

Chapter 8: The late Neolithic

Introduction

Evidence for activity in the late Neolithic was slight compared to that for other periods, and was entirely absent from the Jubilee River sites (Fig. 8.1). The range of evidence, however, was similar to that for the middle Neolithic. Small numbers of Grooved Ware sherds were recovered from the hollows in Areas 6 and 10 and from the Neolithic horizons in Areas Ex1-3, but the clearest evidence was recovered from isolated pits. Such pits were found in Areas 16 and 24. They contained varied assemblages consisting of Grooved Ware, primarily in the Durrington Walls substyle but including some in the Clacton substyle, worked flint, burnt flint, fired clay, animal bone, including the remains of piglets in one pit from Area 6, a bone spatula or knife, charred plant remains and charcoal. Similar ranges of finds were also recovered from a small number of tree-throw holes in Areas 6 and 10. A radiocarbon date from a spread of burnt flint in Area 16 also suggests that it dates from the late Neolithic.

The former Thames channel again provides evidence for the deposition of more exceptional items. A large part of a human skeleton was recovered from the former Thames channel near Area 6. A radiocarbon date from the skeleton places it in the late Neolithic.

Area 6: a skeleton from the former Thames channel and other late Neolithic finds

by Anne Marie Cromarty and Tim Allen

A small number of pottery and flint artefacts of late Neolithic date were recovered from Area 6, but no features could be dated to this period (Fig. 5.11). The pottery was mainly from the sealing layer (11200) in the area of the hollow, especially from the western end of the site. Most of the sherds were small, weighing less than 5g, but even the few larger sherds were worn and abraded, and were clearly residual fragments. The flint was likewise generally rolled and worn. A small group of flint, comprising 17 pieces, including a discoidal flake core, from a tree-throw hole (5303) which also contained two cattle cervical vertebrae and an unidentified large fragment of bone (identification by G Jones) may date from the late Neolithic, although the flint was largely undiagnostic.

Most of a human skeleton (81318) was recovered from the Thames palaeochannel just west of Area 6 during excavations by the Rowing Lake contractor in 1997. The number of bones recovered make it

very likely that the body had been complete when it entered the water. The body was excavated from below the water table at a depth of around 2m, so no details of its stratigraphic position within the channel sequence could be obtained. A radiocarbon date of 2890-2570 cal BC (OxA-8817: 4155±45 BP) was obtained on bone from the skeleton.

Late Neolithic Grooved Ware from Area 6

by Alistair Barclay

Six sherds from Area 6 have been classified as late Neolithic Grooved Ware on the basis of fabric (AG1/2: 2 sherds, 4 g; G2-: 1 sherd, 1 g; GA2: 1 sherd, 2 g; GAF2-: 1 sherd, 2 g; GF3-: 1 sherd, 8g) and appearance. However, only one of these sherds, P216 from a surface layer (5989), is diagnostic; it has a series of horizontal parallel grooves on its interior surface. Internal decoration is a common feature of some bowls belonging to the Durrington Walls style. Examples are known from an occupation site on the Chiltern Ridge (Matthews 1976, 5 and fig. 2.1). The remaining five sherds are from the early Neolithic horizons.

Catalogue of illustrated pottery (Fig. 8.2)

P216-5989. SF 26108. ?Grooved Ware. Body sherd with internal decoration (2g). Fabric GAF2/LN. Firing: ext. reddish-brown; core grey; int. black. Condition average-worn.

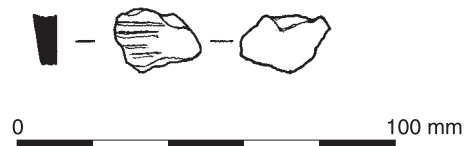


Fig. 8.2 Late Neolithic pottery from Area 6

The late Neolithic flint from Area 6 by Hugo Anderson-Whymark

The 17 flints from tree-throw hole 5303 (Table 7.1) was largely undiagnostic, although a single discoidal flake core is suggestive of a late Neolithic date. In addition to this small assemblage, a number of diagnostic pieces of mid to late Neolithic flint where identified, forming a residual element in later assemblages. These flints include a possible crude rough-out for a discoidal knife along with seven discoidal cores and a single levallois flake.

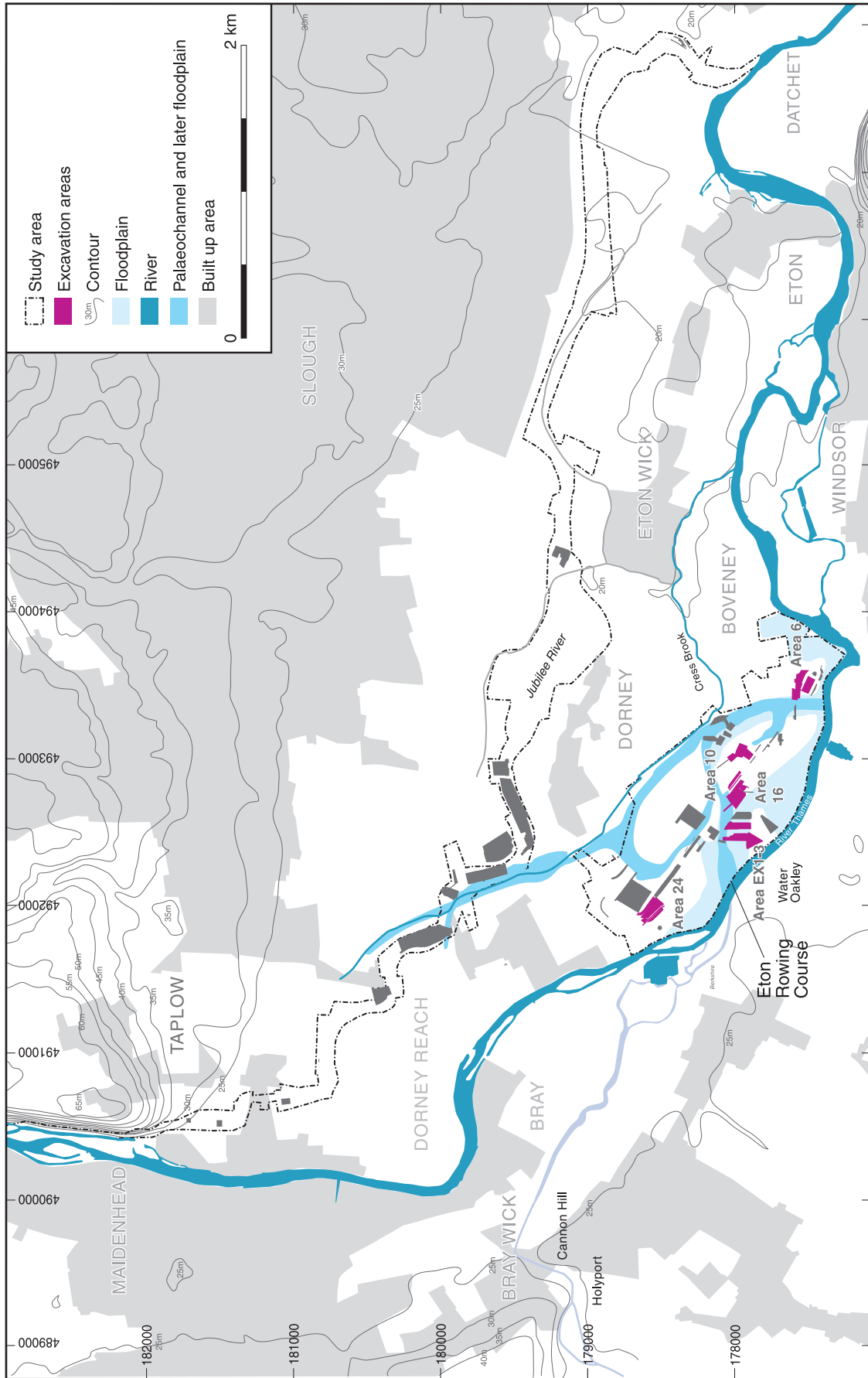


Fig. 8.1 Location of sites discussed in Chapter 8 (Crown copyright 2013 Ordnance Survey 100005569)

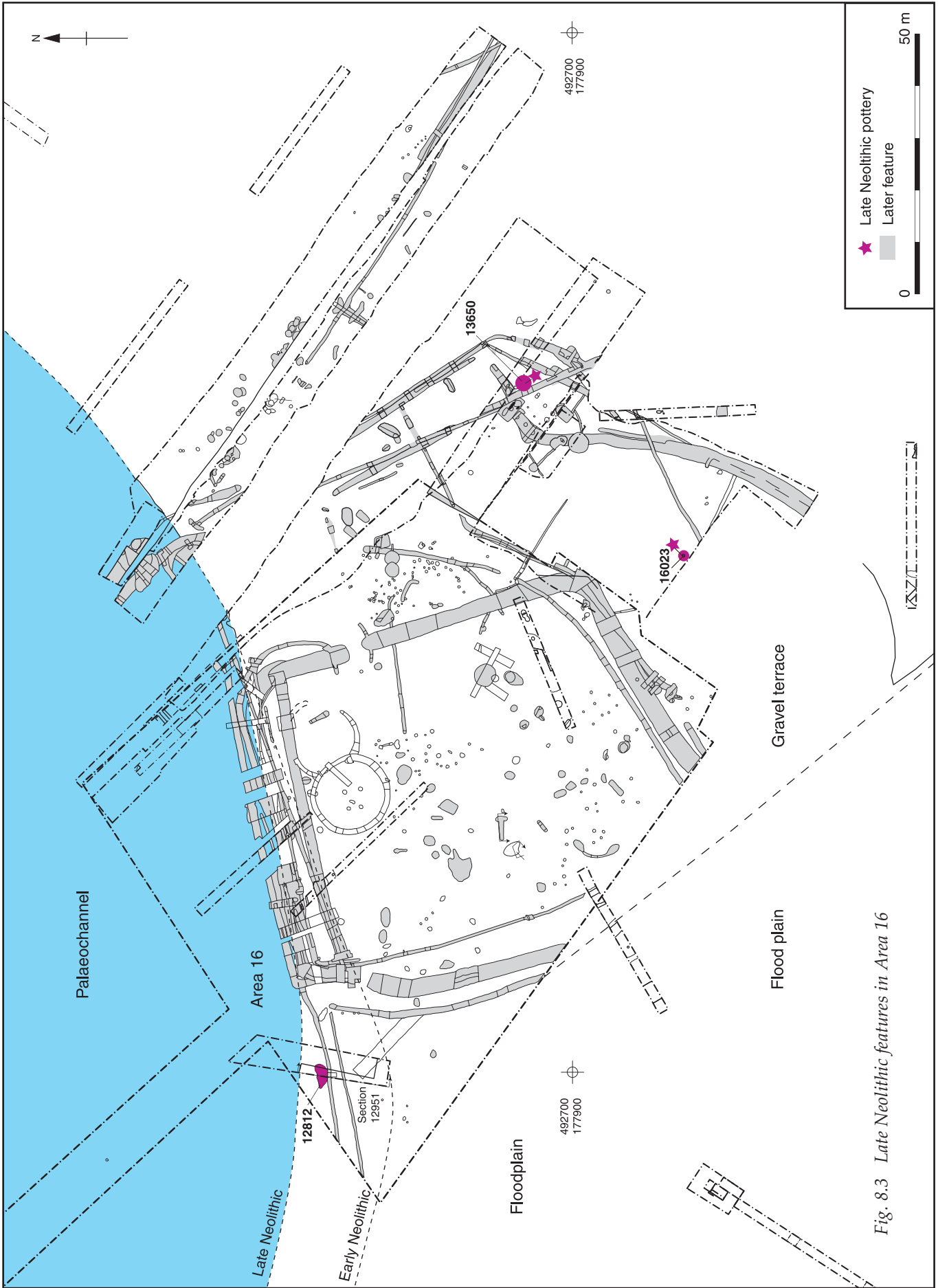


Fig. 8.3 Late Neolithic features in Area 16

Area 16: late Neolithic pits and a burnt flint spread by Tim Allen, Anne Marie Cromarty, David Petts and Ken Welsh

Low intensity activity continued within Area 16 into the later Neolithic. Activity in this period was represented by a spread of burnt flint close to the south-western corner of the excavation by the palaeochannel, and by two pits containing a substantial amount of Grooved Ware pottery, one within Trench 16D, the other further south.

