Twelve sherds representing the base and lower body of a vessel of the urn family, probably Collared Urn. The fabric is thick and heavy with brown uneven surfaces, a black core and interior. It contains well-crushed quartz sand inclusions but the pitted fabric and surfaces (especially inner) attest the presence of organic material in the fabric. One large impression on the base appears to be the result of a large organic inclusion having been incorporated within the fabric and burnt out during the firing of the pot. It may be the impression of a nutshell or something of a similar form and size.

The outer surface is slightly uneven and finger impressions from the forming of the vessel are present, especially on the base angle. The base diameter is 90mm and the thickness varies from 20mm to 12mm at the highest point of the wall. This clearly suggests that the vessel has been substantial, perhaps up to 0.4m or 0.5m high. One sherd hints at a possible carination suggesting that the vessel may have been tripartite but in view of the unevenness of the fabric noted above, this identification is tentative. None of the sherds are decorated.

Vessel 2 (3 E305/1) (Fig 24, no2)

Seven sherds (conjoining to two) from the lower portion, base and angle of a small fine vessel, possibly a Beaker or Pigmy Cup. The fabric is pink-brown throughout and contains fine sand inclusions. The fabric is 6mm thick and both sherds are very abraded suggesting the material is residual. The base diameter has been in the region of 60-80mm.

Both sherds are decorated with multiple horizontal incisions, suggesting that, if Beaker, the vessel may be late in the stylistic sequence, say post-step 4 of Lanting and van der Waal's (1972) scheme. Too little of the vessel survives to allow a more positive identification.

Vessel 3 (3 E305/1) (Unillustrated)

Single sherd in a hard, well-fired fabric with fine sand inclusions. The fabric is 5mm thick and has a brown outer surface and dark grey inner surface. It contains quartz sand opening agents. Despite the similarity of the fabric to Vessels 1 and 2, the thickness, finish and surface colouration suggest that it belongs to a different vessel. The sherd is undecorated.

Vessel 4 (G 605/1) (Fig 24, no 4)

Two sherds in a soft pitted fabric with reddish-brown surfaces and a black core. The fabric is 7mm thick, has a slightly laminated texture and both sherds are very abraded. Both sherds are decorated with diagonal lines of twisted cord impressions set 5mm apart and each line *c* 17mm long. One sherd shows traces that the diagonals formed part of a herringbone arrangement, the two elements of this motif being separated by a slight ridge. Ridges are also visible at either end of the diagonals of the second sherd. This suggests that the vessel may have had a multi-carinated appearance.

Reconstruction of the vessel from so little material is dangerous but the twisted cord decoration and the ridges hint at a vessel in the impresse tradition such as Peterborough Ware, Food Vessels and Collared Urns. The last-named may be the most likely, albeit from a small miniature Urn perhaps with a scheme of decoration similar to the Collared Urns illustrated by Longworth (1985, pl 50). Twisted cord herringbone may also be found on Food Vessels (eg Kinnes & Longworth 1985, pl 90, 97, 115, 137) but the fabric of the present sherds suggests more Collared Urn than Food Vessel.

DISCUSSION

Too little of each vessel survives to allow meaningful discussion, but Vessel 2 appears to be stylistically the earliest, being reasonably interpreted as Beaker. The other vessels are best seen as within the Urn family and their quality of fabric suggests Collared Urns. These need not be far removed chronologically from the Beaker though the severe abrasion of this latter vessel suggests it may be residual. A date in the early centuries of the 2nd millennium BC for the assemblage would seem to best suit the types of vessels tentatively identified.

Flintwork *by Stuart Palmer*

The 1993 excavations produced 24 worked flint fragments, eight from one of the early Bronze Age features (G 605), the rest residual or from topsoil contexts across the site. Further groups of 22 fragments from the 1989 fieldwalking (Adams & Jenkins 1989) over the outer enclosure and three from the 1992 OM evaluation trenches were also briefly examined.

The flint was mostly gravel flint, 14% with cortical remains of varying extents. Over half the assemblage was the grey or grey/brown coloured flint that is typical of the Arrow and Avon valleys. Black, olive, amber and ivory fragments were also represented.

The material included three arrowheads, five scrapers, three cores, seven blades (two retouched) and 31 flakes (one retouched). The flaking technology across the site

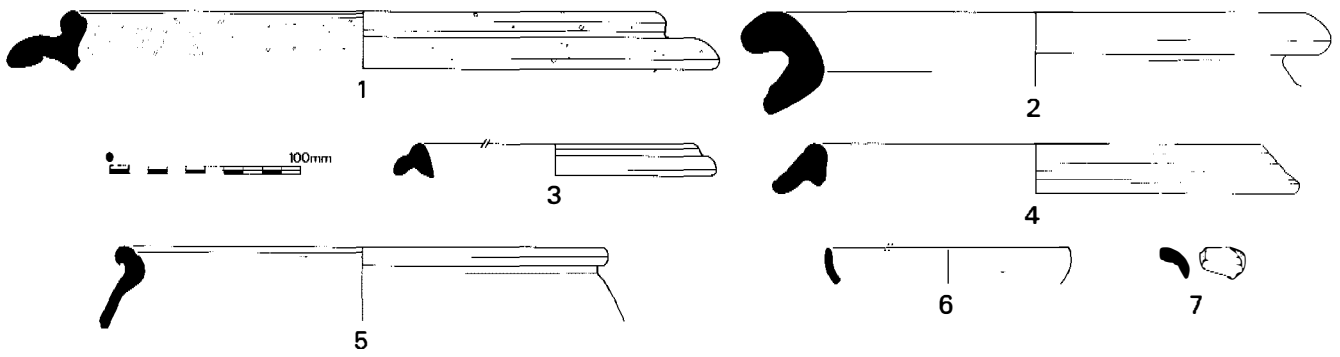

Fig 25 Roman pottery

was very mixed, with both broad, squat flakes with an acute angle between the striking platform and the dorsal face, and longer flakes with obtuse angles between the striking platform and the dorsal face represented. Butt sizes also varied considerably and many pieces showed considerable plough damage.

Two of the arrowheads were leaf-shaped (B 100, SF 33; E 400, SF 55) suggesting a neolithic date. The five scrapers covered a broad range of styles. Only a horse-shoe scraper (B 100, SF 5) was typologically diagnostic, being late neolithic. It was also the only fragment of olive coloured flint, which is uncommon in the area.

The eight flakes from pit G 605 were all of the same greyish brown material. They were all small and unretouched, suggesting microdebitage. Their fresh edges could indicate that they were deposited in the pit soon after striking.

CONCLUSIONS

The flint assemblage recovered from the site was too small to make any detailed analysis and with the exception of the flakes from pit G 605, was all residual or from topsoil locations. The few typologically distinctive pieces, such as the arrowheads and the horseshoe scraper, point to a neolithic tradition, but many of the waste flakes could have been later. Only the olive horseshoe scraper was certainly imported; the remainder will probably have come from the local gravels.

Roman Pottery *by Jeremy Evans*

Some 55 sherds of Roman pottery were recovered in the excavations, nearly all of them very badly abraded. Most of the material was residual, only three sherds coming from two probable Roman field gullies in Trenches 9 and 10 (E902 and E1001).

The collection was too small for any conclusions about it to be drawn with confidence. Material of 1st-century AD date appeared to be present, and material of 1st/2nd century date. The preponderance of Severn Valley wares in the group best matches the pattern at Alcester in the 3rd century AD and both mortaria might be of that date. Shell-tempered ware was present, suggesting 4th-century activity and there was one red colour-coated bowl base which does not appear to be Oxfordshire ware, and, if this is South West Brown Slipped ware, then it ought to belong to the latter half of the 4th century.

The size and condition of the group, coming from a fairly extensive area, would seem to suggest that the material is from manuring or from a peripheral spread around a site. This is supported by the lack of many Roman features amongst those excavated. The most logical location for a site might be to the east on Ryknild Street. The nature of the site the material represents is unclear but the presence of amphora in such a small collection and three fineware sherds might speculatively suggest something more than a low status rural site, but the evidence is too slight for any safe conclusions to be drawn.

Table 7 Roman pottery: numbers and weight of sherds in each major fabric class

Amphorae	1	33g
Black Burnished	-	-
Shell tempered	2	85g
'Early' wheelmade grog tempered	1	21g
Colour-coated ware	1	42g
Mortaria	2	175g
Severn Valley ware	40	341g
Reduced wares	6	183g
Samian	2	16g
Totals	55	896g

ILLUSTRATED VESSELS (Fig 25, 1-7)

For fabric descriptions see the Alcester Gas House Lane report (Evans 1996).

1. Fabric M23. A mortarium rim of Oxfordshire form M18 (Young 1977) AD 240-300 (E 401).

2. Fabric R31. A wide mouthed everted rimmed storage jar in organic tempered greyware. These vessels are common in the 1st and 2nd centuries at Alcester, but absent by the 3rd (E 402/2).

3. Fabric O36. A Severn Valley ware beaded and flanged bowl rim fragment, possibly cf Webster (1976) no 65, but this has a narrower flange (E 402/4).

4. Fabric M22. A Mancetter-Hartshill grooved and slightly concave hammerhead mortarium, early 3rd–mid 4th century (E 402/7).

5. Fabric E21. A reduced bead rimmed medium mouthed jar, probably 1st century AD (F 503/1).

6. Fabric O24? A Severn Valley ware open bowl with fairly vertical simple rim (F 502/5).

7. Fabric O23. A Severn Valley ware flagon with flaring rim grooved on the edge (H 708/1).

Roman Tile *by Stephanie Ratkai*

There was a small quantity of Roman brick and tile, consisting of 62 fragments, most of it residual in medieval ditch fills. Five possible imbrices could be identified and two tegulae. There were also two box flue tiles and a further fragment, from F 502/5, which is much abraded but appears to have one slightly curving face.

The Roman tile was considerably thicker than the medieval tile. It fell into two groups with ranges of 20-23mm and 32-38mm. The former probably represent tiles and the latter bricks. Brodribb (1987, 2) gives as an example of a 'good, mid-1st century brick' one whose thickness is 37mm but notes elsewhere the difficulty of controlling shrinkage and maintaining consistency in the dimensions of brick and tile. The measurable fragment of box flue tile was 34mm thick.

Three fabrics seemed to be present, one with calcareous temper, one with grog temper and the third consisted of a pink paste like fabric with a few quartzitic inclusions. Tiles in a similar fabric to the last, the most frequently represented here, were found in Alcester on the Gateway Supermarket site (Ratkai 1996a, fiche M1: C9). The brick fragments were generally quartz tempered.

The brick/tile concentrated in the trackway ditches, the largest quantities coming from F 502 (14 fragments, 1774g) followed by C 202 (11 fragments, 590g). The quantity of Roman tile and the presence of the two box flue tiles indicates that a substantial Roman building once stood in the vicinity, a conclusion supported by the pottery evidence (Evans above).

ANIMAL BONE *by Stephanie Pinter-Bellows*

Material and methods

The excavations produced a total of 3,672 animal bones and bone fragments from medieval (12th–early-13th-century) contexts. The following mammal and bird species were identified: horse *(Equus caballus)*, cow *(Bos taurus)*, pig *(Sus scrofa)*, sheep *(Ovis aries)*, goat *(Capra hircus)*, red deer *(Cervus elaphus)*, fallow deer *(Dama dama)*, dog *(Canis* sp. domestic*)*, cat *(Felis* sp. domestic*)*, rabbit *(Oryctolagus cuniculus)*, hare *(Lepus* sp.*)*, badger *(Meles* sp.*)*, domestic fowl *(Gallus* sp.*)*, Goose *(Anser* sp.*)*, Pigeon *(Columba* sp.*)*, Crow *(Corvus corone)*, Frog *(Rana* sp.*)*. Bones were also assigned to the higher order category sheep/goat, rabbit/hare, small artiodactyl and large artiodactyl.

The paucity of faunal remains recovered from timber castles and medieval rural sites generally makes this an assemblage worth analysing, although the number of informative bones is just inside the low end of that required for useful data (Gamble 1978). Aside from some information on the importance of the various species, the data are not susceptible of detailed interpretation and their main interest will be as a comparative group. The bone numbers allow only for interpretation within the excavated area and not for extrapolation to the site as a whole.

A selective detailed record was made for the assemblage, with further work done only where it appeared to add substantially to the results. For a full description of the methods used see Davis (1992). In brief, all mandibular teeth and a restricted suite of articular ends/epiphyses and metaphyses of the girdle, limb and foot bones were always recorded and used in counts. Other parts of the skeleton were only noted selectively, eg when a scarcer species could be identified, or when the bone was of particular interest. In order to be able to calculate the proportion of the bones which were unidentified fragments, a count was kept on the number of unrecorded identifiable skeletal elements.

Tooth eruption and wear data, fusion data, and measurements were recorded systematically for the selected parts of the skeleton; pathology and butchery data were noted where present, but counts of bones affected and not affected were not made for nonselected parts of the body. All the material was recorded following the AML Osteometry Data Capture Manual (Jones *et al* 1979). Dental eruption and attrition data were recorded using the wear stages defined by Grant (1982) for cattle and pig, and the stages defined by Payne (1973; 1987) for sheep/goat. Epiphysial union data follow Silver (1969). Measurements follow von den Driesch (1976) with additions as described in Davis (1992). Withers height was calculated following von den Driesch and Boessneck (1974). Two methods of quantification to estimate the relative importance of the major animal species were used: simple fragments counts (often termed number of identified specimens per taxon, NISP) and minimum numbers of individuals, MNI (following Gilbert & Steinfeld 1977, 333).

Preservation and Taphonomy

The animal bones were routinely recovered by hand collection during excavation, with sieving carried out in particular contexts. Condition of the bone was subjectively noted on three characteristics (see Table 8). Charred bone was noted for colour – black through blue through white – and the amount of the bone affected. Abraded bone was defined as bone which had rounded edges instead of retaining sharply angular margins to old breaks and cut surfaces. Gnawed bone was noted for the element and portion of the bone affected and the species believed to have gnawed it. Included with the gnawed bone count were those bones which showed the effects of stomach acids, having been swallowed (as described by Payne & Munson 1985). Also noted was the amount of unidentified bone, mostly fragments of long bone shafts.

The preservation of bones as a whole is good. The bones are typically hard and smooth-surfaced. The exception were bones from the cess pit fill G 603; there, the inner tables of the bones, as seen at fracture points, were quite white and the bones were very friable. Unidentified bone fragments make up 48% of the total, this is about average for sites of all descriptions. Nearly 5% of the bones have been burnt. One context stands out as having a large percentage of the bones burnt: F 503 with 26% of the bones affected. Gnawing was observed on less than .01% of the bones. The same low percentage was found to be abraded. The paucity of bones with gnaw marks or abrasions suggests that these bones did not spend much time on the surface, available to dogs or being trampled on, before being disposed of elsewhere.

Table 8 Animal bone: preservation and taphonomy

Conditions	%
Charred	4.9%
Chewed and swallowed	<.01%
Abraded	<.01%
Unidentified fragments	48.4%
Total number of fragments	3672

Species abundance

The species identified are listed in Table 9. The bulk of the identifiable bones belonged to the domestic mammal species: the majority being sheep and sheep/goat, followed by cattle, with a smaller number of pig and horse. However, if the significance of the animals as providers of meat is considered the relative importance of the animals changes. A rough ratio of the amount of meat provided by sheep compared to pigs compared to cattle is 1:2:10; using this cattle become vastly the most important meat species and pigs come a lot closer in importance to sheep than when looking simply at numbers. Small numbers of chicken, goose, and pigeon bones were also identified. Goat was only identified by horncores. As fallow deer was only identified by antler fragments and red deer by antler fragments and one metapodial, it must be considered that these three animals were more important for industrial uses than for diet. The horn and antler may have been brought in separately through trade; however, the small number of bones do not allow for conclusions to be drawn. The rabbit and hare may have been used for food or may have been intrusive, as the badger may have been. The dog, cat, rodent, crow and frog bones were probably from fellow inhabitants of the castle rather than a part of the diet.

Table 9 Animal bone: List of animal species

Animal Species	NISP	MNI
Horse (*Equus caballus*)	14	1
Cow (*Bos taurus*)	122	11
Pig (*Sus scrofa*)	41	6
Sheep (*Ovis aries*)	42	6
Goat (*Capra hircus*)	3	2
Sheep/Goat	122	19
Red Deer (*Cervus elaphus*)	4	1
Fallow Deer (*Dama dama*)	p	-
Dog (*Canis* sp. domestic)	10	1
Cat (*Felis* sp. domestic)	24	3
Rabbit (*Oryctolagus cuniculus*)	1	1
Hare (*Lepus* sp.)	2	1
Rabbit/Hare	2	1
Badger (*Meles* sp.)	p	-
Rodent (*Rodentia*)	2	1
Domestic Fowl (*Gallus* sp.)	8	3
Goose (*Anser* sp.)	1	1
Pigeon (*Columba* sp.)	1	1
Crow (*Corvus corone*)	1	1
Frog (*Rana* sp.)	7	2
Small Artiodactyl	2	-
Large Artiodactyl	2	-
Small Mammal	1	-
Large Mammal	4	-
Identifiable Mammal	1400	-
Identifiable Bird	79	-
Unidentified Mammal	1696	-
Unidentified Bird	25	-
Unidentified Fish	56	-
Total	3672	

p - the presence of an animal, though not from bones used in the selected record.

