Chapter 5: Grim's Ditch

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INTRODUCTION

The Grim's Ditch linear earthwork runs for 7.5 km due east from the edge of the Thames at Mongewell to the crest of the Chiltern escarpment (Fig 5.1). Richard Bradley (1968) has reviewed the evidence relating to this monument. No full-scale archaeological investigation had ever been carried out, however, although a small area of the earthwork had been examined in 1974 (Hinchliffe 1975) (Fig. 5.2). The Wallingford Bypass was to cut across the earthwork (see Fig. 1.2), providing an opportunity to examine a large area in detail. The better-preserved eastern part of Grim's Ditch is a Scheduled Ancient Monument (SAM no. 32), but the western part where it was to be cut by the bypass is not, as this part of the monument had been modified by landscaping within Mongewell Park. The deserted medieval village of Mongewell was also known to lie somewhere in the vicinity, perhaps on the route of the bypass.

The ancient parish of Mongewell was one of a series of long, east–west, Chiltern-edge parishes in Oxfordshire, stretching from the Thames to the highest part of the Chiltern ridge, its northern boundary following Grim's Ditch for nearly 5 km. The topography of such medieval parishes, reflecting mid to late Saxon land use and estates, ranged from wood-pastures and scattered settlement on the Chilterns to fields and nucleated settlements located in a line along the east bank of the river at Goring, South Stoke, Little Stoke, North Stoke, Mongewell and Newnham Murren. Mongewell probably began to decline after the Black Death (1349), and by the time of the 1877 Ordnance Survey plan the village consisted of no more than the house, church, rectory, mill and farm. The extent and exact location of the village are unknown: no estate maps of Mongewell are known, and the OS plan shows parkland to the north and east of the house (Allison *et al.* 1966).

GEOLOGY, TOPOGRAPHY AND SOILS

The solid geology of this part of the bypass is Lower Chalk overlain by a drift deposit of Valley Gravel (Geological Survey map, 1948). This consists of orange and white patchy sandy loam with decayed chalk fragments and a high proportion of gravel, which formed at the base of slopes here beyond the Pleistocene ice limits. It formed a slight scarp about 30 m from the riverbank, rising steadily from around 45 m OD to just over 63 m OD where the bypass was to meet the Reading–Crowmarsh road. The excavated area lay at around 47 m OD where the line of the bypass crossed the bank of the Grim's Ditch earthwork.

All the soils in the excavated area were derived from these drift deposits, and consisted of sandy silty loams with variable amounts of chalk and flint inclusions. The topsoil (1), which covered the whole of the excavated area, was a loose dark brown fairly humus-rich sandy loam with occasional flecks of chalk.

ARCHAEOLOGICAL BACKGROUND

In 1974 the OAU had undertaken an earlier excavation in advance of the widening of the A4074 at SU 617 879 (Fig. 5.2), some 600 m to the east of the bypass line (Hinchliffe 1975). Iron Age pottery was recovered from the underlying old land surface and from the bank core (including two sherds identified as middle Iron Age). A pit containing middle Iron Age pottery was also found, although its stratigraphic relation to the earthwork could not be defined. The fragmentary remains of three unaccompanied inhumations were found in the core of the bank, and a fourth to the south on the lip of the ditch. A lateral quarry had subsequently damaged the south side of the bank. It remained unclear whether the Iron Age pottery was contemporary with the construction of the earthwork or was derived from earlier occupation, represented by the pit.

In 1970 possible Saxon inhumations accompanied by iron spearheads were found during ploughing in the general area of Grim's Ditch in field 6200 (information supplied by Wallingford Archaeological and Historical Society).

The area was thus of some archaeological interest, and an evaluation was undertaken in 1987 by the OAU on behalf of the Oxford County Council (see Fig. 5.2). An evaluation trench (MGD87) excavated across Grim's Ditch at SU 611 881 showed that at least five stratigraphic phases were represented: a prehistoric or Roman field boundary and associated ploughsoils underlying the earthwork; the ditch and denuded bank of Grim's Ditch itself, accompanied by further cultivation; medieval truncation of the earthwork, possibly relating to Mongewell deserted medieval village; cultivation on both sides of the earthwork, and 18th-century landscaping. Beaker, late Bronze Age/Iron Age and Roman pottery were recovered, although their chronological relation to the earthwork remained unclear.

In 1988 two further trenches were excavated along the line of the bypass at SU 609 881 between the Thames and Grim's Ditch (see Fig. 5.2;

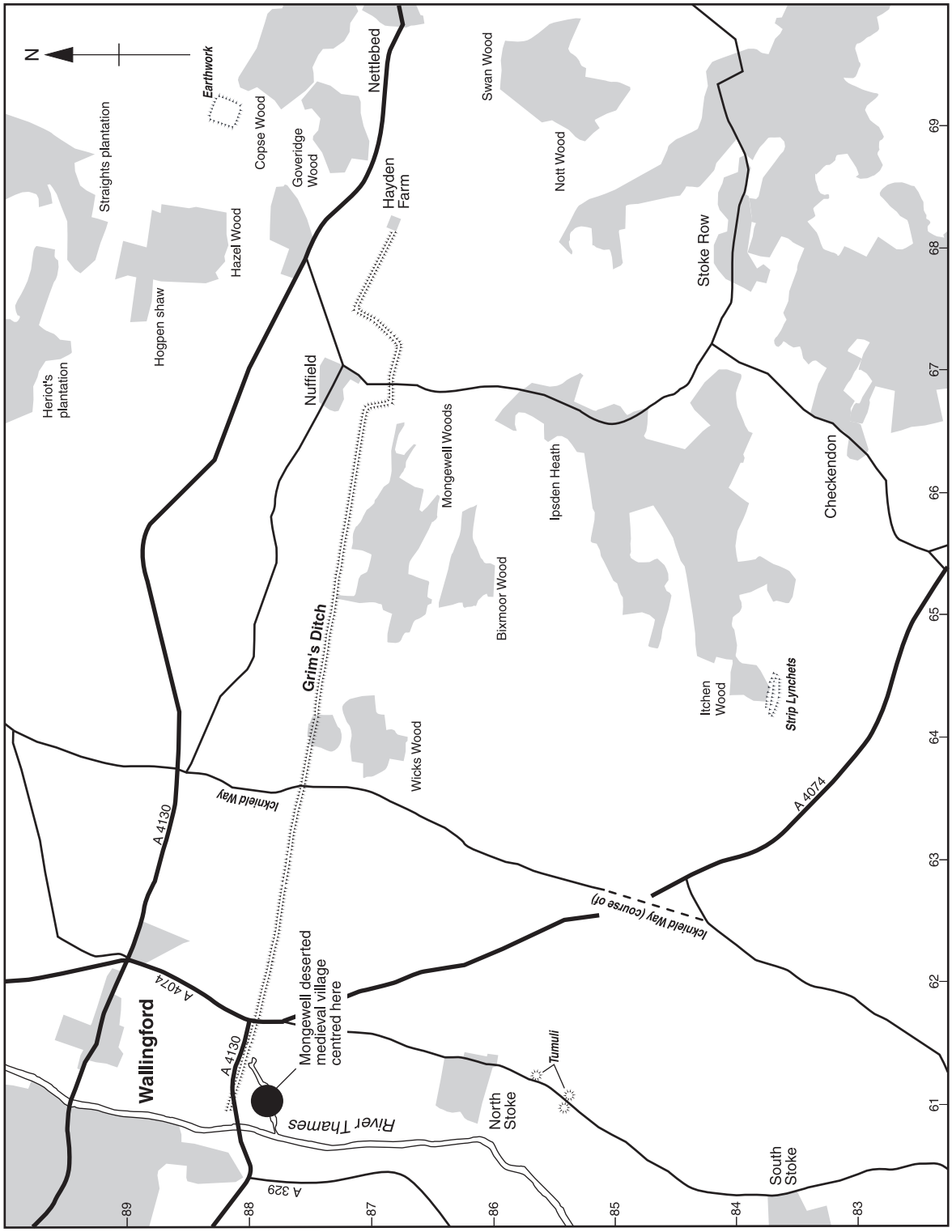

Figure 5.1 Grim's Ditch earthwork

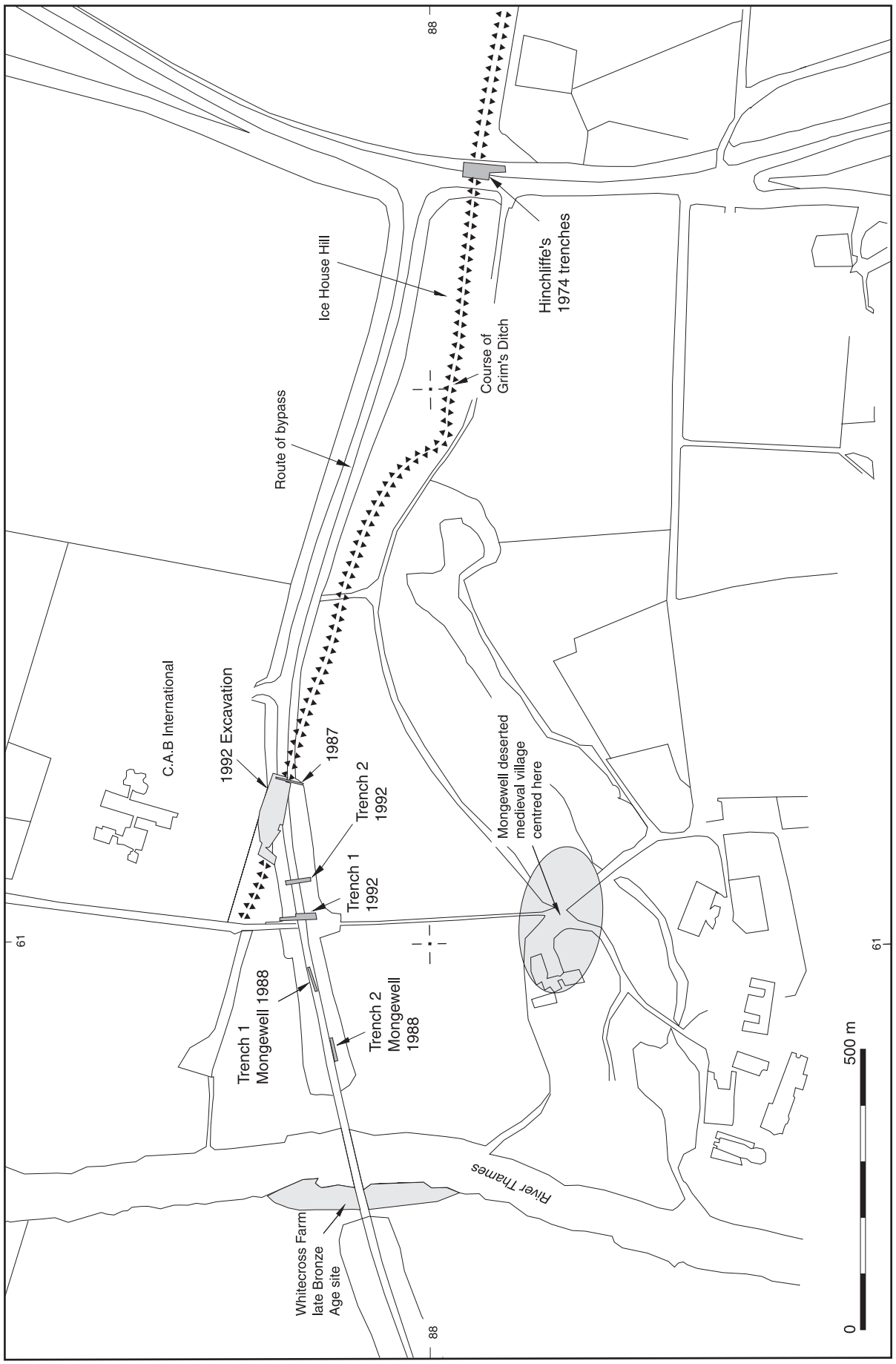

Figure 5.2 Trench location plan showing Hinchliffe's 1974 trenches and the relationship of the Grim's Ditch site to the late Bronze Age eyot at Whitecross Farm and Mongewell deserted medieval village

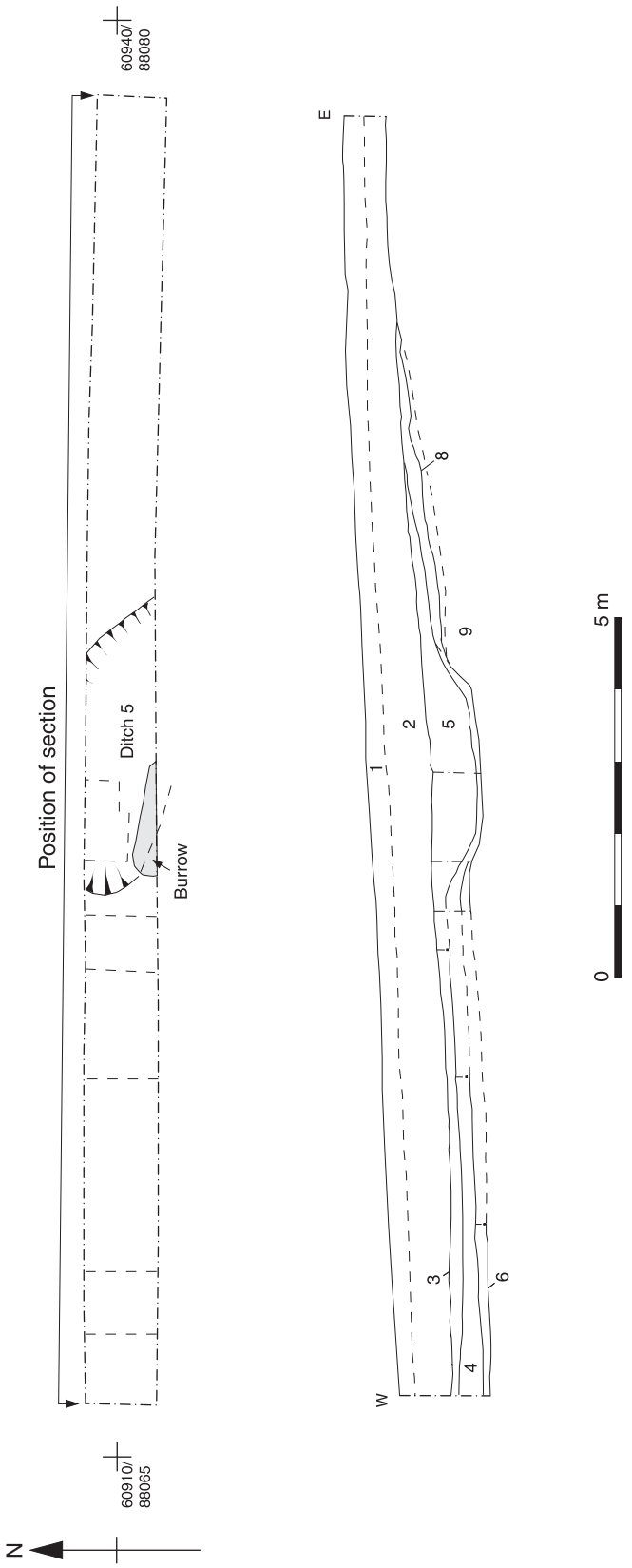

Figure 5.3 Plan and section of Mongewell 1988 trench 2

MONG88:1–2). The eastern trench (1) revealed up to 0.75 m of successive ploughsoils, overlying thin, sporadic patches of original soil cover. The western trench (2), closer to the edge of the terrace, revealed a build-up of ploughwash up to 0.85 m deep covering a silty loamy layer containing Neolithic material, as well as the possible terminal of a ditch (Fig. 5.3).

This evidence, together with other information, provided the basis for a scheme of mitigation by Oxford County Council Engineers in consultation with the OAU. This involved fully excavating a wide swathe across Grim's Ditch in 1992, in order to date the earthwork and the field system beneath it; to examine the pre-earthwork field system; to date basal sediments in the earthwork ditch and, if possible, obtain a sequence through it; to obtain ecofactual samples to elucidate the changing character of the environment of the sequence, and especially of the environmental context of Grim's Ditch; and to clarify the nature of the medieval settlement traces recorded during the evaluation. The academic objectives were to consider the sociopolitical context of Grim's Ditch in relation to its date; to consider the pre-earthwork field system in relation to other traces of pre-Saxon fields; and to consider the medieval settlement traces in relation to the existence and desertion of Mongewell deserted medieval village.

The work was funded by Oxfordshire County Council, supported by a 45% grant from English Heritage. The excavation of Grim's Ditch was not, however, completed within the time agreed because of the complexity of the pre-earthwork archaeology. Further work required to elucidate the cultivation traces associated with the earthwork was funded by Oxfordshire County Council. Two further evaluation trenches were excavated across the line of the bypass to the south of Grim's Ditch at SU 6102 8813 (trench 1) and 6106 8814 (trench 2) (see Fig. 5.2). In both there were two successive ploughsoils between topsoil and natural, echoing the build-up of ploughsoils found in the trenches to the west in 1988. An undated posthole was recorded beneath these at the south end of trench 1.

A length of Grim's Ditch centred at SU 611 881 was excavated (three areas: A–C, from east to west) immediately to the west of the 1987 evaluation trench (see Fig. 5.5, Pl. 5.1). Areas A and B cut across the bank, while a full section of the ditch was exposed in Area C.

EXCAVATION METHODS AND RECORDING

These three areas had a considerable number of standing trees, the stumps of which were left *in situ* during the excavation (Pl. 5.1). Baulks were initially left running north–south across the site, though

Plate 5.1 General view of the site during excavation (1992) after removal of the remnants of the Grim's Ditch earthwork bank, looking west from the eastern end of Area A

these were later removed. Most of the excavation was undertaken by hand with some deeper sections into the ditch excavated by machine. Extensive layers were initially preserved to recover artefact spreads, which were recorded in three dimensions.

The single context recording system was used, whereby a single number from a continuous series is given to each context. Contexts which were observed in more than one area were given separate numbers in each area and correlated later, with the exception of the topsoil and the immediately underlying soil. Plans were drawn at scales of 1:20 and 1:50 at different stages throughout the excavation, with certain features, such as the cultivation ridges and plough and ard marks, also being planned separately. Sections of individual features and the baulks were drawn at 1:20. Some of the major sections left in the final stages of excavation were cleaned back and redrawn, at which point some contexts were reinterpreted as in fact representing more than one event. New contexts were defined for each of these, and inevitably there is some uncertainty as to which of the new contexts the previously excavated finds belonged. Only artefacts which were securely related to particular contexts have been used in the phasing of the site. Areas of some layers were left unexcavated to allow weathering to reveal artefact scatters, and these were then excavated in spits. They were numbered by adding a suffix to the context number (eg 206/1) and finds were recorded by spit.

Soil samples were taken from contexts where high concentrations of charcoal or other charred material were encountered. A snail column was taken from the ditch section, and a sequence of soil samples was taken for soil micromorphology.

ARCHAEOLOGICAL DESCRIPTION

The development of the site has been divided into eight broad phases, one of which is divided into three subphases (Table 5.1). While in general the relative chronology of these phases is clear, the features grouped within them need not all be strictly contemporary. In many of the features datable artefacts were rare or absent. Many were also clearly residual, perhaps because of the numerous episodes of ploughing and other disturbances to which the site has been subject. It is therefore often difficult to assign absolute dates, even in terms of broad periods, to these phases.

Phase 0: earlier prehistoric activity

Sporadic finds clearly demonstrate activity in the excavated areas from the Mesolithic to the beginning of the Bronze Age. Many of these artefacts, however, were clearly in secondary contexts, and some can be dated only tentatively. Given these difficulties, and the small numbers of artefacts in most contexts, it is impossible to confidently assign any features to this broad phase.

Table 5.1 Grim's Ditch phasing

Phase	*Description*
0	Earlier prehistoric (Mesolithic–early Bronze Age) activity
1	a Bronze Age ard marks
	b Late Bronze Age–Iron Age tree clearance
	c Late Bronze Age–Iron Age settlement
2	Late Iron Age cultivation soil and ridges
3	Late Iron Age:
	a Construction of the earthwork
	b Initial silting of the ditch
4	Roman and post-Roman:
	a Post-bank ploughing
	b Cleaning/activity around the ditch
5	Medieval:
	a Building and pits
	b Ploughing
6	Medieval/post-medieval ploughing and ditches
7	18th-century landscaping

The only area in which artefacts from this phase are likely to have suffered from relatively little disturbance was in the 1988 trench 1 where ten sherds of decorated middle Neolithic Peterborough Ware (including Fig. 5.15.1–4), worked flint including a possible leaf-shaped arrowhead (Fig. 5.13.10), burnt flint and animal bone were found in a thin grey silty loam palaeosol overlying a preserved ground surface, itself covered by an alluvial layer.

Further artefacts of this and earlier date were mostly found in much later contexts. Mesolithic flint, for example, was found associated with later ard marks, cultivation soils and in the bank of Grim's Ditch. Further worn Neolithic sherds, including some similar in fabric to the Peterborough Ware, but also others that could be early Neolithic in date, were found in the bank (eg 15), in layers associated with the ploughing before (eg 202) and after (eg 203) the bank's construction, and in layers below the bank (eg 221).

Further Peterborough Ware sherds were also found in the end of a U-sectioned ditch in trench 2 (see Fig. 5.3). Given the clear evidence of residuality these sherds cannot be regarded as providing firm dating evidence for the feature. The ditch cut both the middle Neolithic palaeosol and the alluvium/colluvium (4) which covered it, and is thus clearly later than these layers. Rather than dating from the Neolithic, the ditch may instead have been related to the possibly late Bronze Age features described below (phase 1c).