The burnt flint spread (12812; Figs 8.3-4) overlay the upper fills of the earliest cut of the palaeochannel in this area. Radiocarbon dating of a piece of charcoal from the burnt flint spread suggested that it was related to late Neolithic activity in this area. The spread was some 3.2m by 2.3m in extent and consisted of large quantities of burnt flint and some other burnt stone within a tenacious dark brown-grey silty clay matrix. The burnt flint was not evenly spread throughout the area, but contained four or five particular concentrations. No pottery or flint artefacts were found within this spread or the underlying deposits, so the dating of the deposit and of this cut of the channel rest upon the dating of the charcoal. Two consistent dates were yielded by the radiocarbon analysis, one of 2930-2870 cal BC (OxA-9413: 4282±39 BP), the other of 2900-2620 cal BC (OxA-10226: 4190±45 BP). These dates are comparable to those from the Grooved Ware pits described below.

Pit 13650 (Figs 8.3 and 8.5) in Trench 16D contained a single fill (13651) of friable dark black-brown sandy silt with some gravel and charcoal inclusions. This deposit yielded 24 pieces of struck flint, including two cores, two end scrapers, a blade and numerous flakes, 26 fragments of burnt flint, 7 of fired clay and an assemblage of predominantly late Neolithic pottery. Part of a bone tool, probably a knife or spatula, was also found. The pottery assemblage included 13 sherds of late Neolithic Grooved Ware pottery (332g), 6 sherds of middle Neolithic Peterborough Ware and one other small residual sherd of early Neolithic date. A radiocarbon date of 2880-2620 cal BC (OxA-13597:

4150±28 BP) was obtained from a charred hazel twig from this pit.

A second late Neolithic pit, 16023 (Figs 8.3 and 8.5), was found 30m to the south-west. This pit was small, steep sided and flat based, with a diameter of 0.58m and depth of 0.22m. It was situated close to the southern limit of excavation. There were three fills in this pit, the primary and tertiary fills (16025 and 16026 respectively) being light brown sandy silts containing occasional burnt flint fragments and fragments of pottery. There were also a number of animal bones in the primary fill. The animal bones were predominantly piglet bones, but a number of toad and vole or mouse bones were also recovered, probably from animals that fell in by chance, indicating that the pit was left open for some time before it was filled.

The middle fill, 16024, which was a dark brown clayey silt with occasional charcoal flecks, contained 6 residual sherds (12g) of middle Neolithic pottery, 7 sherds (103g) of late Neolithic Clacton-style Grooved Ware and 5 sherds (26g) of undiagnostic late Neolithic pottery. Fragments of burnt stone, some animal bone and a worked and polished bone point were also recovered from this fill. A radiocarbon date of 2880-2570 cal BC (OxA-14090: 4131±32 BP) was obtained from a piglet pelvis from this pit.

Late Neolithic pottery from Area 16

by Alistair Barclay

Two pits (13650 and 16023) in Area 16 produced assemblages of Clacton-style Grooved Ware. A total of five fabrics, characterised predominantly by the presence of grog (GA2/LN, GAF2/LN and GV2/LN), but including also fabrics containing sand (AG1/LN) and shell (SGA2/LN), were distinguished

Pit 13650

Pit fill 13651 contained 25 sherds (332g) of Grooved Ware as well as some residual sherds of Peterborough Ware and a single sherd of Plain Bowl. At least five vessels are represented by

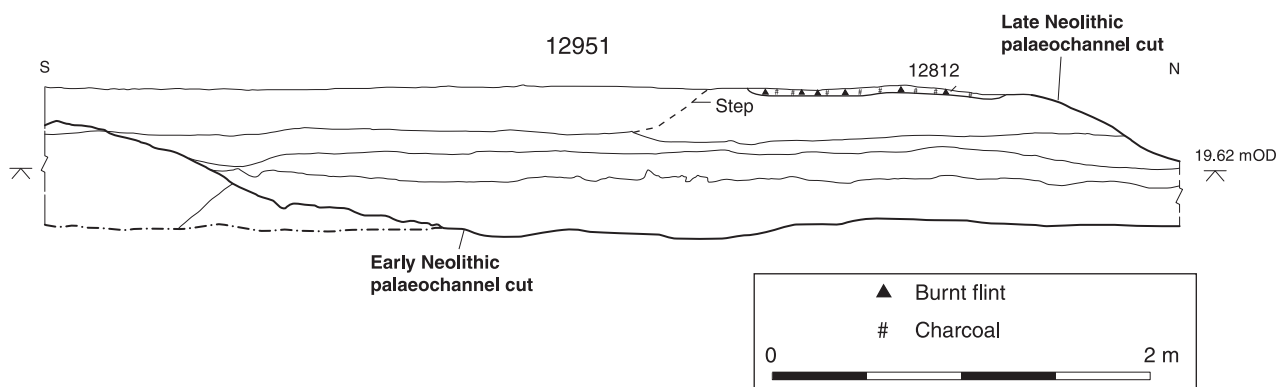


Fig. 8.4 Section of late Neolithic burnt spread 12812

different rim and body sherds (Fig. 8.6, 14-19). A base sherd (Fig. 8.6, 19) could derive from one of these vessels, although the inclusion of flint in its fabric indicates that it could come from a sixth vessel. Most of the sherds derived from a single tub-shaped vessel (Fig. 8.6, 14) decorated with horizontal bands of grooving, typical of the Clacton substyle. However, some variation in the

rim form was noted (either incurving and bevelled or straight and squared) and it is not certain whether this reflects irregularities in construction or the presence of two similar vessels. This was compounded by the fact that no refits were found between the 12 sherds. A similar but smaller vessel was represented by a pointed, bevelled rim and two decorated body sherds (Fig. 8.6, 16). A third vessel was represented by a group of plain sherds and a simple rim with internal grooving (Fig. 8.6, 15). Two further vessels are represented by decorated body sherds, one of which (Fig. 8.6, 18), although similar in appearance to the sherds from vessel 14, is in a sandy fabric, while the other is decorated with grooved lines and impressions.

Pit 16023

Pit fill 16025 contained 11 sherds and 68 crumbs (103g) of Grooved Ware. Five sherds from at least four different vessels are illustrated (Fig. 8.6, 20-24). With the notable exception of the larger sherd (Fig. 8.6, 23), the pottery was generally in a worn or very worn condition. This fact, as well as the presence of a high number of crumbs of pottery, suggest that the material could represent occupation material from a well-trampled surface. Charred residue on one sherd (22) indicates use as a cooking pot.

Discussion

The assemblages from pits 13650 and 16023 belong to the Clacton substyle of late Neolithic Grooved ware. There is relatively little Grooved Ware from the Eton Rowing Course and none from the Jubilee River, although a small number of sherds were recovered from Area 10 and possible sherds were identified in Areas 6, Ex1 and 24. In general, there is very little Grooved Ware from the Middle Thames Valley, although to some extent this partly reflects a lack of fieldwork (Barclay 1999; Longworth and Cleal 1999). However, even where large-scale fieldwork has taken place, assemblages so far have been limited to small groups or isolated pit deposits. Pit 13650 provides one of the larger single groups of Clacton-style Grooved Ware, while a number of similar sized assemblages belonging to the Durrington substyle have been found in the Coln Valley at Prospect Park and Harmondsworth (Laidlaw and Mephram 1996, 27-30; Jon Cotton pers. comm.) and from Betchworth, Surrey (Longworth and Cleal 1999, 196).

The sherds from pit 13650 were not in a fresh condition, and while related sherds from individual vessels were identified, conjoining sherds were notably absent. This could suggest that the material was not deposited in a freshly broken condition but perhaps had been collected at some point after breakage or perhaps stored in a temporary midden prior to burial. This could also explain the residual earlier material and why one vessel (14) is represented by 12 sherds of relatively large size, while two of the vessels (17-8) are represented by single sherds.

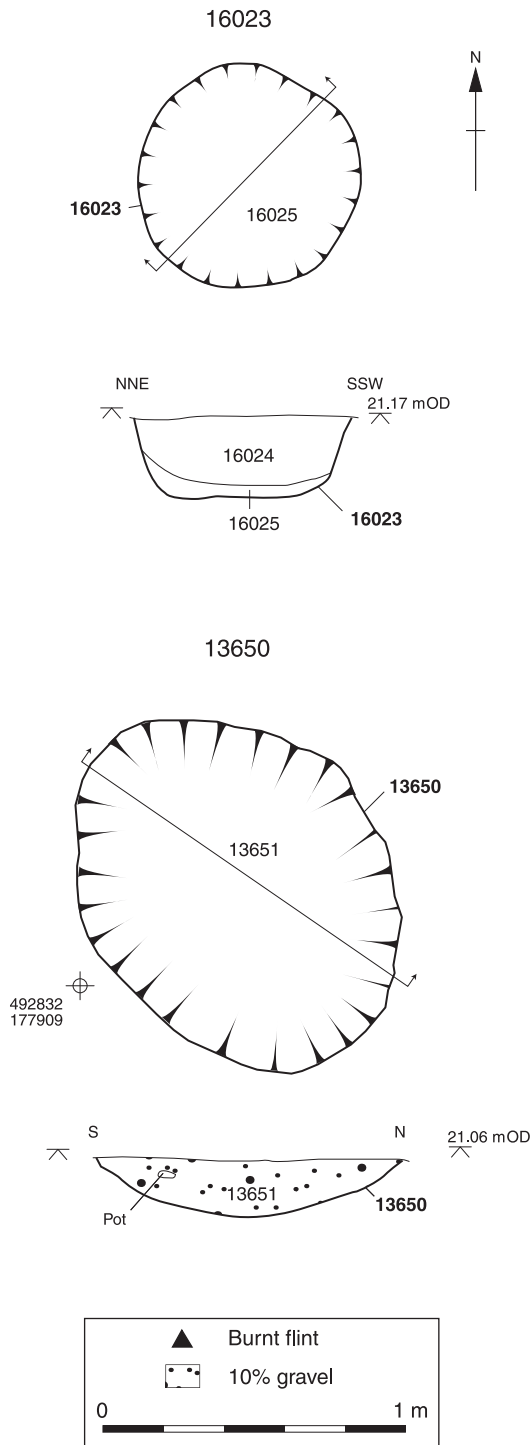


Fig. 8.5 Plans and sections of late Neolithic pits in Area 16

Grooved Ware chronology has been reviewed by Garwood (1999) who has suggested a broad timespan from 2900 to 2200 cal BC, with the suggestion that the Clacton substyle falls within the earlier half of this sequence (pre-2500 cal BC). Hazelnut charcoal from layer 13651 has been radiocarbon dated to 2880-2620 cal BC (OxA-13597: 4150±28 BP), and a pig pelvis from 16025 to 2880-2570 cal BC (OxA-14090: 4131±32 BP).

Catalogue of illustrated late Neolithic pottery (Fig. 8.6)

14 Context 13651. Late Neolithic, Grooved Ware, Clacton substyle. Twelve sherds from a tub-shaped vessel (254g). Squared, slightly bevelled rim (dia. 210mm). Decorated below the rim with an horizontal band of grooves and on the body with a vertical herring-bone motif. Fabric SGA3/LN. Firing: ext. yellowish-brown to brown; core and int. black or brown. Condition average.