While a selected record was made, in order to be able to calculate the proportion of the bones which were unidentified fragments, a count was kept on the number of unrecorded identifiable skeletal elements.

Table 10 Animal bone: distribution of skeletal elements for main meat animals

	Cattle		Pig		Sheep/Goat	
	Total	O/E	Total	O/E	Total	O/E
Mandible	21	3.54	9	4.27	49	3.78
Scapular, glenoid	3	0.51	2	0.95	5	0.39
Humerus, distal	3	0.51	2	0.95	13	1.00
Radius, distal	3	0.51	2	0.95	3	0.23
Acetabulum	6	1.01	1	0.47	9	0.69
Femur, distal	3	0.51	1	0.47	5	0.39
Tibia, distal	3	0.51	2	0.95	9	0.69
Radial Carpal	1	0.17	-	-	-	-
Astragalus	4	0.67	1	0.47	4	0.31
Calcaneum	4	0.67	1	0.47	3	0.23
Metapodial, distal	11.5	1.94	3.5	1.66	7	0.54
Phalanx, first	3	0.51	.5	0.24	1.5	0.12
Molars, lower first and second*	12.5	2.11	4.5	2.13	41	3.16
Molar, lower third*	5	0.84	-	-	32	2.47

* The counts of the teeth include those in the jaws.

The species total will not equal the total from the list of animals table because all deciduous teeth, and permanent incisors, canines and premolars were not included in this table.

An example of the calculations: for cattle the total counts for the elements are added up, after dividing the number of first phalanges by 4 and the metapodials and combined total of first and seconds molars by 2, giving a total of 83. This total is divided by the number of elements being used (14) giving an expected total, if the elements were all equally abundant, of 5.93. The observed values (O) are then divided by this calculated expected value (E) to show when the elements are under- or over-represented relative to one another.

Distribution of skeletal elements

The skeletal element distribution for the cattle and sheep, which were selectively recorded, is summarized in Table 10. The calculations for this distribution follow O'Connor (1991), although using more elements. The elements chosen for this calculation come from different parts of the body and include some smaller parts of the skeleton. The expected total for elements (E) has been calculated by taking the total count of the elements (compensating for elements of which there are more than two in the skeleton: first phalanx, and first and second mandibular molars taken together) and dividing by the number of elements involved to obtain an expected total; assuming that all the elements are equally abundant. The observed value (O) is then divided by this calculated expected value to show whether the number of specimens of a given element in the sample was under-represented (O/E <1.00) or over-represented (O/E >1.00) relative to one another. (For an example of the calculation see below Table 10).

For each species, various elements are markedly over- and under-represented. Mandibles and metapodials are found in large proportions. These bones are not important meat elements and can be considered a by-product of butchery (metapodials are used in bone working). This bias is especially seen in contexts E 402 and F 502. These contexts also have a larger proportion of the horncore and antler fragments; so that it can be suggested that they are depositories of industrial and butchery waste as well as some table waste. The number of bones involved was too small to infer whether the activity areas for industry and butchery were nearby or whether there were multiple movements of the bones. There is conflicting evidence from the high rate of survival of the mandibles (which one would expect to have fragmented more with much movement) and the low numbers of the smaller bones (which one would expect to be missing if there was much movement of the bones; the fact that larger numbers of the smaller bones were not found in the sieved contexts tends to discount recovery bias as a factor).

Ageing

Table 11 summarizes the age distribution of cattle, pig and sheep/goat in terms of tooth eruption and wear. The ages given for the various stages come from those for modern animals (Silver 1969); it is by no means certain that earlier animals passed through these stages at the same speed as modern animals. These ages should only be used for rough comparisons.

The dental data for cattle show most of them to have been killed young, in the prime meat age and slightly before (one to three years). There were mandibles from two elderly cattle (eight years plus), with no animals being killed in the years in-between. Keeping in mind that, because of the small numbers, these interpretations cannot be inferred for the site as a

Table 11 Animal bone: mandible and mandibular tooth ageing data

Cow

Toothwear	*Approx. Age*	*n*	*%*
Deciduous fourth premolar unworn	0-2 months	-	
First or second molars unworn	2-12 months	2	18%
Second molar unworn	12-18 months	4	36%
Third molar unworn	2.5-3 years	3	27%
Third molar, dentine wear on mesial cusp	3-4 years	-	
Third molar, dentine wear on central cusp	4-6 years	-	
Third molar, dentine wear on distal cusp	6-8 years	-	
Third molar, heavy wear, stage j or more (Grant 1982)	8 + years	2	18%

Pig

Tooth wear	*Approx. Age*	*n*	*%*
Deciduous fourth premolar unworn	0-2 months	-	
First molar unworn	6-12 months	4	40%
First molar in early wear stages b-d (Grant 1982)	12-18 months	3	30%
Second molar unworn	1.5-2 years	1	10%
Second molar in early wear, third molar unworn stages b-d (Grant 1982)	2-3 years	1	10%
Third molar, enamel attrition only	3-3.5 years	1	10%
Third molar, minor dentine exposure	3.5-4.5 years	-	
Third molar, dentine exposure, merging of mesial cusps	4.5-6 years		
Third molar, heavy wear stage j or more (Grant 1982)	6 + years	-	

Sheep/Goat

Tooth wear	*Approx. Age*	*n*	*%*
Deciduous fourth premolar unworn	0-2 months	1	2%
First or second molars unworn	2-12 months	2	6%
Third molar unworn	1-2 years	15	41%
Third molar, distal cusp still unworn	2-3 years	12	33%
Third molar, outline of enamel not joined, before stage 11 (Payne 1987)	3-4 years	2	6%
Second and third molar, outline of enamel joined, stages 9 and 11 respectively (Payne 1987)	4-6 years	2	6%
Second molar post stage 9, third molar still stage 11	6-8 years	2	6%
Third molar, heavy wear, post stage 11	8+ years	-	

whole, the age distribution in these deposits shows that the majority of the cattle were raised for meat, not as multi-purpose animals. Only the two elderly animals were probably used for milk or traction before death. The same pattern emerges from the dental data for pigs: all being killed around prime meat age, with some younger and older (six months to three and a half years), but none outside this cluster of years. This is not surprising as pigs are raised for meat.

A wider distribution of ages is seen from the dental data of the sheep/goats. While the majority were killed at prime meat age or slightly before (one to three years), there are some found in all age categories except the elderly (eight years plus). The age distribution again shows a preponderance of the sheep/goat found in these deposits to have been raised for meat, but more of the sheep/goat which were killed for meat were probably used for other purposes (milk or wool) first than was observed for the cattle.

For all three species there is an almost complete absence of neonatal and elderly individuals. There is only one neonatal sheep (dP4 stage a) and two elderly cattle (third molars at stage k or more). This suggests that the assemblage contains almost exclusively the skeletons of animals which became a part of the diet and not animals which were disposed of for other reasons. It is possible that the animals were not raised on this site, but a larger scale complete excavation would be needed before this could be proven.

Wapnish and Hesse (1988) have developed three models for the production and consumption of domestic food animals. Self-sufficient economies, which both produce and consume locally, have age profiles which include all age classes. Producer economies which include perinatal mortalities and

Table 12 Animal bone: species and elements

Species	*Element*	*Unsided*	*L*	*R*	*Total*
Horse	Deciduous molar	-	1	-	1
	Incisor	-	1	1	2
	Molar	1	-	-	1
	Mandible	-	-	1	1
	Scapula	-	1	-	1
	Radius	-	-	1	1
	Acetabulum	-	1	1	2
	Metapodial	1	-	-	1
	Astragalus	-	-	1	1
	Calcaneum	-	1	-	1
	First Phalanx	1	-	-	1
	Third Phalanx	1	-	-	1
Cow	Deciduous Incisor	-	-	1	1
	Deciduous 3rd Premolar	-	1	1	2
	Deciduous 4th premolar	-	1(3)	5(9)	6(12)
	Incisor	-	2	1	3
	3rd Premolar	-	1	1	2
	4th Premolar	-	-	1	1
	1st/2nd Molar	-	3(11)	2(14)	5(25)
	3rd Molar	-	2(5)	-	2(5)
	Mandible	-	10	11	21
	Horncore	9	-	-	9
	Scapula	1	-	2	3
	Humerus	-	2	1	3
	Radius	1	2	-	3
	Acetabulum	-	4	2	6
	Femur	-	1	2	3
	Tibia	-	-	3	3
	Carpal-radial	-	1	-	1
	Astragalus	-	3	1	4
	Calcaneum	-	3	1	4
	Metacarpal	2	2	4	8
	Metapodial	5	-	-	5
	Metatarsal	4	5	1	10
	First Phalanx	12	-	-	12
	Third Phalanx	5	-	-	5
Pig	Deciduous Incisor	-	4	-	4
	Deciduous 4th Premolar	-	1(3)	-(1)	1(4)
	Incisor	1	3	-	4
	Third Premolar	-	1	-	1
	First Molar	-	2(6)	-(1)	2(7)
	Second Molar	-	-(1)	-(1)	-(2)
	Mandible	-	6	3	9
	Scapula	-	2	-	2
	Humerus	-	1	1	2
	Radius	-	1	-	1
	Acetabulum	-	1	-	1
	Femur	-	1	-	1
	Tibia	-	-	2	2
	Astragalus	-	1	-	1
	Calcaneum	-	1	-	1
	Third Metacarpal	-	3	1	4
	Third Metatarsal	-	1	1	2
	Fourth Metatarsal	-	-	1	1
	First Phalanx	-	2	-	2
Sheep	Deciduous 4th Premolar	-	-(6)	-(9)	-(15)
	First/Second Molar	-	-(8)	-(12)	-(20)
	Third Molar	-	-(2)	-(2)	-(4)
	Mandible	-	7	10	17
	Horncore	5	-	-	5
	Scapula	-	2	-	2
	Humerus	-	2	4	6
	Radius	-	1	2	3
	Astragulus	-	-	1	1
	Calcaneum	-	1	-	1

Species	*Element*	*Unsided*	*L*	*R*	*Total*
Sheep *(cont.)*	Metacarpal	-	1	2	3
	Metapodial	-	-	1	1
	Metatarsal	1	-	1	2
	Third Phalanx	1	-	-	1
Goat	Horncore	3	-	-	3
Sheep/Goat	Deciduous Incisor	-	-	1	1
	Deciduous 4th Premolar	-	-(3)	-(1)	-(4)
	Third Premolar	-	1	-	1
	Fourth Premolar	-	2	1	3
	First/Second Molar	-	10(38)	11(24)	21(62)
	Third Molar	-	4(17)	4(11)	8(28)
	Mandible	-	20	12	32
	Horncore	4	-	-	4
	Scapula	-	2	1	3
	Humerus	-	4	3	7
	Acetabulum	-	2	7	9
	Femur	-	2	3	5
	Tibia	-	5	4	9
	Astragalus	-	1	2	3
	Calcaneum	-	2	-	2
	Metacarpal	1	-	-	1
	Metapodial	5	-	-	5
	Metatarsal	2	-	-	2
	First Phalanx	6	-	-	6
Red Deer	Antler	3	-	-	3
	Scapula	-	1	-	1
Dog	Mandible	-	1	1	2
	Radius	-	-	1	1
	Acetabulum	-	1	1	2
	Femur	-	-	1	1
	Metapodial	2	-	-	2
	Third Metatarsal	-	-	1	1
	First Phalanx	1	-	-	1
Cat	Mandible	-	2	1	3
	Scapula	-	1	-	1
	Humerus	-	1	1	2
	Radius	-	1	-	1
	Acetabulum	-	2	2	4
	Femur	-	1	2	3
	Tibia	-	1	3	4
	Astragalus	-	1	1	2
	Calcaneum	-	1	3	4
Rabbit	Acetabulum	-	-	1	1
Hare	Humerus	-	-	1	1
	Acetabulum	-	1	-	1
Rabbit/Hare	Mandible	-	1	-	1
	Third Metatarsal	-	-	1	1
Rodent	Humerus	-	-	1	1
	Femur	-	-	1	1
Chicken	Humerus	-	1	2	3
	Tibia	-	1	1	2
	Tarsometatarsal	-	-	3	3
Goose	Carpometacarpal	-	-	1	1
Pigeon	Femur	-	1	-	1
Crow	Humerus	-	1	-	1
Frog	Humerus	2	-	1	3
	Acetabulum	-	1	-	1
	Tibia	1	-	-	1
	Metatarsal	2	-	-	2

Figures in brackets are the combined totals of teeth found in the mandibles and loose teeth

Table 13 Animal Bone: epiphysial fusion data

		Unfused		*Fusing*	*Fused*	*%fused*
		epiphysis	*shaft*			
COW	EARLY FUSING ELEMENTS					83%
	Humerus, distal	-	1	-	2	
	Phalanx 1, proximal	-	-	-	12	
	MIDDLE FUSING ELEMENTS					76%
	Metapodial, distal	1	10	-	11	
	Tibia, distal	-	-	-	3	
	LATE FUSING ELEMENTS					83%
	Radius, distal	1	1	-	1	
	Femur, distal	-	-	-	3	
	Calcaneum, proximal	-	-	-	1	
PIG	EARLY FUSING ELEMENTS					0%
	Humerus, distal	-	2	-	-	
	MIDDLE FUSING ELEMENTS					41%
	Phalanx 1, proximal	-	1	-	1	
	Metapodial, distal	-	5	-	2	
	Tibia, distal	-	1	-	1	
	Calcaneum, proximal	-	-	-	-	
	LATE FUSING ELEMENTS					0%
	Radius, distal	-	2	-	-	
	Femur, distal	-	1	-	-	
SHEEP/GOAT	EARLY FUSING ELEMENTS					80%
	Humerus, distal	-	3	-	10	
	Phalanx 1, proximal	-	1	-	5	
	MIDDLE FUSING ELEMENTS					66%
	Metapodial, distal	2	4	-	7	
	Tibia, distal	-	3	-	6	
	LATE FUSING ELEMENTS					80%
	Radius, distal	-	-	-	3	
	Femur, distal	-	3	-	2	
	Calcaneum, proximal	-	-	-	3	

Note: for unfused elements either the shaft or epiphysis is used depending which has the greater number.
Figures for % fused represent the average of each element analysed.

Table 14 Animal bone: mandible and mandibular tooth ageing data for cattle

Mandibles

dP4	M1	M2	M3
-	E	-	-
j	e	V	-
l	f	E	-
l	g	d	-
k	g	-	-
k	g	d	-
-	g	1/2	V
-	h	e	-
k	j	f	C
-	j	g	-
-	-	g	g
-	-	-	g
-	l	j	-
-	l	k	-
-	l	k	k

Individual teeth (include teeth from mandibles)

dP4 wear stage	a	b-e	f-k	>k			
	-	2	7	2-			
M1/2 wear stage	a	b-e	f	g/h	j	k-m	>m
	6	5	2	8	3	6	-
M3 wear stage	a	b-f	g/h	j	k-m		
	3	-	2	-	2		

Table 15 Animal bone: mandible and mandibular tooth ageing data for pigs

Mandibles

dP4	M1	M2	M3
e	a	-	-
-	a	-	-
f	U	-	-
j	b	-	-
-	c	-	-
m	e	1/2	-
-	f	b	C
-	-	e	-

Individual teeth (include teeth from mandibles)

dP4 wear stage	a	b-d	e-h	j-m		
	-	-	2	3		
P4 wear stage	a	b/h				
	-	-				
M1 wear stage	a	b	c/d	e/f	g/h	j/n
	4	2	1	2	-	-
M2 wear stage	a	b	c/d	e/f	g/h	j/n
	1	1	-	1	-	-
M3 wear stage	a	b	c/d	e/f	g/h	j/n
	1	-	-	-	-	-

Table 16 Animal bone: mandible and mandibular tooth ageing data for sheep/goats

Mandibles dP4	M1	M2	M3	Stage Payne
3A	-	-	-	
16L	-	-	-	
16L	5A	C	-	
14L	6A	-	-	
14L	8A	-	-	
16L	9A	-	-	
17L	9A	3A	-	
17M	-	-	-	
23L	9A	5A	C	
-	9A	5B	C	
17M	9A	6A	-	
23L	9A	6A	C	
-	9A	6A	V	
22L	9A	-	-	
22L	9A	-	-	
22L	9A	7A	C	
23L	9A	-	-	
23L	9A	7A	-	
23L	9A	7A	E	
23L	9A	7A	V	
-	9A	-		
-	-	-	C	
-	9A	7A		

Mandibles dP4	M1	M2	M3	Stage Payne
-	9A	7A	0	
-	9A	7A	1A	
-	-	-	1A	
-	9A	7A	1/2	
-	9A	7A	2A	
-	-	-	5A	
-	-	-	6A	
-	9A	7A	6G	
-	-	-	7G	
-	9A	7A	V	
-	9A	7A	V	
-	-	7A	2A	
19M	9A	8A	V	
-	9A	8A	E	
-	9A	8A	4A	
-	9A	9A	5A	
-	-	-	10G	
-	-	9A	11G	
-	10A	9A	10H	
-	15A	-	-	
-	15A	9A	11G	
-	15A	10A	11G	
-	15A	13A	11G	