Very small quantities of late Neolithic–early Bronze Age pottery, including a Beaker sherd, were also found within the bank and in one phase 1 layer (518) preceding it. The evidence for activity in this phase provided by these few sherds is supplemented by two radiocarbon dates: 2340–2040 cal BC and 2130–1880 cal BC (95% confidence OxA-7173–4; 3765±40 BP, 3600±35 BP). These two dates were

obtained from samples of charred cereal, including emmer wheat, from the fill (133) of posthole 135 (Fig. 5.5). The two dates are significantly different at the 95% confidence level, suggesting that the dated material derives from two or more 'events', and is thus likely to be residual. For this reason, despite these dates, these postholes have been assigned to the late Bronze Age (phase 1c) and are discussed below with other similar features. The evidence for a late Bronze Age date, however, is itself not conclusive, and it remains possible that some or all of the postholes do date from the late Neolithic–early Bronze Age.

Phase 1: cultivation, clearance and settlement in the Bronze Age *(Figs 5.4–5)*

Phase 1 is divided into three subphases, representing phases of cultivation marked by ard marks, followed by tree clearance and then 'settlement'. Despite little dating evidence, the phase is broadly attributed to the Bronze Age, although its earliest subphase could have begun earlier, in the Neolithic.

Phase 1a: early cultivation

Small areas of grooves interpreted as ard marks were found in both Areas B and C (Fig. 5.5). In both areas the grooves were cut into brown sandy loams (355 and 223) which form, or derive from, disturbance of natural sediments. The grooves in both areas were aligned similarly: one series of parallel grooves ran NNW–SSE, roughly perpendicular to the second series. The grooves themselves were generally only 0.03 m wide (except in Area B where, perhaps because of better preservation, they were 0.06 m wide), no more than 5 mm deep, and were spaced 0.3–0.2 m apart. In section 1 (Fig. 5.9a), however, the grooves appeared deeper, from 20 mm to 50 mm, and were clearly V-shaped in section.

No artefacts were associated with these layers, but in Area B they were overlain by a layer (221) of compact mid brown sandy silt which contained worked and burnt flint, fired clay, burnt bone and several small abraded Neolithic or early Bronze Age sherds as well as two small and possibly intrusive sherds probably dating from the middle Iron Age.

Phase 1b: ?tree clearance

Numerous features interpreted as tree-throw holes or root disturbances were found in Areas A (83–6, 165, 170–2), B (222, 234–5, 245–6, 251–2, 259–60, 275–6, 279–86), especially its north-eastern part, and C (365–6). One of these features (222) contained much charcoal, suggesting deliberate clearance. Similar evidence did not, however, occur in other features. None contained artefacts, and, although they all lie stratigraphically between the earliest ploughsoils and the pre-bank cultivation soils, they need not all be contemporary. One at least (245–6) was cut by a posthole (241) assigned here to the late Bronze Age, hinting that the clearance may have predated the settlement in the late Bronze Age. Taken together these features suggest a phase of woodland regeneration between the earliest cultivation and the cultivation immediately preceding the construction of the bank.

Phase 1c: ?settlement

A scatter of 91 postholes, pits and scoops in Areas A and B has been assigned to this phase (see Fig. 5.4). Although a six-post structure has been recognised among these features, there is little other apparent order. The other features have been grouped into three more or less distinct clusters. There is again little clear dating evidence, and these features are attributed to the late Bronze Age largely on the basis of parallels for the six-post structure.

Structure A: the six-poster

Six postholes (Table 5.2, Fig. 5.6, Pl. 5.2) laid out in a rough square, 3.4 m across, in the west of Area B have been interpreted as the remains of a six-post structure (Structure A). All of these postholes were sealed by a phase 2 cultivation soil (206) and were cut into a phase 1a ploughsoil (221; see Fig. 5.9). One also cut tree-throw hole 245, assigned to phase 1b.

Cluster B

Feature Cluster B lies 12 m to the east of Structure A. All the features in this cluster were overlain by phase 4 layer 102, except posthole 158 which may have been cut into the lower part of this layer.

Within this cluster eight postholes may have formed an oval structure with a diameter 3.5 m x 2.5 m. Two further groups of postholes forming concentric arcs at its eastern end may represent repairs or rebuilding. The postholes were all roughly circular, 0.14–0.3 m in diameter and 0.05–0.12 m deep. They had shallow rounded profiles, with the exceptions of 427, which was very shallow, and 429 which was deeper and more U-shaped in profile. They were all filled with identical light grey-brown silt with frequent chalk inclusions, which was quite distinct from the fills of the tree-throw holes and other natural features in this area. Given that it is not significantly truncated, the absence of domestic features such as hearths, and the small size of the structure, suggest it was not a house. No patterns have been discerned in the surrounding postholes; some may have been related to the oval structure.

Cluster C

A third cluster of 11 postholes and shallower scoops (Cluster C) lay between Structure A and Cluster B. Some of the features (eg 251 and 259) may be tree-throw holes or derive from animal or root disturbance. No clear patterns were discerned within this cluster, but five small postholes (253, 255, 257, 261

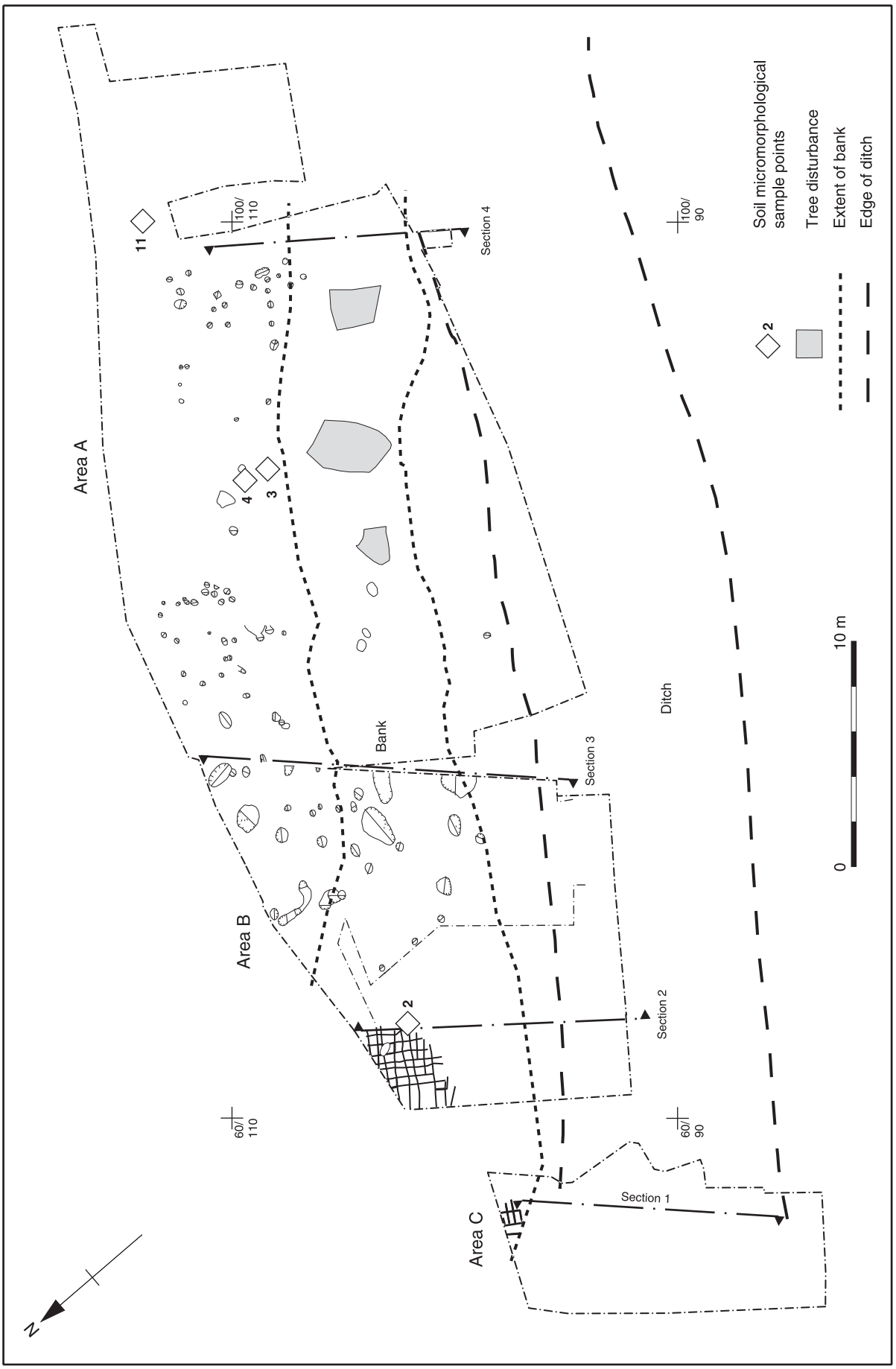

Figure 5.4 Phase 1: pre-bank arding, tree clearance and settlement with limits of later bank and ditch

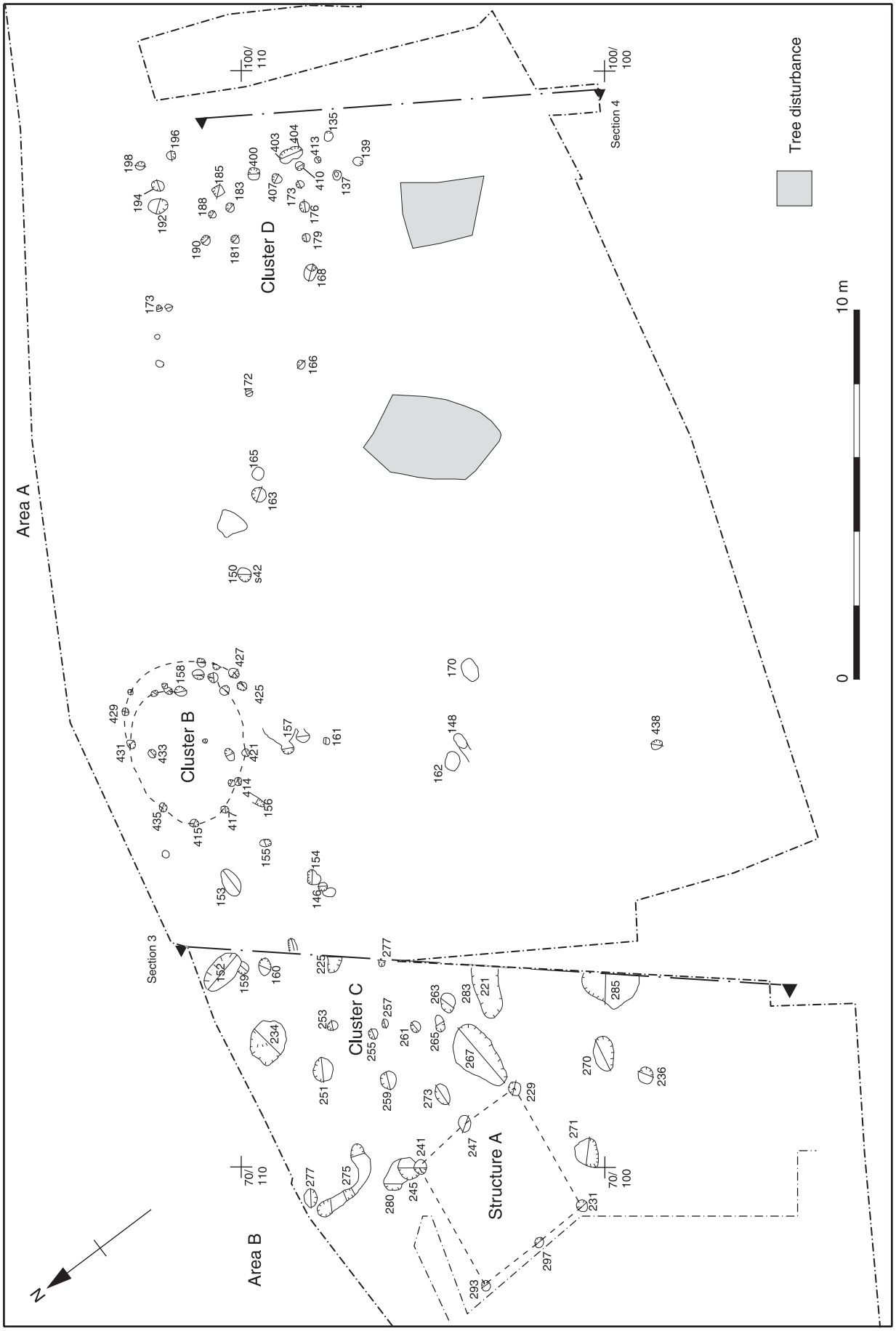

Figure 5.5 Detail of phase 1 settlement, showing Structure A, possible structure within Cluster B and Clusters C and D

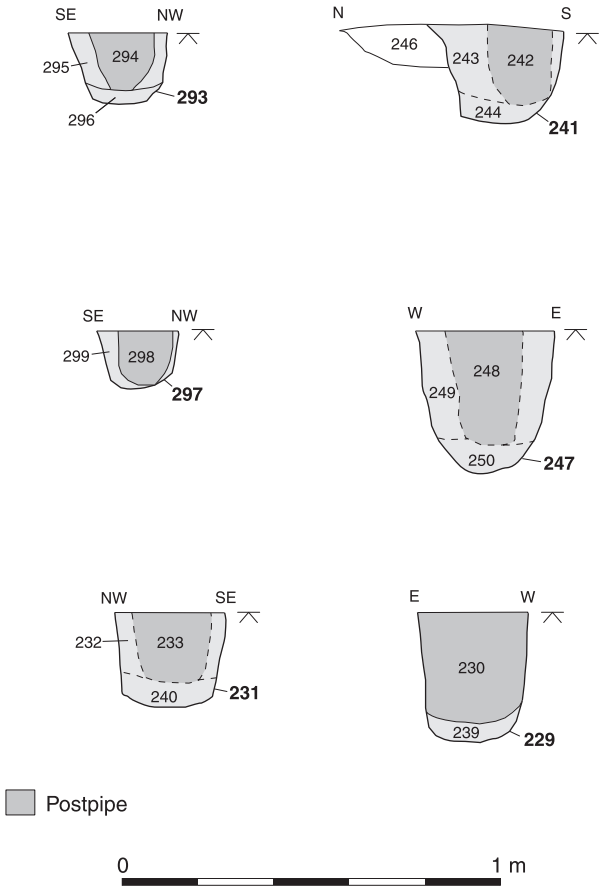

Figure 5.6 Sections of postholes forming Structure A

and 265) may have formed part of a fenceline. They were all roughly circular, measuring 0.2–0.35 m in diameter and 0.04–0.08 m in depth, and were filled with sandy silty loam. The other postholes in this cluster varied in form. Three (225, 263 and 273) were oval, *c* 0.42 m long by 0.34 m wide. Posthole 225 had a more U-shaped profile (0.23 m deep, filled with friable dark brown silty loam) than the others, while postholes 263 and 273 had shallower, more rounded profiles, 0.09 m and 0.08 m deep respectively, and were filled with similar grey-brown sandy silt.

Cluster D

The fourth cluster of features (Cluster D) consisted of 28 shallow scoops, pits and postholes at the south-east side of Area A. All were below cultivation soils (phase 2 103 to the west; phase 2 101 to the south; phase 4 102 to the north and east; Fig. 5.9b). Some of these features may derive from natural animal and root disturbance, but 20 made convincing postholes (in addition to those described below these were: 139, 163, 166, 168, 174, 198 and 410).

One group of postholes (179, 181, 183, 188, 190, 192, 194 and 196) were marked by their similarity in size and fill. They all measured *c* 0.2 m in diameter, and 0.04–0.11 m in depth (except 181: 0.16 m deep), and were filled with similar mid grey-orange-brown silt containing occasional chalk, which was markedly different from the dark red-brown silt (116) that formed the substrate and filled root holes in this part of the site.

A second group of postholes included several with definite postpipes (135, 137, 173, 176 and 185). The postholes were all circular, with diameters of around 0.2 m, except for 185 which was 0.17 m square. The postpipes were filled with dark grey or

Table 5.2 Structure A: details of postholes

Cut	*Shape in plan*	*Diameter (m)*	*Depth (m)*	*Level at base (m OD)*	*Profile*	*Fills*
297	Circular	0.22	0.15	46.925	U-shaped	299 friable red-brown silty sandy loam, post-packing 298 friable dark brown silty sandy loam with moderate charcoal inclusions, forming distinct postpipe, sample 13
293	Circular	0.24	0.18	46.94	U-shaped	296 primary fill of redeposited natural 295 dark red-brown silty sandy loam post-packing 294 postpipe with moderate charcoal, sample 14
229	Oval	0.28–0.35	0.35	46.875	U-shaped	239 primary fill, redeposited natural 230 silty loam with no discernible postpipe
231	Circular	0.31	0.24	46.86	U-shaped	240 primary fill, redeposited natural 232 post-packing 233 postpipe with moderate charcoal
241	Circular	0.34	0.21	46.945	U-shaped	244 primary fill, compact sandy silt loam with occasional chalk flecks 243 similar with more chalk 242 post-pipe, similar, sample 15
247	Circular	0.38	0.39	46.85	U-shaped	250 primary fill, redeposited natural 249 silty sandy loam with some chalk 248 postpipe, similar with some charcoal flecks, sample 16

Plate 5.2 Structure A, looking south-west, with phase 2 cultivation ridges sealed by paler Grim's Ditch bank material visible in the section behind

brown silt containing much charcoal, which was clearly distinct from the dark red-brown silts which formed the packing around the posts. The postpipe in 173 was circular and 0.11 m in diameter; that in 135 was 0.18 m square. It was from 135 that the sample of emmer wheat on which the late Neolithic–early Bronze Age radiocarbon dates – 2340–2040 cal BC and 2130–1880 cal BC – discussed above were obtained. The statistical discrepancy between these dates suggests that the material is residual, and does not provide a good date for the posthole which is here assigned to the late Bronze Age. Two further features contained less certain postpipes (400 and 410); although similar in some respects to the other postholes described here, they are also comparable to some of the shallow scoops (403–4 and 413).

Phase 2: late Iron Age cultivation *(Fig. 5.7)*

Two distinct cultivation soils overlay the settlement phase. The earliest of these (layers 47, 116, 103, 206(=?202) and 314) sealed the six-post structure and other features in the settlement phase, and were in turn sealed by the Grim's Ditch bank (see Fig. 5.9b: section 3). They consisted of either a compact dark red-brown silt with occasional lighter yellow-brown sand or a mid brown-grey sandy silt with chalk flecks. The small and abraded sherds they contained do not seem to date from any later that the end of the Iron Age or very early in the post-conquest phase.

A series of north–south orientated cultivation ridges (62–70, 73, 75–80, 82, 91–4, 210–12, 351–3 and 356) within these soils were preserved by Grim's Ditch bank (Fig. 5.7). The furrows have a U-shaped profile, generally 0.05–0.07 m in depth (but up to 0.2 m deep in Area C, Pl. 5.3). They vary from 0.4 m to 0.8 m wide and were placed at roughly 0.8 m intervals. These ridges presumably originally extended further north where they were destroyed by later ploughing.

At apparently the same stratigraphic level, an area of plough or ard marks was found immediately to the north-east of the ridges in a layer (101) very similar to 103, perhaps originally part of the same soil (Fig. 5.8, Pl. 5.4). These marks consisted of two series of parallel grooves. One set, 0.1–0.2 m apart and 0.05 m deep, ran east–west (110–15) perpendicular to, and cutting the other set, which lay 0.4–0.6 m apart, and were 0.02 m deep. All were filled with dark red-brown silt (96–100, 104 and 117–22). They may represent ploughing out of the cultivation ridges prior to the construction of Grim's Ditch bank. Although both ard marks and cultivation ridges appear to be buried beneath slippage of bank material (7–8), some of the ard marks contained chalk that is not derived from the underlying undis-

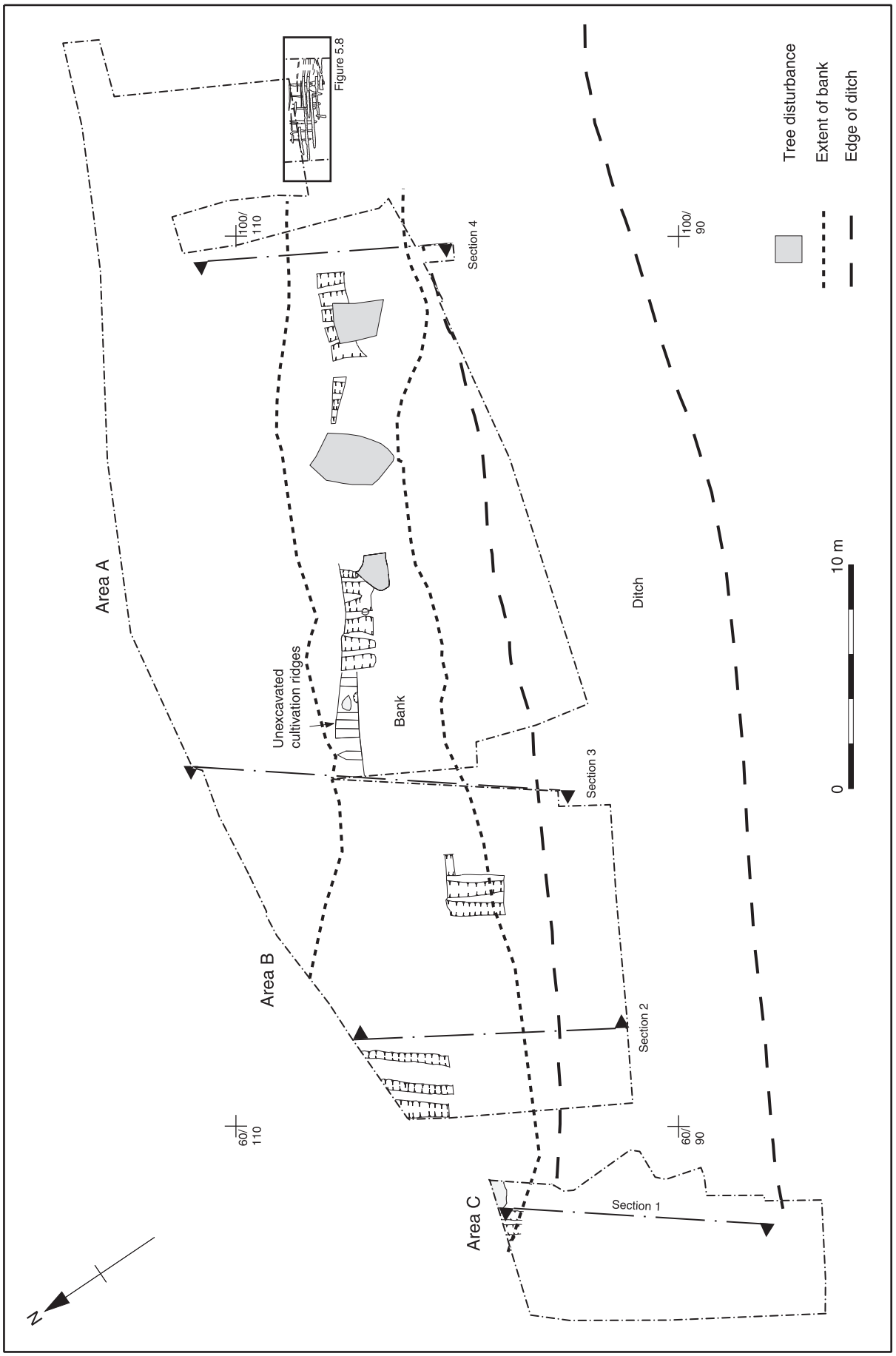

Figure 5.7 Areas of surviving phase 2 cultivation ridges with limits of later bank and ditch

turbed subsoil (116). Such material may derive from ploughing through the slumped bank material and would thus post-date the construction of Grim's Ditch bank.