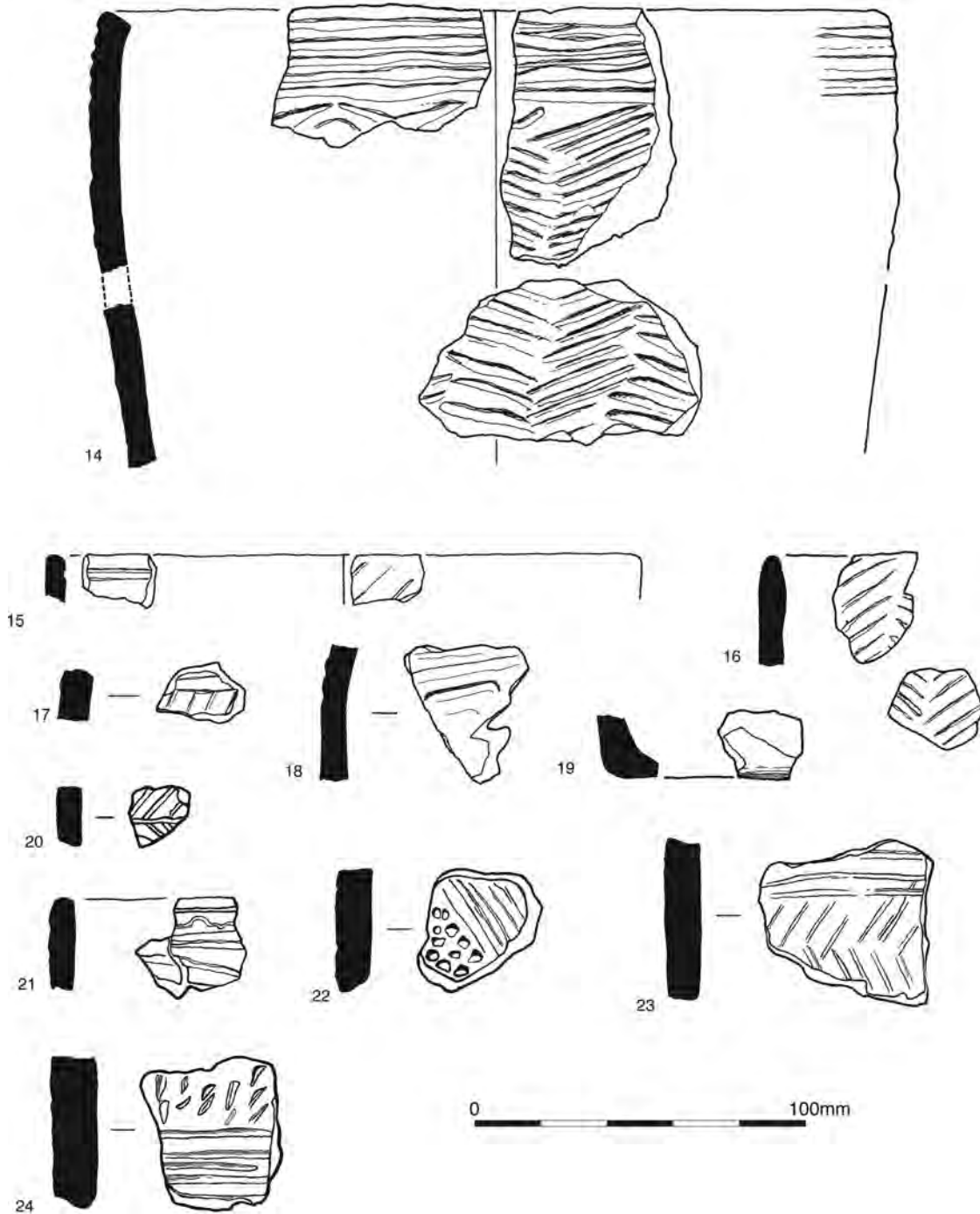


Fig. 8.6 Late Neolithic pottery from Area 16

- 15 Context 13651. Late Neolithic, Grooved Ware, Clacton substyle. Seven sherds including a rim possibly all from the same vessel (22g). Rim is simple and rounded with two internal grooves. Fabric GA2/LN. Firing: ext. brown; core black; int. brown. Condition average to worn.
- 16 Context 13651. Late Neolithic, Grooved Ware, Clacton substyle. Three sherds possibly from the same vessel (16g) including two decorated body sherds and a pointed, bevelled rim sherd. Fabric GA2/LN. Firing: ext. yellowish-brown; core and int. black. Condition average to worn.
- 17 Context 13651. Late Neolithic, Grooved Ware, Clacton substyle. Decorated body sherd (4g). Fabric GA2/LN. Firing: black throughout. Condition average to worn.
- 18 Context 13651. Late Neolithic, Grooved Ware, Clacton substyle. Body sherd decorated with grooving (11g). Fabric AG1/LN. Firing: ext. reddish-brown; core black; int. brown. Condition average to worn.
- 19 Context 13651. Late Neolithic, Grooved Ware. Base fragment. Fabric SGA3/LN. Firing: ext. yellowish-brown; core and int. black. Condition average.
- 20 Context 16024. Late Neolithic, Grooved Ware, Clacton substyle. Body sherd decorated with grooving (2g). Fabric G1/LN. Firing: ext. reddish-brown throughout. Condition very worn.
- 21 Context 16024. Late Neolithic, Grooved Ware, Clacton substyle. Rim sherd decorated with grooving (5g). Fabric GV2/LN. Firing: ext. reddish-brown; core black; int. yellowish-brown. Condition average to worn.
- 22 Context 16024. Late Neolithic, Grooved Ware, Clacton substyle. Body sherd decorated with oblique grooved band and impressed dots (10g). Fabric GA2/LN. Firing: ext. yellowish-brown; core black; int. grey-brown. Condition worn. Charred residue on the interior surface.
- 23 Context 16024. Late Neolithic, Grooved Ware, Clacton substyle. Body sherd decorated with a grooved band and herring bone motif (26g). Fabric GAF2/LN. Firing: ext. yellowish-brown; core black; int. brown. Condition average.
- 24 Context 16024. Late Neolithic, Grooved Ware, Clacton substyle. Body sherd decorated with a grooved band and impressed cuneiform stab marks (24g). Fabric GA2LN. Firing: ext. yellowish-brown; core black; int. brown. Condition worn.

Late Neolithic flint from Area 16

by Hugo Anderson-Whymark

Grooved Ware pit 13650

A total of 24 flints and 24 pieces (355g) of burnt unworked flint was recovered from the sole fill of pit 13650 (Table 8.1). A large proportion of the flint from the pit was burnt (12 pieces, 50%) or broken (11 pieces, 45.8%). Five flints conjoined on breaks from burning to make two flakes, one complete and one still fragmentary. The pit thus actually contained 21 flints, ten of which were burnt and seven broken (47.6% and 33.3% of the assemblage respectively).

Table 8.1 *The flint assemblage from late Neolithic pits 13650 and 16023*

CATEGORY TYPE	Pit 16023		Pit 16023 total	Pit 13650 Fill 13651	Grand total
	Fill 16024	Fill 16025			
Flake	41	2	43	17	60
Blade	1		1		1
Blade-like	2		2	1	3
Irregular waste	1		1		1
Chip				1	1
Sieved Chips 10-4 mm	49	2	51		51
Sieved Chips 4-2 mm	140	20	160		160
Single platform flake core	1	1	2		2
Multi-platform flake core				1	1
Levallois/ other discoidal flake core	1		1		1
Core on a flake	1		1		1
End scraper	1		1	2	3
Side scraper	1		1		1
Spurred piece				1	1
Other borer				1	1
Retouched flake	2		2		2
Misc. retouch	1		1		1
Grand total	242	25	267	24	291
Burnt unworked flint (g)	2,391	181	2,572	725	3,297
Burnt No (%) (exc. chips)	5 (9.4)	-	5 (8.9)	12 (50)	17 (21.5)
Broken No (%) (exc. chips)	9 (17)	-	9 (16.1)	10 (41.6)	19 (24.1)
Retouched No (%) (exc. chips)	5 (9.4)	-	5 (8.9)	4 (16.7)	9 (11.4)

The flakes present in the pit are predominantly large, relatively thick trimming flakes (often side trimming flakes). The flakes appear to have been struck using a mixture of hard and soft hammer percussion. The core is a relatively crude multi-platform flake core, on gravel flint, containing several thermal fractures. Flakes have not been removed systematically or with the use of platform abrasion.

A total of four retouched flints were present in the pit. Of the two end scrapers, one exhibited abrupt retouch, whilst the second exhibited semi-abrupt retouch and possibly a slight denticulated area along the left distal edge (or perhaps an attempt at resharpening). Both scrapers are broken proximally and are burnt. One scraper (SF 59062) is quite heavily burnt while the second (SF 59063) exhibits only slight burning. The breakage may have been produced as a result of hafting, but it is clear that scraper SF 59062 was broken by two separate blows after the artefact had been heavily burnt. The borer (SF 59050) was manufactured on a large trimming flake with a thick triangular distal point. The edges of the point have been slightly retouched and also exhibit heavy use. The second piercing tool consists of a 16mm by 8mm spur on the distal end of a blade, and although no retouch is present, use-wear is visible.

Refitting was attempted on the flints. No knapping refits were identified, although five fragments broken through burning conjoined to form two flakes. Intriguingly, the chip in one conjoin was less burnt, still retaining its brown colour, whilst the rest of the flake was heavily burnt white-grey and calcinated. Judging from the variety of cortexes present in the assemblage (thickness and colour), flakes from a number of cores are represented in this pit. A single pair of flakes appeared to have cortexes bearing enough similarity to suggest they were from the same nodule.

The presence of conjoining burnt flakes suggests that the fire which caused the burning and breakage of this flint occurred soon before deposition. Otherwise the likelihood of these pieces having remained together is slight.

Low power use-wear analysis

All of the flints from the pit were examined for use-wear. The conjoining burnt fragments were considered in their refitted state, and a total of 21 flints were, therefore, examined. The low power use-wear methodology is described above (see Chapter 5).

Nature and extent of use

All 21 flints in the pit bore evidence of use. In several cases the damage was particularly heavy and distinctive (ie edge rounding) and was visible to the naked eye. A total of 35 utilised edges were identified on the 21 flints examined, or 1.7 utilised edges per flint. Cutting and whittling forms 54% of the actions identified, but only 14% of the actions were against soft material, the remainder were

against medium materials. Scraping actions represent a major proportion of the use-wear identified. Edge rounding from soft scraping was present on 6 edges and medium and hard actions accounted for a further 4 actions each. In such a small assemblage, the presence of two flints used for boring suggests that it was a significant part of the activities performed. One of the borers exhibited edge rounding from soft materials.

The pattern of use in the pit is very distinctive. Scraping represents a large proportion of the actions present in the pit, and again boring actions, although present on only two pieces, were clearly significant to the activities performed. Cutting and whittling soft materials, usually the most common actions identified, are noticeably under-represented in this assemblage. It is also clear that the majority of actions against medium hardness materials were cutting and whittling. The presence of edge rounding associated with soft materials on six scraping edges and on one borer, accounting for 20% of the actions, was clearly significant to the activities performed. In comparison, the combined use-wear sample for the Area 6 early Neolithic land surface contained 15 soft scraping actions in 379 uses (4%), whilst in the combined early Neolithic middens, 37 soft scraping actions were located in 606 actions (6.1%). The deposit has particular similarities with one of the early Neolithic midden deposits, 11313, from tree-throw hole 11424, which contained 10% soft and 10% hard actions (all scraping accounted for 23.9% of actions). Few deposits examined have contained such high proportions of scraping actions, and other deposits such as early Neolithic midden 5980 containing 36.6% scraping actions, contained minimal numbers of hard and soft actions. 26.4% of this deposit was medium actions. Interestingly, a Grooved Ware-associated pit in Area 24, 14373, also contained a combination of soft and hard scraping actions, accounting for 10% and 20% of the actions respectively.