Individual teeth (include teeth from mandibles)

dP4 wear stage	0-12	13	14	15-16	>16
	1	-	2	3	13
M1/2 wear stage	0	1-4	5-8	9	>9
	2	1	30	39	11
cumulative %	2%	3%	39%	86%	100%
M3 wear stage	0	1-4	5-10	11	>11
	15	6	9	3	-

Table 17 Animal bone: all measurements

Species	*Element*	*Period-Measurement*				
HORSE	APH	GL - 82.4	Bp - 53.5	BFp - 50.1	Dp - 37.3	SD - 36.3
		Bd - 47.1	BFd - 44.4			
	AST	GH - 54.1	GB - 60.4	BFd - 51.3	LmT - 56.2	
	CAL	GL - 110.3	GB - 49.5			
	MP	Bd - 44.0				
	RAD	Bd - 75.5	BFd - 64.3			
	SCA	GLP - 92.7	LG - 58.0	BG - 50.8		
COW	ACE		MW - 6.1			
		LA - 54.7	MW - 8.3			
		LA - 58.5				
		LA - 58.7				
	APH		Bp - 25.3			
		GLpe - 47.8	Bp - 23.4	SD - 20.0	Bd - 24.7	
		GLpe - 49.9	Bp - 22.4	SD - 19.8	Bd - 21.5	
		GLpe - 50.8	Bp - 24.6	SD - 21.5	Bd - 23.1	
		GLpe - 51.0	Bp - 30.2	SD - 24.4	Bd - 28.0	
		GLpe - 52.2	Bp - 27.6	SD - 23.0	Bd - 24.3	
		GLpe - 52.3	Bp - 26.5	SD - 22.7	Bd - 25.4	
		GLpe - 53.2	Bp - 23.5	SD - 19.3	Bd - 21.9	
		GLpe - 56.2	Bp - 30.3	SD - 26.9	Bd - 30.4	
		GLpe - 56.3	Bp - 25.4	SD - 20.5	Bd - 22.6	
		GLpe - 56.4	Bp - 28.2	SD - 22.7	Bd - 26.7	
		GLpe - 58.0	Bp - 31.8	SD - 26.3	Bd - 30.1	
	AST	GLI - 51.5	GLm - 47.4	DI - 29.0	Dm - 28.2	Bd - 35.4
		GLI - 58.6	GLm - 52.7	DI - 31.3	Dm - 30.6	Bd - 37.2
		GLI - 58.7		DI - 33.5		Bd - 38.5
	FEM		Bd - 102.2			
		GLC - 323.0	Bd - 88.8			
	HC				47 - 8.8	
		44 - 135.0	45 - 45.1	46 - 35.7	47 - 114.0	
		44 - 139.0	45 - 46.6	46 - 36.8	47 - 132.0	
		44 - 152.0	45 - 51.2	46 - 41.9	47 - 154.0	

Species	*Element*	*Period-Measurement*				
COW *(cont)*		44 - 154.0	45 - 51.2	46 - 43.9		
		44 - 175.0	45 - 64.5	46 - 46.0		
		44 - 93.0	45 - 30.9	46 - 20.2	47 - 39.0	
	JAW	9L - 20.7	:L - 21.8	;L - 36.6	;W1 - 14.9	
	MC	GL - 182.0	Bp - 57.3	SD - 31.5	DD - 20.2	
		B at F - 52.2	BFd - 58.7			
			BFd - 51.2	Ddm - 29.1	1 - 22.0	BFdm - 24.7
		B at F - 44.7	BFd - 47.9			
		B at F - 45.3	BFd - 50.1	Ddm - 28.9	1 - 22.2	BFdm - 24.0
		B at F - 50.9	BFd - 57.8	Ddm - 30.6	1 - 23.8	BFdm - 26.6
	MT	B at F - 40.6	BFd - 46.0	Ddm - 28.8	1 - 20.6	BFdm - 22.7
		B at F - 52.7	BFd - 55.9	Ddm - 30.0	1 - 22.5	BFdm - 27.2
		DD - 22.9	B at F - 48.4	Bd - 49.6	Ddm - 28.8	1 - 20.9
		BFdm - 23.2				
		DD - 24.2	B at F - 51.0	BFd - 52.8	Ddm - 29.0	1 - 22.9
		BFdm - 25.1				
	SCA		LG - 49.6			
	TIB	Bd - 52.2				
		Bd - 58.9				
		Bd - 65.8				
PIG	APH	GLpe - 31.5	Bp - 14.8	SD - 12.7	Bd - 13.3	
	AST	GLl - 33.2	GLm - 32.1	Dl - 18.2	Dm - 17.7	Bd - 19.7
	MCC	GL - 66.5				
		GL - 79.1	Bd - 17.2			
	TIB	Bd - 28.1				
SHEEP	AST	GLl - 26.9	GLm - 26.2	Dl - 15.3	Dm - 15.3	Bd - 17.5
	CAL	GL - 59.5	GB - 20.3			
	HC	40 - 85.0	41 - 29.3	42 - 18.9	43 - 135.0	
		40 - 85.0	41 - 29.8	42 - 19.3		
		40 - 88.0	41 - 32.7	42 - 16.6		
		40 - 94.0	41 - 32.3	42 - 18.9	43 - 21.7	
		40 - 99.0	41 - 29.6	42 - 20.3		
	HUM	Bd - 27.5	BT - 25.7	HTC - 14.0		
		Bd - 28.0	BT - 25.6	HTC - 13.8		
		Bd - 28.1	BT - 26.3	HTC - 14.0		
		Bd - 28.3	BT - 27.0	HTC - 13.4		
		Bd - 30.1	BT - 29.0	HTC - 13.0		
		Bd - 31.7	BT - 28.0	HTC - 14.7		
	MC	DD - 10.3	B at F - 23.8	Bd - 25.2	Ddm - 16.5	1 - 10.8
		BFdm - 12.0				
		DD - 8.0	B at F - 21.3	BFd - 22.1	Ddm - 14.6	1 - 9.8
		BFdm - 10.5				
		DD - 8.6	B at F - 22.2	BFd - 22.6		1 - 10.7
		BFdm - 10.8				
	MP	B at F - 23.9	BFd - 24.0	Ddm - 15.4	1 - 10.1	BFdm - 11.2
	MT	DD - 9.3	B at F - 22.3	Bd - 22.7	Ddm - 15.4	1 - 9.7
		BFdm - 11.1				
	RAD	Bd - 27.4	BFd - 23.8			
		Bd - 28.6	BFd - 26.3			
		GL - 146.2	Bp - 30.6	BFp - 27.8	SD - 16.0	Bd - 28.4
		BFd - 25.7				
	SCA	GLP - 30.8	LG - 25.7	BG - 21.7		
		GLP - 33.1	LG - 25.4	BG - 22.6		
GOAT	HC	40 - 94.0	41 - 31.8	42 - 22.0	43 - 185.0	
SHEEP/GOAT	ACE	LA - 24.5	MW - 3.1			
		LA - 25.2	MW - 4.9			
		LA - 26.6	MW - 4.0			
		LA - 92.8				
	APH	GLpe - 30.6	Bp - 9.8	SD - 8.0	Bd - 9.4	
		GLpe - 31.6	Bp - 10.7	SD - 8.5	Bd - 10.1	
		GLpe - 31.7	Bp - 10.6	SD - 8.3	Bd - 9.6	
		GLpe - 31.9	Bp - 12.1	SD - 9.6	Bd - 10.7	
		GLpe - 34.3	Bp - 12.0	SD - 9.5	Bd - 10.7	
	AST	GLl - 26.0		Dl - 14.4		
	CAL	GL - 58.3	GB - 19.3			
	FEM	Bd - 33.2				
	HC				43 - 10.7	
					43 - 16.1	
					43 - 5.6	
		40 - 66	41 - 21.5	42 - 13.0	43 - 30.6	
	HUM		BT - 28.5			
			BT - 29.8	HTC - 13.9		
		Bd - 32.5	BT - 30.1	HTC - 13.7		
	SCA	GLP - 28.9	LG - 23.3			
	TIB	Bd - 23.8				
		Bd - 24.1				
		Bd - 25.4				
RED DEER	SCA	GLP - 51.7	LG - 39.3			

Species	*Element*	*Period-Measurement*			
DOG	APH	GL - 30.1			
	JAW	Ml L - 20.2			
	MP	Bd - 8.2			
	MT3	GL- 62.4	Bd - 7.3		
	RAD	GL- 145.6	Bp -15.9	Bd - 21.5	BFd - 18.0
DOG/WOLF?	PEN	L - 54.9			
CAT					
	AST	GL - 14.1			
	CAL	GL - 24.3	GB - 10.3		
	FEM	GL - 92.8	Bp - 17.6	Bd - 15.8	
	TIB	Gl - 99.0	Bp - 16.0	Bd - 12.4	
HARE					
	HUM	GL - 103.3	Bp - 20.3	Bd - 12.4	
CHICKEN					
	HUM		Bd - 13.9		
		GL - 76.3	Bp - 21.2	SC - 7.5	Bd - 16.4
	TIB	Bd - 12.0			
	TMT	Bd - 14.8			
	TMT	GL - 68.6	Bp - 12.2	Bd - 12.1	
	TMT	GL - 68.6	Bp - 12.3	SD - 6.3	Bd - 12.0
GOOSE					
	CMC	GL - 89.4	Bp - 21.1	Did - 11.8	

Abbreviation of elements after Jones et al 1979: ACE, acetabulum; APH, first phalanx; AST, astragalus; AL, calcaneum; CMC, carpometacarpus; FEM, femur; HC, horncore; HUM, humerus; JAW, mandible; MC (B/C), metacarpus (second or third); MP, metapodial; MT (B/C), metatarsus (second or third; PEN, penis bone; RAD, radius; SCA, scapula; TIB, tibia; TMT, tarsometatarsus

older animals culled from the breeding stock. Consumer economies have age profiles which include and abundance of market-age animals. It is suggested that these deposits from Boteler's Castle follow this third model, of the consumer economy. However, the character of the site as a whole can not be extrapolated from this data.

Measurements

A complete list of measurements can be found in Table 17. Not enough measurable bones were present to calculate summary statistics and discuss the 'average' cattle, pig, sheep/goat, etc from the site. However, examination of two of the most commonly taken measurements, the greatest lateral length (GL1) of the astragalus of the cow and the distal breadth (Bd) of the tibia of the sheep/goat, show the individual bones to be all within the ranges found for this period (Maltby 1979, O'Connor 1982).

Pathology

Two pathologies were observed on horse bones. One calcaneum has eburnation and some erosive pitting of the articular surfaces with no new bone growth. One proximal phalanx has new bone growth which has become almost completely incorporated into the outer table of the bone on the posterior side of the midshaft. The only two cattle pathologies were both seen on the acetabulum; the medial edge of the pubic section of the articulation has a small area of eburnation, one 7.8mm and one 14.3mm; neither show any new bone growth. The only pig pathology was seen on the buccal side of a mandible below the deciduous second through to the fourth premolars; the area was swollen, showing porotic bone growth and two small (3mm) and one large (12mm) holes with rounded edges and porotic growth. Three sheep/goat pathologies were observed, all on the mandible. One mandible had a small area of resorption of the alveolar between the second and third molar, the edges were smooth and no periostitis was noticed. A second mandible showed an uneven wear pattern with heavy wear to the lateral half of the fourth premolar and the medial half of the first molar; there was resorption of the alveolar in that area. The third mandible has the proximal half of the first molar missing, there was heavy, uneven wear from the distal half of the fourth premolar, and alveolar resorption from the distal half of the fourth premolar through to the distal half of the first molar. One small artiodactyl rib has a thin grey layer of unincorporated periostitis on the visceral surface. There is also one dog third metatarsal with two circumscribed areas of grey unincorporated, porous periostitis on the anterior midshaft.

Conclusions

The general composition and preservation of the material suggests a mixed assemblage of mainly butchery and table wastes with some industrial waste in the form of horn cores and antler fragments. The bones appear to have been covered over relatively rapidly.

Calculating from MNI, sheep/goats are found in the greatest abundance in the assemblage. Beef, however, was the most important meat, with smaller amounts of mutton and pork, and a little chicken. Very little evidence was found of wild animals. The evidence from the excavated areas suggests that the majority of the animals eaten were raised solely for meat; this was seen more in the cattle and pigs than in the sheep/goats, where there appear to have been some multi-purpose animals.

PLANT REMAINS *by Lisa Moffett*

The sampling programme at Boteler's Castle was intended to recover information about crop-related activities on site and other human activities associated with plant material. Much evidence from plant remains has been recovered from waterlogged deposits in towns (for a summary see Greig 1991) but botanical evidence from rural medieval sites is still rare for most of England. Lately work has begun to redress the balance, but most of the work is quite recent and much of it is not yet published. The nearest rural site so far investigated is Burton Dassett Southend, Warwickshire, some 30km to the east of Boteler's Castle, where an extensive programme of sampling was carried out (Palmer forthcoming a; Moffett 1991).

Methods

Samples were taken at the archaeologist's discretion after consultation with the author. Contexts sampled were generally those which produced other evidence of occupation such as pottery and bone, or where charred material was visible, as experience has shown that these contexts are the most likely to produce significant quantities of charred plant remains. As there was little structural evidence from the site, most of the samples came from pits, ditches or gullies associated with trackways, and from the malting kiln found in Area C. Generally the aim was to collect samples of about 20 litres (1.5 excavation buckets) in volume, but this varied somewhat according to the size of the context sampled. A total of 38 samples was collected, all of them from features associated with the medieval occupation except for one sample (G 605/1/1) from a pit which produced only early Bronze Age pottery.

The samples were processed by a technician using water flotation. Loamy or sandy samples could be processed in buckets by simple flotation and the flots were collected by decanting on a 0.5mm mesh sieve. The remaining residues were wet-sieved to 1mm and sorted by eye for bone, small finds and any larger plant items which failed to float. Clay samples had to be disaggregated before they could be floated. This was done by soaking the sample overnight in a solution of sodium carbonate (see van Horn & Murray 1982). Once the clay had disaggregated the sample was wet-sieved to 0.7mm and the material retained in the sieve was dried and then floated to separate the charred material as for the other samples. Although this resulted in a discrepancy between the larger sieve size used to collect the material from the clay samples and the sieve used for the other samples, it was not practical in the same time available to wet-sieve the clay samples on a smaller sieve size. In practice this may not have mattered much as experience suggests that small particles often cling to larger ones when the material is wet, though probably some of the smaller items will have been lost. Flots were allowed to air dry thoroughly at room temperature before being bagged.

All of the flots were briefly scanned by the author during the course of assessing the samples to see which ones would be most productive for further analysis. Several factors were taken into account when deciding which samples to analyse. These included the amount of potentially identifiable material in the sample, and the type and location of the context from which the sample was taken. As far as possible the aim was to analyse samples from a wide spatial area across the site while also looking at a sufficient number of samples to compare both similar and different context types. There were 21 samples analysed in full. Brief notes about the other samples are given in the assessment document (in archive), though it must be emphasized that the assessment is intended to give only a very general characterization of the samples, not an accurate statement of species presence.

The flots chosen for analysis were sorted in the lab by a technician using a binocular microscope at magnification up to x20. Some of the larger flots were subsampled for practical reasons. Identifications were made by the author using a comparative collection of modern material and a binocular microscope at magnifications up to x50. A full list of identified taxa is given in Table 18, and the results of the analysis for each sample are given in Table 19. The percentages of the different components of samples containing more than approximately 100 items are summarised by bar charts in Fig 26, A-C. Percentages were not calculated for samples with significantly less than 100 items. Fragments of hazelnut shell, which were present in many samples, created a complication, since counting each fragment as one item would greatly over-represent the relative importance of hazel. A crude estimate was therefore made of the minimum number of whole nuts represented, and this figure was used instead of the total fragment number. The number of fragments was used, however, in calculating the number of items per litre of soil in Table 19, since this is intended only to give a rough indication of the relative richness of the samples.

Results

THE PLANT REMAINS

Most of the plant material consisted of cereal remains and seeds of weeds which are likely to have been associated with the cereals. Preservation was moderate. Most of the cereal grains no longer had their pericarp layers and were slightly to very vesicular in appearance. Some cereal rachis fragments were present, among them wheat rachises, which made it possible to identify the wheats to species. A few fragments of spelt (*Triticum spelta*) rachis and glume base were found but these are assumed to be residual since there is Roman pottery present on the site. There were also small numbers of a few other food plants including hazel, apple, pea and bean.