Similar plough marks were observed at the bottom of layer 518 in the 1987 evaluation trench in the eastern part of the excavated area.

Although the plough/ard marks observed in 101 probably extended to the north of the slippage from the bank they were very difficult to trace there, probably because of later – possibly late Iron Age or Roman – disturbance beyond the protection of the bank. Similarly orientated ard marks probably related to those in Area A, running parallel to the north side of the bank, were, however, seen in the section through the bank at the eastern edge of Area B. They were again cut into the layer (206) which contained the cultivation ridges.

The few sherds found in these contexts were small and abraded. None of the four sherds from 103 date from later than the end of the Iron Age. Layer 101 contained one residual Neolithic or Bronze Age sherd, one intrusive medieval sherd, and two others which may be Roman. A Roman sherd was also found in the ard marks in this area. Layer 102 contained one late Neolithic or Bronze Age sherd and one Roman.

A further series of ard marks (437) forming a rectilinear pattern was found in the north corner of Area A (Pl. 5.5). One set, aligned NE–SW, were 0.24–0.74 m apart; the other, aligned NW–SE, were around 0.36 m apart. They were not excavated, but the difference in their alignment with respect to the other ard marks suggests they may belong to a separate, perhaps later, phase.

Phases 3–4: the Grim's Ditch earthwork *(Figs 5.9–10)*

Grim's Ditch itself consisted of a large ditch with a bank along its northern side (87 and 350). While its bank preserved the cultivation ridges described above, the ditch cut through the cultivation soils (103, 206 and 514).

The bank and berm

Little of the bank remains. In Area C it was just 1.5 m wide and 0.2 m high, clearly including only a fraction of the material originally removed from the ditch. A section cut in Area B (Fig. 5.9a, section 2) shows the bank to have originally been at least 6.8 m wide, and even here it has been truncated by later ploughing (291). The northern edge of these deposits is 9.2 m north of the edge of the ditch. Given the absence in the ditch fill of deposits slumping from the bank, it seems likely that the bank and ditch were separated by a berm, the width of which is unclear. The distance between the bank

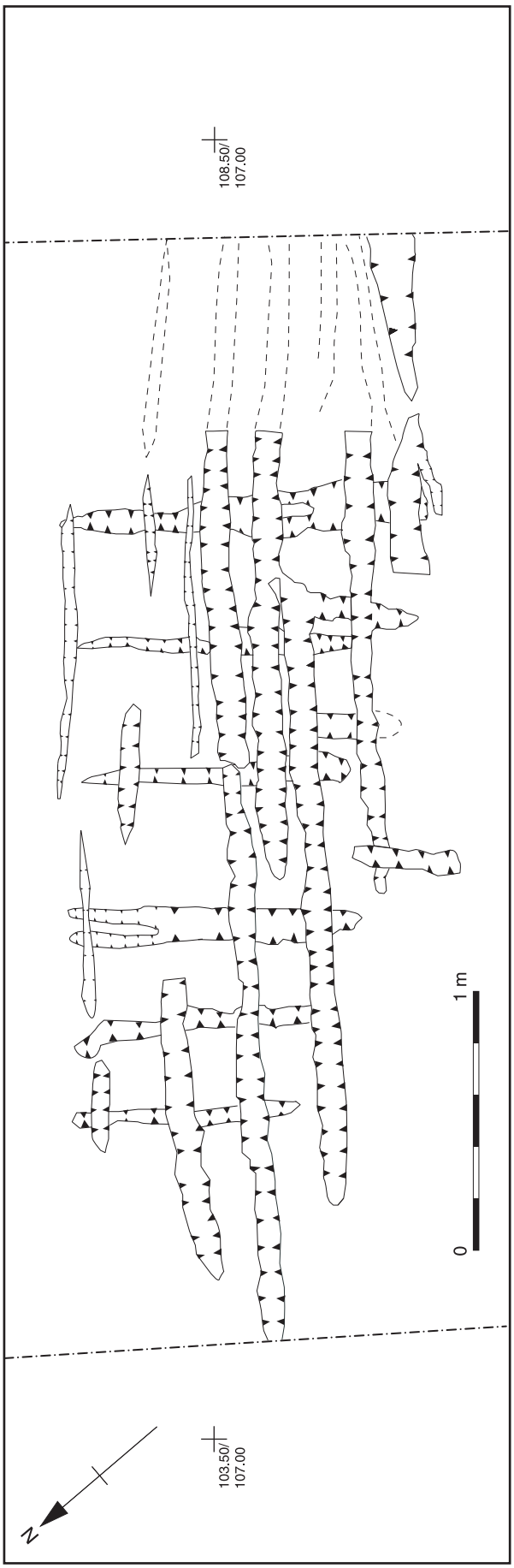

Figure 5.8 Phase 4 post-bank ploughing to east of Area A

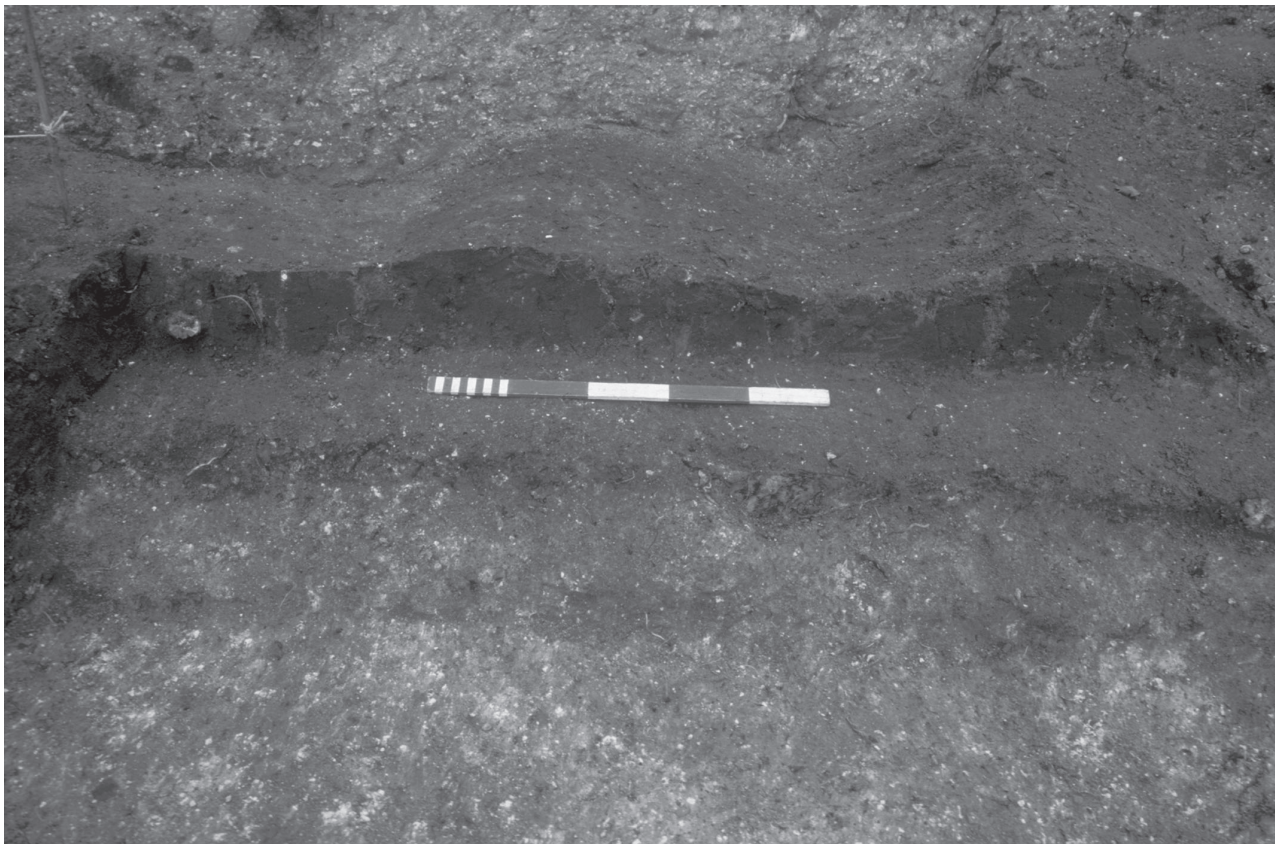

Plate 5.3 Phase 2 cultivation ridges preserved beneath the Grim's Ditch bank

deposits and the ditch varies between 2 m and 4 m. If the berm was 2 m wide, and was constructed from all the ditch material, the bank would have been around 7 m wide and about 2 m tall.

The bank was constructed of chalk and soil which were not deposited in a structured way. The chalky layers (14, 95, 292=287=203) within the bank made the ridged cultivation below highly visible; the brown silty layers (11, 354, 288 and 289) were similar to both earlier and later ploughsoils.

In Area A the bank was composed of several layers (Fig. 5.9b). A soft dark brown sandy silt with some gravel (15), which may be redeposited ploughsoil or just underlying cultivation soil, lay directly above the cultivation ridges. Above this lay friable pale yellow sand with much gravel (11=522), then a mid grey-brown sandy silty clay (11) containing limestone and gravel, both probably deriving from the cutting of the ditch. To the north further deposits of compact pale yellow sand containing limestone and gravel (7 and 8=520) may derive from the initial slippage of the bank. This suggestion is supported by the discovery of a single medieval sherd, as well as middle Iron Age and 1st-century AD sherds, within them, which provide important dating evidence for the earthwork.

Further west the bank material differs. In Area B it consisted of mid dark brown silty sandy loam with horizontal lenses of chalk and yellow silt (287=288; see Fig. 5.9b, section 3). In Area C it consisted of a friable light yellow-brown gravelly sand containing chalk and flint, which was overlain by a darker fine sandy silt containing some chalk.

A stakehole (515; see Fig. 5.9b, section 4) cut into the cultivation soils on the edge of the ditch, and possibly cut by the ditch, may, however, have formed part of a revetment. Hinchliffe (1975, 134) suggested that the bank must have been retained in some way, but no further evidence of such a structure was found. Three postholes (58, 60 and 90), which cut the cultivation soil (15) and were overlain, and, in the case of 90, filled by slippage from the bank (8), were found on the northern side of the bank, and hence could not have prevented slippage into the ditch.

The ditch

The ditch was sectioned in Area C (Figs 5.9a, section 1, 5.10, Pl. 5.6) where it was 10 m wide and 2.8 m deep. It had a gradual break of slope at the top, 45° sides, and an uneven rounded base. The ditch seems to have become narrower and deeper to the east, away from its western end towards the river. In the 1987 evaluation trench, 45 m to the east of Area C, it appeared to be about 7–8 m wide, and augering to a depth of 3 m did not reach its bottom. Some 575 m further east (see Fig. 5.1), the 1974

Plate 5.4 Phase 4 post-bank ploughing looking east

excavations found it to be 5–6 m wide and 3 m deep (Hinchliffe 1975).

The fills of the ditch have been divided into three phases (see Fig. 5.9a, section 1). The lowest of the primary fills (321, 324 and 325) were grey-orange sandy silts, mottled with iron staining, containing some chalk, which probably derive from slumping rather than deliberate infilling. Some animal bone was found in 325. Above these was a layer of blue-grey silty clay (328) which contained one worked flint, further animal bone and a fragment of Roman tile. Although Robinson suggests that the ditch never held permanent water (see below), this layer may have formed in the bottom of the ditch while it was still in use and contained water. This layer was overlain by an orange-brown sandy silt (327), and, above that, by a mottled orange and brown silty clay, both probably slippage from the side of the ditch. Although the section appears to show a recut between these two and the earlier layers, the fact that parts of the same dog skull and jaw were found in both 325 and 328 suggests that this is an illusion deriving from the reconstruction of the section from either side of a step which was left for safety reasons. The dog bones, perhaps derived from a deliberate burial, were radiocarbon-dated to cal AD 140–390 (95% confidence OxA-7175; 1755±35 BP), which together with the Roman tile provides a secure Roman date for this phase of

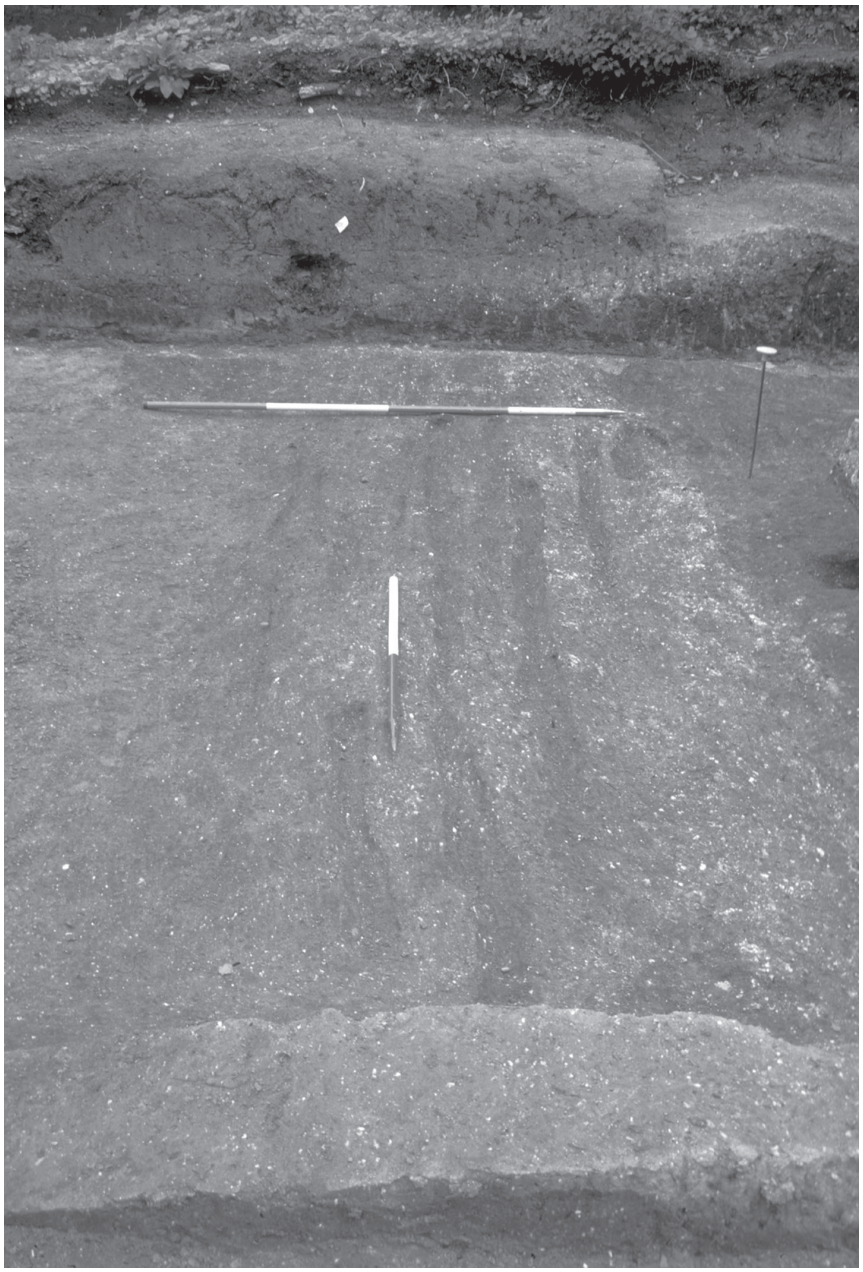

Plate 5.5 East section of Area A showing where post-bank ploughing has cut down through the Grim's Ditch bank mixing the light chalk rich layer into the dark soil rich layers

filling (see also Powell and Clark, below).

The secondary fills were light grey-brown and orange-brown sandy silts or silty clays which contained occasional flint or chalk stained with iron. The fills near the bank (320, 316 and 304) probably derive from further slippage from the bank. Although the stratigraphy here gives the impression of a recut, the relationships visible in the section do not seem to have been fully resolved in the field, and a recut is unlikely. The main fills probably derive from ploughed bank material. A single sherd of possibly 11th–15th-century date in layer 304 provides the only direct dating evidence.

The tertiary fills, deep to mid brown silts (88–9, 292, 305–7 and 309), are probably of the same origin as the secondary fills. A single flake of samian was found in layer 307.

Phases 5–7: medieval and later activity *(Fig. 5.11)*

Early pits and ditches

Two ditches (9=46=208 and 207=50) were found running along the line of Grim's Ditch bank. The earlier of these (9=46=208) varied along its length. In Area B it had a U-shaped profile at least 1 m wide and 0.7 m deep. It became shallower and wider