The use-wear suggests that the majority of the flint in pit 13651 derives from one or two activities, such as the cutting and whittling of medium hardness materials, and scraping of materials of varying hardness, but significantly soft and hard materials. It is possible that the scraping actions, despite the differing hardness of contact materials, were related to the same task, such as hide preparation. The addition of loam or soil during scraping encourages heavy abrasion and rounding. It has also been observed that scraping dry hide produces step flaking (hard scraping; Akoshima 1987, 76).

The lithic assemblage contained within this pit, although small, is typical of later Neolithic pits. The significant proportion of burning and breakage in the flint assemblage is common, as is the evidence for the burning occurring soon, if not immediately before, deposition. The high degree of utilisation, and presence of heavily utilised flints, is a recurring trait, as is the high proportion of retouch. The use-wear analysis suggests that the flint may have been

used for a specific task, possibly hide preparation. Indeed, it is possible that other distinctive traits of the assemblage, such as the fire soon before deposition, could have played a role in the activity performed.

Grooved Ware associated pit 16023

A total of 267 flints and 280 pieces (2572g) of burnt unworked flint was recovered from the fills of pit 16023 (Table 8.1). The majority of flints were recovered from the middle fill of the pit (16024), although a few finds were made in the lower fill, 16025; no flint was found in the upper fill. The assemblage is dominated by chips recovered by sieving (211 flints), which, excluding chips, leaves 56 flints. Five flints were burnt (9.4% of the assemblage excluding chips) and nine pieces broken (17% of the assemblage excluding chips). Two flints appeared to have been deliberately snapped. A knife or scraper had been snapped from the ventral surface, and only the proximal half was present in the pit. The second snapped flint was a retouched flake, possibly on a levallois-style flake blank, which was again struck on the dorsal surface; the retouch was present on one of the broken edges. It is noteworthy that another retouched artefact (classified as miscellaneous retouch) was also broken, although in this case it was not clear if the breakage was deliberate. The flint was in pristine condition, and had clearly been deposited directly into the pit, and had not been subject to middening prior to deposition. The raw material was pebbles with abraded surfaces and occasional thermal fractures; this flint is available locally from the river gravels. The flint was not corticated and included grey and light brown flint.

The assemblage was dominated by flake and chips. The only blade present in the pit probably represents an accidental by-product of flaking. Despite the dominance of flakes in the assemblage, a level of care and skill is evident in the production techniques employed. A number of flakes exhibit platform-edge abrasion, and several may have been struck using soft-hammer percussion. The assemblage includes several broad and thin flakes. The technological traits displayed are consistent with a late Neolithic date, although the proportion of blades is very low for the period (Ford 1987a). The presence of numerous chips indicates the presence of knapping material in the pit. The chips suggest either that knapping occurred directly into the pit, or more likely that the debitage was swept into the feature or collected on a skin, or other such material, and emptied into the pit.

The cores in the assemblage include two small single platform flake cores, both with simple platforms, and a slightly irregular core with traits of pseudo-levallois technique. A possible fourth core is a dubious core on a flake. The flake exhibits numerous small flake removals on both the ventral and dorsal surface, but this flint may instead have been a crudely retouched tool, and may have been used as a scraper on the left-hand side.

The retouched flints in the assemblage comprise an end scraper, a broken knife or scraper, two retouched flakes and a small fragment of an artefact manufactured on a flake with slight invasive bifacial retouch (classified as miscellaneous retouch). The last artefact may represent a fragment of a chisel/oblique arrowhead, although equally it may be part of a knife. One of the retouched flakes had been snapped by a blow to the dorsal surface, and a few invasive removals were struck from the broken edge; this flint had been well used.

A significant proportion of the assemblage clearly exhibited micro-flaking in a pattern suggesting that it resulted from use. A macroscopic inspection of the flint suggests that at least 16 of the flints have been used, but no examination under a microscope was undertaken.

The presence of a large quantity of burnt unworked flint (*c.* 2.5kg) is unusual for Grooved Ware pits, although it is more common in early and middle Neolithic contexts. Burnt flint is not commonly used as temper for Grooved Ware (A Barclay pers. comm.), so it is unlikely that the burnt flint was intended to be used for this purpose. The pebbles are also too small to have been used as hearthstones, but use in cooking processes cannot be dismissed.

Refitting

A rapid refitting exercise was undertaken to establish the presence or absence of knapping refits and conjoins. Two pairs of refitting flakes were found, each pair originating from a different core, neither of which are present in the assemblage. The first pair of refits are both distal trimming flakes. Both flakes exhibit platform-edge abrasion; the hammer mode is indeterminate. Micro-flaking indicative of use is present on both flakes. The second refit is between a cortical flake and a side-trimming flake. Slight platform-edge abrasion is present on one flake, and again the hammer mode is indeterminate. A further three flakes in the pit have a similar cortex and probably originate from the same core, although they do not refit. Two further flakes may come from the same flint as the levallois-style core, but again do not refit.

During the refitting exercise it was observed that several of the larger, and often most obviously utilised flakes, clearly did not derive from any of the cores in the assemblage, and moreover that each flint appears to be from a different core. It is perhaps possible that these pieces were imported from elsewhere as individual flints, and as such may have formed part of a tool kit.

Discussion

The Grooved Ware pits are two of only three of this date on the Rowing Course. Interestingly, all three pits have very similar assemblages of flint, marked specifically by the presence of knapping refits and evidence of flint knapping, the very fresh condition of the flintwork, and the presence of flints that

probably arrived as part of a toolkit. In summary, the flintwork contained freshly knapped material, which was rapidly deposited in the pits. Before deposition, however, some of the freshly knapped flints were used and other flints, possibly part of a toolkit, were used until they were exhausted – these pieces were also deposited in the pits. A few of the flints were broken intentionally. Whether this was a ritual act of destruction or the result of more prosaic processes, such as damage resulting from the extraction of the object from a haft, is unclear. A number of the flints were burnt, and a large number of burnt flints were recovered, which, unless imported, probably indicate fires in proximity to the pits.

In pit 13651 and the pit in Area 24 (see below), scrapers represent a dominant retouched form, and amongst the use-wear, scraping actions are common, particularly against hard and soft materials. It is suggested that this may result from a single task or group of related tasks, such as hide preparation.

Catalogue of illustrated flint from Area 16 (Fig. 8.7)

Grooved Ware pit 13650

- 5 Fill 13651. SF 59062. End scraper; burnt and broken. Broken by two blows after the artefact was burnt.
- 6 Fill 13651. SF 59063. End scraper; slightly burnt and broken.

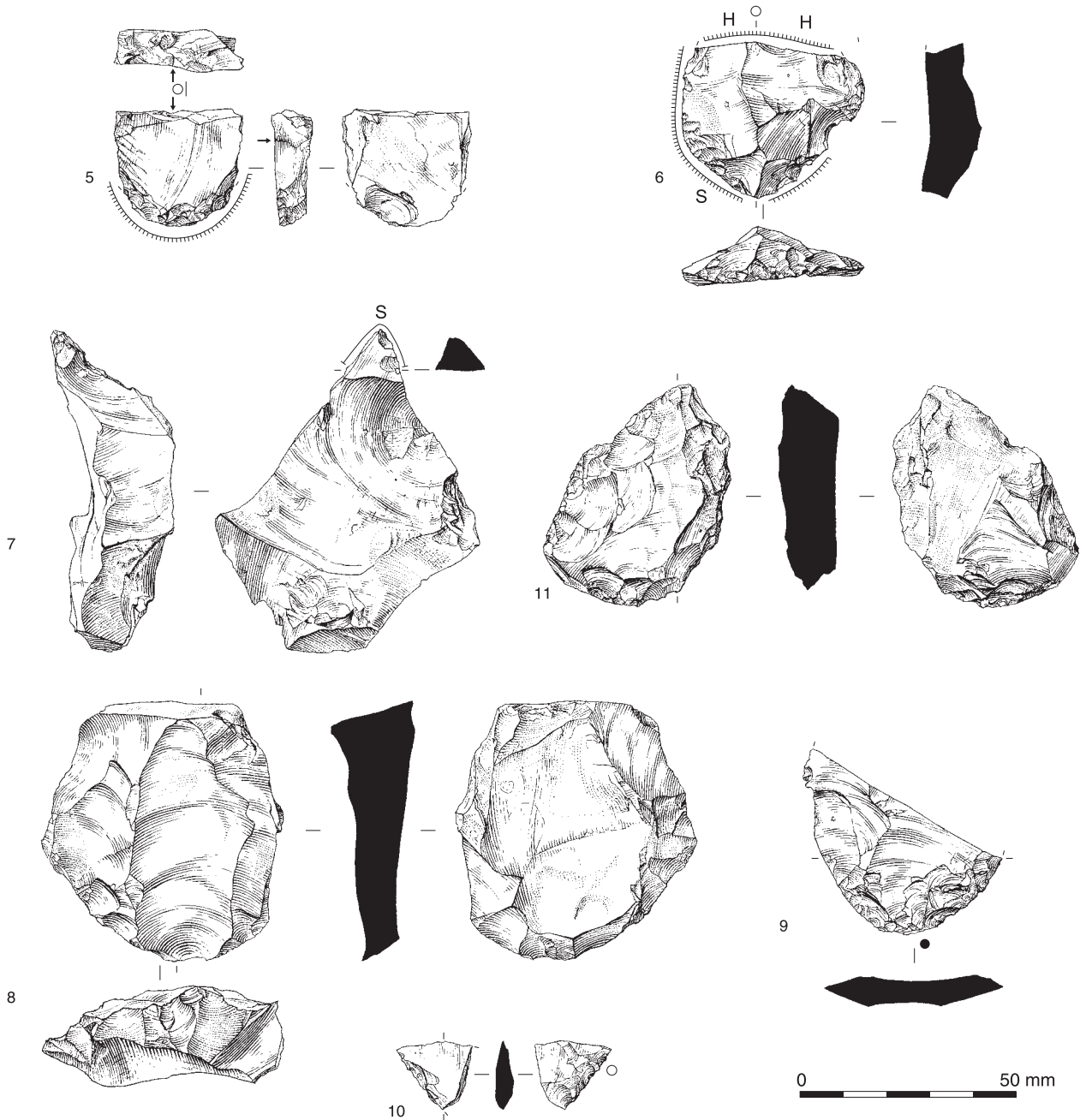
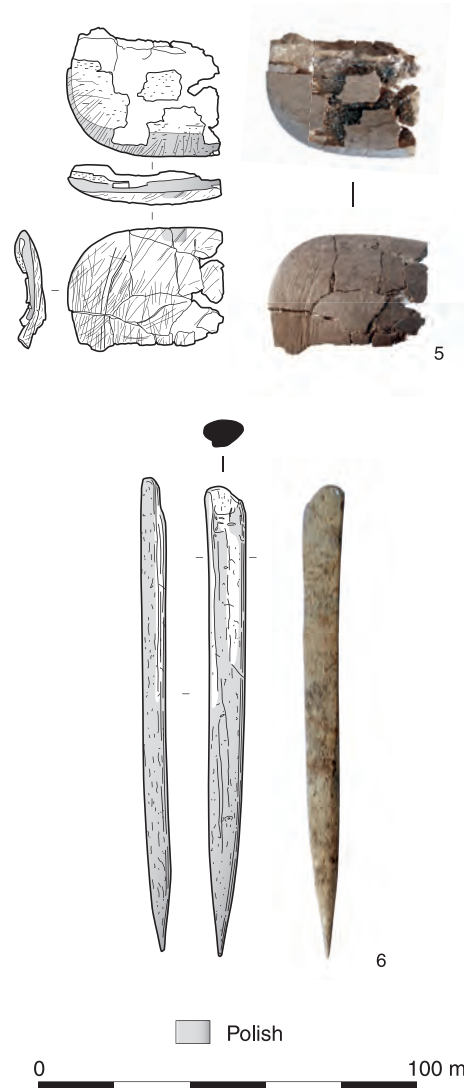


Fig. 8.7 Area 16 struck flint

- 7 Fill 13651. SF 59050. Awl. Manufactured on a thick side trimming flake. The point has been emphasised by the removal of a flake across the ventral surface and the point exhibits limited retouch. Edge rounding indicate use against soft materials.