Table 18 Plant remains: list of all plant remains

	Total no of items	*Occurrence in samples (total 21)*	
Cultivated and food plants			
Triticum turgidum/durum rachises	44	5	24%
Triticum cf. *turgidum/durum* rachises	8	2	10%
Triticum *dicoccum/spelta* glume bases	2	2	10%
Triticum spelta L. rachises	1	1	5%
Triticum spelta L. glume bases	2	2	10%
Triticum spelta/aestivum rachises	7	4	19%
Triticum aestivum L. rachises	28	6	29%
Triticum cf. *aestivum* L. rachises	2	1	5%
Triticum sp(p). free-threshing rachises	94	8	38%
Triticum sp(p). cf. free-threshing rachises	8	1	5%
Triticum sp(p). free-threshing	3117	21	100%
Triticum sp(p). free-threshing germinated	74	6	29%
Triticum sp(p). rachises	17	4	19%
Triticum sp(p). glume tips (silica skeletons)	5	1	5%
Triticum sp(p). awn frags. (silica skeletons)	48	1	5%
Triticum sp(p).	7	2	10%
Triticum/Secale grain	213	15	71%
Triticum/Secale (germinated)	27	3	14%
Secale cereale L. rachises	209	8	38%
cf. *Secale cereale* L. rachises	1	1	5%
Secale cereale L.	314	15	71%
Secale cereale L. germinated	84	3	14%
Secale/Hordeum rachises	2	1	5%
Hordeum vulgare L. rachises	4	4	19%
cf. *Hordeum vulgare* L. rachises	1	1	5%
Hordeum vulgare L. hulled grain	1	1	5%
Hordeum vulgare L. indeterminate grain	56	14	67%
Hordeum vulgare L. germinated grain	7	2	10%
Avena sativa lemma bases	6	1	5%
Avena cf *sativa* lemma bases	2	1	5%
Avena sp. spikelet forks	3	2	10%
Avena sp. lemma bases	6	2	10%
Avena sp. awn fragments	106	5	24%
Avena sp.	199	14	67%
Avena sp. germinated	342	8	38%
Avena/Large Poaceae	260	13	62%
Avena/Large poaceae germinated	78	3	14%
Cereal indet.	1507	20	95%
Cereal/Poaceae rachises	3	1	5%
Cereal/Large Poaceae culm nodes	5	3	14%
Coleoptiles	116	4	19%
Corylus avellana L. frags.	619	18	86%
Malus sylvestris/domestica	2	1	5%
Malus sylvestris/domestica fruit frags.	18	3	14%
? Malus sylvestris/domestica fruit stems	4	1	5%
Vicia faba L.	3	2	10%
Pisum sativum L.	1	1	5%
Pisum sativum L. hilums	1	1	5%
cf. *Pisum sativum* L.	2	2	10%
Vicia/Pisum/Lathyrus	3	3	14%

	Total no of items	*Occurrence in samples (total 21)*	
Wild plants			
Ranunculus acris/repens/bulbosus	4	3	14%
Ranunculus sp.	1	1	5%
Chenopodium cf. *bonus-henricus* L.	2	2	10%
Chenopodium sp.	11	5	24%
cf. Chenopodiaceae	1	1	5%
Montia fontana ssp. *minor* Hayw.	1	1	5%
Stellaria cf. *media* (L.) Villars	3	1	5%
Spergula arvensis L.	2	2	10%
Agrostemma githago L.	2	2	10%
Agrostemma githago L. calyx tips	13	3	14%
Silene vulgaris/uniflora	3	1	5%
cf. Caryophyllaceae	2	2	10%
Persicaria maculosa/lapathifolia	1	1	5%
Rumex acetosella L	18	4	19%
Rumex sp.	35	15	71%
Brassica rapa/nigra	6	1	5%
Rosa sp.	1	1	5%
Rosa sp. thorn	1	1	5%
Prunus spinosa L.	1	1	5%
Prunus/Crataegus thorn	1	1	5%
Crataegus cf. *monogyna* Jacq.	1	1	5%
Vicia hirsuta (L.) Gray	7	4	19%
Vicia cf. *hirsuta* (L.) Gray	1	1	5%
Vicia tetrasperma (L.) Schreber	1	1	5%
Vicia cf. *tetrasperma* (L.) Schreber	1	1	5%
Vicia sativa L.	4	3	14%
cf. *Vicia sativa* L.	3	1	5%
Vicia/Lathyrus	322	20	95%
Medicago lupulina L. pod frag.	1	1	5%
Melilotus/Medicago/Trifolium	4	2	10%
Lotus/Trifolium	5	2	10%
Conium maculatum L.	2	2	10%
Bupleurum rotundifolium L.	3	1	5%
cf. *Carum vertillatum* (L.) Koch	1	1	5%
Apiaceae	1	1	5%
Lamium sp.	1	1	5%
Euphrasia/Odontites	5	2	10%
Galium sp.	20	11	52%
Sambucus nigra L.	1	1	5%
Valerianella dentata (L.) Pollich	1	1	5%
Centaurea cyanus L.	23	6	29%
Anthemis cotula L.	697	12	57%
Chrysanthemum segetum L.	25	6	29%
Tripleurospermum inodorum (L.) Schultz-Bip	3	3	14%
Asteraceae	1	1	5%
Carex sp.	9	4	19%
Cynosurus cristatus L.	1	1	5%
Poa annua L.	2	2	10%
Avena fatua/sterilis lemma bases	2	2	10%
Avena fatua/sterilis rachillas	2	1	5%
Avenae panicle nodes	9	2	10%
Bromus secalinus/hordeaceus	20	5	24%
cf. *Danthonia decumbens* (L.) DC.	1	1	5%
Poaceae rachises	1	1	5%
Poaceae rachillas	6	1	5%
Poaceae culm nodes	15	4	19%
Poaceae	88	14	67%
Poaceae germinated	3	2	10%
Tuber fragments	4	3	14%
Tree buds	20	4	19%
Stem fragments (mineralised)	9	1	5%
Mineralised concretions (? faecal material)	5	2	10%
Charred lump (? bread)	1	1	5%
Unidentified	25	10	48%

Taxonomy except for cereals follows Stace 1991. Identifications by Lisa Moffett

Wheat was the most common cereal from the site. Two species of free-threshing wheats were identified from their rachis fragments, bread wheat (*Triticum aestivum*) and rivet/macaroni wheat (*Triticum turgidum/durum*). Rachis material of both seemed to occur in the same contexts and it was not possible to say from the small amount of rachis material present whether one was more abundant than the other. Large numbers of free-threshing wheat grains were present but these were not identifiable to species.

Oat was the second most abundant cereal on the site and the predominant cereal in the malting kiln, though it was much less abundant than wheat in the other features. Oat may be somewhat over-represented as the grains of the cultivated common oat (*Avena sativa*) can not be separated from those of wild oats (*Avena fatua and A. sterilis*). Wild oats are common weeds in cereals and a few diagnostic lemma bases found in the samples suggest that both cultivated and wild oats are present. It is likely, therefore, that some of the grains counted as cultivated oat are in fact wild. In addition, the preservation sometimes made it difficult to distinguish oats from large-seeded wild grasses, and these grains were identified as *Avena*/Large Poaceae. Most of such grains probably are oat and have been included in the figures for oat in the bar charts, but large-seeded grasses were also present indicating another possible source of over-representation of oat.

Rye (*Secale cereale*) and barley (*Hordeum vulgare*) were both present in many samples but in low numbers. Only in one of the malting kiln samples was rye more than 10% of the sample, while barley was never more than a few percent in any sample.

Beans (*Vicia faba*) and peas (*Pisum sativum*) were present in ones and twos in a number of samples, though they were apparently absent from the malting kiln. It was not possible to tell if cultivated vetch (*Vicia sativa* spp. *sativa*) was present. Size remains the main criterion for separating cultivated vetch from wild vetch (*Vicia sativa* spp. *nigra*) and the few seeds of *Vicia sativa* found in the samples could have been either. They are grouped with the wild plants in Tables 18 and 19, because the seeds seem on the small side for cultivated vetch, but both the wild and the cultivated subspecies vary considerably in size and this grouping could easily be wrong.

Hazel (*Corylus avellana*) and apple (*Malus sylvestris/domestica*) could have been cultivated in orchards but it is quite probable that hazel at least was collected from hedgerows and woodland edges. Hazelnut shell fragments were ubiquitous in all the samples except for the malting kiln which produced only a single fragment. A couple of small fragments of apple fruit were all that was found from the medieval samples. It was not possible to tell if the apple was crab apple or the larger domestic apple. Apple and hazel fragments were the majority of the assemblage in the early Bronze Age pit (G 605/1/1).

There was some other sparse evidence for hedges. A rose (*Rosa* sp.) seed and thorn, a fragment of sloe (*Prunus spinosa*), a hawthorn (*Crataegus* cf. *monogyna*) seed and a thorn of either sloe or hawthorn could suggest possible burning of hedge cuttings, but the evidence is slender.

Most of the other plants were species of arable or disturbed ground likely to have been growing as weeds in the crops. Most of the arable weeds such as corncockle (*Agrostemma githago*), the tares (*Vicia hirsuta* and *V. tetrasperma*) and cornflower (*Centaurea cyanus*) would have grown on well-drained soils. A few plants such as blinks (*Montia fontana* ssp. *minor*), hemlock (*Conium maculatum*) and the possible whorled caraway (cf *Carum verticillatum*) would have grown on damper ground. Stinking mayweed (*Anthenis cotula*) is often associated with heavy soils (Stace 1991, 865). Some plants could also have grown in grassland, but in the absence of evidence for perennial grassland plants there is nothing to suggest the presence of a grassland assemblage as well as an arable one.

Weed seeds generally were not particularly abundant and were fewest in the malting kiln. The most abundant weed seeds from the site were those of stinking mayweed, which accounted for nearly half (47%) of the weed seeds from the site and were present in about half the samples. Stinking mayweed can produce very large numbers of seeds per plant, however, and this figure is unlikely to reflect its actual relative abundance. Leguminous seeds, most of which could not be identified beyond vetch/tare/vetchling (*Vicia/Lathyrus*), accounted for about a quarter (23%) of the weed seeds from the site and were present in 19 out of 20 samples (not including the early Bronze Age pit). It is possible to interpret a relative abundance of leguminous weeds as an indication of nitrogen depleted soil. Many leguminous plants are able to compete better on nitrogen-poor soils because they host bacteria in their root nodules which can convert atmospheric nitrogen into a form the plant can use. Leguminous weeds can grow on nitrogen rich soils as well, however, and since many of them also grow in grasslands, it is possible that their seeds might be introduced into crop fields in substantial numbers by manuring.

THE FEATURES

The samples were grouped according to feature type: pit, linear features (ditches, gullies) and the malting kiln. Fig 26A represents the samples with *c* 100 or more items from pits, Fig 26B the samples with *c* 100 or more items from trackway ditches and gullies, and Fig 26C shows the samples from the malting kiln.

The samples from the pits, ditches and gullies were all very similar in composition though they varied in abundance of material. Wheat was the main cereal

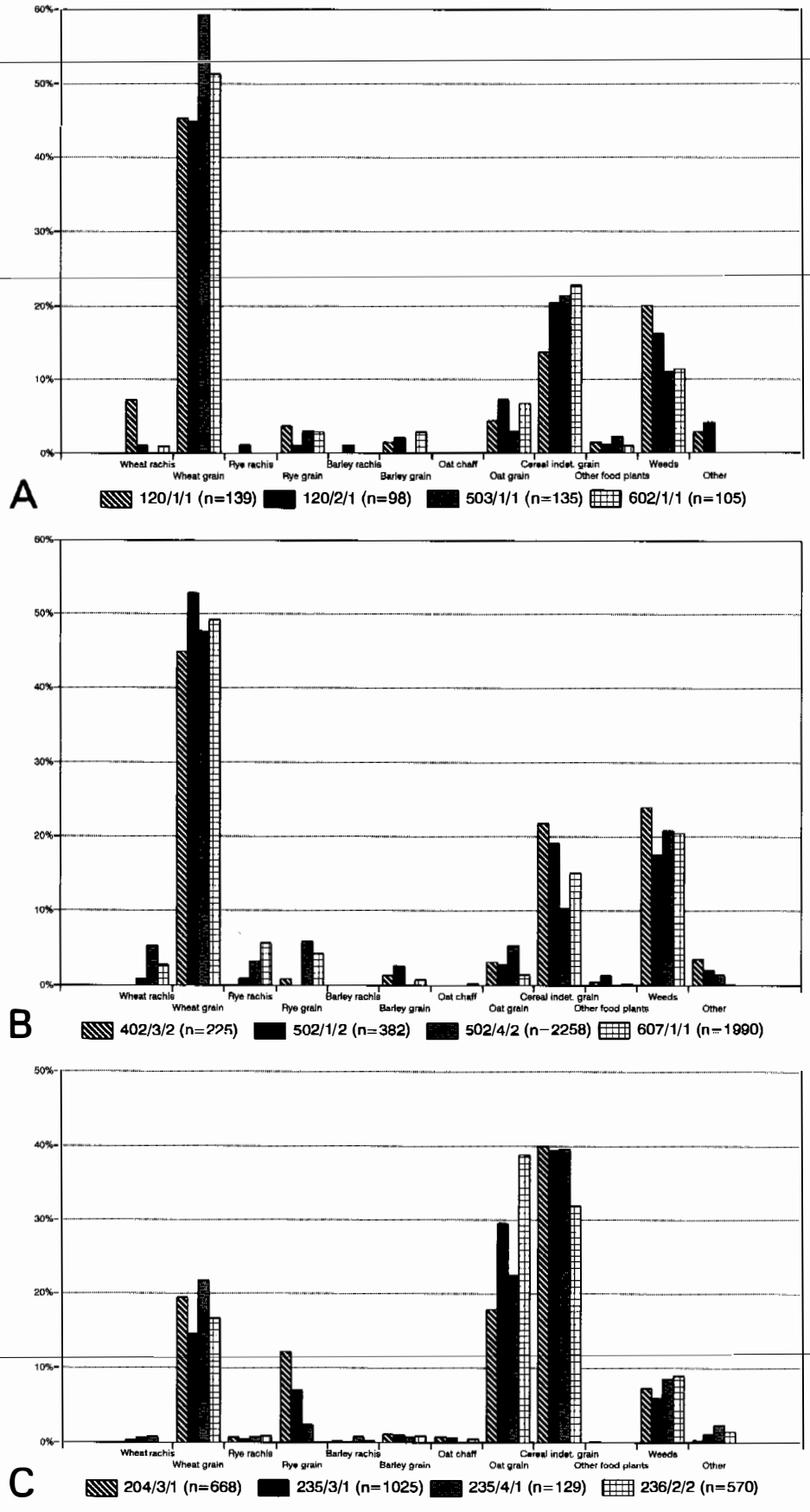

Fig 26 Plant remains, composition of samples: A, pit samples with c.100 or more items; B, ditches and gullies with c 100 or more items: C, malting kiln

represented with oat, rye, barley and other food plants all present in minor amounts. Rachis material was also present but also in small amounts. Weeds represented between 10% and 25% of the assemblage and there were also minor amounts of other material such as tree buds, tuber fragments, possible hedgerow plants, and unidentified items. No significant difference could be discerned between pits described as cesspits and other pits. Mineralized concretions of material which could have been faeces were found in a couple of features including a trackway gully (C 230/2/1) and one of the probable cesspits (G 602/6/1). The samples from the trackway ditch in Area F (502) and from a gully (607) in Area G produced the most abundant remains outside the malting kiln and also most of what little chaff material there was from the site.

The material from the malting kiln in Area C was clearly different from the other features. A black layer which ran all the way from the kiln chamber to the stokehole was visibly rich in charred grain. The total amount of charred material in the samples from the malting kiln was roughly eight litres and much of this was grain. The volume of grain would have been larger before it was charred. Four samples were analysed from the kiln, three from the black layer. Sample 204/3/1 came from the black layer in the kiln chamber, sample 235/3/1 from the black layer in the flue, 235/4/1 from under the black layer in the flue, and 236/2/2 from the black layer in the stokehole. Other samples were taken from above and below the black layer but not analysed either because they contained very similar material to the samples analysed or because they contained little material at all.

Rachis material was present in small amounts and there was a minor component of 'other' material, but oat was the most abundant cereal in all but one of the samples, with wheat the second most abundant. Rye was present though not especially abundant, and barley was scarce in all of the samples. A large amount of the cereal was unidentified due to poor preservation. Weeds were less than 10% in all of the samples and non-cereal food plants were only represented by a single fragment of hazel nutshell.

The samples did vary somewhat in the relative amounts of different cereals they contained. The chamber sample (204/3/1) had the most rye (more than 10% and roughly equal amounts of oat and wheat. The flue and stokehole samples from the black layer (235/3/1 and 236/2/2) were dominated by oat while the sample from the bottom of the flue (235/4/1) had equal amounts of oat and wheat, though this sample also had the least amount of grain.

On average, about 46% of the identified grains (unidentified cereal grains were too poorly preserved for their inclusion in the calculations to be meaningful) in the malting kiln were germinated, though germinated grains were seldom seen in samples from the rest of the site. None of the grains had sprouts attached, though some detached sprouts were found in the samples. Germinated grains could only be identified by the groove above the embryo made by the growing shoot and this was often difficult to see as the grains were generally in a moderately poor condition. It is likely, therefore, that germinated grains are under-represented in the calculations. A higher percentage of oat grains seemed to be germinated than wheat grains but this may be deceptive. Oat grains (and barley grains) retain their husks when threshed, and, when the grain sprouts, the growing shoot is held close to the grain and creates a groove where it grows down the dorsal side of the grain. Because free-threshing wheat grains are naked, the shoot is free to grow away from the grain and may leave less of a groove in the grain or none at all. Compared with oat grains germinated wheat grains may, therefore, be under-represented relative to the total number of wheat grains. In the two samples that produced a moderate amount of rye, roughly half the grains were identified as germinated. Rye, like wheat, is free-threshing and evidence of sprouting may be more difficult to detect than in oat or barley.