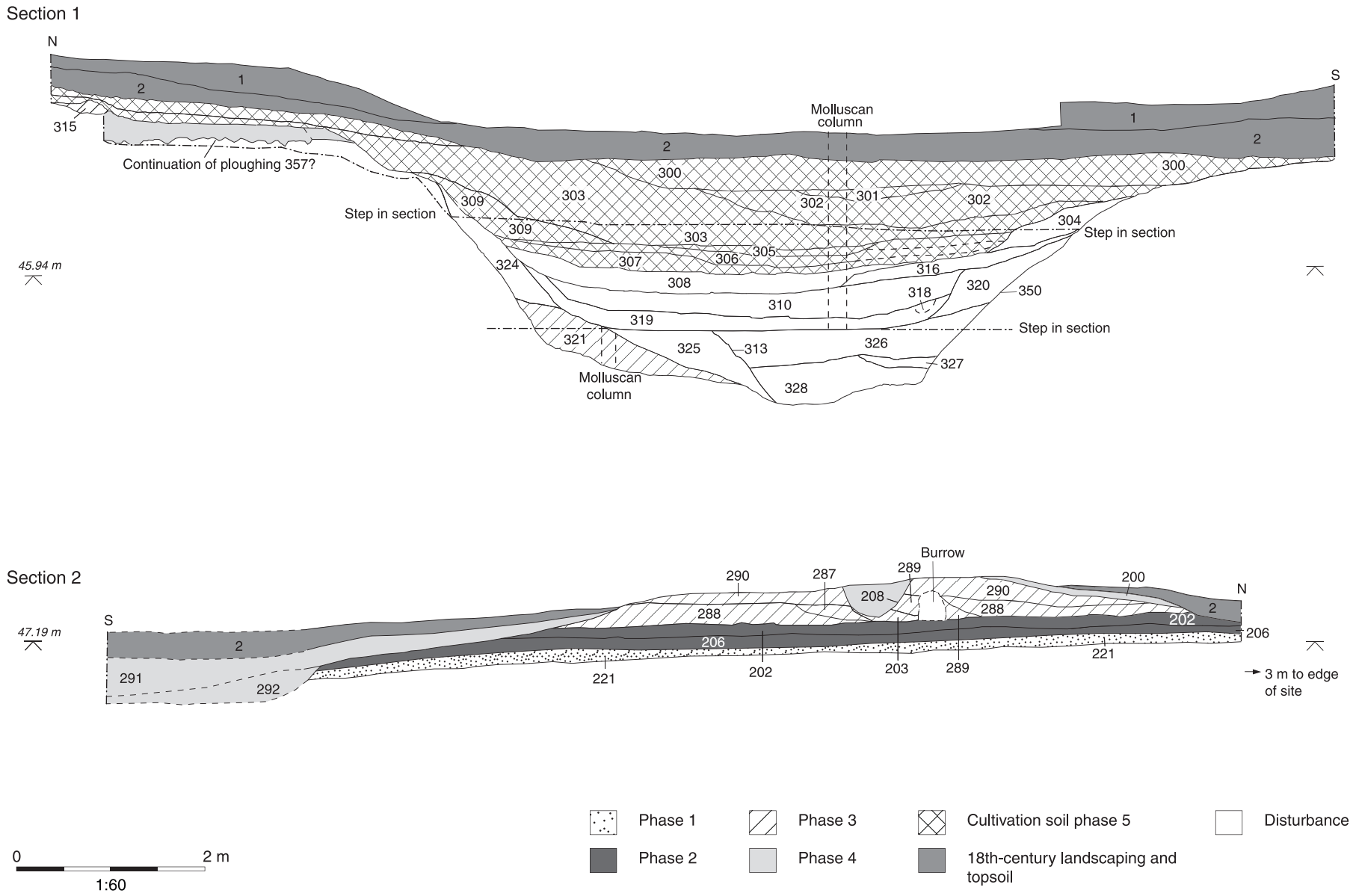

Figure 5.9a Sections 1–2 through the Grim's Ditch earthwork

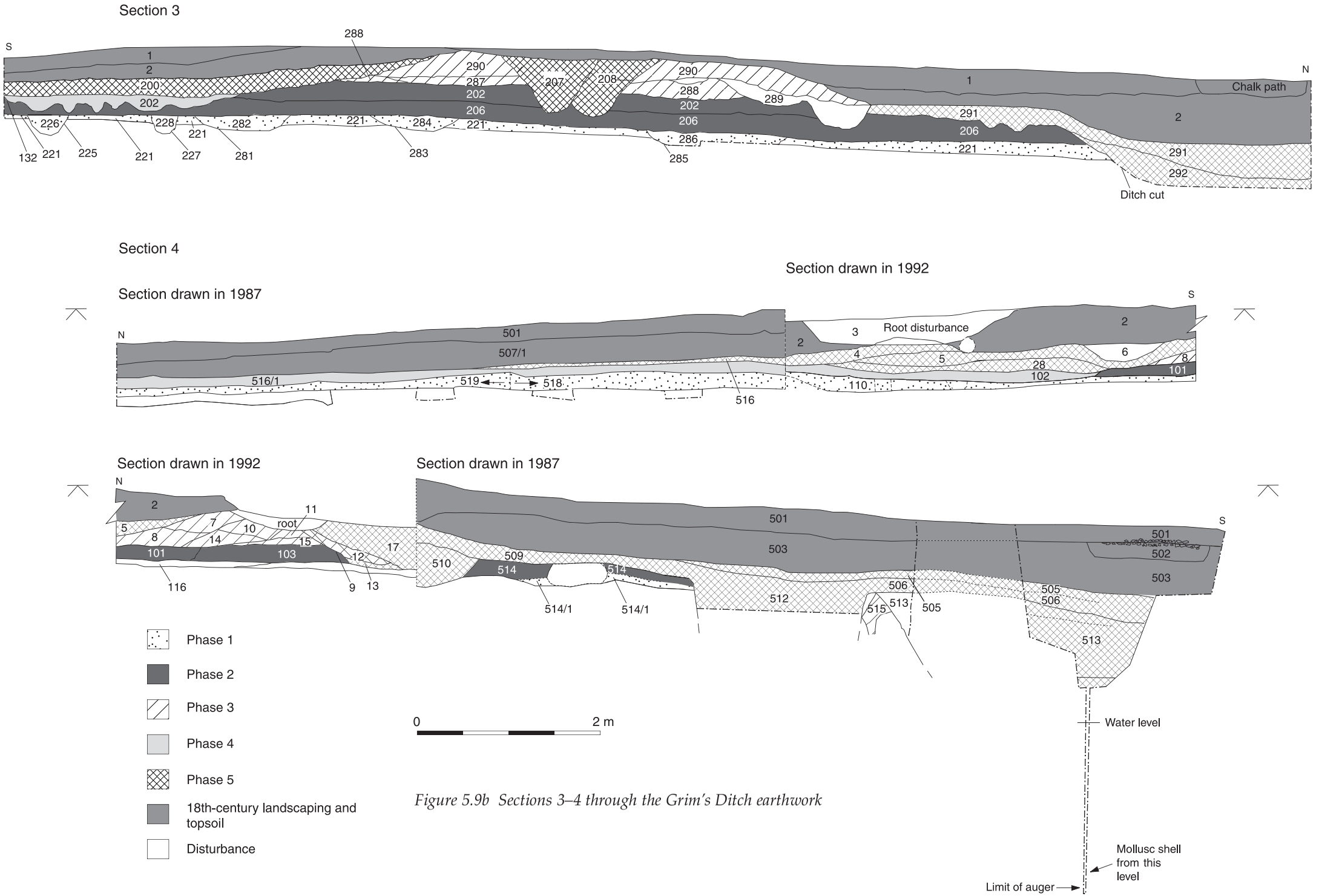

Figure 5.9b Sections 3–4 through the Grim's Ditch earthwork

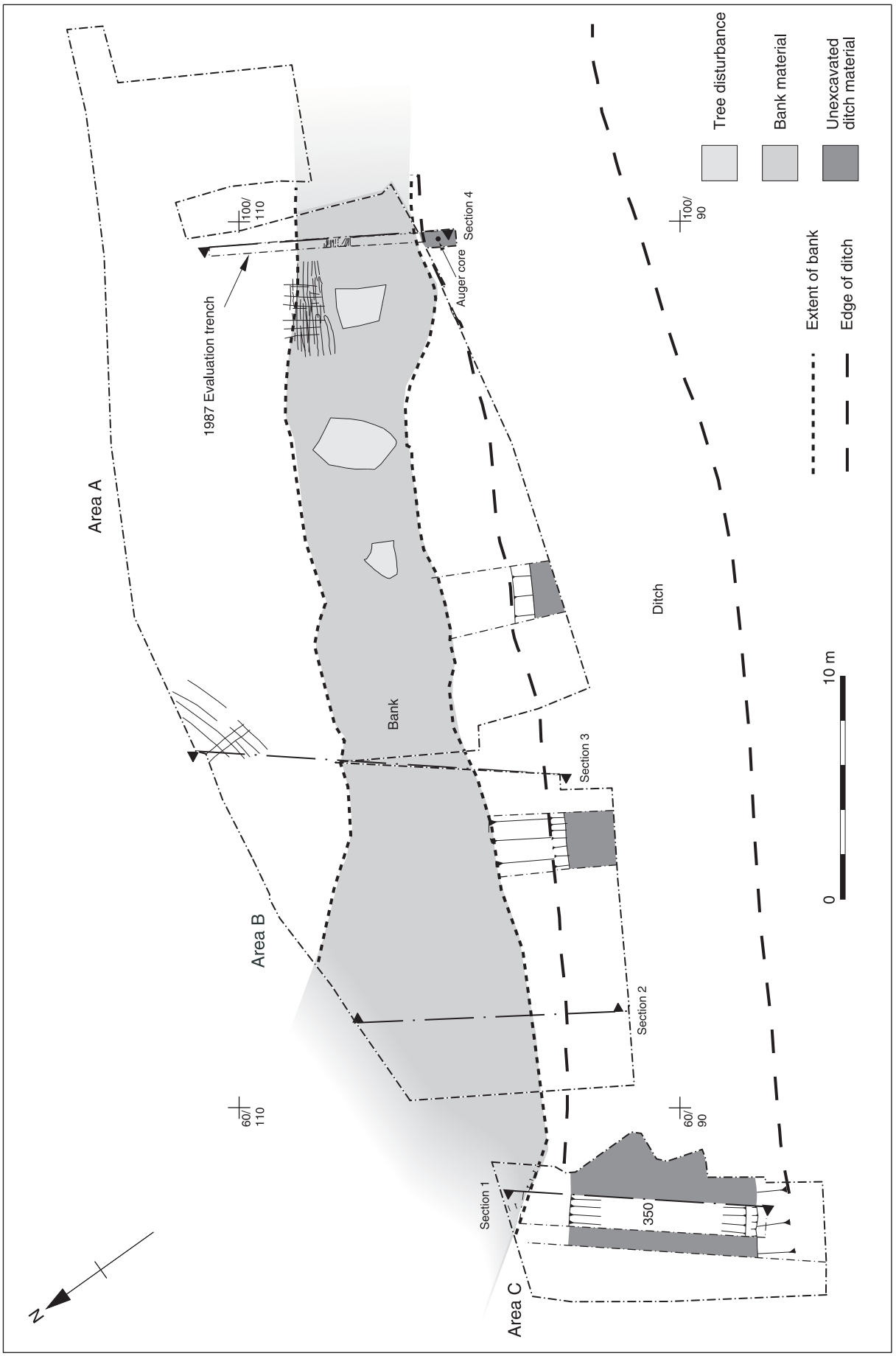

Figure 5.10 Phases 3–4: Grim's Ditch earthwork and immediate post-bank ploughing

Plate 5.6 The Grim's Ditch section in Area C, almost completely excavated with snail sample column removed, looking north-east towards Areas B and A respectively

towards the east, measuring 0.45 m deep and 1.4 m wide in Area A. It was filled with a yellow or grey-brown sandy clay (12–13, 45 and 209). The second ditch (207=50) had a very similar profile, and although it clearly cut ditch 9=46=208, the two merged in the west of Area B, where a second cut could not be recognised (Fig. 5.11). The later ditch was filled with a mid brown sandy silty loam (201=15=51) which contained residual worked flint, and pottery of 11th- to 15th-century date, suggesting, given their similar alignment and form, that both ditches were medieval.

Towards the eastern edge of Area A, ditch 9=46=208 was cut by a pit (44), 1.8–2 m wide and 0.38 m deep, filled by a soft mid yellow-brown sand. This pit was, in turn, cut by a rectangular pit (48) of similar dimensions, but only 0.2 m deep, with concave sides and a flat base. It was filled by friable dark grey-brown sandy silt (35) which contained one piece of flint and an animal bone.

The stone building

Pit 48 lay within the remains of a stone building (Fig. 5.12, Pl. 5.7). The walls of this structure were set within a curved foundation trench, 4 m long, 0.3 m wide and 0.1 m deep, with steeply sloping sides and a flat base. Although the walls (19 and 20) may well have been built at one time, since they (and the foundation trench) were cut by a pit (34), they were given two context numbers. The walls were built of rough courses of roughly squared blocks of chalk and occasionally flint, measuring up to 0.12 m x 0.20 m x 0.05 m. No mortar was used; a pale brown chalk and clay mix was the only material found between the blocks. A posthole (37) cut into wall 20 may indicate that a wooden superstructure rose above the stone foundations.

Although it could be an unrelated ditch, the cut (21) along the western side of the structure may be a robber trench related to the removal of a western wall. It was, however, overlain by the partial remains of a later and less substantial wall (25 and 27), which was perhaps an attempt to rebuild the western wall.

A series of layers interpreted as make-up layers and floors were found within the building. The earliest of these (23), a make-up layer, overlay the fill (35) of pit 48, and consisted of compact mid brown clay silt containing stones, gravel chalk flecks and charcoal. It contained 11th- to 13th-century pottery. It was covered by a very compacted layer of sand, gravel and chalk (22) which may be a floor or a make-up for layer 18. Layer 18 was a flat surface composed of a single layer of flints within a clay silt matrix which had been burnt uniformly along its length (see Pl. 5.7). It was originally suggested that it may have been a hearth for a bread

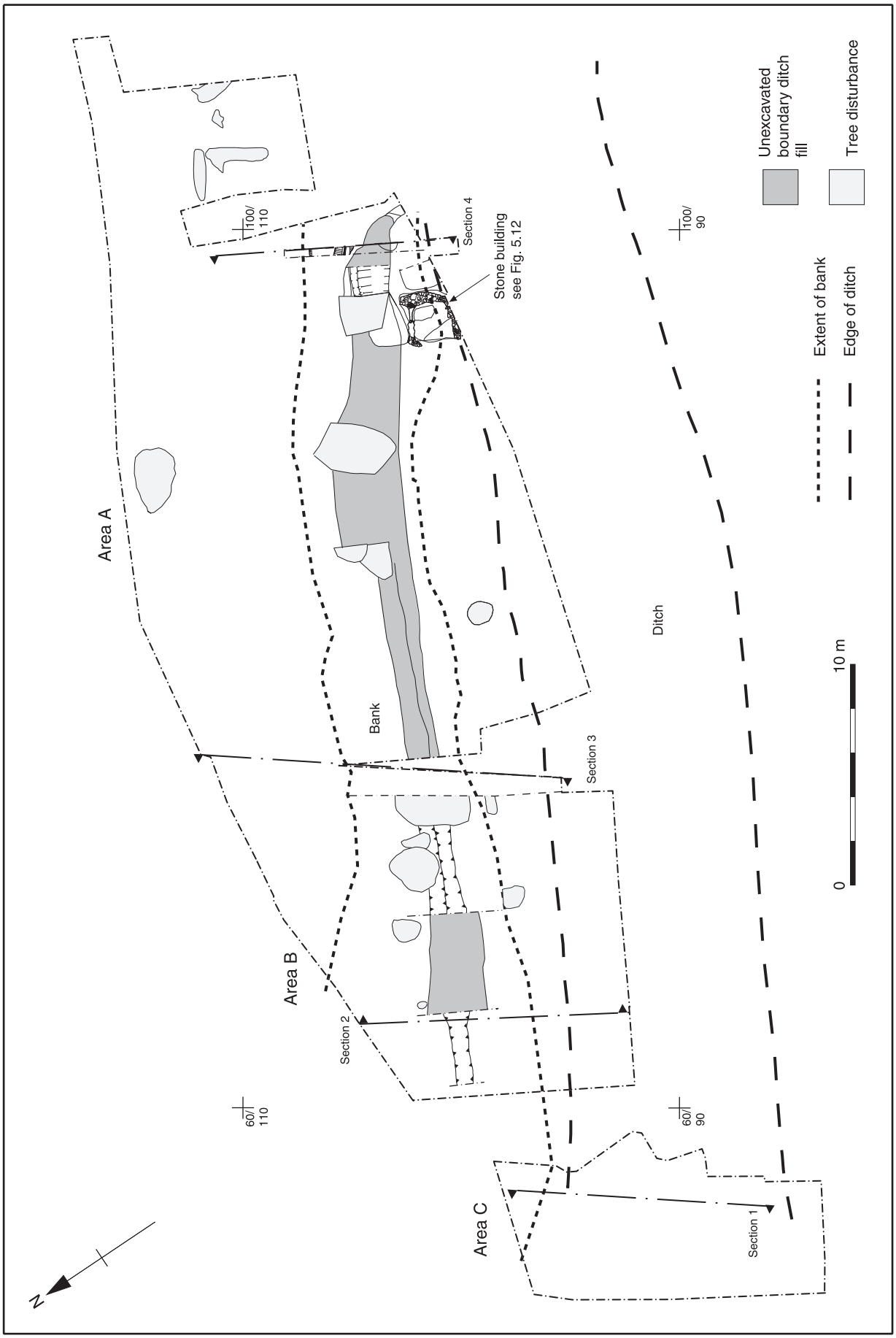

Figure 5.11 Phases 5-7: medieval and post-medieval features with the extent of the earlier bank and ditch

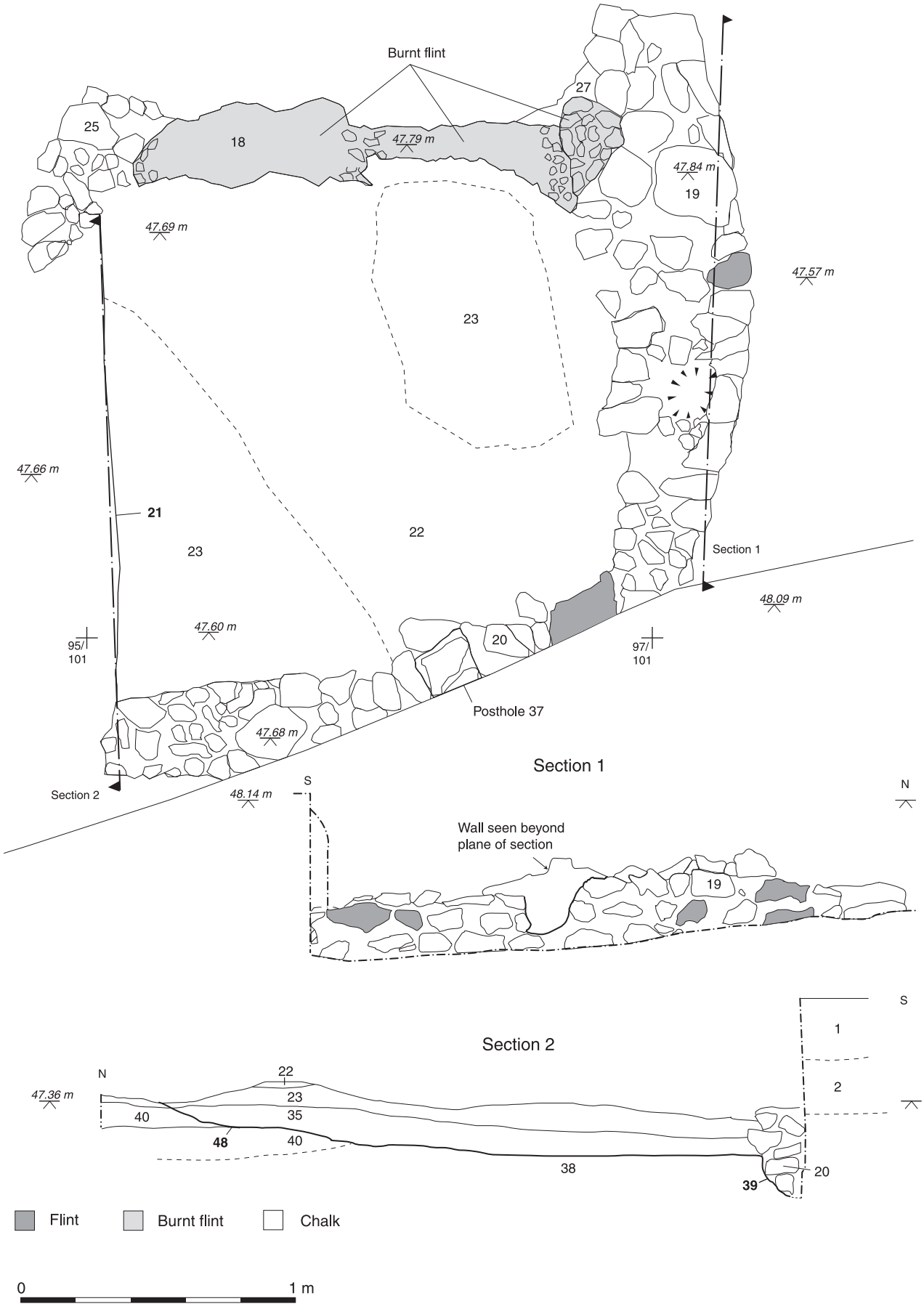

Figure 5.12 Plan and sections of the medieval stone building, possibly a brewhouse or oven structure

oven contained within the walls. On the grounds that it was too extensive to be a domestic hearth, this interpretation, and the idea of an oven, were later rejected, and the surface interpreted simply as a floor. It is also possible, however, that the structure was a brewhouse or a communal oven on the edge of the village.

Other pits and ditches

Immediately to the east of the structure a short sequence of features was found. The earliest was a curvilinear ditch (45), 0.8 m wide and 0.5 m deep, filled with two layers (31 and 41) of grey-brown sandy loam. This ditch was cut by two pits: pit 34, which may have been associated with the building, and a bell-shaped pit (29), 1 m wide and 0.6 m deep, the base and one side of which were reddened by perhaps *in situ* burning. It was filled with grey-brown silty loam (30) which contained several pieces of burnt flint, a possible flint scraper and several sherds of 11th- to 15th-century pottery. Pit 29 was cut by what may have been a flat-based ditch (43), 0.3 m wide and 0.4 m deep, which ran for 4.5 m into the eastern section, and was filled with brown-grey silty loam (42).

A further group of features was found 12 m to the west. The earliest was a flat-based pit or ditch (55), 0.7 m wide and 0.34 m deep, cut into cultivation soil 15 and filled with an orange-brown sandy silt (56). This feature was cut by the later of two parallel boundary ditches (50=207). Both of these ditches were cut by an ovoid round-based pit (53), 1.32–3.0 m wide and 0.45 m deep, filled with brown-grey sandy silt which contained a single piece of burnt flint. A further ovoid pit (71), 2.1 m wide, was observed at 92/105, but was not excavated.

Ploughing out of the bank

To the north of the bank in Area A, ploughsoil 102 was overlain by two medieval and post-medieval ploughsoils: 28 – a dark brown silty loam – and 5=4 – a yellow-brown clay and sand loam – both of which may have been formed by ploughing out of the bank. These layers contained a large number of finds: animal bone, flint flakes and prehistoric, Roman, medieval and post-medieval pottery (see Tables 5.8, 5.12).

Similarly in Area B the top of the bank was disturbed by ploughing (204=290, a brown silty sandy loam), and was overlain by a possible ploughsoil (200, a yellow-brown sandy silt loam, which may be the same as layer 5 in Area A). These layers also contained an assortment of finds including flint flakes and 11th- to early 15th-century pottery (see Table 5.12).

In Area C the top of the bank was also found to have been disturbed by ploughing. The bank deposits were overlain by two ploughsoils (323 and 322), both silty sandy loams, and although they

Plate 5.7 The medieval stone structure, looking east, with burnt flint layer 18 to the left and wall 20 to the right

contained few datable artefacts besides two sherds of middle 11th- to early 15th-century pottery in 322, the fact that they overlay deposit 303 in the ditch, suggests that they are post-medieval in date.

These ploughsoils were overlain by a layer of friable dark brown loam (2) which covered much of the site on both sides of the bank, and formed a slight bank running east–west alongside Grim's Ditch, but not necessarily on the line of the original bank. As well as pieces of flint, iron slag and animal bone, this soil contained pottery ranging in date from the 11th to the 18th century, and may have been associated with the 18th-century landscaping of the site. This landscaping included the planting of an avenue of beech trees and the construction of a chalk pathway roughly along the line of Grim's Ditch.

The final filling of the ditch

The final filling of the ditch occurred during this broad period as several soils were ploughed down from the bank and into the shallow hollow (*c* 0.95 m deep) that remained. The first of these fills (303) was a brown silty loam which contained a few flint flakes, some burnt flint and pottery, including one sherd of 11th- to 15th-century date (Fig. 5.9a, section 1). It can be correlated with ploughsoil 291, a brown silty sandy loam in Area B, which extends from the base of the bank down into the ditch. The bottom of 291 undulated, possibly representing ploughmarks cut east–west across the cultivation ridges in the underlying layer 206. Ploughsoil 291 was overlain in Area C by a shallower deposit of slightly darker but otherwise similar loam (302), which probably also derived from ploughing through the bank. It contained medieval pottery, including one late 11th- to 13th-century sherd, and a copper-alloy ring probably of late Saxon to Norman date. It was overlain firstly by a distinct layer of sandy loam (301) which contained no finds, and then by ploughsoil 300 which contained two early 11th- to late 14th-century sherds. Similarly in Area A, where a machine section was cut into the ditch deposits, an orange-brown sandy silt layer (88) and a grey-brown sandy silt layer (89), probably both derived from the bank, were seen in section. No finds were recovered from either deposit.