Grooved Ware pit 16023

- 8 Fill 16024. Levallois-style flake core. Weight 73g.
 9 Fill 16024. Miscellaneous retouched fragment. The bifacial retouch may indicate this pieces is a fragment of a chisel/oblique arrowhead, but equally it may represent a fragment of a knife.
 10 Fill 16024. Side scraper or knife fragment. Limited semi-abrupt retouch is present on the right-hand side before the break.
 11 Fill 16024. Core on a flake or crude flake tool? The flake exhibits the scars of numerous small flake removals, many leaving step fractures. The distal and left-hand side appear abraded.



Worked bone from Area 16 by Tim Allen

Two worked bone objects came from the Grooved Ware pits in Area 16. The first was a fragmentary bone knife or spatula (Fig. 8.8, 5) from context 13651 in pit 13650. Only one rounded corner and parts of two sides at right angles survive (surviving length 40mm, surviving width 32mm, thickness 8mm max). In cross-section the object is crescent-shaped, convex on one side and concave on the other, probably indicating that it was cut from a naturally curving piece of bone. Both the convex and concave surface are worn smooth, and the edge on the concave side tapers to meet the convex side at a relatively sharp edge. The taper is highly polished. The whole of the convex side, and the edge of the concave side, are covered with fine scratch marks, running in from the edge on the concave side, and both longitudinally and laterally on the convex side. The second was a longbone splinter of oval cross-section, shaped and polished into a bone point or awl that is nearly complete, from context 16025 in pit 16023 (surviving length 124mm, width 10mm maximum, thickness 7mm maximum; Fig. 8.8, 6). One end is conical, tapering for 30mm to a point; the other end flattens into a spatulate end that is obliquely rounded. This end is damaged on one side, and the object could therefore originally have been longer.

The bone tools from the late Neolithic pits are both types found fairly commonly on sites associated with Grooved Ware. The knife or spatula is common at such sites as Skara Brae, where complete examples are subrectangular with rounded corners and the characteristic crescentic cross-section with the edges of the concave side tapering to a sharp edge. The examples illustrated by Piggott (1954, fig. 54, 4 and 7) are no more than 70mm long and 32mm wide, so the Area 16 example is large by comparison. Smith (1965, 128) interprets these as skinning tools, and Piggott notes the similarity to late Neolithic polished-edge flint knives (eg Piggott 1954, fig. 62, 9), which he suggests shared the same function.

Fig. 8.8 Worked bone from Area 16

Objects of related type and date from the Thames Valley include a scoop made from an aurochs tibia found in a pit with Grooved Ware at Lower Mill Farm, Stanwell (Jones and Ayres 2004). The Stanwell scoop is subrectangular and 150mm long and tapers from 70 to 50mm wide. Both ends have been worked to a broad chisel edge, all surfaces are worn smooth or polished, and the concave surface also shows longitudinal scratches. This object is more robust than the Area 16 example, and lacks the sharp edges, but may have been used in a similar fashion.

The curving cross-section of these objects, and their size, would make them ideal for holding between thumb and first finger. The smaller examples would have been little longer than the thumb, and would presumably have been used with the fingers in a fist, the larger examples might have been gripped by the whole hand. The presence of numerous scratches on both the Area 16 and Stanwell examples suggests that they have been in contact with harder angular materials during use.

Sand is one possibility. During hide preparation sand may be used to assist in the removal of fat and hair, which is then scraped off with stone or bone scraping tools.

Bone points or awls are found in a wide range of pits with Grooved Ware. Pit 3196 at Barrow Hills, Radley, Oxfordshire contained part of a pin made from the ulna of a white-tailed eagle, and pit 93 fragments of three pins or awls (Barclay and Halpin 1999, 74-85).

Animal bones from late Neolithic pits 16023 and 13650 in Area 16 by Gillian Jones

Both of the pits with Grooved Ware contained a worked bone. Pit 13650 contained a carefully worked object, perhaps a spoon or scraper. The only other bones from this pit were three medium mammal fragments (broken into about 20 pieces), which were burnt (black).

The worked bone from pit 16023 was a bone awl made from the bone shaft of a red deer metatarsal. The pit contained partial skeletons of at least two very young piglets, other pig bones, single bones of cattle and sheep (or goat), an antler and bones from field vole, common frog and common toad (identi-

fication of toad by P Piper; Table 8.2). Almost all the pit contents were sieved. A radiocarbon date of 2880-2570 cal BC (OxA-14090: 4131±32 BP) was obtained from from a pig pelvis, and subsequently confirmed by a second date.

Preservation of the bones was quite good, with much of the bone surfaces uneroded. Several were burnt, including one skull fragment from the piglets (partially burnt black), the antler fragment (where the outer 1-2mm was blackened) and a pig calcaneum (white). Fragments of burnt bone were quite frequent in the unidentified bone, both black and fully calcined (white). Small ordinary mammal bone fragments (<10mm in size) from sieved samples were not counted, but it was noted that about 5% were burnt (about 900 fragments, 94g in weight).

The very immature piglet bones are almost certainly from just two individuals, and age at death estimates suggest they are late foetal or neonatal (Table 8.3). There were seven upper teeth, from two individuals, at a similar stage of development, but one a little more advanced than the other. Crowns of dp3s were nearly fully formed; crowns of dp4s were less developed and the two cusps not yet united. Five lower incisors include three 1st or 2nd incisors with about 9mm of the tip

Table 8.2 Animal bones from pit 16023

	Cattle	Sheep/goat	Pig	Piglet	Red deer	cf red deer	Other species	
Skull	1		5	2(+3)*			field vole	5
Antler						1	vole/mouse	5
Mandible			1					
Upper tooth			1	7: dp3 2L, 1R unworn dp4 2L, 2R unworn			large mammal	6
Lower tooth			5	6: 5 di, 1dp unworn			medium mammal	45 + 70*
Tooth				1: ?upper di,			mammal	79
Vertebra				15: 9 axial centra (+ 39* lateral centra and processes)			small mammal	6
Rib				(50* incl. 17 prox articulation)				
Scapula				1L			common toad	2
Humerus				1R			frog/toad	1
Radius				1L				
Ulna								
Pelvis			2	2L, 1R				
Femur				1L				
Tibia			1	2L, 1R				
Fibula			1	1				
Calcaneum			1					
Tarsal								
Mt						1		
Ph3		1						
Fragment				(17)*				
Sub-totals	1	1	17	42	1	1	Total	289
MNI			2	2				

*A skull fragment, and some ribs and fragments, were clearly from the piglet skeletons, but are included in the medium mammal totals; where a group of vertebral centra and processes were probably from a limited number of actual vertebrae, only the axial centra were counted. Abbreviations: MNI minimum number of individuals, L left, R right, dp3 3rd deciduous (milk) premolar, di deciduous incisor, prox proximal.

Table 8.3 Age from conception estimates for the piglet bones from pit 16023

Diaphysial length		Wenham <i>et al</i> * 1973	Gjesdal 1972* <i>dissected data</i>	Gjesdal 1972* <i>x-ray data</i>	Habermehl 1975, p.140
Humerus	est. 33mm	c.97	c.98	c.99	96-100
Radius	28.3	115	-	111	101-110
Femur	38.0	110	111	108	96-110
Tibia	est. 37	c.116	-	c.108	105-110
Tibia	38.1-39	120-125	-	110-112	106-115+

*In Prummel 1989. Term is at 112-116 days (Habermehl 1975) or, traditionally, '3 months, 3 weeks and 3 days' (116 days).

formed. The teeth, although loose, were at a stage some time before erupting. Silver (1969) quotes 1-3 weeks for eruption of dp3 and 1-4 weeks for dp4, which suggests a late foetal age; Sisson and Grossman (1953) give a narrower range (4-8 days for both). Age from conception estimates from the length of the long bones are shown on Table 8.3, using methods quoted by Prummel (1989). They suggest a late foetal, or neonatal age. Given the variation within each litter in pigs, the likely differences between Neolithic pigs and those used in the modern studies (Norwegian Landrace for Gjesdal 1972), and the unknown range of error in the method, the figures can only be a general guide, and the phrase perinatal is the safest description. In pigs, various pathogens can cause abortion in the late stages of gestation, but deaths at the time of birth or soon after are very much more common. One might speculate, given the associated finds, that the piglets were slaughtered, rather than natural deaths, which would imply a

Table 8.4 Charred plant remains (excluding charcoal) from Area 16

		Late Neo Pit 16023
Sample		3403
Context		16024
Volume (litres)		40
No. of items/litre		0.73
GRAIN		
<i>Triticum dicoccum</i> Sch.	emmer wheat	2
Cereal indet.		4
Total grain		6
CHAFF		
Total chaff		0
FRUIT AND NUTS		
<i>Corylus avellana</i> L. - nut shell frags	hazel	22
Total fruit and nuts		22
WEED SEEDS		
<i>Galium aparine</i> L.	goosegrass	1
Total weed seeds		1

newborn rather than late foetal age. It is interesting that age estimates using the humerus are higher than for the radius, and for the femur are higher than for the tibia. This reflects a difference in body proportions: in comparison with the modern reference pigs. The Neolithic ones are longer in the lower limb.

Given the usual natural time of farrowing, it is likely the pit was filled in the spring. In European wild pigs, the majority of births are in late March and early April, although in favourable conditions there may be two ruts, with a second farrowing in the autumn (Grigson 1982), and it is likely that the same seasonal pattern applies to Neolithic domestic pigs. At Hunstanton, piglet bones from a Grooved Ware pit suggested deposition in the early summer (Jones 1993, 63).

Other pig bones found were skull pieces, teeth and a mandible probably from one individual, a tooth from a second individual, and a few long bones which could be from the same animals. The mandible was immature, probably little more than a year old (dp4 to M3 at: f, d, a and V), which is, again, consistent with a spring timing for the pit fill. A few measurements, of teeth only, were made. Pig is the dominant species found at late Neolithic sites, especially where Grooved Ware is present (Albarella and Serjeantson 2002).

Charred plant remains from a late Neolithic pit in Area 16 by Mark Robinson

A single bulk sample, taken from fill 16024, from late Neolithic pit 16023, was analysed for charred plant remains. The sample was floated onto a 0.25mm mesh and dried. The flot was scanned under a binocular microscope. After sorting, the remains picked out were identified by comparison with reference material as appropriate and the results listed in Table 8.4. Nomenclature follows Clapham *et al.* (1987).

Nutshell fragments of *Corylus avellana* (hazel) predominated but there was also a presence of cereal grain, in this case *Triticum dicoccum* (emmer wheat). Similar results were obtained from the early Neolithic middens in Areas 6 and 10 and have been given by many Neolithic sites (Moffett *et al.* 1989; Robinson 2000a).

Areas 20 and 24 and their surroundings: late Neolithic pits and other finds by Tim Allen

A late Neolithic pit, 14373, was found approximately mid-way along the north-eastern edge of Area 24 (Figs 8.9-10). The pit was circular in plan with a diameter of 0.88m, and survived to a depth of 0.49m. It had steep sides and a flattish base. A thick primary gravel fill, 14374, derived from collapse of the steep gravel sides, was overlain by a dark, charcoal-rich clay-silt, 14375. This fill contained numerous worked flints, burnt flint and a burnt cattle rib which lay, perhaps carefully placed, at the base of this fill. This was overlain by a mid-orange silt, 14376, and was followed by a second dark clay-silt fill, 14377, that contained numerous burnt finds. The pit then silted up or was backfilled with a mid greyish-orange silt, 14378. The finds include nine sherds (28g) of Grooved Ware pottery from the fills above 14375, and 172 worked flints, approximately half of which were broken and half of which were burnt.