The material from the early Bronze Age pit (G 605/1/1) was mostly hazelnut shell fragments and fragments of apple. There were also a few stems which resembled stems of apples, though they could not be identified with certainty. A very small amount of wheat was also present, with a few grains of free-threshing wheat which were indistinguishable from the medieval wheat, including their somewhat abraded and vesicular state of preservation.

Discussion

The evidence of the charred grain from the malting kiln is consistent with it having been used for roasting malt, and probably also with an accident having taken place during this process.

To malt grain, the grain is first soaked in water, usually for 2-3 days, then drained and the grain spread out in thin heaps in a warm place to germinate. The grain is usually turned at regular intervals to encourage even germination, and kept damp if necessary. In modern malting when the grain germinates the shoot and root system start to grow and are usually allowed to develop until the shoot is about 1/3 to 3/4 the length of the grain. Germination releases enzymes, which in turn liberate the starch granules from the endosperm cells to make them available to the growing plant. The aim of malting is to allow as much of the starch as possible to be released but to stop the process before the young plant consumes too much of the starch. The grain is then roasted at a temperature high enough to kill the sprouts and suspend the enzymic activity, but without killing the enzymes, collectively known as diastase, which will convert the starch to sugar during brewing (Kaye 1936). The malt is screened to remove the dried shoots and rootlets, and crushed or ground before brewing.

Although barley is now the most common grain used for making commercial beers, malting can be done with any grain. Barley has desirable qualities as a malting cereal, as it is low in protein and fat. It was common practice, however, in the medieval period to use other grains as well and malt was often made from a mix of different grains (Corran 1975). Dredge, a mix of barley and oats, was commonly used for malting. Barley seems to be noteworthy for its scarcity at this site, suggesting that even for malting it may not have been an important cereal here. Oat may have been used instead for malting because it was reckoned to be a less desirable bread corn than wheat or rye. Oat grains, however, have a substantially higher fat content than the other cereals (Findley 1956, 196) which would affect the keeping quality of the resulting ale or beer. This may not have mattered much if brewing was undertaken frequently and the ale or beer consumed very shortly after it was made, but the high fat content could have been a reason for not malting purely with oats.

There were no lenses or layers seen within the black layer to indicate whether the charred material in the kiln was a buildup of material during the use of the kiln, or whether it was the result of single accident. There were also no indications of what floor materials were used, but these could have been removed or burned completely away. Cloth or straw supported on wattles or poles were often used as flooring, since the floor needed to be permeable for the hot air to dry the malt (eg Markham 1975, 163). Such a floor could, of course, easily leak grain or catch fire.

The fact that the grain layer was spread across the whole of the kiln, however, does suggest and accident. The fire would have been contained in the stokehole and the heat channelled along the flue to the chamber, whence it would rise through the floor and through the grain. As noted above, the heat would need to be gentle, so that grain leaking through the floor would be unlikely to char in a single firing, although it could conceivably do so very slowly over a number of firings. The abraded and vesicular appearance of the grain, however, is more consistent with rapid heating at high temperature, though this effect might be enhanced of the grain were burned while damp. Possibly a large number of repeated firings at low temperature would produce a similar effect, but if this were the case one would also expect to find better preserved grains from the last few firings whereas in fact the appearance of the grain varied little.

Accidents with malting kilns must have been common, especially since straw was often the preferred fuel. Straw had the advantage of burning with less smoke and so less risk of tainting the malt but it also burned quickly. Wood was apparently safer, as the London City Council passed a regulation in 1189 forbidding baking and brewing by night except with wood as a fuel, in an attempt to reduce the risk of fire (Corran 1975, 37). Tusser states the common preference for straw as malting fuel along with a warning that the kiln fire must be watched whatever the fuel (Tusser 1984, 170). Too much fuel, a sudden updraught and a careless tender could be disastrous.

The only fuel for which there is evidence is wood but other fuel materials such as straw could have been wholly consumed in a hot or aerobic fire. It was noticeable that the wood charcoal was mostly in fine fragments, though some of the larger pieces appeared to derive from twigs or small diameter wood. The same type of charcoal material seemed to be present throughout the kiln. The wood may all represent fuel but some of it could also be the remains of wattle flooring, or possibly even part of the superstructure of the kiln.

The material found in the pits, ditches and gullies does not seem to be derived from the malting kiln. Some of the samples with the most abundant amounts of charred material were clustered in Areas E, F and G, well away (some 100m) from the malting kiln (Fig 28). Germinated grains were seldom found in features other than the malting kiln. The samples from pits, ditches and gullies seem rather more mixed than the kiln samples in terms of having more weeds and chaff, though less mixed in terms of cereals represented, since wheat was heavily predominant. This suggests that the by-products of crop processing may have been mixed with fully processed wheat grain in the pits and ditches, either before or after deposition. In the kiln, however, fully cleaned (or almost fully cleaned) oat, wheat and possibly rye grain products were being mixed.

The origin of the material in the pits, ditches and gullies is mostly a matter for guesswork, especially in the absence of domestic features. The only feature from the site identified as a possible hearth was in Area B (111) and the sample from this feature was not analysed as it produced no charred plant material other than about 3 millilitres of wood charcoal.

It is possible that threshing waste could have been used for tinder or fuel despite the low abundance of chaff remains. Chaff and straw are light and apt to remain in the upper, aerobic, portions of a fire where they are most likely to be completely consumed, while the grains and dense, heavy weed seeds will sink to the bottom of the fire where anaerobic conditions prevail and where they are more likely to be preserved (Boardman & Jones 1990). Thus grains and weed seeds may be most of what is left from burning threshing waste. Unfortunately there is no way at present to estimate the degree of differential survival of grains and weed seeds relative to chaff and straw since this depends on the exact circumstances under which they were burned.

Grains could also have become charred if grain was being roasted prior to milling. Although farmers often took their grain to the miller, sometimes because they were constrained to do so, querns are common from

medieval sites (although none were found here) and suggest that milling was often done by individual households also. Roasting grain would have made it easier to mill, especially on a hand quern, and would also improve the flavour. Milling at home would have had some advantages, including of course avoiding the miller's charges and the loss from both inefficiency and theft of which medieval millers seem often (rightly or wrongly) to have been accused (Holt 1988, 103-6). Milling at home in small batches would also allow the grain to be hand cleaned to remove any contaminants that still remained after processing. This would by likely to include grain-sized fragments of grit and grain-sized seeds such as corncockle, which was probably a frequent, and undesirable, contaminant in medieval bread (Hall 1981). In particular, severe contamination by corncockle could be a serious problem as the seeds are poisonous.

It is possible that the assemblages from pits, gullies and ditches are a mix resulting from these activities and perhaps others. The similarity in the material from these features suggests consistency in the activities which produced it. Despite the lack of evidence for domestic structures, domestic activities seem the most plausible explanation for the presence and composition of the material. Although there was a possible concentration of material being disposed of in Areas F and G, it would have been necessary to take a much larger number of samples than the project's resources could have supported to demonstrate this more convincingly. In particular, one of the trackway ditches (F 502) and one of the gullies (G 607) showed a high concentration of remains. These features may have been convenient for the disposal of rubbish, possibly because they were near domestic activity. Alternately they may have been the most acceptable places to dispose of waste, rather than the nearest.

There are some similarities with Burton Dassett, though work on more sites spanning a range of time through the medieval period would be needed to determine if there are regional patterns and whether these changed. Burton Dassett was later than Boteler's Castle, having been occupied from the mid/late 13th century to the 15th century. At both sites wheat was the cereal most commonly found and there was also evidence for both bread wheat and rivet/macaroni wheat at Burton Dassett. Rye, however, was not found at Burton Dassett. Both oat and barley were scarce except for samples from a 15th-century malting kiln, where barley and oat were present in roughly equal amounts, though still mixed with some wheat. Charred material was concentrated in the areas around the houses and was thought to have been mainly domestic in origin (Moffett 1991).

The abundance of wheat in the charred remains is not proof that wheat was the most abundant cereal grown at these sites, though it seems likely that its predominance in the charred material does reflect its importance as a crop for human consumption. Wheat was generally the most expensive cereal in the medieval period. The consumption of wheat is thought to have become more widespread among the peasantry and other poorer classes towards the later medieval period, when peasant and labourer wealth was generally increasing (Dyer 1994, 77-99). There were, however, regional differences in the importance of different crops, revealed by peasant maintenance agreements (Dyer 1989a, 153-4). Perhaps the predominance of wheat at Boteler's Castle was due to the economic status of the site, though there is little indication of high status in the area excavated. It is possible, however, that the importance of wheat at both Burton Dassett and Boteler's Castle may be due to the local soils in this area of Warwickshire, which are mostly heavy clays. Wheat varieties differ in their growing needs, but generally wheat yields best on loam and clay soils. Rye, barley and oat were often planted on lighter and drier soils where the wheat yield was likely to be poorer. The results from Boteler's Castle and Burton Dassett suggest that these cheaper grains may have been used primarily for malting, and possibly for other purposes, such as fodder, which would involve less chance of the grain becoming charred and entering the archaeological record.

Much more work is needed on medieval rural settlements, both in this region and in other areas of the country, before it will be possible to detect regional characteristics and differences in the achaeobotanical record. Archaeological sites inevitably present many complex variables and therefore a substantial amount of data from different sites is needed before patterns can be reliably identified. The data emerging from the Warwickshire sites and others such as North Raunds in Northants (Campbell forthcoming), Eckweek in Avon (Carruthers 1995) and Dean Court Farm in Oxfordshire (Moffett 1995) suggest that there may be considerable potential for inter-site and inter-regional comparisons. There is also much potential for interdisciplinary collaboration between archaeobotanists and agricultural historians, especially as further archaeobotanical work on future sites produces sufficient data to reveal patterns and trends which can be compared with research derived from historical documents.

Table 19 Plant remains: species from each sample

Area:	B	B	B	C	C	C	C
Context number	120/1/1	120/1/1	121/1/1	202/4/1	221/1/1	230/2/1	230/4/1
Context type:	upper pit fill	lower pit fill	pit fill	trackway fill	pit fill	trackway gully	trackway gully
Sample size (litres):	18	11	28	25	20	24	10
Flot size (millilitres):	40	50	110	25	400	40	60
% analysed:	100	100	100	100	25	100	100
No. items per litre:	9	12	4	4	18	2	9
Cultivated and food plants							
Triticum turgidum/durum rachises	-	-	-	-	-	1	3
Triticum dicoccum/spelta glume bases	-	1	1	-	-	-	-
Triticum spelta L. rachises	-	1	-	-	-	-	-
Triticum spelta L. glume bases	1	1	-	-	-	-	-
Triticum aestivum L. rachises	-	1	-	-	-	-	3
Triticum sp(p). free-threshing rachises	2	-	-	-	-	1	-
Triticum sp(p). cf. free-threshing rachises	8	-	-	-	-	-	-
Triticum sp(p). free-threshing	61	39	44	44	37	13	19
Triticum sp(p). rachises	-	-	-	-	-	1	1
Triticum sp(p).	-	5	-	-	-	-	-
Triticum/Secale	2	-	2	6	2	-	1
Secale cereale L. rachises	-	-	-	-	-	-	8
cf. *Secale cereale* L. rachises	-	1	-	-	-	-	-
Secale cereale L.	5	1	2	4	1	-	3
Secale/Hordeum rachises	-	-	-	2	-	-	-
cf. *Hordeum vulgare* L. rachises	-	1	-	-	-	-	-
Hordeum vulgare L.	2	2	1	1	-	3	-
Avena sp.	3	-	5	-	1	1	-
Avena sp. germinated	2	1	-	-	-	-	-
Avena/Large Poaceae	1	6	-	-	3	-	-
Cereal indet.	17	20	16	17	15	7	11
Corylus avellana L. frags.	19(<1)	31(<1)	40(1)	22(<1)	31(<1)	5(<1)	17(<1)
Malus sylvestris/domestica fruit frags.	-	-	-	-	-	-	1
Pisum sativum L.	-	-	-	-	-	-	1
cf. *Pisum sativum* L.	1	-	-	-	-	-	1
Vicia/Pisum/Lathyrus	-	-	-	1	-	-	-
Wild plants							
Ranunculus acris/repens/bulbosus	-	-	-	-	-	-	1
Chenopodiaceae	-	-	-	-	-	1	-
Agrostemma githago L. calyx tips	1	-	-	-	-	-	-
cf. Caryophyllaceae	-	-	-	-	-	1	-
Rumex acetosella L.	-	-	-	1	-	-	2
Rumex sp.	1	1	1	-	1	1	3
Vicia cf. *hirsuta* (L.) Gray	-	-	-	-	-	-	1
Vicia sativa L.	-	-	-	-	-	1	2
cf. Vicia sativa L.	-	-	1	-	-	-	-
Vicia/Lathyrus	15	12	7	5	2	2	12
Melilotus/Medicago/Trifolium	-	-	-	-	-	-	1
Apiaceae	-	-	-	-	-	-	1
Galium sp.	1	-	1	-	-	1	1
Centaurea cyanus L.	2	-	-	-	-	-	-
Anthemis cotula L.	7	3	-	2	-	-	28
Chrysanthemum segetum L.	-	-	-	-	-	-	1
Tripleurospermum inodorum (L.) Schultz-Bip	-	-	-	-	-	-	1
Carex sp.	-	-	1	-	-	-	2
Bromus secalinus/hordeaceus	-	-	-	-	-	-	1
cf. *Danthonia decumbens* (L.) DC.	-	-	-	1	-	-	-
Poaceae	1	-	-	2	-	-	1
Tuber fragments	1	1	-	-	-	-	2
Tree buds	-	-	1	-	-	-	12
Mineralised concretion (? faecal material)	-	-	-	-	-	4	-
Unidentified	2	-	-	1	-	-	2

Area:	C	C	C	C	E	F	F
Context number:	204/3/1	235/3/1	235/4/1	236/2/2	402/3/2	502/1/2	502/4/2
Context type:	malting kiln	malting kiln flue	malting kiln flue	malting kiln stokehole	trackway ditch	trackway ditch	trackway ditch
Sample size (litres):	28	28	12	20	30	35	31
Flot size (millilitres):	2600	3145	40	2000	110	700	550
% analyscd:	3	3	100	3	100	19	25
No. items per litre:	872	1271	11	1072	9	64	301
Cultivated and food plants							
Triticum turgidum/durum rachises	-	1	-	-	-	-	29
Triticum cf. *turgidum/durum* rachises	-	1	-	-	-	-	7
Triticum spelta/aestivum rachises	-	1	1	-	-	-	2
Triticum aestivum L. rachises	1	2	-	-	-	-	10
Triticum cf. *aestivum* L. rachises	-	-	-	-	-	-	2
Triticum sp(p). free-threshing rachises	-	1	-	-	-	3	69
Triticum sp(p). free-threshing	110	109	25	88	101	202	1075
Triticum sp(p). free-threshing germinated	20	40	3	7	-	-	3
Triticum sp(p). rachises	1	-	-	-	-	-	-
Triticum sp(p). glume tips (silica skeletons)	-	-	-	-	-	-	5
Triticum sp(p). awn frags. (silica skeletons)	-	-	-	-	-	-	48
Triticum/Secale	42	17	3	10	3	12	46
Triticum/Secale germinated	12	13	-	2	-	-	-
Secale cereale L. rachises	4	4	1	5	-	3	72
Secale cereale L.	30	39	2	-	2	-	132
Secale cereale L. germinated	51	32	1	-	-	-	-
Hordeum vulgare L. rachises	1	1	1	1	-	-	-
Hordeum vulgare L. hulled grains	-	-	-	1	-	-	-
Hordeum vulgare L.	5	5	1	4	3	10	-
Hordeum vulgare L. germinated	2	5	-	-	-	-	-
Avena sativa lemma bases	-	6	-	-	-	-	-
Avena cf. *sativa* lemma bases	-	-	-	2	-	-	-
Avena sp. spikelet forks	1	-	-	-	-	-	-
Avena sp. lemma bases	4	-	-	-	-	-	-
Avena sp. awn fragments	36	18	-	18	-	-	3
Avena sp.	7	114	4	36	4	9	-
Avena sp. germinated	54	189	4	86	-	2	-
Avena/Large Poaceae	24	-	17	59	3	-	122
Avena/Large Poaceae germinated	34	-	4	40	-	-	-
Cereal indet.	213	374	49	170	46	61	186
Cereal/Large Poaceae culm nodes	-	2	-	2	-	-	1
Coleoptiles	31	26	-	56	-	3	-
Corylus avellana L. frags.	1	-	-	-	58(1)	44(1+)	22(1)
Vicia faba L.	-	-	-	-	-	2	-
Vicia/Pisum/Lathyrus	-	-	-	-	-	1	-
Wild plants							
Ranunculus acris/repens/bulbosus	-	1	-	-	-	-	2
Ranunculus sp.	-	-	1	-	-	-	-
Chenopodium sp.	2	1	-	2	-	5	-
Spergula arvensis L.	1	-	-	-	-	-	-
Agrostemma githago L.	-	-	-	1	-	-	-
Agrostemma githago L. calyx tips	-	-	-	-	1	-	-
Silene vulgaris/uniflora	-	-	-	-	-	-	3
cf. Caryophyllaceae	-	-	-	-	-	-	1
Rumex acetosella L.	-	-	-	-	-	-	5
Rumex sp.	1	3	-	2	3	2	6
Rosa sp.	-	-	-	1	-	-	-
Rosa sp. thorn	-	-	-	-	1	-	-
Prunus spinosa L.	-	-	-	-	1	-	-
Prunus/Crataegus thorn	-	-	-	-	-	1	-
Vicia hiruta (L.) Gray	2	-	-	3	-	-	1
Vicia sativa L.	-	-	-	-	-	-	1
Vicia/Lathyrus	19	27	5	23	35	35	34
Medicago lupulina L. pod frag.	-	-	-	-	-	1	-
Melilotus/Medicago/Trifolium	-	-	-	-	-	3	-
Lotus/Trifolium	1	-	-	-	-	-	4
Conium maculatum L.	-	-	-	-	1	1	-
cf. *Carum vertillatum* (L.) Koch	-	-	-	-	-	1	-
Lamium sp. (mineralised)	-	-	-	-	-	1	-