ARTEFACTUAL EVIDENCE

Worked flint *(Figs 5.13–14)*

by Philippa Bradley

Introduction

A total of 596 pieces of worked flint and 106 pieces of burnt unworked flint and stone was recovered (Tables 5.3–6, Figs 5.13–14). The flint is not a homogeneous group: it includes diagnostic Mesolithic pieces (eg Fig. 5.13.1–5), several pieces assigned to the Neolithic (eg Fig. 5.13.10) and the Neolithic/early Bronze Age (eg Fig. 5.14.21) on technological grounds, and a number of retouched pieces and debitage likely to be later Bronze Age in date (eg Fig. 5.14.18–19, 22–3).

Raw materials

The majority of the flint is mid to dark brown in colour with a white, buff or brown, occasionally chalky, cortex. Their condition is quite varied. Some are very worn with an abraded and stained cortex; others are much fresher. Internally the condition of the flint also varies; many pieces have cherty or crystalline inclusions, which sometimes affected the knapping quality of the raw material. Cortication was generally light but occasionally pieces exhibited medium to heavy clouding or mottling. Some of this material may have been found in the locality, but better-quality flint occurs in the river gravels around Dorchester-on-Thames (Gibbard 1985) and some may have come from either the Chilterns or the Berkshire Downs.

Description

The few diagnostic pieces indicate Mesolithic activity, and technological aspects of the material have therefore been used to provide additional, albeit less precise and reliable, dating information. Although mostly undistinguished, a controlled knapping strategy typical of the Mesolithic and Neolithic is revealed in much of the material. The large number of crudely worked tested nodules and core fragments, however, may be of later date. One or two of the retouched pieces may also belong to this expedient knapping technology (eg Fig. 5.14.18–19, 22–3).

Both earlier and later Mesolithic activity seems to be represented by a small group of retouched forms and debitage. Both of the microliths (Fig. 5.13.1–2) are edge-blunted points. The smaller example with additional retouch (Fig. 5.13.2) would be consistent with a later Mesolithic date. The larger, more robust form (Fig. 5.13.1) is probably earlier in date. Blades, bladelets, blade-like flakes, a burin (Fig. 5.13.3) and three truncated blades (eg Fig. 5.13.4) were also recovered. Some of the small neatly retouched scrapers and serrated and retouched flakes (eg Figs 5.13.12, 5.14.15) may also be of Mesolithic date, although they are relatively undiagnostic and could be later. A number of soft-hammer-struck flakes, some with abraded platform edges and prepared butts, and the core rejuvenation flakes (eg Fig. 5.13.9) may also be contemporary. This material is fairly widely distributed across the site, coming from the cultivation soils and the ard marks, later ploughsoils and topsoil. Away from the main site, towards the river, a probable unfinished microburin (Fig. 5.13.5) was recovered.

The possible leaf-shaped arrowhead is a rather dubious example (Fig. 5.13.10). The retouch is largely confined to the edges of the object and it has

Table 5.3 Summary of flint assemblage

	Flakes	**Blades, blade-like flakes etc.*	*Chips*	*Irregular waste*	*Cores, core fragments*	*Retouched forms*	*Total*	*Burnt unworked flint*
Excavation	410	28	14	7	33	45	537	93
Evaluation	48*	1	1	1	3	5	59	13
Total	458	29	15	8	36	50	596	106

* including six face/edge rejuvenation flakes and one core tablet

Table 5.4 Core typology

	Single platform	*Multiplatform*	*Discoidal*	*Tested nodules*	*Core fragments*	*Total*
Excavation	1	5	1	17	9	33
Evaluation	-	-	-	3	2	5
Total	1	5	1	20	11	38

Table 5.5 Retouched forms

	Points	*Scrapers*	*Serrated and retouched flakes*	*Backed knives*	*Notches*	*Misc. retouch*	*Total*
Excavation	5 (2 microliths, 2 piercers, 1 burin)	12 (5 end, 1 side, 2 end and side, 1 disc, 3 other)	15 (7 serrated, 8 retouched)	1	2	10	45
Evaluation	1 (possible leaf arrowhead or point)	-	-	1	-	3	5
Total	6	12	15	2	2	13	50

Table 5.6 Summary of flint from context groups 40, 47 and 50

Context group	*Flakes*	*Blades, blade-like*	*Chips*	*Irregular waste flakes etc.*	*Cores, core fragments*	*Retouched forms*	*Total*	*Burnt unworked flint*
Ard marks (40)	26	4	5	-	-	2 (1 microlith, 1 serrated flake)	37	5
Cultivation soils (47)	126	9	3	1	8 (1 single platform, 1 multiplatform, 1 discoidal, 1 tested nodule, 4 fragments)	18 (5 scrapers, 2 notches, 4 serrated flakes, 3 retouched flakes, 1 burin, 3 misc. retouch)	165	31
Bank of Grim's Ditch (50)	53	3	1	2	3 (1 multiplatform core, 2 core fragments)	7 (2 serrated flakes, 2 retouchedflakes, 1 piercer, 1 end scraper, 1 other scraper)	69	6
Total	205	16	9	3	11	27	271	42

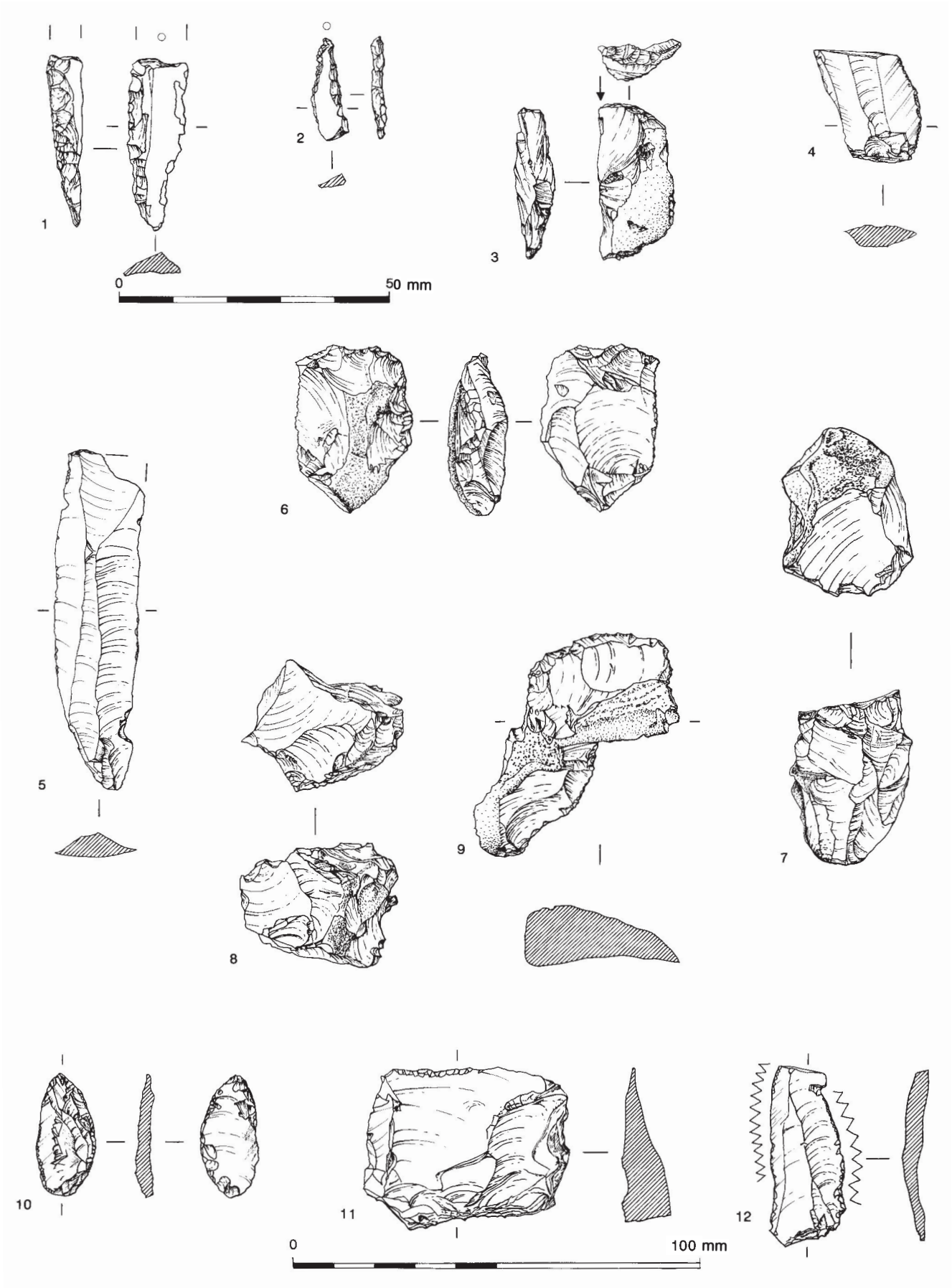

Figure 5.13 Worked flint (details in catalogue)

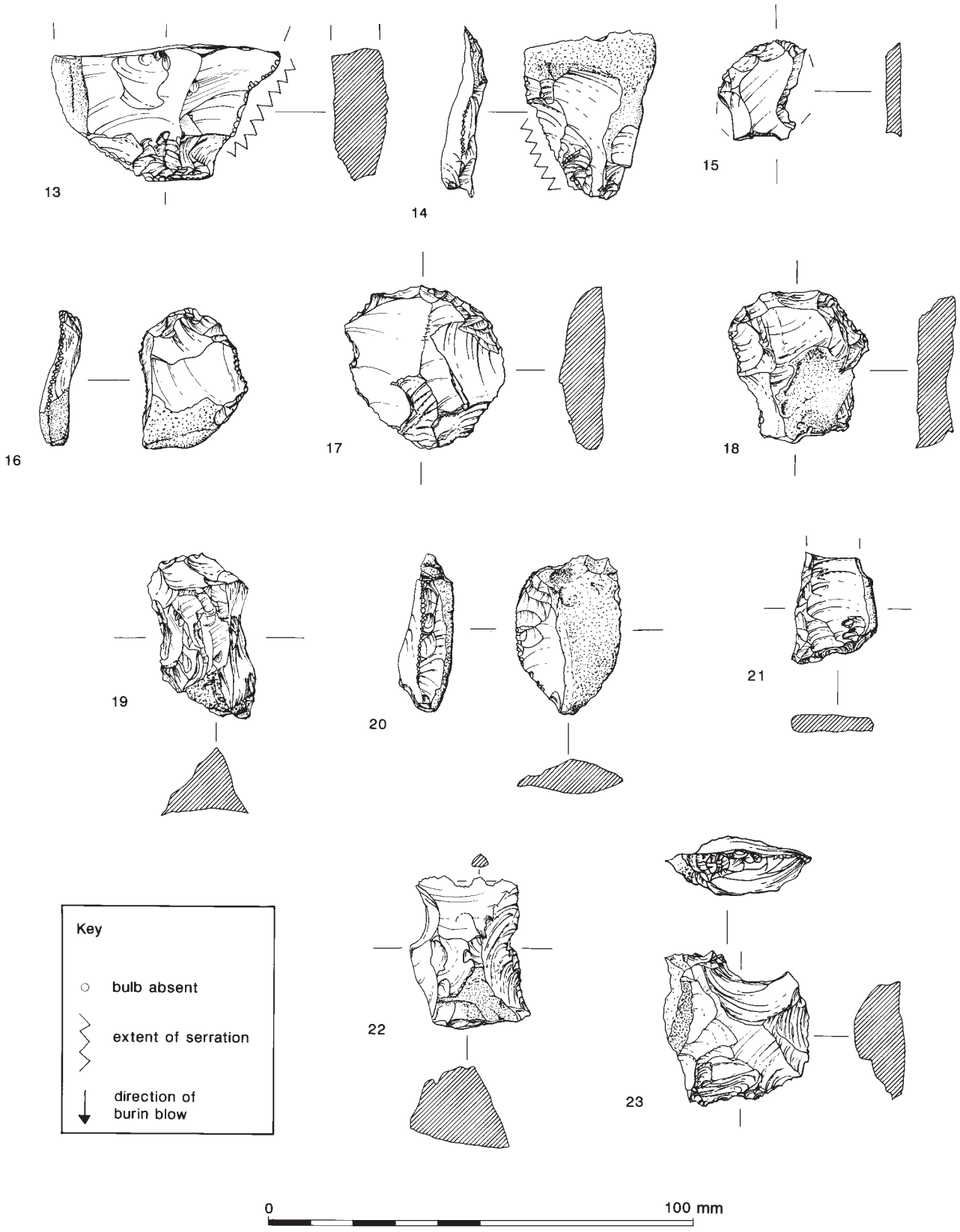

Figure 5.14 Worked flint (details in catalogue)

a rather asymmetrical outline. It may have been used as a piercer although it does not have a very robust point. A Neolithic date would, however, seem likely. Some of the scrapers and the knives (eg Fig. 5.14.17, 20–1) may be of Neolithic/early Bronze Age date. Apart from the discoidal example (Fig. 5.13.6), the cores recovered were not used to produce specific types of removal (eg Fig. 5.13.7–8), and little evidence for core preparation was recorded, which would again be consistent with a Neolithic or Bronze Age date. Some retouched forms such as the notches, a piercer and a couple of scrapers (eg Fig. 5.14.18–19, 22–3), including one on a piece of irregular waste, are probably of later Bronze Age date, and can be compared with material from Whitecross Farm (see Brown and Bradley, Chapter 3).

The only context groups which produced any quantity of flint were the ard marks (42 pieces), the cultivation soils (196 pieces) and the bank of Grim's Ditch (75 pieces); each context group is summarised in Table 5.6.

Discussion

The dating of this collection of flint has been largely based on technological aspects of the material since so few diagnostic retouched forms were recovered. There is, however, diagnostic Mesolithic material, including an unfinished microburin (Fig. 5.13.5) indicating microlith manufacture. Neolithic and Neolithic to early Bronze Age activity is indicated by a range of neatly retouched pieces including scrapers, serrated and retouched flakes and knives. A possible leaf-shaped arrowhead was also recovered. A discoidal core is the only diagnostic piece of debitage recovered. Healy has shown (1985, 192–3) that keeled and discoidal cores are more common during the later Neolithic and are often associated with Grooved Ware. They have also been linked to production of blanks for transverse arrowheads (Green 1980, 38). The retouched forms present are typical of Neolithic and early Bronze Age domestic assemblages, and a range of tasks seems to have been carried out on site including plant processing, knapping and hide preparation.

Neolithic and Bronze Age flintwork has been recovered from numerous sites in the immediate area (Oxfordshire SMR nos 2198, 15523, 15494) and to the south of the Grim's Ditch excavations (eg Oxfordshire SMR nos 15463, 15465, 15462, 15464), as well as in excavations and surface collections at North Stoke (Case 1982a, 72, fig. 39; Holgate 1988a, 236; Ford 1987) and South Stoke (Holgate 1988a, 249; in general see Case and Whittle 1982 and Holgate 1988a). A flake and a serrated flake accompanied a middle Neolithic burial within a ring ditch at Newnham Murren just 2 km to the north-west (Moorey 1982, 58, fig. 31). Further south, excavations at Gatehampton Farm, Goring produced Neolithic and Bronze Age flint including evidence for laurel leaf manufacture (Brown 1995, 82). Several later Neolithic pits have been found in the area which have produced flint associated with Peterborough Ware pottery (Bradley in prep. b) and Grooved Ware pottery (Holgate 1988a, 268). Further upstream from Wallingford large Neolithic and Bronze Age flint assemblages have been recovered from a series of funerary and other monuments and pit groups in the Dorchester–Drayton/Abingdon–Radley monument complexes (see eg Bradley 1999a; Holgate *et al*. 2003).

At least two scrapers and a piercer, together with many of the tested nodules, some of the core fragments and undoubtedly some of the undistinguished flakes, belong to the mid to late Bronze Age. This material is very similar to that from the later Bronze Age sites at Whitecross Farm (see Brown and Bradley, Chapter 3) and Bradford's Brook (see Bradley, Chapter 6). Fieldwalking around Winterbrook identified a scatter of later Bronze Age flintwork (Bevan 1998).

Catalogue of worked flint *(Figs 5.13–14)*

1. Context 203, SF 395. Broken microlith, edge-blunted type on a proximal truncation, some later damage to right-hand side. Heavily corticated.
2. Context 221/2, SF 823. Microlith, small edge-blunted form with additional retouch along right-hand side. Probably later Mesolithic. Lightly corticated.
3. Context 206/3, SF 754. Burin, prepared platform. Lightly corticated.
4. Context 8, SF 658. Truncated blade. Lightly corticated.
5. F5. MONG881. Notched blade with ?used edges. Probably an unfinished microburin. Lightly corticated.
6. Context 15, SF 529. Discoidal core. 13 g. Lightly corticated.
7. Context 203, SF 604. Multiplatform flake core. 43 g. Medium to heavy cortication with some areas of later damage.
8. U/S, SF 688. Multiplatform flake core. Uncorticated, some incipient cones of percussion.
9. Context 8, SF 704. Core rejuvenation flake (face/edge). Lightly corticated.
10. L3 (1–3 m), SF 1. MONG881. Point (dubious leaf-shaped arrowhead). Minimally retouched. Lightly corticated.
11. L3 (1–3m) MONG881. Retouched flake, on a core rejuvenation flake (face/edge). Distal end of flake neatly but minimally retouched. Heavily corticated.
12. Context 15, SF 552. Serrated flake, on truncated blade-like flake. Both edges have been serrated and are very worn, *c* 11 serrations per 10 mm. Lightly corticated.
13. Context 202, SF 647. Serrated flake, on broken thick irregular-shaped blank. Right-hand side serrated, *c* 9 serrations per 10 mm. Medium to heavy cortication.
14. Context 305, SF 226. Serrated flake. Left-hand side serrated, *c* 6 serrations per 10 mm. Lightly corticated.
15. Context 206/3, SF 762. Broken end and side scraper, on thin blank. Neatly retouched with small

patch of cortex surviving. Scraping angle 55–70°. Lightly corticated. Probably Mesolithic or Neolithic in date.
16. Context 15, SF 563. End scraper, minimally retouched on thin blank. Scraping angle 55–65°. Lightly corticated. Probably Mesolithic or Neolithic in date.
17. Context 202, SF 284. End scraper, neatly retouched on a thin, non-cortical blank. Scraping angle 65–75°. Lightly corticated and some glossing. Possibly Neolithic.
18. Context 203, SF 393. End scraper, on thick, partly cortical blank. Scraping angle 65–80°. Lightly corticated. ?Later Bronze Age date.
19. Context 203, SF 438. Scraper on a chunk of irregular waste. Scraping angle 75–80°. Lightly corticated. ?Later Bronze Age date.
20. Context 8, SF 662. Backed knife, left-hand side minimally retouched with invasive removals, cortical backing right-hand side. Lightly corticated.
21. U/S, SF 687. Miscellaneous retouch, distal break. Steeply retouched left-hand side, ?knife fragment. Uncorticated.
22. Context 28, SF 316. Piercer, roughly formed on a thick blank. Medium cortication. ?Later Bronze Age date.
23. Context 202, SF 655. Notch, a semicircular notch formed at the distal end of a flake. Uncorticated. ?Later Bronze Age date.

Worked and burnt stone

by Alistair Barclay and Fiona Roe

A single fragment of worked stone (1987 evaluation trench MGD87 SF 1) of very fine-grained calcareous limestone, measuring 105 mm x 80 mm and weighing 518 g, was recovered from layer 503. It is possibly from a door or window and could be of medieval date (J Blair pers. comm.).

Burnt pebbles including some fragments, mostly quartzite but including some sandstone, were recovered from contexts mostly post-dating the earthwork (2, 8 and 52) with the notable exception of 328, near the bottom of the primary fills of the ditch. All have signs of alteration by heat, some with either angular fractured and/or reddened surfaces. These stones could originally have been used in cooking-related activities, as potboilers or hearthstones, or may derive from non-domestic activities, such as tree clearance or the burning of vegetation.

Earlier prehistoric pottery

by Alistair Barclay

Introduction and methods

A total of 68 sherds (238 g) of earlier prehistoric pottery, including a small number of Peterborough Ware sherds, some indeterminate Neolithic and earlier Bronze Age sherds, and some later Bronze Age sherds was found. The assemblage recovered from beneath the Grim's Ditch earthwork is characterised by mostly small abraded featureless body sherds, while the sherds recovered from the Mongewell riverside site are notably larger and less abraded.

The pottery was characterised by fabric, form, surface treatment, decoration and colour. Where present, visible residues were recorded. The sherds were analysed using a binocular microscope (x20) and were divided into fabric groups by principal inclusion type. In the absence of featured sherds, dates have been assigned through fabric analysis. OAU standard codes are used to denote inclusion types: A = sand, F = flint, G = grog, Q = quartzite, R = rock fragments, S = shell, V = voids (mostly leached calcareous inclusions). Size range for inclusions: 1= <1 mm fine; 2 = 1–3 mm fine–medium; 3 = medium–coarse up to and over 3 mm. Frequency range for inclusions: rare = <3%; sparse = <7%; moderate = 10%; common = 15%; abundant = >20%.

Peterborough Ware *(Fig. 5.15)*

Ten sherds (46 g) of middle Neolithic Peterborough Ware pottery were recovered from a preserved land surface near the edge of the present River Thames in the 1988 trench 1 (MONG881) at Mongewell (Table 5.7). Three fabrics were identified.

Flint-tempered

FA2 Hard fabric with moderate angular flint (up to 3 mm) and sparse quartz sand.
FA3 As above, but with larger flint and either very fine or fine–medium quartz and to a lesser extent glauconitic sand.