Two other pits were found on the south-western edge of Area 24 (Figs 8.9-10). Pit 14066 was subcir-

cular, 0.35m deep, with a diameter of 0.64m and a very regular steep-sided, flat based profile. Following a thick primary clean gravel and sand fill, 14067, derived from the collapse of the steep gravel sides, there was a dark blackish-grey clay-silt (14068) with a concentration of charcoal at the bottom, a few small fragments of burnt bone and flints of late Neolithic/early Bronze Age character. The pit then silted up or was deliberately back-filled with 14069, a sandy-silt with a moderate quantity of gravel.

Six metres to the east of this feature was pit 14070 which measured 0.77m by 0.88m across and 0.36m deep. It too was subcircular in plan with a very regular steep-sided profile and a slightly rounded base. It also had a clean first fill of natural gravel and sand, 14074, followed by a dark, very finds- and charcoal-rich fill, 14071. The finds include small fragments of bone including a cattle tooth and numerous worked flints. Above this was a sandy silt, 14072, which contained approximately 4% charcoal and appears to have been the result of natural silting. This was overlain by a gravel slump

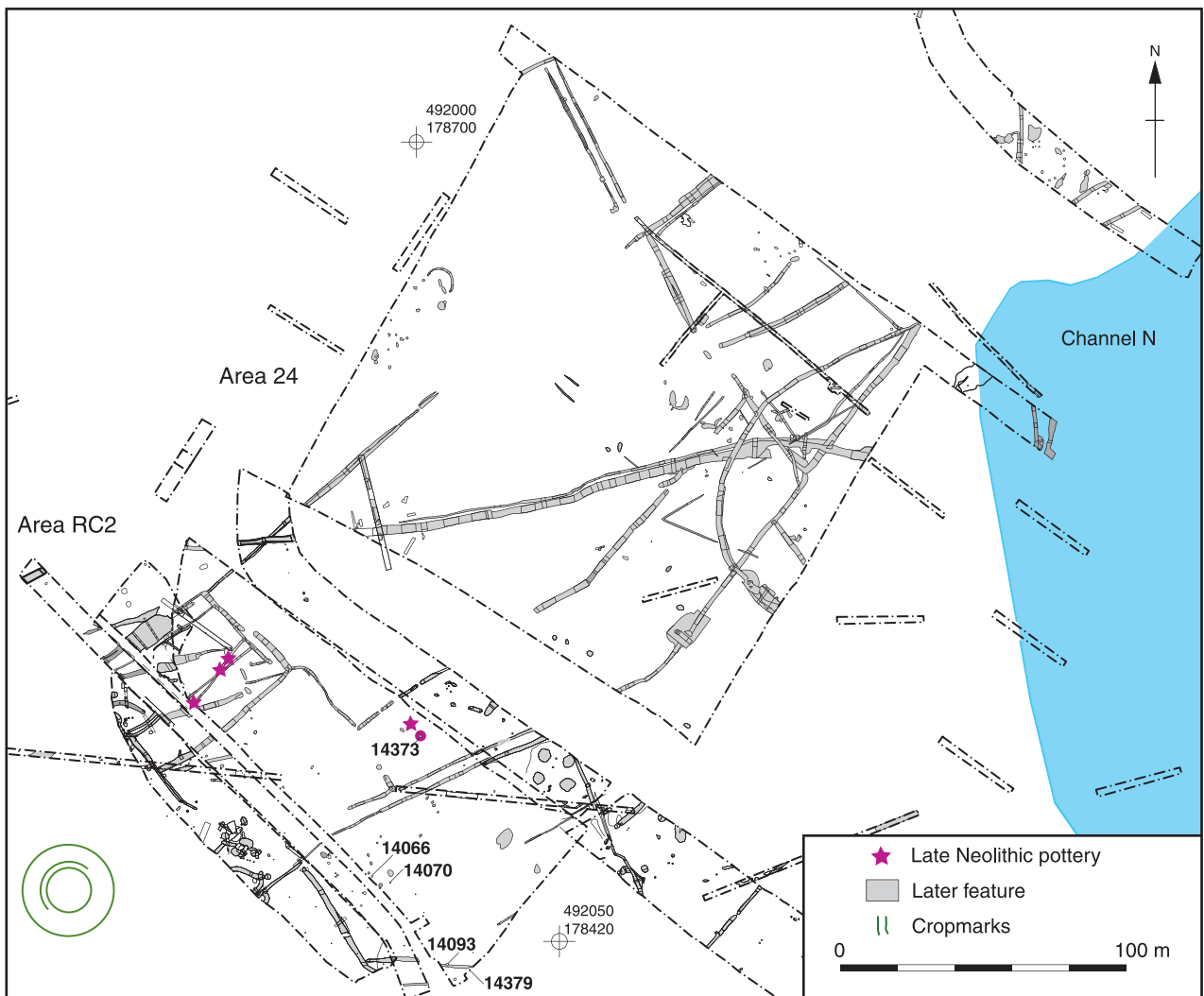


Fig. 8.9 Late Neolithic activity in Area 24

at the edges, 14293, and the final fill, a sandy silt layer, 14073. The last two fills could have been the result of deliberate in-filling since they contained fewer finds and more gravel. All three early pits appear to have been allowed to stabilise and partially fill with gravel before the main finds- and charcoal-rich deposits were introduced.

Two further pits were found only 5m apart at the very south-east corner of Area 24 and may also have been of early prehistoric date. These were 14093, a circular pit about 0.80m in diameter with steep sides and a flat base surviving 0.37m deep, and 14379, a slightly oval pit or tree-throw hole 1.00m by 0.85m across and only 0.20m deep, with more shallower sides and a somewhat irregular base. 14093 contained charcoal, burnt flint, struck flint and

occasional burnt bones including a pig tooth; 14379 contained one rolled flint flake. Pit 14093 had been almost completely truncated by a middle Bronze Age ditch. Although the pit might also have been middle Bronze Age, its character is most similar to the late Neolithic and early Bronze Age pits to the north-west.

In addition, a further single sherd of middle or late Neolithic pottery was recovered from Area 24a, three sherds (21g) of late Neolithic pottery from a middle Bronze Age ditch in the western part of Area 24, two sherds of late Neolithic or early Bronze Age pottery from Area 24a, a Beaker sherd from Area 24b and six sherds (7g), of pottery dated as early prehistoric from three different ditches in Area 24. There was a general scatter of Neolithic or early

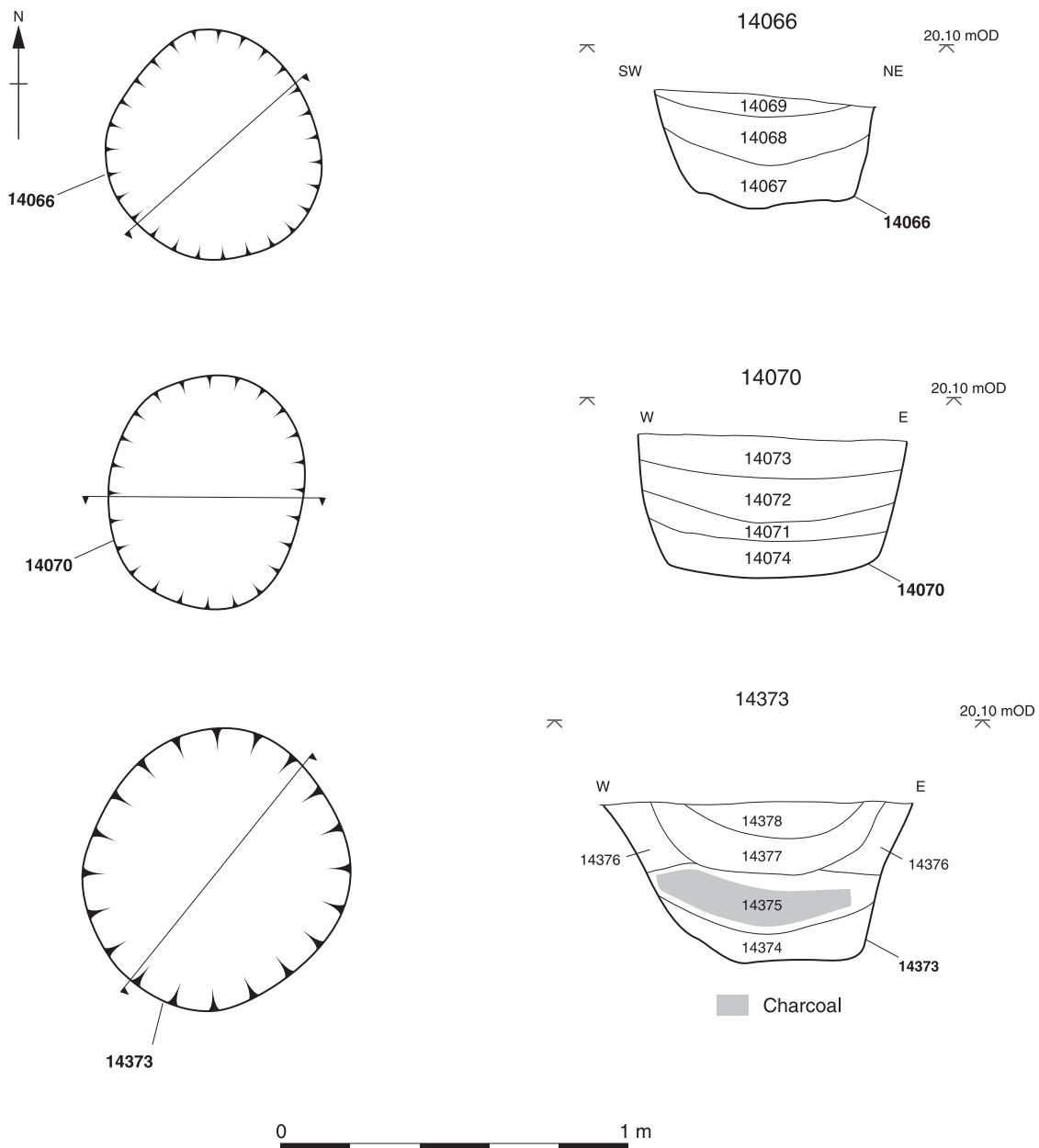


Fig. 8.10 Plans and sections of Grooved Ware pits in Area 24

Bronze Age flintwork across the excavations, but nearly twice as much in the southern part of the excavations. This flint includes a Beaker flint knife from an Iron Age ditch at the western end of Area B.

Late Neolithic Pottery from Area 18, Site F East, Areas 20, 24, 24a, NAR RC1-2, 18, the watching brief in Area 14 and from evaluation west of the former Thames channel by Alistair Barclay

Thirteen sherds (65g) of Grooved Ware were recovered from Site 24. These sherds were recovered from late Neolithic pit 14373, and from a machine slot, a middle Bronze Age ditch and a middle Bronze Age gully.

With the exception of a single, principally shell-tempered, sherd (Fabric SA3), all of these occurred in grog-tempered fabrics (GA1/LN, GA2/LN, GA3/LN). Featured sherds included a small number that were decorated. One (P1) is typical of the Grooved Ware tradition but others are more unusual (P2-5). The latter had been decorated with an incised lattice and haphazardly infilled with finger-nail decoration, while one sherd belonging with this group was more elaborate with squares infilled with incised lines.

Nine sherds (28g) were recovered from three fills (14375, 14377-8) within a single pit (14373). This includes the decorated sherd P1. The remaining four sherds came from three separate contexts in a middle Bronze Age ditch (14258, 14295 and 14362) but were so similar in fabric and design that they could have derived from a single vessel (P2-5). Parallels for this type of vessel are rare, although they include vessels from Durrington Walls, Wiltshire and from Barrow Hills, Radley, Oxfordshire (Wainwright and Longworth 1971; Barclay and Halpin 1999, fig 4.32: P35). Although small quantities of Grooved Ware were present in Areas 16 and 10 none is similar to the small quantity of material found on Area 24.