Wild plants (cont.)							
Euphrasia/Odontites	-	-	-	-	-	2	-
Galium sp(p).	1	5	1	1	2	3	-
Galium sp(p). (mineralised)	-	-	-	-	-	2	-
Sambucus nigra L. (mineralised)	-	-	-	-	-	1	-
Centaurea cyanus L.	4	5	-	1	-	-	7
Anthemis cotula L.	6	4	-	4	2	8	362
Chrysanthemum segetum L.	7	10	-	3	-	-	1
Tripleurospermum inodorum (L.) Schultz-Bip	-	-	-	1	-	-	-
Asteraceae	-	-	-	1	-	-	-
Carex sp(p).	-	-	-	-	-	-	5
Poa annua L.	-	-	-	1	-	-	1
Avena fatua/sterilis lemma bases	-	1	-	-	-	-	-
Avena fatua/sterilis rachillas	-	-	-	-	-	-	2
Avenae panicle nodes	-	-	-	-	-	-	8
Bromus secalinus/hordeaceus	2	-	-	-	1	-	15
Poaceae rachises	-	1	-	-	-	-	-
Poaceae rachillas	-	-	-	-	-	-	6
Poaceae culm nodes	-	4	-	2	-	-	8
Poaceae	3	2	4	6	9	2	21
Poaceae germinated	-	1	-	2	-	-	-
Tree buds -	-	-	-	-	-	6	-
Charred lump (? bread)	-	-	-	-	-	-	1
Unidentified	-	3	3	3	-	2	7
Area:	F	G	G	G	G	G	G
Context number:	503/1/1	602/1/1	602/2/1	602/6/1	605/1/1	607/1/1	608/1/1
Context type:	pit fill	cesspit top fill	cesspit	cesspit	EBA pit	gully	cesspit
Sample size (litres):	35	25	27	7	25	24	36
Flot size (millilitres):	42	60	60	400	33	180	10
% analysed:	100	100	100	50	100	30	100
No. of items per litre:	5	5	2	8	11	281	1
Cultivated and food plants							
Triticum turgidum/durum rachises	-	-	-	-	-	10	-
Triticum spelta/aestivum rachises	-	-	-	-	-	3	-
Triticum aestivum L. rachises	-	-	-	-	-	11	-
Triticum sp(p). free-threshing rachises	-	1	1	-	-	16	-
Triticum sp(p). free-threshing	80	53	13	3	4	981	16
Triticum sp(p). free-threshing germinated	-	1	-	-	-	-	-
Triticum sp(p). rachises	-	-	-	-	-	14	-
Triticum sp(p).	-	-	-	-	2	-	-
Triticum/Secale	2	2	-	-	-	63	-
Secale cereale L. rachises	-	-	-	-	-	112	-
Secale cereale L.	4	3	1	-	-	85	-
Hordeum vulgare L.	-	3	1	-	-	15	-
Avena sp. spikelet forks	-	-	-	-	-	2	-
Avena sp. lemma bases	-	-	-	-	-	2	-
Avena sp. awn fragments	-	-	-	-	-	31	-
Avena sp.	-	1	2	-	-	11	1
Avena sp. germinated	-	4	-	-	-	-	-
Avena/Large poaceae	4	2	1	-	-	17	1
Cereal indet.	27	22	10	-	2	237	7
Cereal/Poaceae rachises	-	-	-	-	-	3	-
Corylus avellana L. frags.	36(>1)	20(<1)	13(<1)	20(<1)	236(3)	1	3(<1)
Malus sylvestris/domestica	-	-	-	-	2	-	-
Malus sylvestris/domestica fruit frags.	1	-	-	-	16	-	-
? *Malus sylvestris/domestica* fruit stems	-	-	-	-	4	-	-
Vicia faba L.	1	-	-	-	-	-	-
Pisum sativum L. hilums	-	-	-	-	-	1	-
Vicia/Pisum/Lathyrus	-	-	-	-	-	1	-
Wild plants							
Chenopodium cf. *bonus-henricus* L.	-	1	-	-	-	1	-
Chenopodium sp.	-	-	-	-	-	1	-
Montia fontana ssp. *minor* Hayw.	-	-	-	-	-	1	-
Stellaria cf. *media* (L.) Villars	-	-	-	-	-	3	-
Spergula arvensis L.	-	-	-	-	-	1	-
Agrostemma githago L.	-	-	-	-	-	1	-
Agrostemma githago L. calyx tips	-	-	-	-	-	11	-

Wild plants (cont.)							
Persicaria maculosa/lapathifolia	-	-	-	-	-	1	-
Rumex acetosella L.	-	-	-	-	-	10	-
Rumex sp.	-	1	-	-	1	8	1
Brassica rapa/nigra	-	-	-	-	-	6	-
Crataegus cf. *monogyna* Jacq.	-	-	-	1	-	-	-
Vicia hirsuta (L.) Gray	-	-	-	-	-	1	-
Vicia tetrasperma (L.) Schreber	-	-	-	-	-	1	-
Vicia cf. *tetrasperma* (L.) Schreber	-	1	-	-	-	-	-
cf. *Vicia sativa* L.	2	-	-	-	-	-	-
Vicia/Lathyrus	9	4	6	-	3	65	2
Bupleurum rotundifolium L.	-	-	-	-	-	3	-
Euphrasia/Odontites	-	-	-	-	-	3	-
Galium sp.	-	1	-	-	-	-	-
Valerianella dentata (L.) Pollich	-	-	-	-	-	1	-
Centaurea cyanus L.	-	-	-	-	-	4	-
Anthemis cotula L.	-	-	1	-	-	270	-
Chrysanthemum segetum L.	-	-	-	-	-	3	-
Tripleurospermum inodorum (L.) Schultz-Bip	-	-	-	-	-	1	-
Carex sp.	-	-	-	-	-	1	-
Cynosurus cristatus L.	-	-	-	-	-	1	-
Avena fatua/sterilis lemma bases	-	-	-	-	-	1	-
Avenae panicle nodes	-	-	-	-	-	1	-
Bromus secalinus/hordeaceus	-	1	-	-	-	-	-
Poaceae culm nodes	-	-	-	-	-	1	-
Poaceae	4	3	-	-	-	28	2
Tree buds	-	-	-	-	1	-	-
stem fragments (mineralised)	-	-	-	9	-	-	-
Mineralised concretions (? faecal material)	-	-	-	1	-	-	-
Unidentified	-	-	-	1	1	-	-

DISCUSSION AND CONCLUSIONS

by Nicholas Palmer

Prehistoric activity

The various archaeological investigations in the vicinity of Boteler's Castle have revealed evidence for low level prehistoric activity of various dates. A small group of shallow pits associated with early neolithic/late mesolithic flintwork was recorded north of Oversley Mill Services in 1990 (Warwickshire Mus 1990). The 1989 fieldwalking (Adams & Jenkins 1989) and the 1992-3 investigations produced a thin scatter of flintwork of neolithic and possibly later date from across the outer enclosure.

The earliest features revealed by the excavations dated to the early Bronze Age. Two small pits, located *c* 160m apart in Trench 3 (E305) and Area G (605), contained fragments of probable Collared Urn, along with a residual Beaker vessel in the former. Pit E305 also contained a number of small flint flakes and charred wheat, apple and hazelnut fragments. In the absence of evidence to the contrary it seems likely that this activity was domestic. Although the wheat fragments were in a similar condition to the medieval ones, they were perfectly consistent with early Bronze Age grain and there was nothing to suggest the sample was contaminated. Neolothic pits excavated at Broom further south along the bypass also contained apple and hazelnut fragments, but without the grain (Warwickshire Mus 1994b, 18, Appendix B).

The implications of these finds for our knowledge of the density of neolithic/Bronze Age settlement in the area are difficult to gauge. In a 5km square centred on the site there are nine other records of neolithic/Bronze Age activity on the Sites and Monuments Record. Some of these are chance finds of one or two flint fragments (SMR WA 453, WA 3970, WA 4597, WA 5012 and WA 5863), and just under half are incidental finds from Roman excavations in Alcester (WA 4492 and WA 5495) or from the present bypass (WA 7454 and WA 7455). The sample is clearly unrepresentative in both density and distribution. The next area to the south which covers the Avon Valley around Bidford has a much greater density of finds. Again, however, a very high proportion of this material represents incidental finds of flintwork during metal detecting on mainly Roman sites or comes from a very limited amount of systematic fieldwork. While a greater concentration on the wider gravel terraces of the Avon would be plausible, it is not really demonstrated by the existing evidence, which actually reflects a density of archaeological and metal detecting activity.

One firm conclusion of the excavations was that the outer enclosure did not originate as an Iron Age hillfort as had been suggested (Hingley 1989, 143; Warwickshire Mus 1992b, 13; Booth 1994, 164-6). The excavations produced no Iron Age material at all from the enclosure, and all the earlier 'Iron Age' finds have now been redated as medieval.

The only remaining feature dated to the Iron Age in the vicinity is a gully at the north-western corner of the Oversley Mill Services Evaluation (Warwickshire Mus 1992a, 8) at the bottom of the hill to the north. Along

with some adjacent, probably contemporary pits, this is evidence for further low level activity.

Romano-British activity

The Roman road, Ryknild Street, is thought to have been laid out by the Roman army in the early years of the Conquest period, possibly in the late AD 40s, when a fort is believed to have been established at Lower Oversley Lodge, *c* 700m to the east of the castle site, as an outpost to an initial frontier along the Fosse Way (Saville 1986, 7–9; Booth 1994, 164–5). This fort was soon replaced by another down on the river crossing at Alcester and around it a civilian settlement developed. After the army moved on, by *c* AD 75, this settlement grew into an extensive 'small town'. Ryknild Street remained in use as a major route through the Roman period (and later).

The 1977 pipeline observation produced small quantities of Romano-British pottery (Ford 1977, 10-11) in the vicinity of Ryknild Street and from the medieval burials, and further pottery, tile and coins came from across the whole area in the 1989 fieldwalking (Adams & Jenkins 1989). The 1992-3 excavations added further pottery, tile and copper alloy brooch, but the only excavated features of Romano-British date recorded were two gullies, one running ENE–WSW in Trench 9/Area H, the other running north–south in Trench 10 to the north. These were probably field boundaries, possibly forming part of a rectilinear system aligned on Ryknild Street. The spread of Roman material is most likely to represent domestic rubbish from a settlement in the near vicinity used for manuring the fields. The presence of finewares among the pottery may perhaps suggest that it derived from a settlement of some status, a suggestion possibly supported by the presence of quantities of roof tile and some box flue tile fragments. Alternatively, the high proportion of tile found relative to pottery and the fact that it concentrated in the medieval trackway ditches may suggest that much of the tile was brought in as trackway metalling during the medieval period and did not necessarily come from the same source as the pottery.

Pre-12th century medieval activity

The Domesday Survey of 1086 records the manor of Oversley with a population of 10 households, or about 50 inhabitants, and a mill (Plaister 1976, 16, 63; *VCH Warwickshire I* 1904, 317). The mill was presumably on the site of the existing Oversley Mill but the location of the contemporary settlement is uncertain, although it does not seem to have been at the castle site. No features of this date were excavated; a handful of possible late Saxon sherds came from the fieldwalking, but these were too few to suggest settlement in the immediate vicinity. While the radiocarbon dates for the burials by Ryknild Street cover a calibrated range from 980 to 1225, it would be perverse to suggest that they predate the settlement around them when the dates of the settlement fall equally within the range. The most likely location for the Domesday settlement is at Oversley Green where the later medieval village lay (Fig 27). This is a natural focus for settlement, lying where the Roman (and medieval) road from Alcester to Stratford crossed the River Arrow.

Construction of castle

The castle seems therefore to have been laid out on an empty site chosen for its natural defensibility and possibly also with a view to controlling nearby Ryknild Street which ran to the east. It was built by Ralph Boteler I as a centre for his estates in the Midlands. The earliest documentary reference to the castle dates to 1139/40, but since Ralph was already a leading official of the Count of Meulan by 1118, it is likely that it was begun before *c* 1115.

The castle seems to have consisted of a motte and three baileys, an inner bailey to the east of the motte and two further baileys to the north. Chatwin (1940, 146) suggested that the two northern baileys were part of the post-medieval gardens of Oversley Court, but the cropmark evidence, which was not available to him, shows that they were an integral part of the medieval defensive system. The dark soils observed here by Chatwin may reflect a particular use of these baileys, although they could alternatively relate to later activity. Whether the baileys were all laid out at one time or the northern ones represent later extensions cannot be said. The northern sides of the northern baileys run along the edge of the escarpment, along the most defensible line, so it is possible that they were part of the original scheme.

Timber castles with multiple baileys are not uncommon. In fact there are sufficient examples for the classic form of timber castle earthwork to be defined *as a motte with one or more baileys* (Higham & Barker 1992, 199). Those with multiple baileys range from Windsor and Stafford (Klemperer 1985, 15) with two, to Kilpeck, Herefordshire, with three or four (Sawle 1983, fig 10) and Castel foel Allt, Pilleth, Radnorshire (Higham & Baker 1992, 199, fig 7.27) also apparently with four.

Outer enclosure

To the east of the castle baileys there was the large subrectangular outer enclosure, running from the castle to just beyond Ryknild Street which was included within it. It measures over *c* 235m north–south by *c* 215m east–west, and covered an area of 4.93ha. The excavations cut a north–south transect across the centre of this enclosure revealing settlement that was contemporary with the castle, dating from 12th–early 13th-century.

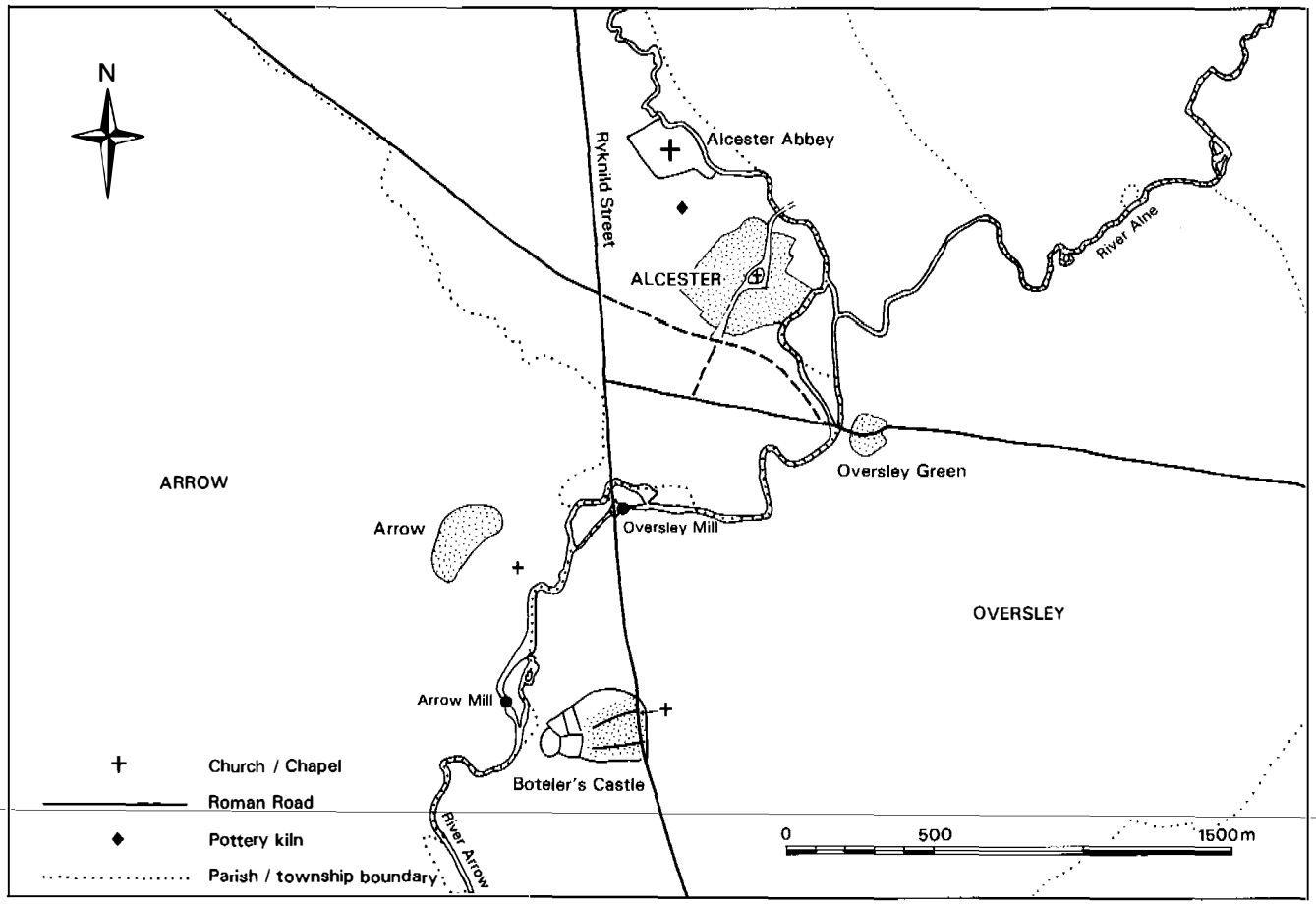

Fig 27 Medieval settlements around Alcester

Understanding the character of the settlement in the outer enclosure was set as one of the main aims of the excavations (Warwickshire Mus 1994a, 5.3). There seemed to be two possibilities: either that it was a village, established around the castle or possibly before the castle, and then deserted when the castle was abandoned; or, that it was a large outer bailey forming part of the castle itself, with a military function. Initial conclusions tended towards the latter interpretation, mainly on the basis that the defences of the outer enclosure were too massive to be those of a village (Warwickshire Mus 1993, 11.5; 1994a, 8.2-8.3).