Quartzite-tempered

Q3 Hard fabric with coarse angular quartzite (up to 7 mm). Clay matrix also contains rare fine quartz sand and very fine mica.

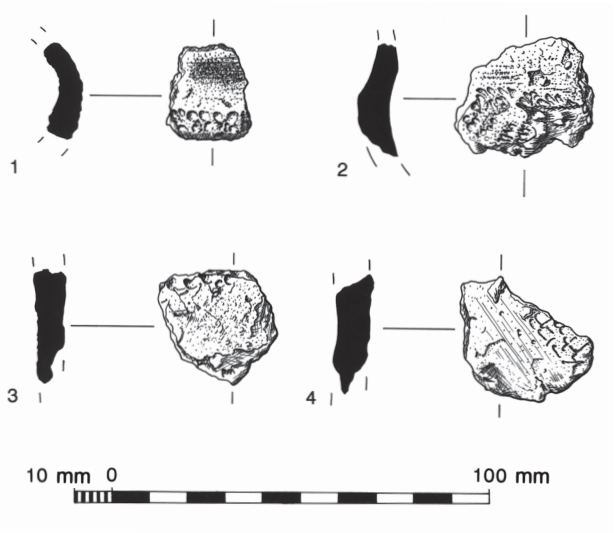

Figure 5.15 Middle Neolithic Peterborough Ware (details in catalogue)

Table 5.7 Quantification by context and fabric of the Peterborough Ware from the Mongewell 1988 evaluation trench (MONG881)

Context	*FA2*	*FA3*	*Q3*	*Total*
Layer 3, 1–3 m	2, 4 g	4, 25 g	1, 11 g	7, 40 g
Layer 3–4 m		3, 6 g		3, 6 g
Total	2, 4 g	7, 31 g	1, 11 g	10, 46 g

The use of either flint or quartzite to temper pottery of this date is common within the Upper Thames Valley. Flint temper was first used in earlier Neolithic Bowl pottery, whereas the use of quartzite seems to coincide with the appearance of Peterborough Ware, and particularly Ebbsfleet Ware.

The featured sherds (Fig. 5.15.1–4) represent at least three vessels. Nos 1 and 3 are very similar in fabric and appearance and probably derive from the same shouldered bowl, although they do not refit. Both are decorated with impressions made with the articular surface of a small bone and both are broken at the shoulder. No. 2 is from a similar type of vessel and is decorated with short whipped-cord maggot impressions. No. 4, from the body of a vessel, has been decorated with fingernail impressions which perhaps formed a lattice motif. This sherd has a bevelled edge that could have formed part of a rim, but is more likely to be the surface of a coil break. The angular rather than ledge-like shoulders, the relatively thin walls and the minimal use of whipped-cord or bone-impressed decoration suggest affinities with the Ebbsfleet substyle of Peterborough Ware.

Discussion

The small number of Ebbsfleet Ware sherds from the palaeosol in trench 1 could form part of a more extensive artefact scatter. Similar Peterborough Ware associated artefact scatters have been found at a number of sites in the Upper Thames Valley, such as Drayton and Yarnton (Barclay *et al*. 2003; Hey in prep.). Some of the sherds from beneath the Grim's Ditch earthwork could be of a similar date, although this is tentative as it is based solely on fabric analysis (see below).

Ebbsfleet Ware has been recovered from a number of sites along this part of the Thames. A small number of sherds were recovered from excavations at Gatehampton Farm, Goring less than 10 km downriver (Cleal 1995), while further upriver this type of pottery has been recovered from both the Drayton and Dorchester-on-Thames cursus complexes (Barclay *et al*. 2003; Whittle *et al*. 1992). A number of Mortlake Ware bowls have been recovered from the adjacent stretch of the River Thames, and an assemblage of Fengate Ware has been recovered from Wallingford (Barclay in prep.).

Catalogue of Peterborough Ware (Fig. 5.15)

5.15.1 Layer 3, 3–4 m. Neck sherd probably from the same vessel as no. 4. Fabric FA3. Colour: black throughout. Condition: average.

5.15.2 Layer 3, 1–3 m. Shoulder sherd with impressed whipped-cord maggot decoration. Fabric FA3. Colour: ext. reddish-brown: core black: int. brown. Condition: average.

5.15.3 Layer 3, 1–3 m. Shoulder sherd with impressed bone decoration. Fabric FA3. Colour: black throughout. Condition: average.

5.15.4 Layer 3, 1–3 m. Body sherd with fingernail decoration. Fabric Q3. Colour: ext. brownish-grey: core grey: int. dark grey. Condition: average.

The remainder of the assemblage

With the exception of the Peterborough Ware, the remainder of the assemblage (61 sherds, 211 g) is characterised by mostly small and abraded body sherds (Table 5.8). The only decorated sherds were recovered from the 1987 evaluation trench (MGD87). In the absence of either decorated or featured sherds, dates have been suggested on the basis of fabric analysis. The history of the site could largely account for the relatively poor condition of this assemblage. It perhaps accumulated on an open land surface over a prolonged period of time and then underwent several episodes of post-depositional disturbance some of which involved cultivation prior to the construction of the Grim's Ditch earthwork. Eighteen fabrics were identified.

Neolithic flint-tempered

F1–3/N Generally hard fabrics with generally ill-sorted sparse flint inclusions.

FA1–3/N As above, with the addition of quartz sand.

FAG/3 Hard fabric with moderate fine to coarse flint, sparse quartz sand and rare angular grog.

FQG2/N Hard fabric with sparse medium angular flint, rare medium quartzite and sparse fine–medium grog.

A total of 44 sherds are in principally flint-tempered fabrics that could be of Neolithic date. Perhaps significantly quartzite-tempered fabrics are absent (see Barclay, Chapter 3), supporting the suggestion that most of this material is Neolithic rather than later Bronze Age. All are plain body sherds, mostly in a worn condition. One small and

Table 5.8 Quantification by context and fabric (sherd number, weight) of the total prehistoric assemblage recovered from the Grim's Ditch earthwork

Context	*F1–3/N*	*FA1–3/N*	*FAG3/N*	*FQG2/N*	*AGQ2/LNEBA*	*GAF2/LNEBA*	*AG2/EBA*	*AQ1/LBA*	*F2/LBA*	*FGA1/LBA*	*SA2/EIA*	*AF1/-*	*ARF2/-*	*F1/-*	*Total*
US	1, 4 g									1, 7 g	1, 5 g				3, 16 g
5	1, 4 g							1, 2 g							2, 6 g
8		1, 2 g													1, 2 g
10	1, 5 g	2, 4 g													3, 9 g
15	4, 19 g	3, 14 g							1, 5 g						8, 38 g
23		1, 1 g													1, 1 g
28	5, 17 g								2, 10 g			1, 1 g			8, 28 g
101													1, 7 g	1, 1 g	2, 8 g
102														1, 3 g	1, 3 g
202	1, 5 g	4, 10 g	1, 6 g												6, 21 g
203	1, 2 g	7, 17 g		1, 4 g	1, 3 g		1, 4 g								11, 30 g
206/3	1, 5 g	1, 1 g													2, 6 g
221/1		3, 5 g													3, 5 g
221/2	2, 2 g	1, 1 g													3, 3 g
310									1, 6 g						1, 6 g
314		1, 2 g													1, 2 g
321		1, 5 g													1, 5 g
518						1, 3 g									1, 3 g
Total	17, 63 g	25, 62 g	1, 6 g	1, 4 g	1, 3 g	1, 3 g	1, 4 g	1, 2 g	4, 21 g	1, 7 g	1, 5 g	1, 1 g	1, 7 g	2, 4 g	58, 192 g

worn sherd in fabric FA2 from the post-bank ploughing 518 has what could be a single whipped-cord maggot impression. The combination of fabric and decoration suggests affinities with Peterborough Ware. This material was recovered from a wide range of contexts (see Table 5.8) with concentrations in layers 15, 202 and 203. Given that they are all tempered with flint they could be of either early or middle Neolithic date, and belong to either the Plain Bowl or Peterborough Ware ceramic tradition. Some, however, are in fabrics similar to the Peterborough Ware from the 1988 Mongewell evaluation trench.

Late Neolithic–early Bronze Age (including Beaker)

AGQ2/LNEBA Hard fabric with sparse quartz and glauconitic sand, rare grog and rare quartzite.
GAF2/LNEBA Soft fabric with moderate grog, sparse quartz and glauconitic sand and rare angular flint.

Two sherds are thought to be of late Neolithic–early Bronze Age date of which one is certainly Beaker. The Beaker sherd from context 518 has two closely spaced rows of comb impressions, and is manufactured from a principally grog-tempered fabric that also contains sand and some flint. It is relatively thin walled (*c* 4 mm) and has a well-fired reddish-brown outer surface. It derives from a fine Beaker probably of Case's 'early' or 'middle' styles which he now refers to as styles 1 and 2 (1993, 243 and table 1). A single plain body sherd, manufactured from a sand-, grog- and quartzite-tempered fabric, is also thought to be of this date.

Early Bronze Age

AG2/EBA Soft fabric with sparse quartz and glauconitic sand and rare angular grog.

A single body sherd tempered with sand and grog and recovered from layer 203 is probably of this date.

Late Bronze Age

AQ1/LBA Hard fabric with quartz sand and quartzite.
F2/LBA Hard fabric with medium flint.
FGA1/LBA Hard fabric with flint, grog and sand.

Six body sherds recovered from layers 5, 15, 28 and 310 are thought to be late Bronze Age.

Early Iron Age

SA2/EIA Soft fabric with moderate medium shell platelets and sparse quartz sand.

A single unstratified sherd in a principally shell-tempered fabric is thought to be of this date. The use of shell would favour an early Iron Age date.

Indeterminate prehistoric

AF1/- Hard fabric with quartz sand and fine flint.
ARF2/- Soft fabric with quartz sand, coarse angular argillaceous rock fragments and rare flint.
F1/- Hard fabric with fine flint.

Four sherds from contexts 28, 101 and 102 are of indeterminate character mainly because they are so small and abraded. One sherd in an unusual fabric that contains angular argillaceous rock fragments is of uncertain prehistoric date because of its unusual fabric but could be of late Bronze Age or Iron Age date.

The fabrics are predominantly flint-tempered. Flint tempering can occur in either the Neolithic or the later Bronze Age. It can be difficult to differentiate fabrics of these two periods, although as a general rule Neolithic flint temper tends to be quite angular, whereas later Bronze Age flint temper has a blocky appearance having been calcined prior to crushing for use as temper. The inclusions in Neolithic fabrics can also be less well sorted and of a sparser nature. The degree of firing and colour may also provide an indication of date. Collectively these criteria can be used to provide tentative dates.

Discussion

All this pottery predates the construction of the Grim's Ditch earthwork. Only 16 sherds, however, were recovered from features and deposits that were stratigraphically earlier than the earthwork, while a further 11 sherds came from the bank make-up (203). Most of this material is probably of Neolithic date, although a few late Bronze Age sherds are also present. Significantly very little early Iron Age pottery was present, although some middle Iron Age pottery was noted. None of the pottery discussed here can be used with certainty to provide dates for either the posthole structures (phase 1c) or the early episodes of cultivation (phase 1a). The arding and the posthole structures probably post-date the Neolithic and early Bronze Age pottery, while the form of the six-post structure suggests a tenuous link with the few later Bronze Age sherds.

Iron Age and Roman pottery

by Paul Booth

Introduction and methods

Some 104 sherds (581 g) of Iron Age and Roman pottery were recovered, most of middle and late Iron Age date, with the principal Roman pieces occurring in late or poorly stratified contexts. Five sherds (8 g) came from the 1987 evaluation trench, and the remainder from the 1992 excavation. The pottery was generally very fragmented and in many cases surfaces were, at best, only moderately well preserved. Diagnostic features of form and decoration were therefore scarce. Confident identification and attribution to period was therefore often difficult. For most sherds the only identifiable attribute was fabric. Owing to the small sherd size it was usually difficult to determine if vessels were hand-made or wheel-thrown, thus rendering more problematic the task of distinguishing between middle Iron Age pottery (hand-made) and late Iron Age (often wheel-thrown). Such a distinction has been attempted, but an above-average margin of error has to be allowed for. Nevertheless, although processed without initial reference to stratigraphic data, the pottery data fitted well with the interpretation of the site.

The material was recorded using the established OAU system for Iron Age and Roman pottery. Sherds were examined by context and recorded by fabric, with details of form and decoration noted where these were present. Quantification was by sherd count and weight, with quantification of vessels by rim count and estimated vessel equivalents (EVEs).

Fabrics and wares

These were identified using a dual system of nomenclature, in which fabric descriptions, characterised in terms of their two principal inclusion types (identified by letters) and a numeric indicator of fineness (on a scale of 1 = very fine, to 5 = very coarse) were distinct from ware codes, which characterise sherds in more general terms, often in relation to known centres of production. The former codes were used for material thought to be of middle Iron Age date, and in some cases for later pottery, although this was always defined by ware codes. Owing to the small size of the assemblage some closely related fabrics were grouped together (Table 5.9). The inclusion type codes employed were: A = quartz sand, F = flint, I = iron oxides, M = mica, N = no inclusion type visible, P = clay pellets, V = organic, W = uncertain white inclusions, Z = indeterminate voids.

Table 5.9 Middle Iron Age fabric groups

Fabric code	*Number of sherds*	*Weight (g)*
AF3	4	23
AI2/3	3	6
AM2/3	3	10
AN2/3	12	35
AV2/3	6	9
AW3	3	25
AZ3	4	31
PI3	1	5
WV3	1	1

Table 5.10 Ware groups for late Iron Age and Romano-British pottery

Ware group	*Number of sherds*	*Weight (g)*
S20. South Gaulish samian ware	2	2
F50. General red-brown colour-coated fabrics	1	2
W20. General coarse sand-tempered white ware	1	3
E. General 'Belgic type' ware, subgroup uncertain	1	1
E20. 'Belgic type' ware, principally fine sand inclusions	7	12
E30. 'Belgic type' ware, principally common coarse sand inclusions	20	77
E60. 'Belgic type' ware, principally flint inclusions	2	15
E80. 'Belgic type' ware, principally grog inclusions	19	132
O10. General fine oxidised ware, probably Oxfordshire products	1	1
R10. General fine reduced coarse wares	1	2
R20. General coarse sandy reduced wares	2	27
R30. General medium sandy reduced wares	4	113
R90. Very coarse (usually grog-) tempered reduced wares	2	28
R95. Probable Savernake ware	3	16
C10. General shell-tempered fabrics	1	5

The assemblage of 37 sherds assigned to the middle Iron Age, with an average weight of 3.9 g, was dominated by sand-tempered fabrics which had a wide variety of secondary inclusion types, though sand tempering alone (AN2/3) was the most common fabric type. There were no rim forms or other featured or decorated sherds. The assumption that this material belongs to the middle Iron Age is based on the nature of the fabrics, which are typical of the middle Iron Age in the region, allied to the presence of a few sherds which were sufficiently large for their method of manufacture and other general characteristics to be clear.

The group of 67 sherds dated to the late Iron Age and Roman period (Table 5.10), with an average weight of 6.5 g (boosted by two large sherds of fabric R30 from unstratified and recent plough-layer contexts), consisted principally of E wares ('Belgic type' wares, in the sense of Thompson 1982, 4–5). These were supplemented by smaller quantities of Roman fabrics, the majority of which are consistent with a date in the 1st century AD, though one or two sherds must have been later. With the exceptions of samian and Savernake wares all the material is likely to have been produced fairly locally. The later Roman greywares (most of the R30 sherds), for example, are consistent with production in the Oxford industry. A single sherd of fabric F50, too poorly preserved to allow confident attribution to a known source, is, however, reminiscent of the 2nd-century AD fineware products of the kiln site at Lower Farm, Nuneham Courtenay, and might therefore be of fabric F59 (Booth *et al*. 1993, 140).

Forms

Only ten vessels were represented by rim sherds. These were a possible butt beaker in fabric W20, two uncertain jar/bowl forms in fabric E20, a jar and an unidentifiable form in E30, uncertain jar/bowl forms in E60 and E80, a jar and a large curving-sided bowl in R30 and a small bead-rimmed jar in fabric C10. Most of the rims were small so they could only be attributed to very broad classes. Consequently the vessel forms do not provide chronological definition of the assemblage as a whole. Nonetheless, they appear consistent with the ware groups in which they occur.

Chronology

The pottery is particularly important for establishing the chronology of the Grim's Ditch sequence. The principal issue relates to the dating of the E wares. Harding's chronology, which pushed the introduction of this pottery back into the 1st century BC (1972, 129), is not supported by the results of recent work (eg Abingdon Vineyard, Yarnton: Booth in prep. b and c; Gravelly Guy, Stanton Harcourt: Green *et al*. 2004; and Hatford: Booth 2000). The current view tends to see the appearance of these fabrics within the 1st century AD (cf. Booth 1996, 81–2), although this position is not yet conclusively established. Sites in the south-east of the county might have been exposed to the Belgic tradition earlier than some of those in the Upper Thames Valley, but it seems unlikely that there would have been a significant time lag in the introduction of these wares across different parts of the region. In broad terms, therefore, the likely date range for these wares at Wallingford lies in the early to middle part of the 1st century AD. Their survival after the Roman conquest is certain and on some sites they may have been in common use up to the beginning of the Flavian period. In the context of the present site, more precise dating of these fabrics, if possible, must rely on their associations.

Phasing

Two sherds, both probably of middle Iron Age date, were associated with the phase 1a layer 221, but

these were very small (1 and 2 g) and could easily have been intrusive. Phase 2 contexts (96, 101, 103, 202, 206, 206/3), predating Grim's Ditch, contained 14 sherds (62 g), of which eight were probably middle Iron Age and the remainder were E wares (E20, E30 (2) and E80 (3)), including a large sherd in fabric E80 from context 202. Phase 3 contexts (8, 10 and 15), associated with the bank and ditch itself, produced 26 sherds (178 g). Eleven (75 g) were assigned to the middle Iron Age; the remainder were E wares (E20 (2), E30 (6), E60 (1) and E80 (5)) with a single sherd of fabric R90, which is closely related to E80 and almost certainly of the same date. The slightly above average weight of these sherds (6.8 g) is notable, implying that once incorporated into the bank they may have been better protected against degenerative processes. A single very tiny flake of South Gaulish samian ware came from the tertiary fill (307) of the ditch.

The pottery from phase 4 post-bank ploughing contexts (102, 200, 203, 204, 303 and 516–18) was more varied than that from phase 3, comprising 26 sherds (125 g) of which 11 were in middle Iron Age fabrics, 10 were in E wares and the others in related early Roman fabrics, one each of W20, R20, R95 and C10, all consistent with a 1st-century date, and a single fragment of F50, for which a 2nd-century date is most likely. The W20 sherd was a small rim, perhaps from a butt beaker, and the sherd in C10 was also a rim, from a small bead-rimmed jar. Fabric R20 is particularly characteristic of the mid to late 1st century in the region, being common at sites such as the Vineyard, Abingdon, and may be seen as closely allied to E30 (Booth in prep. b). Fabric R95, Savernake ware, is commonly associated with Belgic-type wares in the Upper Thames, for example at Hatford (Booth 2000) and Linch Hill Corner, Stanton Harcourt (eg Grimes 1943–4, 53–5, nos 4 and 6). These are both sites in which Savernake ware appears alongside the earliest Belgic wares, a situation also noted by Trow at Bagendon and Salmonsbury (Trow 1988, 76). Whether or not one accepts a pre-conquest date for the inception of Savernake ware, this fabric is unlikely to have appeared much before the conquest, and it is this association which has tended to support a later dating for Belgic-type wares within the region generally.

The later phase groups at Grim's Ditch do not require extensive comment. The bulk of the later Roman material comes from post-Roman contexts, though late Iron Age material continues to occur even at this late date.

Conclusions about the chronology of the site based on such a small assemblage must be treated with caution, but on present evidence the pre-bank and bank deposits consistently contained middle and late Iron Age pottery, probably reflecting settlement of this date in the immediate vicinity of the earthwork. This situation exactly parallels that seen at the north Oxfordshire Grim's Ditch, where 'Belgic type' pottery has been found sealed by and incorporated within the banks near Ditchley (Harden 1937, 80), near North Lodge, Blenheim Park (ibid., 82–3) and at Callow Hill (Thomas 1957, 32–4). At the present site, early Roman material occurred in small quantities but not before phase 4, which is associated with the partial denudation of the bank. On this basis the bank appears to have been constructed in the 1st century AD. While the ceramic material is perfectly consistent with a date in the late Iron Age and while this may seem most likely on other criteria, it cannot be taken to prove this conclusively.

Medieval pottery

by Lucy Whittingham

Introduction and methods

A small assemblage of medieval pottery was recovered: 63 sherds (*c* 0.9 kg) from the 1987 evaluation and 172 sherds (*c* 1.7 kg) from the 1992 excavation (Tables 5.11–12).

The assemblages were recorded by sherd count, weight, presence of diagnostic sherds and further attributes such as glaze colour and decorative motifs.