Catalogue of illustrated pottery (Fig. 8.11)

- 5 Area 24, Pit 14373, context 14377. Late Neolithic, Grooved Ware. Decorated body sherd with oblique and horizontal grooves. Fabric GA3/LN. Colour ext yellowish-brown, core black; int. yellowish-brown. Condition fair-worn.
- 6 Area 24, Gully 14294, context 14295. Late Neolithic, Grooved Ware. Decorated body sherd with incised lattice infilled with finger-nail impressions. Fabric GA2/LN. Colour ext. yellowish-brown; core and int. black. Condition very worn.
- 7 Area 24, Machine slot 14362, context 14362. Late Neolithic, Grooved Ware. Decorated body sherd with finger-nail impressions. Fabric S(L)A2/LN. Colour ext. black; core and int. grey. Condition very worn.
- 8 Area 24, Machine slot 14362. Late Neolithic, Grooved Ware. Decorated body sherd with incised lattice infilled with finger-nail impressions. Fabric GA2/LN. Colour ext. reddish-brown; core and int. black. Condition very worn.

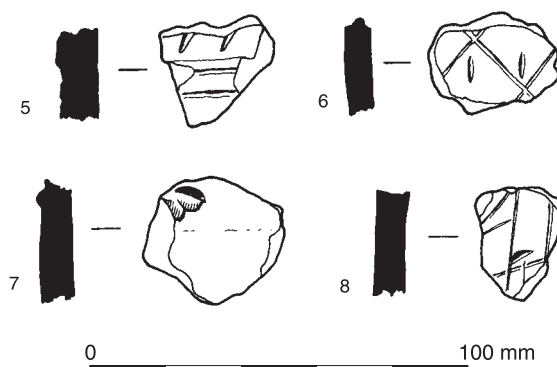


Fig. 8.11 Late Neolithic pottery from Area 24

Worked flint from Areas 24 and surroundings by Hugo Anderson-Whymark

Introduction

The Neolithic assemblage recovered from Areas 20 and 24 was mostly derived from three Neolithic pits in Area 24 (Table 8.5). The remaining assemblage, which was almost entirely residual in Bronze Age and later ditches, waterholes and pits, is discussed at the end of this report.

Raw material

The raw material for the majority of the flintwork was a white/brown/black gravel derived flint. The site is situated on the river gravels from which the flint originated. The flint is of variable quality, thermal fractures representing the largest single factor hindering knapping. The poor quality of some of the flint is apparent through the number of nodules tested and disposed of, and the quantities of irregular waste present.

The later Neolithic pits 14066 and 14070 contained two small groups of a fine quality white/grey flint, the surface of which had become iron stained in places. The flint was of a cherty texture and exhibited small grey inclusions. No pieces of flint of this quality of texture are present in the local river gravels, suggesting that this flint was imported to the site. It is possible that this flint originates directly from the chalk, although no cortex was present to confirm this.

Two flakes of Bullhead flint were recovered from pit 14070. Bullhead flint is a distinctive flint with a dark green cortex underlain by a bright orange line. This flint occurs in the Bullhead Bed at the base of the Reading Beds, sources of which are present a couple of kilometres from the site.

Condition

The flint was generally uncorticated. A small number of the flints, particularly from the Neolithic pits, were iron stained a light orange colour. The condition of the assemblage was generally fresh, especially the material from the pits.

Table 8.5 The Neolithic pits by category and context

CATEGORY TYPE	Pit 14066			14066 total	Pit 14070			14070 total	Pit 14373			14373 total	Grand total
	14067	14068	14069		14071	14072	14073		14375	14377	14378		
Flake		16	1	17	114	31	5	150	15	36	3	54	221
Blade		1		1	8	2	1	11	2	1		3	15
Bladelet					1			1	1			1	2
Blade-like		1		1	8		3	11	1			1	13
Irregular waste					15	2		17	2	3		5	22
Chip		1		1	11	1		12	2	1		3	16
Sieved Chips 10-4 mm	1			1	20	11		31	42	53		95	127
Rejuvenation flake core face/edge										1		1	1
Rejuvenation flake tablet		1		1									1
Tested nodule/bashed lump					5	2	1	8	1	1		2	10
Single platform flake core		1		1					1			1	2
Multiplatform flake core					2	2		4					4
Core on a flake						1		1					1
Unclassifiable/fragmentary core					1	1		2					2
Chisel arrowhead		1		1									1
End scraper							1	1	1	2		3	4
Side scraper										2		2	2
End and side scraper						1		1					1
Thumbnail scraper							1	1					1
Other scraper										3		3	3
Serrated flake		1		1	3			3					4
Retouched flake		1		1	4			4		1	1	2	7
Grand total	1	24	1	26	192	54	12	258	68	104	4	176	460
Burnt unworked flint (g)	-	232	17	249	23	10	33	66	184	272	61	517	832
Burnt no. (%) (exc. chips)	-	1	-	1	10	8	3	21	11	28	2	42	66
		(4.4)		(4.2)	(6.2)	(15.7)	(25)	(9.8)	(45.8)	(56)	(50)	(53)	(20.8)
Broken no. (%) (exc. chips)	-	8	-	8	34	10	45	10	26	2	38	91	
		(34.8)		(33)	(21.1)	(19.6)	(8.3)	(20.9)	(41.7)	(52)	(50)	(49)	(28.7)
Retouched no. (%) (exc. chips)	-	3	-	3	7	1	2	10	1	8	1	10	23
		(13)		(12)	(4.4)	(2)	(16.7)	(4.7)	(4.2)	(16)	(25)	(13)	(7.3)

Pit 14066

The assemblage of 26 flints in pit 14066 mainly consisted of large, broad and relatively thin soft hammer flakes. The platforms of several flakes suggested they had been struck from a keeled core. A single platform flake core, weighing 61g, exhibited some platform edge abrasion. The retouched pieces in the pit consisted of a serrated blade, with fine serrations along one side (nine teeth in 10mm), and a broken edge retouched flake. A crude example of a chisel arrowhead was also recovered. The arrowhead had been manufactured transversely on a flake, with minimal bifacial retouch on the bulb. Typologically this arrowhead belongs to later Neolithic traditions. A total of eight flints were broken (33.3%) and one burnt (4.2%) (percentage excluding chips).

Refitting

No refits were identified within this pit. However, four flakes (Group 101) did appear to be of the same flint. The flint had a cherty texture and a distinctive

white colour, with a slight honey coloured iron staining. It is possible that this flint originated directly from the chalk. The four flakes were all large tertiary flakes. The examination of these flakes for use-wear revealed use damage on all four flints. No other flintwork of this character was present in the pit suggesting that these pieces may have been brought to the site as flakes. The remaining flintwork within this pit does not appear to comprise a knapping assemblage, as no preparation flakes and few chips were present.

Pit 14070

A total of 258 flints were recovered from this pit. Broad flakes formed the majority of this assemblage, although a small number of blades and blade-like flakes were also present. A large number of tested nodules and four multi-platform flake cores, along with a large number of chips and pieces of irregular waste testify to the presence of knapping debitage. A number of retouched pieces were identified, including four edge retouched

flakes, three serrated flakes (one on a blade, two on blade-like flakes) and three scrapers. One of the scrapers is a thumbnail scraper, which was both burnt and broken; the conjoining pieces were found and refitted. A total of 45 flints were broken (20.9%) and 21 burnt (9.8%, excluding chips).

Refitting

A total of 60 flints were refitted into knapping sequences. Fifteen sequences were formed which belong to 13 flint groups (flint types). Two additional groups of flints were identified although these contained no knapping refits. The assemblage contained within the pit is therefore probably derived from in excess of 15 cores. In addition six flints conjoined to form three complete flakes. Two of the three conjoins were made on breaks induced through burning; the third was on a break across a flake. A detailed description of the groups and refits may be found at the end of this report. An overview of the results is provided here.

Raw material

The evidence from refitting suggests that the majority of the flints, and certainly all of the refitting pieces contained within the pit, were struck from locally available flint from the river gravels. The combined weight of the refitting flints, in sequences where a reasonable proportion of the core was refitted, suggests that the nodules selected for knapping weighed between 100g and 200g. The flint was very variable in quality and some of the cores contained numerous thermal fractures.

In addition to the gravel flint, two flakes of Bullhead flint were identified (see above) and pieces of a very fine quality honey coloured flint were also found (Groups 87 and 86 respectively). The honey coloured flint possibly represents iron stained grey flint, as with Group 101 in pit 14066, and may have originated directly from the chalk. It is of interest to note that although a number of pieces of these imported flint types were identified, there is no evidence for the knapping of these raw materials within the assemblage. Indeed, it may be that these pieces were brought in as a 'tool kit' of usable flake and tools.

Nature of working

Relatively few of the knapping sequences identified were long enough to provide much information on the nature of working. As mentioned above, the sequences identified were confined to small nodules of local gravel flint and are therefore relatively short, none exceeding seven flints. The methods employed in the reduction of the flints within the pit were relatively simple. The platforms examined were formed through the removal of a single flake, after which the core was rotated through 90° and flaking commenced. Platform edge abrasion was only observed occasionally, and the platform edge regularly became crushed. The flakes appear to have been struck using hard hammer

percussors. The flaking on one core (Group 96) was very irregular due to the presence of numerous thermal fractures. In this case flakes were removed from several angles, wherever it was possible to make flake removals.

The traits present on non-refitting flints, including Groups 86 and 87, suggest that more precise and careful reduction methods were also employed. For example, the flakes from Group 86 appear to have been struck using a soft hammer percussor and the majority exhibit platform edge abrasion. Several of the flakes may have been struck from a carefully prepared keeled core.

The differing technologies employed in the reduction of the material in the pit may be dependent on the quality of the raw materials. Equally the methods employed may relate to the intended product or the situation under which the flintwork was knapped.

Numerous refits and related flints within each group were found between contexts 14071 and 14072. It is therefore likely that the material in these contexts was deposited at the same time. No definite relationships were made between 14071/2 and 14073 suggesting that this deposit may not have been contemporary with the two lower deposits.

The examination of the flintwork for use-wear revealed that a number of the refitting flakes and flints in related flint groups had been utilised. A total of 14 refitted flints and 18 flints in related groups exhibited use damage. Seven of the 11 flints in Group 86 and both flints in Group 87, the two types of 'imported' flint, bore use damage.

A flake in the centre of refitting sequence 95 was burnt, suggesting that at least some of the burning represented in the assemblage occurred after the flint was knapped.

Conclusions

It is apparent that a high proportion of the flintwork in the pit is knapping debitage. The majority of the knapped material is either entirely debitage, or was intended to be used unadapted. A single retouched piece was refitted (Group 100). In addition, two retouched pieces possibly relate to flint Group 99. In all three cases the retouch consists of only a very limited area along one edge of a flake. In a few cases, such as Group 96, the scars of a few fine large removals are apparent yet the flakes are conspicuously absent, perhaps indicating the removal of some of the flakes from the assemblage (perhaps replenishing the toolkit).

A number of pieces of flint within the pit, including Groups 86 and 87, amongst other pieces, such as the scrapers and serrated flakes, appear not to have originated from the knapping episode closely associated with the pit. These pieces generally appear to have been struck employing careful reduction methods, and some of the raw material appears to be non-local. It is suggested that these pieces may represent a toolkit of flakes (for use adapted or unadapted) and tools that were brought

to a location to perform a task or tasks which were eventually deposited within the pit alongside the material knapped specifically for the task or tasks.

The groups in pit 14066

Group 101

Group 101 consists of four related flakes of a fine quality cherty white flint with a slight honey coloured iron staining. The colour and quality of this flint suggest procurement directly from the chalk. The flakes are all large non-cortical trimming flakes that were struck from well prepared cores exhibiting platform edge abrasion.

The groups in pit 14070

Group 86

A good quality, slightly mottled, honey coloured flint with a few small cherty inclusions. No refits were identified, although 11 flakes were considered to form a group. The distinctive nature of this flint does allow us to suggest that the flints in this group were probably struck from the same raw material. It is worthy of note that only large flakes and blade-like flakes of this flint type were present. No preparation flakes or even partially cortical flakes, chips, irregular waste or cores of this flint type were identified. This suggests that these flakes were brought to the location of the activities, possibly as part of a toolkit, and were eventually deposited in pit 14070.