In fact, however, the establishment of settlements, some proto-urban in character, with such defences, around Norman castles, was not uncommon and examples can be found across the country from Pleshey (Williams 1977) and Chipping Ongar (RCHME 1921, 53-4) in Essex to Stafford (Klemperer 1985, 15-17; Darlington 1991, 65-8) and Kilpeck in Herefordshire (Sawle 1983, 102). Another close parallel can be found at Castle Acre, Norfolk, where the castle of the de Warenne Earls of Surrey, set on a river crossing on the Roman Peddars Way, had a rectangular settlement to its west, surrounded by a bank and ditch. This, which is interpreted as a planned town established by one of the earls, has similar general dimensions to the Oversley settlement, measuring *c* 200m by *c* 200m (Coad & Streeten 1982, 138).

The large area of the outer enclosure argues against it being an outer bailey, as it would have made the castle bigger than great castles such as Warwick. The Botelers could not aspire to this status and had no known need for a fortification on such a scale. The suggestion that it may have resulted from a short-term military requirement is belied by the length of the actual occupation within it, and the relative lack of comparable field fortifications of this period elsewhere.

The only military items among the finds were four iron arrowheads. Although these included two of exclusively military application and two that could have had either hunting or military use, such groups are common on ordinary village sites, such as Wharram Percy (Andrews & Milne 1979, 121). Most of the other evidence is similarly equivocal about the character of the settlement. The broadly domestic nature of the excavated structures and the finds assemblages would be appropriate either for a village or for the outer bailey of a castle. However, given the large number of parallels for defended settlements attached to castles of this period, as opposed to the almost total absence of similar military enclosures, it is probable that the settlement represents a defended village attached to the castle.

The village was clearly closely dependent on the castle, developing around it and being occupied over the same

period. There is also no definite evidence as to whether the inhabitants of the Domesday settlement were relocated to the new site.

Defences of the outer enclosure

The outer enclosure was defended with a substantial ditch and almost certainly an earth rampart, although the evidence for the latter is circumstantial as no in situ traces survived. The southern arm of the ditch varied from *c* 4m wide by 3.09m deep in Area A to 6.7m wide by 3.4m deep in Trench 2. No trace of the rampart survived here but this area had been considerably disturbed by water main construction. The northern arm of the ditch varied from 3.75m wide by 2.0m deep in Trench OM2 to 7.8m wide by 2.5m deep in Trench 9 and Area H to the east. The smaller dimensions to the west are explained by the steepness of the natural slope in this area which reduced the need for man-made defences. In both these places the area occupied by the rampart was marked by gullies along its probable rear edge. These suggested that the rampart was *c* 8.5m wide at its base. It is likely that the rampart was basically a dump of material excavated from the ditch. It may have been revetted with turf and probably carried a timber palisade along its top. Any timber framework would presumably have been anchored in the natural, but no such traces were found. The ditch on the eastern side of the enclosure remains somewhat uncertain as the 1977 pipeline observation failed to find it, although it does appear to be visible on air photographs.

There is no evidence for the dating of the defences. They could have been built in the early 12th century at the same time as the castle, but it is at least likely that they were added later, in the civil war of the 1140s. A continuing need for the defences is demonstrated by the fact that the ditch had been recut both to the north and south.

Most of the excavated examples of earthwork castle bailey defences of this period had some kind of timber structure, lacing or revetment (Higham & Barker 1992, 274-97). At Hen Domen the late-11th-century bailey rampart was supplemented by a series of elaborate framed palisades and fighting platforms through the 12th and early 13th centuries (Barker & Higham 1982, 29-41); at Tamworth Castle the Norman bailey defences had an elaborate timber structure (Meeson 1978-9, 15-28); at Therfield Castle the mid-12th-century bailey defences were marked by a line of large postholes and a parallel timber slot (Biddle 1964, 58-63); and at Launceston Castle the earth rampart of the bailey of post-1068 also had a timber revetment (Higham & Barker 1992, 274-7). Only at Goltho, Lincolnshire, have ramparts been recorded with no timber revetment. The period 5 defences, dated by the excavator to 1000–1080, had a rampart 7.5m wide with no revetment (Beresford 1987, 72-3, fig 72), and the Period 6 defences, dated by the excavator to 1080–1150, had a rampart 15-18m wide with no revetment but with a possible turf facing (*Ibid,* 86-90, fig 93).

Town or village defences of the 12th–early 13th century were generally less elaborate, normally consisting of an earth dump rampart, presumably with a palisade along the top which did not penetrate the natural (Kenyon 1990, 59, 64). Thus at Devizes the defences, built probably by 1121, had an irregular V-shaped ditch, 9m wide by 5m deep, with a bank in which no structural evidence was found, although it might possibly have been destroyed by later activity (Haslam 1977-8, 183). At Taunton a small, early-12th-century bank, 5m wide by 2m high, and ditch was succeeded before 1158 by a larger ditch, 10m wide and *c* 4m deep, with a bank 10-12m wide; neither bank having any trace of internal timber structure (Leach 1984, 59-74). At Richard's Castle, Herefordshire, the village defences had a V-shaped ditch 4.9m wide by 3.65m deep and a bank 11.3m wide by 2.4m high of simple dump construction (Curnow & Thompson 1969, 119). The simple defences of the outer enclosure at Oversley clearly fit better into this second group.

Layout of settlement

The settlement within the enclosure appears to have been laid out along three roads: Ryknild Street, running north–south, and the two trackways that ran from Ryknild Street to the castle. It is probable that the main focus of settlement was along Ryknild Street. The settlement's cemetery and presumably also its chapel seems to have been located here on the east side of the road, and the stone scatter noted in 1989 (Dyer 1989b) on the west side of the road may reflect another substantial building. The area immediately outside the castle gate might have been a secondary focus. This may mean that the excavated area was somewhat peripheral between the two and hence possibly not as fully developed as the other areas. If there was a third trackway south of the enclosure, it may have been part of the original layout but was clearly never developed. If it did exist this would suggest that the defences were secondary and enclosed a smaller area than originally laid out.

The 1977 observation showed that within the settlement Ryknild Street had a cobbled surface, *c* 8-8.5m wide and 0.7m deep, but no flanking drainage ditches were recorded. The surface contained 13th-century pottery but is likely to have remained in use well into the post-medieval period. The two east-west trackways were flanked by drainage ditches that had been recut more than once. The northern trackway was *c* 7m wide but no surfaces survived, while the southern trackway was 5.5m wide and paved with successive surfaces of gravel and cobbles and rubble and pebbles. The southern trackway also remained in use into the post-medieval period and the later surface was probably not contemporary with the settlement.

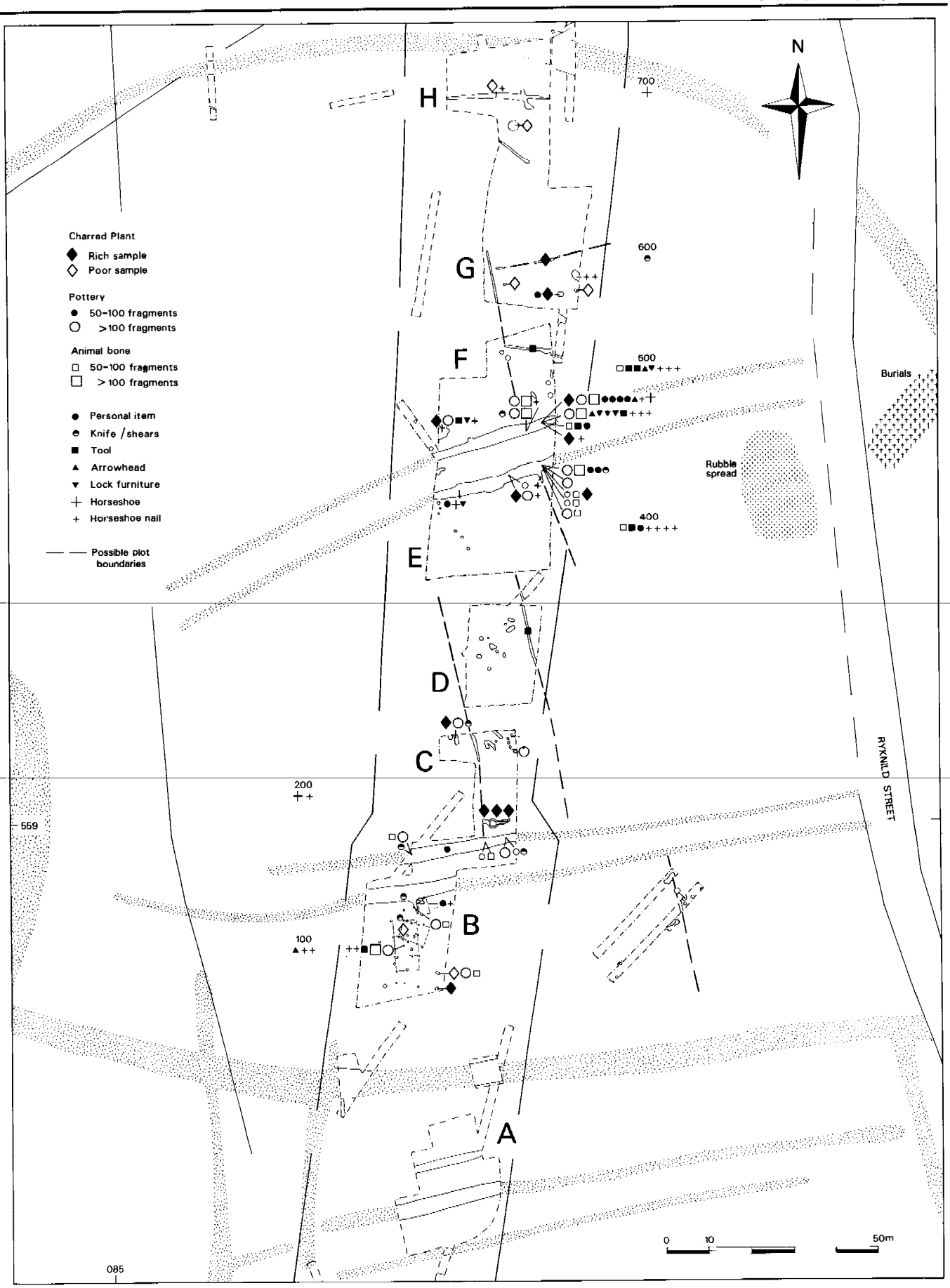

Fig 28 Finds distributions

However it is likely that the roads of the settlement were paved.

A patchy network of boundary gullies in the excavated areas suggests that the enclosure was divided into long thin plots aligned at right angles to the trackways (Fig 28). Others were presumably aligned on Ryknild Street. This is a standard arrangement and similar to that which is suggested for the settlement attached to Stafford Castle, which was also occupied from the 12th century (Klemperer 1985, 15-17; Darlington 1991, 67-8). The plot boundaries at Oversley were by no means as well established as those on most medieval village sites, but this is more likely to be due to the relatively short life of the settlement than to an absence of individual property rights in the settlement.

The layout must have been the result of planning, but insufficient of the settlement was excavated to work out any system of plot measurement. The width of the plot north of the southern trackway containing the malting kiln in Areas C and D was about 18.5m wide (or 3.7 perches), but the plot to its east on the northern trackway appeared much narrower (about 13.5m or 2.7 perches). If the north–south ditch in Trenches 3 and 4 marked the rear of a plot on Ryknild Street that plot would have been *c* 47m long (9.3 perches), and two plots of about this length would fit between the trackways, albeit shrinking to the west. However plots of the south trackway must have been shorter (30-33m or 6.0-6.6 perches) allowing for the enclosure bank, while those north of the northern trackway could have been longer.

None of the plots was totally excavated, but it was clear that some were occupied fairly intensively while on others there was hardly any activity at all. To the south of the southern trackway the plot covered by Area B contained two phases of building, while, of the two probable plots spanned by Trenches 3 and 4, the eastern one contained a high density of features, the western one relatively few. North of the southern trackway in Areas C and D the eastern plot containing the malting kiln and building IV was settled, while its neighbour to the west was possibly not (although little of it was excavated). To the south of the northern trackway in Area E the plot (or plots) appears unoccupied, while to the north of the trackway in Areas F and G an eastern plot (or plots) was intensively settled while a western one was not. Thus of about eight plots sampled to any extent only half or less would appear to have been settled. While some of the others may have been only ever intended as gardens or paddocks rather than house plots, it does not appear that the settlement ever reached its planned capacity.

Relatively little evidence emerged for the layout of structures on the individual plots. Building I in Area B lay behind the frontage and was not aligned on the trackway, while its successor was also set but placed more regularly, at right angles to the frontage. The plot on the north side of the southern trackway had its malting kiln on the frontage and an outbuilding parallel to the road to the rear. Its house was not excavated but may well have lain to the east at right angles to the trackway.

Chapel

The location of the cemetery and chapel on Ryknild Street *c* 250m from the inner bailey of the castle makes it unlikely that this was the castle chapel. The reference in a charter of 1155/58 both to a castle chapel at Oversley and to a church is therefore to be taken at face value. It seems likely that the church was established as a chapel to serve the settlement, and the calibrated ranges of the two radiocarbon dates from the burials, 980-1153 (HAR 2732, 1000bp±80) and 1031-1225 (HAR 3434, 880bp±70), fall at least partly within the general date range of the settlement suggested by other evidence. The presence of the cemetery might be thought unusual as burial rights were usually jealously guarded by parish churches. It is possible that the chapel enjoyed a short-lived parochial status, but there are examples of dependent chapels with cemeteries in settlements such as this. At Pleshey (Williams 1977, 14) a chapel with a cemetery was established in the settlement laid out adjacent to the castle because of the distance from the mother church of Easter. There were also references to a separate chapel at Pleshey.

Buildings/structures

The excavations located relatively few buildings, but they are of some interest given the general rarity of building plans of this period. All were constructed of timber and almost all were supported on earthfast posts; only one outbuilding was set on a rubble footing. The minimal quantity of medieval tile found suggested that all the buildings in the excavated area would have been roofed with thatch (or possibly wooden shingles).

Building I in Area B formed a single cell, possibly 6.25m long by *c* 4.5m wide. Its long walls were supported on lines of irregularly spaced posts which suggest that its structure was relatively primitive. It contained no trace of a hearth or surviving flooring, but could nonetheless have been domestic. Its successor, Building II, was larger and more sophisticated, measuring 12.25m long by 6.25m wide. Even though its eastern side was not very definite, its posts were arranged as four transverse lines, suggesting a three bay structure supported on trusses. It was divided into three rooms, a central one 4.75m long, with north and south rooms each 3.5m long, separated by partitions. No trace of flooring was found, although there was a crude hearth of burnt clay on the line of the partition between the central and northern rooms. The location of the hearth may suggest that the partition had been removed at some stage, or that it had a gap in the middle. This building was probably also domestic.

Building III was a small outbuilding or shed on the

frontage of Area B. It was 2.25m wide by *c* 4m long, its timbers supported by a rough rubble footing. Some postholes inside may have supported some internal structure. Only part of Building IV on Area C was excavated. At *c* 3.5m wide it was fairly narrow and it is likely to have been an outbuilding, possibly a barn. It may also have had a structure based on trusses. Two lines each of three postholes in Area E were not possible to interpret, but presumably related to structures of some description.