Table 5.11 Summary of medieval fabric types from Grim's Ditch evaluation (MGD87) by context

Context	*Fabric*	*No. of sherds*	*Weight (g)*	*Date*
501	OXAQ?	7	58	L12–E15C
	CAMLEY	4	26	13–15C
	WA38	2	10	E/M11–M13C
501/2	ABA	1	2	M11–L14C
503	OXAQ	2	6	L12–E15C
	OXAW?	1	4	13–15C
	OXAG	1	18	M11–L14C
	ABA	3	20	M11–L14C
505	CAMLEY	6	42	13–15C
	OXAW	1	4	13–15C
	ABA	5	198	M11–L14C
506	CAMLEY	3	20	13–15C
	OXAG	4	14	M11–L14C
507	CIST	1	4	16C
	S/N	1	2	10–11C
	OXAQ	1	4	L12–E15C
	OXAM	1	2	13–15C
	CAMLEY	1	8	13–15C
508	ABA	2	6	M11–L14C
509	ST NEOTS	2	14	L9–L11C
	ABA	6	364	M11–L14C
	CAMLEY	2	2	13–15C
	WA38?	1	10	E/M11–M13C
	OXAQ	1	4	L12–E15C
512	OXAQ	1	4	L12–E15C
	ABA	2	24	M11–L14C
517	CAMLEY	1	2	13–15C
Total		63	872	

Table 5.12 Summary of medieval fabric types from Grim's Ditch excavation (MGD92) by context

Context	Fabric	No. of sherds	Weight (g)	Date
1	CAMLEY	3	45	13–15C
	OXAQ	1	4	L12–E15C
	ABA	2	19	M11–L14C
	OXAG	5	21	M11–L14C
	WA38	2	4	E/M11–M13C
	PMFR	5	97	17–19C
	ENGS	22	242	18–20C
2	CBW	11	210	M14–E16C
	WA38	11	148	E/M11–M13C
	ABA	34	292	M11–L14C
	OXAG	5	39	M11–L14C
	CAMLEY	6	30	13–15C
	OXAG	2	12	L12–E15C
	OXBF	4	24	M11–E13C
	OXAM	1	2	13–15C
	OXAW	4	52	13–15C
	PMFR	1	2	17–19C
	SWSG	1	4	18C
	?ID	3	16	
5	CAMLEY	1	1	13–15C
8	ABA	2	6	M11–L14C
23	ABA	1	48	M11–L14C
	OXAG	1	6	M11–L14C
	CAMLEY	1	2	13–15C
	WA38	1	2	E/M11–M13C
24	CAMLEY	1	8	13–15C
	WA38?	1	8	E/M11–M13C
28	WA38	2	82	E/M11–M13C
	CAMLEY	1	8	13–15C
30	OXBF	1	4	M11–E13C
	WA38	4	48	E/M11–M13C
	CAMLEY	2	16	13–15C
	OXAQ	1	6	L12–E15C
35	OXAQ	1	16	L12–E15C
142	CAMLEY	1	12	13–15C
	OXAQ	1	2	L12–E15C
200	OXAQ	1	18	L12–E15C
	WA38	1	7	E/M11–M13C
201	WA38	2	8	E/M11–M13C
	CAMLEY	1	2	13–15C
	ABA	3	15	M11–L14C
	OXAG	1	4	12C
	LCOAR	1	2	
204	OXAG	2	14	M11–L14C
	WA38	1	6	E/M11–M13C
	CAMLEY	1	8	13–15C
300	ABA	2	18	M11–L14C
	WA38	1	8	E/M11–M13C
302	?	1	18	
	OXBF	1	4	M11–E13C
	OXAQ?	1	6	L12–E15C
303	OXBF	1	12	M11–E13C
	OXAW	1	2	13–15C
304	WA38?	1	2	E/M11–M13C
322	CAMLEY	1	2	13–15C
	OXBF	2	16	M11–E13C
Total		172	1710	

Fabric types were identified macroscopically with the use of x20 binocular magnification, and where possible classified with reference to the OAU fabric type series (Haldon and Mellor 1977; Mellor 1994). The difficulty of classifying quartz-tempered fabrics is particularly acute in this assemblage of small abraded sherds. The average sherd weight is 11 g.

Grim's Ditch evaluation (MGD87)

The 63 sherds found in the evaluation range in date from late Saxon through to early post-medieval (see Table 5.11). The earliest sherds are two base sherds of late 9th- to late 11th-century St Neot's Type Ware and Saxo-Norman ware tempered with grog, oolitic limestone and shell. The majority of sherds (84%) are medieval quartz-tempered wares: mid 11th- to mid/late 14th-century Abingdon Ware (ABA and OXAG), late 12th- to early 15th-century East Wiltshire Ware (OXAQ) and a 13th- to 15th-century Camley Gardens-type coarseware (Pike 1965). They include an Abingdon Ware thumbed cooking-pot rim (cf. Mellor 1994, fig. 26, no. 2) and a thickened East Wiltshire Ware cooking-pot rim (cf. ibid., fig. 41, no. 4). The remaining six sherds are in early/mid 11th- to mid 13th-century Wallingford Ware and 13th- to 15th-century Brill/Boarstall fabrics OXAW and glazed OXAM.

These wares all occurred in the later ploughsoils in phase 2 through to topsoil in phase 5. Contexts 517 and 508 in phase 2, and 512, 506=509 and 505 in phase 3 contained various associations of the mid 11th- to early 15th-century wares. All the contexts in phase 3 contained sherds from the same vessel showing some degree of distance in stratigraphy. Context 509 also contained the residual sherds of St Neot's Type Ware. The presence of 16th-century Cistercian Ware in context 507, phase 4, marks the start of early post-medieval activity on the site. Topsoil contexts 503, 502 and 501 contained small assemblages of mid 11th- to 15th-century wares which must be residual.

Grim's Ditch excavation (MGD92)

Of the 172 sherds from the 1992 excavation most were poorly stratified: 123 were residual in topsoil context 1 and in the fill of a natural hollow in context 2 (see Table 5.12). The remaining assemblages are small collections of one to eight abraded sherds associated with the stone building and medieval ploughsoil, but were also intrusive in earlier settlement levels.

Six quartz-tempered fabrics, ranging in date from the mid 11th- to late 15th/early 16th centuries, account for 70% of this assemblage. The most common of these wares (33%) are the two Abingdon Ware fabrics ABA and OXAG, of 11th- to mid/late 14th-century date. Cooking vessels including bowls and jars are represented by sooted base sherds, white-slipped sherds, two bowl rims (cf. Mellor 1994, fig. 25, no. 7) and two everted jar rims. Pitchers are

represented by a number of slip-decorated and glazed sherds including a sherd with a graffito pattern of circles within panels. The local early/mid 11th- to mid 13th-century Wallingford Ware (WA38) is also quite common (16%). The majority of the sherds are from pitchers, some glazed with slip decoration and one with a large strap handle with slashed decoration. Cooking vessels are represented by two thickened rims (cf. ibid., fig. 16, nos 2–3 and 9–10). The third most common component (11%) is a 13th- to 15th-century Camley Gardens-type coarseware. Cooking vessels are represented by one simple everted jar rim, one thickened rim and sooted sherds. One sherd is decorated with an applied thumbed cordon. Pitchers are represented by lead glazed sherds, some decorated with bands of incised lines. The smallest components of this assemblage (5% each) are mid 11th- to early 13th-century South West Oxfordshire Ware (OXBF) and late 12th- to early 15th-century East Wiltshire Ware (OXAQ), represented by sooted base sherds from cooking vessels.

There are also occasional sherds of a mid 14th- to early 16th-century Surrey/Hampshire Coarse Border Ware jug, a 12th-century Coarse London-type Ware (LCOAR) jug with a white slip and copper-glazed surface and 13th- to 15th-century Brill/Boarstall fabrics OXAW and OXAM.

Post-medieval wares, including English Stoneware bottles, fine Red Earthenware and Staffordshire Salt Glazed Stoneware were also found in the topsoil.

Contexts

The mid 11th- to late 14th-century sherd of pottery in context 8 corroborates the interpretation of this feature as slippage of the bank material, which cannot therefore predate the construction of Grim's Ditch bank.

Two fills (contexts 35 and 23) within pit 48 contained a variety of wares which could date between the mid 11th and late 14th/early 15th centuries. A similar assemblage was recovered from the fill of pit 29.

The ploughsoils in Areas A–C (5, 28, 200, 204 and 322) produced similar small assemblages of early 11th- to mid 13th-century and 13th- to 15th-century pottery.

Layers 303, 302 and 300 in Area C are the final fills within the ditch. All of these layers contained 13th- to 15th-century pottery and earlier mid 11th- to early 13th-century wares similar to the ploughsoils in Areas A and B.

The largest collection of medieval and post-medieval pottery came from layer 2, and probably relates to the 18th-century landscaping of the site. The majority of the pottery in this context must be residual, ranging in date from mid 11th through to the 19th century.

Discussion

This assemblage contains a range of fabric types typical of the area (Mellor 1994). The occurrence of St Neot's Type Ware is of interest as an indicator of late Saxon activity in the area and has been noted previously as a common ware in Wallingford (ibid.). The wide variety of domestic wares found in such a small assemblage and the longevity of the quartz-tempered traditions (from the mid 11th to the late 15th century) is probably indicative of the proximity of the site to the Mongewell deserted medieval village. Trading links occurred both to the east and west of Wallingford, with an abundance of Abingdon Ware, East Wiltshire Ware and Camley Gardens-type coarsewares. The coarse Border Ware jug also shows contact with the Surrey/Hampshire industries, which is not unusual for the Thames Valley region.

Tile

by Kate Atherton

A single piece of Roman tile, a fragment of an imbrex, was found in context 328 within the lower fill of Grim's Ditch. The projected height of the top of the curve is *c* 135 mm. The soft and soapy fabric, with a hackley fracture, and moderately spaced mica, quartz and grog inclusions and occasional iron flecks, cannot be related to any particular production site. There were also small quantities of medieval and post-medieval tile. Details can be found in the site archive.

Miscellaneous finds

A single fragment of brick, a single piece of fired clay, a late Saxon or Norman copper-alloy finger ring, some ferrous metalwork and some slag were also recovered, mostly from the upper fill of Grim's Ditch.

ENVIRONMENTAL EVIDENCE

Animal bone

by Adrienne Powell and Kate M Clark

Small quantities of animal bone were recovered from the 1987 and 1988 evaluations (MGD87 and MONG881), and the main excavation undertaken in 1992 (MGD92; Tables 5.13–14). Those from the 1992 excavation and the riverside site (MONG881) are described briefly here; those from the lower fills of Grim's Ditch, which have significance for the dating of the earthwork, are described in more detail. Further details of all the assemblages may be found in the site archive.

Mongewell 1988 site (MONG881)

Context layer 3, 1–3 m contained 19 tooth fragments which when rejoined revealed 4 large bovine maxillary molars: 2 right and 2 left. Measurement of crown-base circumference (following Davis 1989) on one of these, a first or second molar, gave a dimen-

sion of 106 mm, outside the range of the cattle teeth from Irthlingborough (ibid.), but comparable with the aurochs (*Bos primigenius*) from the same assemblage. The other three teeth were similar in size. Context layer 3, 3-4 m, contained 19 fragments of large ungulate bone and teeth. The bone included fragments of tarsal, metapodial and phalanx, but these were too small and weathered to assign to species.

Grim's Ditch

Only 38 fragments came from the fills of Grim's Ditch (Table 5.13). There was little difference between the fills, except the presence in the upper fills of the humerus of a red deer (*Cervus elaphus*), and several dog cranial and maxillary fragments in the lower fills (see also section on the Grim's Ditch earthwork, above).

The metrical and morphological characteristics of the dog remains suggest that the right mandible from context 328 is from the same animal as the left mandible and cranial material from 325 (see Fig. 5.9a). The dimensions of each of six pairs of standard measurements (von den Driesch 1976) are remarkably similar (Table 5.14). The measurements of the individual premolars are extremely close and the arrangement of the teeth in these mandibles (reflecting the degree of crowding and overlap) is symmetrical. The degree of tooth wear on both mandibles is also the same, and the area of symphysis in the left mandible matches exactly in size and sculpture the opposing portion of the right mandible. Context 325 also contained the right incisive of a dog skull retaining the canine and two incisors. Wear on this upper canine and that on the canine in the right mandible from context 328 is compatible with these teeth having been in alignment with each other. Context 325 also produced a fragment of right maxilla and another of right zygomatic.

Morphologically the length of the jaw of this dog would have been equal to or greater than a modern greyhound, but with the robusticity and depth of a Rottweiler or English bull terrier. A date of cal AD 140–390 (OxA-7175; 1755±35 BP) was obtained on the dog bones.

Table 5.13 Number of identified specimens (NISP) from Grim's Ditch

Taxon	*Date*		*Total*
	Iron Age/Roman	*Medieval*	
Horse	1	1	2
Cattle	5	6	11
Sheep/goat	1	1	2
Dog	5	-	5
Cervus elaphus (red deer)	-	1	1
Sheep-sized mammal	-	3	3
Cattle-sized mammal	-	3	3
Unidentified	3	8	11
Total	15	23	38

Charred plant remains and molluscs

by Mark Robinson

Introduction

Samples from 13 archaeological features mostly sealed beneath the bank were floated on to a 0.5 mm mesh to recover charred plant remains. A sequence of 19 samples was also taken from the fill of Grim's Ditch for molluscan analysis.

Charred plant remains

The flots were scanned under a binocular microscope. Charred remains proved extremely sparse, although several of the samples were found to contain very small quantities of *Quercus* (oak) and *Alnus/Corylus* (alder/hazel) charcoal. Cereal remains were only observed in two samples, one of which (MGD92 18), radiocarbon-dated to the late Neolithic–early Bronze Age, from a pre-bank posthole, was analysed in detail (Table 5.15).

Table 5.14 Dog mandibular measurements from Grim's Ditch

Measurement	*R (context 328) mm*	*L (context 325) mm*
Condyle process to aboral border of canine	147.7	
Indent between condyle process and angular process to aboral border of canine	134.8	
Aboral border M3 to aboral border of canine	98.4	
Length M3 to P1	78.9	
Length M3 to P2	73.2	
Length molar row	38.4	
Length P1 to P4	42.1	42
Length P2 to P4	36.6	35.8
Length carnassial alveolus	22.6	22.7
Thickness of jaw below M1	12.7	12.8
Height of mandible behind M1	29.5	29.5
Height of mandible between P2 and P3	21.1	20.4

Table 5.15 Charred plant remains: context 133, sample 18

		No. of items
Triticum dicoccum Shubl.	emmer wheat	3
T. dicoccum Shubl. or *spelt* L.	emmer or spelt wheat	3
Triticum sp.	wheat	5
Hordeum vulgare L. - hulled lateral grain	six-row hulled barley	1
Cereal indet.		24

Table 5.16 Terrestrial molluscs from the ditch

Cochlicopa sp.
Vertigo pygmaea
Pupilla muscorum
Vallonia costata
V. excentrica
Nesovitrea hammonis
Limax or *Deroceras* sp.
Helicella itala
Trichia hispida gp
Cepaea sp.

Table 5.17 Contexts sampled for soil micromorphological analysis

Profile number and location	*Context*
MGD 2: Area B 64.50/102.85	204 – Medieval ploughsoil
	203 – Bank material
	206 – Pre-bank cultivation soil
MGD 3: Area A 99/108.95	28 – Post-medieval ploughing and ditches
	74 – Pre-bank ploughing
MGD 4: Area A 98.65/109.70	Contexts as MGD 3
MGD 11: Area A 100/114.5	8 – Bank and ditch
	14 – Bank and ditch
	74 – Pre-bank ploughing

The cereal grains from the sample were mostly badly preserved and chaff was absent, but the majority of them could have been wheat. Alongside a single grain of *Hordeum vulgare* (six-row hulled barley), the only wheat variety to be identified with certainty was *Triticum dicoccum* (emmer wheat) which is appropriate given the late Neolithic–early Bronze Age date. The late Bronze Age waterfront site (see Robinson, Chapter 4) was transitional from emmer to spelt wheat.

Mollusca

Subsamples of the order of 100 g were taken from selected samples, sieved over a 0.5 mm mesh, dried and scanned for shells under a binocular microscope. It was decided that they did not merit detailed analysis but the assessment results were useful. The samples from the very bottom of the ditch were gleyed but ancient organic material was absent. The Mollusca from the samples included the stagnant-water aquatic and amphibious species *Lymnaea truncatula, L. palustris* and *Anisus leucostoma*, suggesting that the ditch initially held temporary puddles of water. Otherwise the shells from these and the remainder of the samples comprised an assemblage suggestive of dry open conditions (Table 5.16), reflecting the open, agricultural landscape from which the colluvial sediments filling the ditch derived. A similar dry open-ground fauna was identified from the lower sediments of Grim's Ditch where it was sectioned on the line of the A4074 (1974 trenches: see Fig. 5.2; Robinson 1975).

Soil micromorphology

by Helen Lewis and Charles A I French

Four soil profiles were taken for micromorphological assessment with the purpose of examining the relationship between the various cultivation horizons and the earthwork deposits. The samples (see Fig. 5.4, Table 5.17) were taken from the medieval ploughsoil overlying the bank deposits (MGD 2), post-medieval ploughing overlying pre-

Table 5.19 Summary of micromorphological descriptions

Fabric	*Structure*	*Porosity*	*Mineral components*	*Organic components*	*c:f ratio*
1 (204)	Degraded fine subangular blocky	20–30% channels, vughs	*Grains:* Mainly quartz mono-, some polycrystalline occasional feldspar (parallel, multiple twinned)	5–10%, amorphous, 'punctuations'	50:50
2 ?(203)	Pellicular grain + intergrain microaggregates	30–40%irregular		10%, as in fabric 1	60:40 to 50:50
3 (28)	Subangular and irregular blocky	20%channels, vughs		5–10%, as in fabric 1	40:60
4 (74)	Moderately to strongly developed angular to subangular blocky	10–20% channels, vughs	*Rock fragments:* Limestone (chalk), occasional sandstone, subangular chert	5–10%, as in fabric 1	40:60
5 (8)	Pellicular grain + intergrain microaggregates	30–40% irregular	*Calcium carbonate:* Microsparite + micrite crystals (and needles)	<10% 'punctuations'	60:40 to 70:30
6 ?(14)	Subangular to angular blocky	30% as in 3–4		10%, as in fabric 1	40:60 to 50:50

Table 5.18 Summary of profiles as seen in thin-section

HORIZON	PROFILE (Fabric/Context) MGD 2	MGD 3	MGD 4	MGD 11
Post-medieval soil		Fabric 3 (28)	Fabric 3 (28)	
Medieval soil	Fabric 1 (204)	↑	↑	
Soil/bank interface	Fabrics 1 and 2			
Bank – redeposited subsoil material	Fabric 2 (203)	Strongly mixed with	Some mixing with	Fabric 5 (8)
Bank material or ?bank/soil interface		↓	↓	Fabric 6 + fabrics 4, 5 (and 3?) ?(14)
Pre-bank soil		Fabric 4 (74)	Fabric 4 (74)	Fabric 4 (74)

bank ploughing (MGD 3 and 4) and from deposits in the bank and ditch and the soil buried below the bank (MGD 11). These profiles also form part of a research project on the identification of ancient tillage from soil features (Lewis 1998).

Although the samples had been in storage for two years before assessment, they seemed intact and undisturbed, but had considerable iron precipitation at their edges, resulting from long storage in metal containers. The resin-impregnated blocks were cut so that this would not interfere with interpretation. The samples were processed using the methodology of Murphy (1986), and described following Bullock *et al*. (1985) and Fitzpatrick (1993). The detailed thin-section descriptions can be found in the archive. The results are summarised in Tables 5.18–19. Only the main conclusions are summarised here.

The horizons present in most of the samples are internally quite homogeneous and, as such, fabrics tend to correspond with contexts/layers as described in the field, with a few exceptions: context 206 cannot be identified in the MGD 2 thin-section, and there is also some difficulty in deciding whether or not all three of the contexts in MGD 11 are present as described in the field. Finally, MGD 3 is so mixed that it is impossible to see two distinct horizons in the thin-section, although two fabrics are present.

The results of micromorphological analysis support, for the most part, the field interpretation of the profiles. The pre-bank soil represents an A horizon with shrink-swell clays. Some disturbance appears to have occurred before later bank construction and historic ploughing. This could be related to prehistoric ploughing (identified by ard marks seen in the field). In thin-section possible tillage indicators include non-laminated dusty clay coatings in pores and in the groundmass, along with the reorganisation of layers, such that (redeposited) subsoil aggregates have been pulled up into the topsoil, and layers were mixed. It is, however, uncertain whether these features relate mainly to pre-bank tilling and historic ploughing or more to bank construction itself.

The overlying earthwork is composed of a mixture of redeposited soil and subsoil. The latter consists of chalk fragments and aggregated loess-like material (silt and very fine quartz sand). The bank material seems to have been relatively uncompacted to begin with, but subsequent cementation has led to the creation of very solid horizons. In general, little can be said about construction from the small amount of material examined. The calcium carbonate (mostly micrite) cementation seen appears to relate to efflorescence, indicating relatively quick drying of deposits rich in dissolved salts. This cementation seems to have occurred

Texture	*Roundmass*	*Pedofeatures*	*Interpretation*
Sandy loam	Stipple-speckled	Dusty clay, silt infillings, rolled aggregates	Old alluvial A, degraded, disturbed
Loamy sand to sandy loam	Crystallitic	Excremental calcitic nodules	Bank material, highly oxidised
Sandy (clay) loam	Crystallitic	Sesquioxides, shell, rest as in fabrics 1 and 2	Lower A and/or A1, possible ploughsoil
Sandy (clay) loam	Stipple-speckled	As in fabric 3, but greater sesquioxide impregnation and no shell	Old alluvial A, possible ploughsoil
Loamy sand/sandy oam	Crystallitic	Shell, sesquioxides, subsoil aggregates	Bank material, highly oxidised
Sandy (clay) loam	Stipple-speckled	Sesquioxides, aggregates of other fabrics	Alluvial A, disturbed by plough?/bank

mainly after bank construction, and may be related to the disturbance inherent in the building of the earthwork and to later oxidation.

A topsoil horizon subsequently developed. The genesis of such a horizon would indicate stabilisation of the bank. This layer has a degraded structure and other features suggesting strong disturbance, possibly relating to its origin (if it were redeposited), but certainly compounded by the ploughing seen in the field (dating to the medieval and post-medieval periods). It is possible that the soil horizon overlying the bank may actually represent part of the construction itself, but this is unclear at present.

Microscopic features possibly related to tillage in the later ploughsoils include dusty clay as coatings and in the groundmass, and movement of relatively large fragments of lower material into the topsoil (204), and strong mixing of contexts (28 and 74) in MGD 3 and 4.

As at Fengate (Lewis 1998), despite macroscopic evidence for tilling (ard marks), the thin-section evidence is ambiguous regarding arable land use, although some horizon mixing and possible features were seen. Again it seems that any extant evidence relating to tilling may be explained by other factors (bank and ditch construction, for example).

DISCUSSION

by Alistair Barclay, Anne Marie Cromarty and George Lambrick

Earlier prehistoric activity

The earlier prehistoric evidence from the excavations indicates that this area was used episodically from at least the earlier Mesolithic until the Bronze Age. The earthwork and alluvium have preserved the more fragile component (ie earlier prehistoric pottery) that does not normally survive. Similar artefact scatters, perhaps indicating low-level/small-scale occupation, have been found at Drayton and Yarnton (Barclay *et al*. 2003; Hey in prep.). Within the context of the Upper Thames Valley, it is not unusual for artefact scatters to be of a mixed date. At Drayton and Yarnton, scatters were found in riverine locations like that at Grim's Ditch. The Neolithic evidence suggests domestic activity that would be broadly contemporary with the ritual and ceremonial use of the Benson cursus monument complex just 3 km to the north-east (see Fig. 1.2), and with the deposition of arguably votive deposits in an adjacent reach of the Thames (Holgate 1988a, 283, 304). The extent of the artefact scatter, shown by these excavations to stretch from fairly close to the river some 300 m upslope to the Grim's Ditch site, may well indicate that the area was cleared for cultivation during the Neolithic. The idea that fairly extensive tracts were cleared in this area during the early prehistoric period is further supported by the cursus at Benson (Leeds 1934; Riley 1944; Benson and Miles 1974), the construction of which would have entailed fairly substantial clearing.

The earliest cultivation

The earliest episode of cultivation consisted of continuous grooves cut into the disturbed natural (see Fig. 5.4). These marks were shallow and probably fairly severely truncated, but the remaining profiles were found to be symmetrical. They probably derive from cultivation using an ard with an upright share, possibly an arrow-shaped one, rather than a share that could be tilted to turn the soil a little (Fowler 1971) since there was no evidence that the soil had been turned. A tilted share would have produced an asymmetrical furrow. The truncation of the marks means, however, that these suggestions can only be tentative.

These marks, aligned perpendicular to one another, were obviously created in at least two stages, though it was not clear how many seasons of cultivation this represented. Where ard marks intercut three possible explanations can be given: that the area was cultivated in one direction in one year and across it in the next; that the area was ploughed in one direction during the spring and across in the autumn; or that the cross-ploughing occurred during the same episode of cultivation to produce a finer tilth in which the nutrients are more thoroughly mixed. Experimental ploughing has shown that deeply ploughing the same furrows twice, then between them and across them breaks up the soil completely (Fowler 1971). It is unknown whether the recorded furrows were ploughed in more than one direction, but as there was no significant difference in the recorded fills it is possible that they represent a single season's work.

The date of this cultivation is difficult to determine as the chronological currency of such ard marks stretches from the 3rd millennium BC into the Roman period. Many can only be dated approximately by stratigraphic relationship (eg Palmer 1980; Everton and Fowler 1978).

On the basis of the artefactual evidence from the overlying cultivation soil in Area B, the cultivation soil that seals the early ard marks could be of either Neolithic or earlier Bronze Age date. The stratigraphic relationship of this cultivation to the tree-throw holes and postholes assigned to phases 1b and 1c is also uncertain, but some of these features at least seem to cut this layer. The ard marks do show, however, that the area experienced at least one episode of cultivation deep enough to disturb the natural subsoil during the earlier prehistoric period, possibly associated with deliberate tree clearance.

Ard cultivation is labour intensive and the overlying cultivation soil suggests that cultivation occurred over a long period. This indicates an at least seasonally settled population at levels sufficient to sustain ard cultivation, and a more than purely pastoral economy.

The Grim's Ditch site would have been a very fertile one then as now, even allowing for the prevailing climatic conditions at the time, which are known to have begun to deteriorate from the warmer, more continental conditions of the sub-Boreal period, to become much cooler and wetter. It

was only in the full sub-Atlantic period that any significant difference would have been felt in the climate at Grim's Ditch. The next phase of cultivation at the site (phase 2) may be a reflection of this.

Tree clearance

The earliest phase of cultivation was followed by a period of tree clearance (phase 1b) indicated by the tree-throw and root holes which cut the cultivation soil. There is nothing to date these features directly, but there must have been a fairly long period of woodland regeneration after the earliest cultivation, suggesting that the clearance may have occurred during the late Bronze Age.

Late Bronze Age activity

The phase of activity attributed to the late Bronze Age is perhaps unusual in being characterised on the one hand by quite dense clusters of postholes, perhaps indicating prolonged use of the site and several episodes of construction, but, on the other hand, by a dearth of contemporary settlement evidence. Elsewhere in the Upper Thames, although pits containing domestic material are often encountered (eg Yarnton; Hey in prep.), it is not unusual for later Bronze Age settlements to produce little occupation debris. Structures such as small round or oval post-built houses tend, however, to be more clearly defined on other sites (eg Yarnton; ibid.). The only clearly definable structure at Grim's Ditch is a six-poster, which may have been a granary. Similar structures have been recognised on late Bronze Age sites such as Reading Business Park (Moore and Jennings 1992, 27) and Rams Hill (Bradley and Ellison 1975, 55). The structure at Grim's Ditch is also thought to be of late Bronze Age date, although elsewhere post-built granaries were built until at least the start of the middle Iron Age (Allen *et al*. 1984, 100). Analysis of the pottery showed that a few late Bronze Age sherds were present, perhaps reflecting some settlement activity in the vicinity.

The absence of domestic debris is relevant to the site's interpretation, and may indicate only episodic, perhaps seasonal, occupation of the site or that this area was peripheral to the main focus of settlement. The posthole clusters do not, of course, have to be linked to domestic dwellings: they may have formed animal pens, fences or other structures associated with stock control.

The number of middle to late Iron Age sherds was considered sufficient to suggest settlement of this date in the immediate vicinity, though none of the features could be dated to this period. Any such settlement may be related to the next phase of activity on the site.

Late Iron Age cultivation

This phase consisted of the creation of cultivation ridges that immediately predate the construction of the earthwork and are only preserved in a fairly narrow strip under the bank (see Fig. 5.7). The dating of these features is difficult as dating cultivation soils always is. Any finds within them are likely to be residual, and could have been reworked over a considerable period before the soil passed out of use and was preserved. The layer in which the ridges were found is stratigraphically later than the posthole with material of early Bronze Age date and immediately underlies the Grim's Ditch earthwork bank. This is not dated precisely but the first fills of the ditch are of Roman date providing a *terminus ante quem* for the ridges and suggesting a late Iron Age or early Roman date. The pottery from within the cultivation soil supports such a date: although very small and abraded, none appeared to post-date the conquest. Such a date also fits well with the chronology of this type of cultivation as defined by Topping (1989a), who suggests that it is associated with periods of poorer climatic conditions such as prevailed at this time.

These ridges can be interpreted in various ways, but the closest parallel is with those known as 'cord-rig' from numerous sites in northern England and southern Scotland (Topping 1989a). These ridges are very narrow, with generally no more than 1.4 m between the centres of the furrows. Topping gives a catalogue of prehistoric sites associated with cord-rig. Though thought to have been restricted to the higher ground in the northern and western parts of the British Isles, the ridges at Grim's Ditch fall well within the range of dimensions of cord-rig as described by Topping. Further sites in southern England are now also coming to light to add support to this. Ridges observed in a small-scale excavation at Chisenbury Warren (Entwistle *et al.* 1994) may be of this type, and two small 'garden plots' at Weston Wood, Albury (Russell 1989), dated only by their proximity to a Bronze Age structure, provide another parallel.

The method used to create the cultivation ridges at Grim's Ditch is uncertain. The Chisenbury Warren examples were found to be somewhat irregular, the profile of some parts being V-shaped, while in others it was much more rounded. This contrasts with the Grim's Ditch examples which are generally U-shaped in profile and are relatively uniform across the area. The Chisenbury Warren ridges are thought to have been dug with a spade as tool marks were observed. Topping considers it unlikely that this was the usual method of creating these ridges as it would have been very inefficient to create the areas of cord-rig known from the north of the country in this way even if the ground was already broken up by a plough (1989a). Spade-dug areas are, however, known from prehistoric sites. A series of 150 individual regularly spaced spade marks were observed over most of a small 5 m x 9 m trench at Hengistbury Head, Dorset, for example (Chadburn and Gardiner 1985; Chadburn 1987). Late Iron Age sherds (*c* 100–50 BC) were recovered from the primary fill of the ditch cutting this layer (ibid.). In

Shetland, before mechanisation, teams of five or six diggers working together, each with the traditional Shetland spade, which were roughly the same width as the cuts observed at Hengistbury Head, used to cultivate the small field of the typical croft, but this was very time consuming and labour intensive.

Topping suggests that cord-rig is more likely to have been created with an ard, or even a plough with a mouldboard (although these have not been found in prehistoric contexts). No tool marks were observed at Grim's Ditch, and the regularity of the ridges, and the reasonably extensive area that the cord-rig seems likely to have covered, make the use of some sort of ard or plough seem possible. The whole length of the ridges was not, however, preserved, and it is not known if they had the subtle S-bend plan produced when a plough and team are turned at each end of a furrow, as is reported in at least one case cited by Topping (1989a, 166).

The Chisenbury Warren ridges are thought to have been the product of several phases of digging, and it is possible that the Grim's Ditch cord-rig resulted from more than one phase of arding. It was hoped that micromorphological analysis of the soil from these ridges and the immediately overlying bank material could provide information on the character of cultivation during this episode. However, only one undisturbed sample of this material was analysed. This suggested that the soil is a natural topsoil with a degree of disturbance. Though the compaction of the underlying soil which would be expected under a plough zone was absent, the inclusions within the mixed horizon between the pre-bank layer and the initial bank material may be the result of ploughing. It is possible that the ridges were created by only one phase of ploughing. This could explain the lack of a recognisable zone of compaction in the underlying soil, though the use of a spade to create the ridges cannot be ruled out.

Although they are recorded as surviving along a 50 m strip, it is possible that this is only the fragmentary remains of a more substantial area. This may have significance in terms of the socio-economic organisation of the site. Topping (1989b) suggests that in Northumbria enclosed stone-built settlements and forts are more regularly associated with fields and field systems under cord-rig, while timber-built and unenclosed stone-built settlements are more frequently associated with only small patches and plots of cord-rig. He suggests that this is due to a greater reliance on cereal cultivation in the overall economy of the former group, to which the Grim's Ditch site may belong on the basis of a relatively large area of cord-rig cultivation. No settlement is known in the immediate vicinity of the site, though Iron Age activity is known in the wider area. Relatively little archaeological excavation has been carried out in the vicinity of the site, however, so it is difficult to say if Topping's Northumbrian model can be applied to this area.

This episode of cord-rig cultivation was followed by another episode of arding, again aligned north–south and east–west, cut down through the primary slippage of the Grim's Ditch bank into the earlier cultivation soils (see Fig. 5.8, Pl. 5.4). A further separate episode of cross-ploughing, aligned differently, but also thought to date from the same general period, was found further west along the bank. Much of what has been said of the earlier phase of arding holds true for this period also. The marks appear to have been symmetrical and hence cut with the share held upright. Within the first group of ard marks the east–west aligned set was cut by the north–south one, but both appear to have been part of the same episode of cultivation since there was no significant difference in the fills of the two sets. Some of these ard marks were found to be filled by material derived from the reworking of the earlier cultivation soils, which contained nothing that could be dated to later than the Roman period. As the second group of ard marks were not excavated they are more difficult to date, but they may date from the same broad period as the other ard marks.

The cross-ploughing may have been an attempt to smooth out the remains of the earlier cord-rigs, or may have been aimed at producing a finer tilth as the inclusion of bank material into the cultivation soil incorporated a fairly high proportion of chalk gravel and flecks. They may also represent a deliberate attempt to plough out the bank, again possibly in the Roman period (Fowler 1983, 113–17). Cross-ploughing may be the most effective way of flattening irregularities in the land surface with an ard. Ploughing with a modern plough with a mouldboard physically moves the earth significantly forward as it turns the sod. Plough with mouldboards, however, were only introduced in the late Saxon period (Fowler 1981, 27). Lateral movement of the soil does not occur with the use of an ard, but cross-ploughing diagonally across the irregularity may comb the soil from the mound downslope sufficiently to reduce the gradient. The use of the ard as an engineering tool during this period is known from other sites. Uniaxial ploughing parallel to the Winchester–Silchester Roman road, for example, was used to create a terrace in advance of construction of the road (Fasham and Hanworth 1978, 175) and there are other examples of cross-ploughing to flatten earthworks (eg Roman ploughing of a long barrow at Redlands Farm, Northamptonshire; Bradley in prep. a).

The fact that such a difficult area was being cultivated suggests that the land was being fairly intensively cultivated during the Romano-British period, and that arable cultivation was relatively significant to the economy. No evidence for a contemporary settlement was found on the site, but Roman activity is known from the vicinity, particularly slightly upriver at Newnham Murren where finds and cropmarks may represent settlement (PRN 7692).

South Oxfordshire Grim's Ditch earthwork

Chronology

Unfortunately, the excavation could not date the construction of the Grim's Ditch earthwork much more accurately than had been done by earlier excavations (Hinchliffe 1975). Then, the earthwork was dated to the Iron Age by pottery from within the bank and by its association with a nearby pit. Analysis of the pottery found within the cultivation soil preserved immediately beneath the bank and of finds from the first fills of the ditch during the present excavation showed that the latest sherds beneath the bank were of late Iron Age 'Belgic type'. Early Roman material only began to appear in the phase associated with the partial denudation of the bank and after the initial silting of the ditch.

A late Iron Age to early Roman date for the construction of the earthwork accords well with that for similar earthworks such as the north Oxfordshire Grim's Ditch (Copeland 1988), the Big Enclosure at Cassington Mill (Case 1982b), the late Iron Age oppida at Abingdon (Allen 1991; 1993) and Dyke Hills, Dorchester (Harding 1972, 54), all of which may be related in some way to the present site and to the late Iron Age sociopolitical landscape.

The earthwork in its wider context

It is first worth comparing this earthwork with the north Oxfordshire Grim's Ditch (see Fig. 7.3a). Pottery from the north Oxfordshire Grim's Ditch suggests it was probably also constructed in the late Iron Age and fell into disuse in the early Roman period. It consists of a series of earthworks, generally of dump or mound type, separated from a ditch by a berm and possibly a 'palisade trench', running between the valleys of the Glyme, Evenlode and Windrush to form a large enclosure. There are gaps in this earthwork which may or may not be intentional, just as there are gaps at the present site (Bradley 1968).

The north Oxfordshire example differs from the southern one in that it apparently encloses an area with the bank on the inner side of the ditch as would be expected if it had a defensive function. The Big Enclosure at Cassington also encloses a fairly substantial area. Although no physical remains of a bank survived there, the excavator suggested that one was probably present on the inner side of the ditch (Case 1982b), perhaps again indicating that they may have been defensive structures built in the face of a perceived threat.

If the Mongewell Grim's Ditch originally stretched as far as Henley-on-Thames (see Fig. 1.1), as has been suggested (Bradley 1968, 2), then it may also have formed a defensible enclosure with the loop of the River Thames to the south. Similar enclosures, albeit on much smaller scales, are known further up the Thames at Dyke Hills (see Fig. 1.2) and Abingdon. At Dyke Hills a substantial ditch flanked by large banks runs between the Thames and the Thame to form an enclosure around a substantial settlement or oppidum. Defensive ditches between the Rivers Thames and Ock at Abingdon also formed a similar defensive enclosure around the oppidum there. The main ditch at Abingdon has been excavated and found to be 12.5 m wide and 2.7 m deep, comparable to the dimensions of the Mongewell Grim's Ditch described above. The Abingdon ditch has also been dated to the late Iron Age–early Roman period and continued in use until the late 1st–early 2nd century AD (Allen 1991; 1993).

However, there are significant differences between these sites and the Mongewell Grim's Ditch which suggest that other parallels may be more appropriate. On the basis of his survey of the surviving earthworks, Bradley (1968) dismisses the suggestion that the Mongewell Grim's Ditch ever stretched as far as Henley-on-Thames. The fact that the bank lies to the north of the ditch, outside the supposed enclosed area, makes it even less likely to have formed an enclosure. The earthwork seems to have been purely rectilinear.

The earthwork has also been compared to other earthworks also known as Grim's Ditch in the Chilterns (see Bradley 1968). These are not as closely dated, but are thought to be approximately contemporary. The Chiltern ditches are rectilinear in plan, and it has been argued that they enclosed areas of clay soils. This, however, is not true of the south Oxfordshire example, which cuts across the geology. The Chiltern earthworks are generally aligned to contours, as are the north Oxfordshire examples, again contrasting markedly with the south Oxfordshire Grim's Ditch which runs across the contours.

A closer parallel can be found in Aves Ditch to the west of Middleton Stoney in north Oxfordshire (Sauer 1999). This earthwork is purely linear with no indication that it ever formed an enclosure. Indeed, it is so straight that, in the belief that it was a Roman road which formed a junction with Akeman Street just to the west of the River Cherwell, a Roman date was assumed (Rahtz and Rowley 1984). Limited and unpublished excavations at the southern end in 1937 revealed a single large ditch and bank, and recent excavations of a section towards the northern end by the Oxford University Archaeological Society showed that it could not have been a road, but consisted of a large ditch with a bank to the east. These excavations also found Iron Age pottery within the bank suggesting that the feature was earlier than the late Roman date that had been assumed. It has clear parallels with the south Oxfordshire Grim's Ditch in nature and date, and perhaps therefore also in function.

The south Oxfordshire Grim's Ditch must have formed a substantial obstacle to movement along the eastern side of the Thames Valley, and may have been built specifically for the purpose of impeding or controlling this movement. The late Iron Age was a period of marked economic, social and political

change. By this period, the increasing standardisation of some artefact types, such as pottery and brooches, perhaps indicates greater social articulation between different areas. This coincides with signs of economic growth in southern and eastern England, marked, for example, by the introduction of the potter's wheel. It may also have been marked by increasing political and economic rivalry between the so-called Iron Age tribes. And there may, therefore, have been a greater need than before to define territories overtly.

The construction of substantial earthworks at this time may have been a response to complex political pressures rather than merely hostile immigration. Bradley (1968) suggests that the Chiltern Ditches are likely to have been built to demarcate boundaries between different groups and/or were land-use practices. Copeland (1988, 287–8) suggests that both the north Oxfordshire Grim's Ditch and Cassington Big Enclosure are an expression of centralised control of territories rather than simply defensive structures, and indeed that the former enclosure may never have been completely defensive. Its main function was to express territorial control. This seems a likely interpretation of the south Oxfordshire Ditch also. The area around Wallingford with its commanding position in the middle of the Thames Valley between the two complementary resource zones of the Upper and Lower Valley would have been desirable territory, and the construction of such a substantial physical barrier would have not only marked a boundary, and controlled movement, but also expressed control over it.

It is difficult to determine who was responsible for the construction of this earthwork. Some central, possibly tribal, power, or at least a noble individual or family, seems likely to have been responsible for instigating construction on such a large scale. To what tribe this power or noble would have belonged is open to speculation. The different tribes residing in southern England at the time are known from Roman historical accounts, but the exact areas they occupied are less easily defined. Some attempts at relating the named tribes to the known archaeology have been made using numismatic evidence.

For a fairly short period from *c* 30 BC to AD 43 (or at the latest a couple of decades after this date) several of these tribes minted their own coins. Some issues have a geographically defined distribution. As there was little movement of coins between these areas, and coinage is likely to be sensitive to politico-economic realities (Sellwood 1984), careful use of coin distributions can give a general indication of tribal territories.

A gross plot of coins of the Catuvellauni (Cunobelin gold, silver and bronze coins), Dobunni, Durotriges and Atrebates (see Fig.7.3b) can thus be used to suggest the territories of these four major tribes. There is an area to the south of Oxford and the west of Wallingford where coins of three of these tribes have been found in almost equal abundance. It is not clear which if any of these tribes controlled this area. A separate tribe, which did not mint its own coins, may have controlled it – a sub-Dobunni tribe has been suggested – but it may be that this area was disputed and allegiances varied through time. The gross coin evidence cannot reveal such subtle changes. It is likely that the area was one of some rivalry between tribes for control. On the opposite side of the river the picture is clearer.

The Mongewell Grim's Ditch may have formed a boundary between the Catuvellauni to the north and the Atrebates to the south. This is uncertain as major rivers such as the Thames apparently form boundaries in other places, with a little overlap in the coin distributions along the boundaries of each territory as might be expected. There are various mechanisms by which coins from one tribe could come into the territory of another. Even where the coinage was not recognised some may have been exchanged for goods or taken for bullion. The Atrebatic coins found between the river and Grim's Ditch could derive from such trade, rather than being an indication that the Atrebatic territory extended to the north of the river at this point. Hodder and Orton's (1976) quantitative analysis also suggests that the territory of the Atrebates extended north of the river at this point. The boundary suggested by their analysis is geometric, but does give some support to the hypothesis that Grim's Ditch formed a boundary between the two tribes.

Since the bank is on the northern side of the ditch it might be suggested that the earthwork was built by the Catuvellauni to halt any further encroachment north along the eastern side of the Thames by the Atrebates. A similar suggestion could be made for the construction of Aves Ditch, which may have formed the western boundary of the Catuvellauni territory. The Cherwell had been assumed to form this boundary but Aves Ditch is close enough to the river not to show up in gross artefact distributions (Sauer 1999, 268).

The ploughing of the bank and the subsequent infill of the ditch suggest that the earthwork fell out of use during, or perhaps towards the end of, the Roman period, as is the case with the north Oxfordshire and Cassington sites. Copeland (1988) suggests this was a result of the old tribal territories becoming obsolete after the Claudian invasion.

The earthwork after the Roman period

Little is known of the political significance of the Grim's Ditch earthwork after the Roman period, although part of its course became the parish boundary. Ploughing out of the bank continued until the 18th-century landscaping of the site, but the earthwork still functioned as a boundary, and remains largely visible today.