The range of structural ironwork found was limited and included no hinge pivots, although there were a number of padlock fragments. The only hinge fragment was quite small, suggesting that it came from a box or shutter rather than a door. A medieval lead window came fragment must surely have come from the castle proper or the chapel. With such a small group of buildings it is not possible to draw any real conclusions, but the two buildings with structures apparently based on trusses can be noted. The use in peasant buildings of cruck trusses, the local vernacular tradition, is believed to have developed in the 13th century, possibly along with the move to stone footings (Dyer 1986, 36). It is possible that these buildings may have been early examples with earthfast posts, the intermediate posts representing infill studding.

The most substantial other structure found was the malting kiln in Area C. The kiln had a keyhole plan with a circular, bowl-shaped chamber, 1.7m in diameter, and a flue to the east, *c* 1.8m long leading to a stokehole 1.5m by 0.8m. The charred plant remains from the kiln showed that it was used for malting and had possibly caught fire during this process.

Malting kilns, which will often have doubled as corn driers, are mentioned occasionally as one of the common minor structures on medieval peasant holdings (Dyer 1986, 25). Excavated examples seem to come in two basic types: those set in the end of buildings, such as examples from Houndtor and Hutholes, Devon (Beresford 1979, 140-2), Burton Dassett, Warks (MSRG 1987, 25), and West Cotton, Northants (MSRG 1987, 24), and those that were free-standing structures, like examples from Wharram Percy, Yorkshire (Webster & Cherry 1979, 272-3) and Collfryn, Powys (Britnell 1984, 190-4). The latter type, into which the Oversley example falls, had a permanent stone substructure over which there would have been a timber drying platform with a floor of sticks, straw or cloth that was permeable to hot air.

Three structures of this type with the same keyhole plan have been excavated in Alcester: one in Tibbets Close, perhaps 13th century (Cracknell 1989, 16, 24, fig 13) with a chamber *c* 1m in diameter and a flue 1.25m long; one on Birch Abbey Site CIIIA (Mahany 1994, 30, pl 2), with a chamber 1m in diameter and a flue 1.5m long, also 13th century in date (Ratkai 1994, 154-5); and a third, 12th/14th century in date, on the Bar-o-Mix Site, Bleachfield Street (Cracknell 1989, 25).

Two probable cess pits were found in Area G in the traditional position to the rear of the plot. Pit 602/E601 was fairly convincing: a vertical sided, flat bottomed feature, 1.1m across by 1.6m deep, with a number of thin layers in its bottom, including one of charcoal, which was often used as a sealing layer in cess pits. Its fill also contained mineralized concretions that could have been faeces and the animal bone from the fill was distinctively decayed. The adjacent Pit 608, was also vertical sided and flat bottomed, 1.2m across but only 1m deep. It contained only one thin layer in its bottom, but is very likely to have served the same function. Pit E312 in Trench 3 could have been another cess pit. It was a sub-square, vertical sided feature, 0.8m across by 0.9m deep, containing a thin (0.08m) primary fill layer, also containing quantities of charcoal. This pit lay 12m from the southern trackway, but it could have been at the rear of a plot on Ryknild Street.

Finds distributions

The general distribution of finds from the excavations (Fig 28) showed a number of localized concentrations, the densest of which lay in the northern trackway ditches on the east side of Areas F and E, although to the west the quantities of finds in the ditches fell off markedly. There were similar, but sparser concentrations over the Area B buildings and along the north ditch of the southern trackway. The general pattern suggests that the finds represent domestic rubbish deriving from buildings and activity in the immediate vicinity and not a spread of dumped material from the castle to the west. Apart from those in the malting kiln, the distribution of soil samples rich in charred plant remains was the same as that for other finds. This tends to confirm that the plant remains also derived from the domestic rubbish of the settlement.

The distribution of individual object types was unrevealing in identifying areas dedicated to particular activities, as was that of the pottery. The few tools were evenly spread, following the general finds distribution, as were arrowheads, lock fittings, knives and personal items such as buckles, belt fittings and the like (Fig 28). The only noticeable variation was in horseshoe fragments and horseshoe nails which were more widely spread than other finds: this presumably reflects the presence of horses across the whole area.

Economic activity

It might be expected that, as with most medieval villages, the main economic activity of the settlement would have been agriculture, but there is little direct evidence. Some is provided by two tools, possible scythe and weedhook fragments, although these could actually have been used for gardening. The plant remains came from consumption rather than production contexts and are not necessarily evidence of activity (although they do tell us about the agriculture

practiced in the locality). The animal bone however provides contrary evidence. The age profiles derived from the bone show that most of the cattle, sheep and pig were killed at the prime meat age suggesting that the assemblage represents a 'consumer economy' rather than the 'self-sufficient' or 'producer economy' which might be expected on a village. Such a picture might be expected from within the castle, but the bone does appear to derive from the settlement. The assemblage was relatively small and too much emphasis should not be put upon it, but it may suggest that a good proportion of the settlement's inhabitants may have been involved primarily in non-agricultural activities. Some of them were probably castle servants, but others may have been traders or artisans.

A few individual finds give evidence for various kinds of other activities, including textile finishing (linen smoother), carpentry (tools), butchery (bones), antler and horn working (crude objects and waste), malting (kiln), possible non-ferrous metalworking (tools) and blacksmithing (slag). All these activities were however carried on at a domestic scale, and all might be found in an agricultural village. The evidence in the slag for possible small scale steel making may suggest something beyond basic blacksmithing was being carried out, but since a majority of medieval knives contained steel cutting edges (Cowgill *et al* 1987, 8, 10-11, 62-3; Beresford 1975, 81-2), this may not be that unusual and could have occurred on a range of sites.

Possible market promotion and evidence for trade

The inclusion of Ryknild Street within the settlement enclosure would have had disadvantages from the defensive point of view, but it would have enabled close control of traffic along the road. It may also reflect some intention to promote the site as a market and the inclusion of the road would have served to direct potential customers through the settlement. This was a well-known ploy of market promoters; for example, the settlement at Castle Acre also has a Roman road diverted through it (Coad & Streeten 1982, 138). There is no documentary evidence for a market at Oversley but there was no systematic licensing of markets before 1200, and there are plenty of places where markets are thought to have been developed without official sanction. Certainly, lying on a main north–south route at the boundary between the woodland region of the Arden and the open, arable lands to the south, the site is well located for exchange of the differing products of the two regions.

A number of lords in the area seem to have been attempting such developments at this time. At Beaudesert/Henley-in-Arden in 1140 Thurstan de Montfort obtained a charter to hold a Sunday market at his castle, another motte and bailey created in this period (*VCH Warwickshire III,* 1945, 45). It is probable that the original market place lay between Beaudesert Church and the castle (inf S Bassett), but by the 1220s the trading settlement was at Henley which lies along the main road 300m to the west of the castle (a layout quite similar to that at Oversley, although Henley was never defended). The market at Beaudesert/Henley proved a lasting success owing to the absence of nearby rival settlements, but the necessity for obtaining further charters in the 1220s (*VCH Warwickshire III* 1945, 208) suggests that even here the market may have taken a long time to become established.

Any attempt to promote Oversley as a trading centre would have been in direct competition with Alcester, only 1.5km to the north (Fig 27). The early medieval history of Alcester is somewhat uncertain; it is not mentioned in Domesday Book, possibly because it was held by the Crown (Saville 1986, 26). It was given by Henry I to Robert Corbet (*VCH Warwickshire III* 1945, 15) and was divided between descendants of his daughters after 1175. A market had certainly been established there by 1207 when there is a reference to land held by burgage tenure. In 1251/2 the town is described as having been a borough since the reign of Henry II, and a document of *c* 1274 speaks of a Tuesday market 'as in ancient time' (*Ibid* 13; Beresford & Finberg 1973, 173). While bogus claims about the antiquity of privileges are common, it is likely that Alcester was being promoted as a market town in the late 12th century by the Corbets or their successors. Alcester was better situated than Oversley, lying on crossings of the River Arrow at the junction of Ryknild Street with the Roman roads to Stratford and Droitwich. The local pottery industry, which supplied almost all the needs of the site, also chose to develop at Alcester (Cracknell & Jones 1989). The creation of Alcester Abbey in 1140 just to the north of the town, largely at the initiative of the Botelers themselves, will have given an additional economic stimulus to the rival market. This might suggest that they were not attempting to promote Oversley, or that that potential economic effect of such a foundation was not recognized. On the other hand, the de Warennes at Castle Acre were more careful, founding their priory adjacent to their new town (Coad & Streeten 1982, 138).

There is relatively little actual evidence for trade in the finds assemblage from the site. A single Norwegian ragstone hone was the only object with a definite foreign origin. The pottery shows an almost total domination by wares from Alcester, with non-local products representing only 0.7% of the total. The reason for this very low proportion of regional imports may be partly chronological, reflecting the fact that the occupation of the site predates the advent of widely distributed wares such as Chilvers Coton. Brill/Boarstall and Malvernian, after which, by the later 13th or 14th century, non-local wares in Alcester assemblages might typically form 5-10% of the total. In the period 1100-1250, even in a large town such as Northampton, regional imports might be few (McCarthy 1979, 229), but the figure for Oversley is

very low, and difficult to assess in the absence of other contemporary local assemblages.

The non-local pottery included products from the Cotswolds, Stamford, Oxford, Worcester, and the Malvern area. The presence of even some of this material may not be due to trade proper, but to material collected in the travels of the Boteler household between its estates. On the other hand, Stamford ware was traded extensively across the Midlands, and the Malvernian and Worcester sherds are likely to reflect east–west trading links.

Among the other finds, the bronze lion buckle plate is so similar to an example from Winchester as to suggest a common source, but this might well have been an item acquired elsewhere by a travelling member of the Boteler household rather than something traded locally. Nor do the finds provide evidence for north–south trade between the Arden and the arable region to the south, although this may be because the main products would have been perishable (timber and charcoal from the north, grain from the south) and would leave no archaeological trace.

The case for the promotion of the settlement at Oversley as a trading centre, or at least as a successful trading centre, is thus not made. However, such a suggestion would fit a common pattern for contemporary developments elsewhere, and would explain the apparent presence of some people engaged in non-agricultural occupations.

Material culture and standard of living

Generally the range of objects found in the excavations was one that suggested a middling level of prosperity, and which could have come from an urban, village, manor or castle site. There was a single object in precious metal, a silver finger ring. The small group of copper alloy objects included a number of decorated or gilded items, although these were not necessarily of high status origin, the closest parallels for two of them coming from urban tenement sites. The ironwork also included a varied collection of objects that could have come from a range of sites. The pottery assemblage, with its low proportion of regional imports, did not suggest high status occupancy in the excavated area, although the relatively large quantities of pottery found did indicate a degree of prosperity.

Although the animal bone appeared to reflect a consumer economy, the proportions of the bones of the main meat animals (NISP cattle 37%, pig 13%, sheep 50%) fit best with contemporary village groups rather than with towns or castles (Astill & Grant 1988, fig 8.2). The proportion of pig, which is often taken as an indicator of high status, was low, while the sheep proportion was high. Calculation of the relative meat weights suggested that beef was most important in the diet, with smaller amounts of mutton and pork, and some chicken also consumed. Venison was not eaten, the few deer bones being mostly antlers destined for working rather than food remains.

The plant remains reveal the consumption of wheat, lesser amounts of oats, and small quantities of rye, barley, peas, beans, as well as apple and hazelnuts. The malting kiln was presumably primarily for the production of ale. The preponderance of the relatively expensive wheat among the cereals may suggest a level of wealth for the site, but it is also possible that it simply reflects regional growing patterns.

The end of the settlement and castle

The pottery evidence is that occupation within the excavated areas seems to have ceased in the early decades of the 13th century, probably by *c* 1225. While it is possible that the main focus of occupation along Ryknild Street may have lasted longer, the small amount of pottery from that area suggests that it had also been deserted by this time. The castle also disappeared in this general period; exactly when is not known, but it had been replaced by an undefended manorial complex by 1283. Chatwin (1940, 146) suggested that the demise of the castle coincided with the removal of the Botelers to Wem. This event took place in the 1240s which is much too late to be linked with the desertion of the settlement. In any case the successor manor house was clearly still a substantial establishment which might have remained a focus for settlement.

The later 12th–early 13th century was generally a period of rapid expansion of population and settlement growth in Warwickshire as elsewhere in England, and a particular explanation is necessary to explain the decline and desertion of a site against the general trend.

It is possible that the settlement was forcibly relocated by the Botelers as part of some radical reorganization of the manor, although it is difficult to see any reason why this might have been done. Equally there seems no reason why the inhabitants of the site should be tempted to move down to Oversley Green of their own accord, particularly while the manorial centre remained at the castle site. Commercial competition from Alcester might however represent a more powerful reason. If, as has been tentatively suggested, the settlement had been created partly as a trading settlement and its inhabitants were largely traders or castle servants it would have been peculiarly susceptible to such competition from Alcester, particularly if no attempt had been made to move the peasants from the Domesday settlement at Oversley Green (or wherever) to give it an agricultural base. A drift of people to Alcester, where traders and artisans

would have been welcome, is thus a plausible hypothesis.

It is also possible that the castle and settlement were adversely affected by political events. Possible evidence for this may lie in the state of the motte which was so attenuated as to make it unidentifiable, even before its further erosion by recent cultivation (Chatwin 1940, 146). This may suggest that the castle was slighted at some stage. The outer enclosure ditch was also filled in with thick clay layers which probably derived from demolition of the rampart. This might also have resulted from a slighting, but there was no dating evidence for when it might have occurred and it could have been much later, after it had been abandoned, as part of operations to return the site to agriculture.

The civil wars of King John's reign represent the nearest period of general unrest to the date of desertion of the settlement, and it is recorded that in August 1216 Ralph Boteler II had his lands confiscated. However, they were ordered to be returned in April 1217, many other barons had fallen from favour at the same time, and there is no reason why Oversley Castle should have been singled out for destruction at this time. A more likely time would be following the failed revolt of 1173/4 in which the Earl of Leicester played a prominent part. It is known that the Earl's castles at Leicester and Groby were demolished along with that of one of his other main vassals at Weston Turville, Bucks. Although there is no positive evidence, it is quite possible that something similar happened at Oversley – the documentary reference for the slighting of Weston Turville is a chance one of a payment for soldiers to guard the site. Archaeological evidence shows that at Groby the castle motte was quarried away to undermine the buildings on it, and at Weston Turville the motte was partially demolished and its ditch filled (Yeoman 1986, 170-1). At Weston Turville following the slighting the site was reduced, as at Oversley, to a manor house, the bailey being altered and enlarged to create a moated complex (*Ibid,* 178).

A slighting of the castle would probably not have meant the total destruction of its associated settlement – the pottery evidence from the interior anyway suggests desertion over a period – but it would be likely to have involved some despoliation, and, at the very least, would have acted as a damper on development.

Post-13th century activity

The excavations produced no evidence for later medieval activity over the outer enclosure apart from a handful of sherds. This is perhaps surprising given the presence of the substantial Oversley Court manorial complex on the former castle site only 200m to the west. The possible evidence for traces of ridge and furrow within the enclosure suggests that the area may have been put to cultivation. The few 14th-century Chilvers Coton C and Malvernian oxidized sherds from the 1989 fieldwalking may reflect occasional manuring of the fields with rubbish. The southern trackway appears to have remained in use as the access to Oversley Court through the medieval period and one of its ditches may have been cleaned and hedged in 1379/80. The trackway will have continued in use until the Court was demolished in the 18th century and its line then survived as a field boundary until very recent times. No material contemporary with its later use came from the excavations. The field ditches to the south of the enclosure located in Trenches 1 and 2 and Area A probably belonged to a late medieval or post-medieval field system.

By the 15th century the documentary evidence indicates that the open fields in the area were being converted to parkland and pasture. The 1747 name Cunney Gear for the northern part of the outer enclosure may suggest that it contained the warren which is recorded in 1423. However the excavations found no large-scale features that might have been rabbit burrows, and it is likely that the warren would have been located on the otherwise unproductive steep slope of the escarpment to the north. By the 16th century Conynger was pasture.

Conclusions

In spite of some remaining uncertainties, the excavations revealed a good picture of the occupation on the site from which a number of firm conclusions can be drawn. It seems likely that the settlement in the outer enclosure is to be regarded as a defended village dependent on the castle. It appears to have developed in the early 12th century after the founding of the castle, and consisted of plots aligned along three, probably paved, roads with its main focus along Ryknild Street where there was a chapel with a cemetery. It was defended by a ditch and probably a bank, although is not clear whether the defences were original or added in the 1140s. Its buildings were of timber supported on earthfast posts and roofed with thatch (or shingles). Its inhabitants carried out a range of craft activities and enjoyed a middling level of material culture, with a fairly typical range of possessions in metal, pottery, bone and stone. The village was never densely settled, possibly half of its plots never being occupied, and it was abandoned in the early 13th century.

Rather more speculative are the suggestions that the Botelers may have attempted to promote the settlement as a market, that its inhabitants were mainly castle servants and traders and that its demise was the result of commercial competition from the better situated market at Alcester, possibly hastened by a slighting of the castle following the revolt of 1174. Certainly some particular explanation is necessary for the desertion of the site during a period when most villages based on

agricultural production were expanding rapidly.

The real significance of the site is therefore that it is atypical rather than typical of Warwickshire villages of its period, because of both its close dependence on the Botelers and their castle, and its exceptional pattern of development.

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ABBREVIATIONS

PRO Public Record Office, London
SMR Sites & Monuments Record

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