Group 87

Two large side trimming flakes of bullhead flint, a distinctive flint type with a dark green cortex and orange band underneath, were identified. The flakes did not refit. These flakes, as with Group 86 represented the only material of this distinctive flint type, and again may have formed part of a toolkit of useable flakes brought to the location of the activity, rather than material struck on the spot.

Group 88

A gravel flint nodule exhibiting a thin, abraded, red/brown cortex, the flint was of a light brown colour. Two flints in the group refitted and three flints appeared to be of the same flint.

Group 89

A gravel flint with a pitted, abraded grey-white cortex. The flint was a light brown colour. Three distal trimming flakes were found to refit. Two of the flakes refitted on a sired fracture.

Group 90

A gravel flint exhibiting a thin orangey brown cortex with a slight red line underneath. The flint was grey to honey coloured. Two refit sequences in this flint group and one related flint (a core) were identified. The two sequences consisted of a pair of two small trimming flakes (one from sieving) and another set of three trimming flakes.

Group 91

A small nodule of gravel flint exhibiting a thin, abraded yellowish/grey cortex. The flint was brown in colour. Six flints refitted forming a complete reduction sequence of a small gravel nodule. The combined weight of the nodule was 81g, although a number of small flakes and a piece of irregular waste were missing from the sequence. The reduction methods employed on the nodule were relatively simple. A simple platform was created through the striking of a single cortical flake. The nodule was then rotated through 90° and several flakes removed. The platform edge rapidly became crushed and a final strike split the core in to four pieces along internal thermal fractures.

Group 92

A small nodule of gravel flint exhibiting an abraded yellow/white cortex. The flint is light brown in colour. A total of five flints were refitted, including a flake from sieving. The scars on the nodule indicate that only a single flake and a chip are absent from the complete sequence. The nodule was reduced very simply through the removal of a single flake to form a simple platform, the rotation of the nodule through 90°, and the removal of several flakes.

Group 93

A small nodule of gravel flint exhibiting a grey abraded and pitted cortex. The flint contains some thermal fractures, along one of which the nodule fractured in two. The nodule was then worked down using the thermally shattered surfaces as a platform. A total of seven flints were refitted, with a combined weight of 188g.

Group 94

A small gravel flint nodule exhibiting an abraded beige cortex. The flint was a light brown colour. A single refit was made between a tested nodule and a flake; a related flake of the same flint was also identified.

Group 95

A gravel flint nodule with an abraded, pitted grey cortex. The flint is light grey/brown in colour and contained a fossil of coral. The flint contained numerous thermal fractures. A total of nine flakes were refitted to a core, weighing 96g combined. The flakes were struck from opposing frost-shattered surfaces. Platform edge abrasion is present on a few of the refitted flakes. One of the flakes refitted in the centre of the sequence has been burnt. It is therefore probable that the burning of this flake, and possibly others in the assemblage, occurred during a relatively short interval between knapping, use and disposal.

Group 96

A gravel flint nodule exhibiting a thin, pitted grey cortex. The flint is brown and contains a fossil of coral. The flint contains numerous thermal fractures.

This flint group may be related to Group 95. A total of six flints were refitted to a core, weighing 111g combined. In addition seven flints appeared to be of the same flint. The working of this core was very unsystematic, mainly due to the thermal fractures. The core was regularly rotated and accidental fractures along thermal fractures were common. The core exhibits the scars of a few good flake removals; these are conspicuously absent from the pit assemblage.

Group 97

A gravel flint with an abraded, glossy orange cortex. The flint is an orange/brown colour. One refit between two trimming flakes was identified and two related flints were identified.

Group 98

A gravel flint with an abraded blue grey cortex. The flint contained numerous thermal fractures. A refit was identified between two flakes

Group 99

A gravel flint nodule exhibiting an abraded grey cortex. The flint is brown in colour and contains a few speckled grey inclusions. Three refitting sequences were identified within this group, consisting of two pairs of refits and a group of three flakes. In addition nine related flakes of the same flint were identified.

Group 100

A gravel flint exhibiting a thin abraded white cortex and brown flint, containing numerous small inclusions. A refit between two distal trimming flakes was found.

Pit 14373

This pit contained a total of 176 flints, of which 98 were chips. The assemblage contained mainly broad and thin flakes, although a few blades and blade-like flakes were present. The flakes appeared to have been struck using a mixture of hard and soft hammer percussion. The two tested nodules and core exhibited flake removals. No platform abrasion was observed.

Eight scrapers are present in the assemblage, three of which are represented by only burnt and broken fragments of the scraper edge. The scraping edges are all curving and exhibit semi-abrupt to abrupt retouch. The only other retouched piece from this pit was a flake with slight edge retouch at the distal end. A total of 38 flints were broken (48.7%) and 41 burnt (52.6%; excluding chips).

Refitting

The refitting exercise identified conjoins between six burnt fragments of flakes forming two complete flakes. Additionally, a conjoin was made between a retouched flake and the side scraper in the assemblage. The flake appears to have been snapped from the scraper's blank prior to retouching. The left

proximal edge had certainly been retouched after the flake was removed. However, it is also apparent that if the main scraper edge had been retouched prior to the snapping off of the flake, the curvature of the scraper edge would not have been functional as the flake protrudes beyond the line of the retouch. The retouch on the flake is slight, and was not utilised (see use-wear). This retouch may have been the original intended line of the scraper edge before heavier retouching (or resharpening) after this flake has been snapped off. It therefore seems likely, given the presence of the conjoin, that the scraper was manufactured, used and deposited relatively rapidly, and thus remained associated with a conjoining piece.

Use-wear analysis of pits 14066, 14070 and 14373

The examination of the flint assemblages from pits 14066, 14070 and 14373 for use-wear was undertaken to assist in the interpretation of these deposits and the activities which formed them.

Sampling strategy

The sampling strategy employed, for consistency, is the same as was used for Areas 5, 6, 10 and Areas Ex1-3. All the flintwork, from all contexts, within the three pits was examined for use-wear damage, with exception of chips (<10mm²).

A total of 24 flints from pit 14066 were examined for use-wear; 215 from pit 14070, of which it was not possible to assess 17; and 78 from pit 14373, of which it was not possible to assess 17.

Condition

The condition of the flintwork from the pits was generally very good. Post-depositional edge damage was recorded on six flints from pit 14066 (25%), 17 flints from pit 14070 (7.9%) and 6 flints from pit 14373 (7.7%). The majority of the damage was limited to small nicks along the flints' edges or crescent fractures on thin edges. The edge damage did not hinder examination for use-wear. A few flints contained within the pits were rolled and were considered to be residual. These pieces were therefore excluded from the analysis. In addition to the residual pieces, it was not possible to examine a number of heavily burnt and broken flints.

Extent of use

The extent of use varied considerably between pits. Pit 14066 contained 18 utilised flints (75%), whereas pit 14070 contained 63 utilised pieces (31.8%) and pit 14373 contained 30 utilised flints (49.2%). The proportions of utilised pieces appear to be inversely proportional to the presence of knapping debitage, as identified through the refitting exercise, the largest number of refits being identified in pit 14070, whereas no refits were found in pit 14066.

Nature of use

The nature of the usage in the pits forms an interesting pattern. In pits 14066 and 14070 the use

actions and hardness of contact materials are almost identical. Cutting and whittling was the dominant activity, forming 96% and 92% of the actions respectively; scraping forms the remaining use action. The hardness of the contact material also forms a distinctive pattern. In both pits 14066 and 14070 medium hardness contact materials were dominant, with actions against hard materials also forming a significant element. Actions against soft materials – usually the most prevalent action – form an exceptionally low element within these assemblages.

The three fills of 14070 also show considerable variation within themselves. The lowest two fills, 14071 and 14072, contained 97% cutting and whittling actions and only 3% scraping actions (2 actions). However the upper fill, 14073, contains six cutting and whittling actions and four scraping actions (on four different artefacts).

The nature of use and hardness of contact materials in pit 14373 differ from those of pits 14066 and 14070, although they again form a distinctive pattern. Cutting and whittling form 70% (28 actions) of the actions and scraping accounts for the remaining, still substantial 30% of actions (12 actions). The majority of the scraping actions were identified in the fill, 14377 (2nd down of 4 fills; 9 actions). The hardness of contact materials against which the flints were used are distinctly polarised. A total of 45% of the actions identified were against soft contact materials, and 40% against hard contact materials. Only 15% of the actions were against medium hardness contact materials.

Conclusions

The application of use-wear techniques to these pit assemblages has highlighted a few areas worthy of discussion. The generally good condition of the material and the limited post-depositional edge damage suggest that the material in the pits was subjected to little movement before deposition. The distinctive patterns of use and the hardness of the contact materials may indicate that the pits contained flintwork from a specific task or tasks, as opposed to the broad range of uses and materials encountered in a general midden deposit (see use-wear in the Areas 6 and 10 middens). There is a slight indication in pits 14070 and 14073 that the upper deposits of the pits contained actions different from those represented in the lower fills. In both cases cutting and whittling actions were represented towards the base of the pits and scraping actions towards the top.

The almost identical patterns of use and hardness of materials worked between pits 14066 and 14070 may indicate that the same processes formed the deposits.

Other Neolithic flintwork

In addition to the flint from the later Neolithic pits, a low density of Neolithic material was spread across Areas 20 and 24, RC1, RC2 and the Northern Access Road. The small assemblages of early/

middle Neolithic date from tree-throw holes in RC1 have been discussed above. The remaining flint was all residual in Bronze Age and later features. Due to the difficulty in reliably distinguishing general Neolithic flake material from that of later periods, only the diagnostic artefacts will be discussed.

A fragment of a partially polished implement (SF 93041) was recovered from context 15805, an undated ditch in Area 20. The fragment probably represents the medial section of an axe, possibly slightly towards the butt end. The identification is tenuous as only a small fragment – 35mm wide (true width of the implement) and 37mm long (broken) – survives. The artefact is also heavily burnt. The implement exhibits very precise flaking and the striated polish is present on only the highest ridges. This artefact is most probably later Neolithic in date.

A complete petit tranchet arrowhead was found in context 14282, one of the fills of a middle Bronze Age ditch (14013) in Area 24. The arrowhead was manufactured on a small squat flake. The proximal edge and a small area of the distal edge were abruptly retouched to form the distinctive petit tranchet form. This artefact dates from the later Neolithic. A small fragment of a knife, from context 14332 in middle Bronze Age ditch 14000 in Area 24, exhibits fine bifacial retouch, particularly on the dorsal surface. This artefact most probably dates to the Beaker period. A second knife was recovered from an Iron Age ditch (17143) in Area 24b. The flaking on the knife was exceptionally fine and may almost be considered as scale flaking; this artefact is also of Beaker date.

Discussion of Neolithic activity

In general the level of activity in Areas 20 and 24 changed considerably during the Neolithic. The earlier Neolithic is poorly represented, and the contrast with other parts of the site is striking, although the limited excavation at RC 1 shows that a focus of middle Neolithic activity may have lain at the very north-west end of the site. There is undoubtedly a light scattering of earlier Neolithic flakes across Areas 20 and 24, although these cannot be easily distinguished. By the later Neolithic, however, there appears to have been a general increase in the use of the landscape. This is represented by an increase in both the general background scatter of struck flint and the three pit deposits.

Catalogue of illustrated flint from Areas 20 and 24 and RC1-2 (Fig. 8.12)

- 7 Pit 14070, fill 14071 (6 flints) and fill 14072 (1 flint). Refit group 93. Flakes refitted to a core, the flake were struck from a thermal platform. Combined weight 188g.
- 8 Pit 14070, fill 14071 (5 flints) and fill 14072 (5 flints). Refit group 95. Nine flakes and blades refitted to a multi-platform flake core. Combined weight 96g.

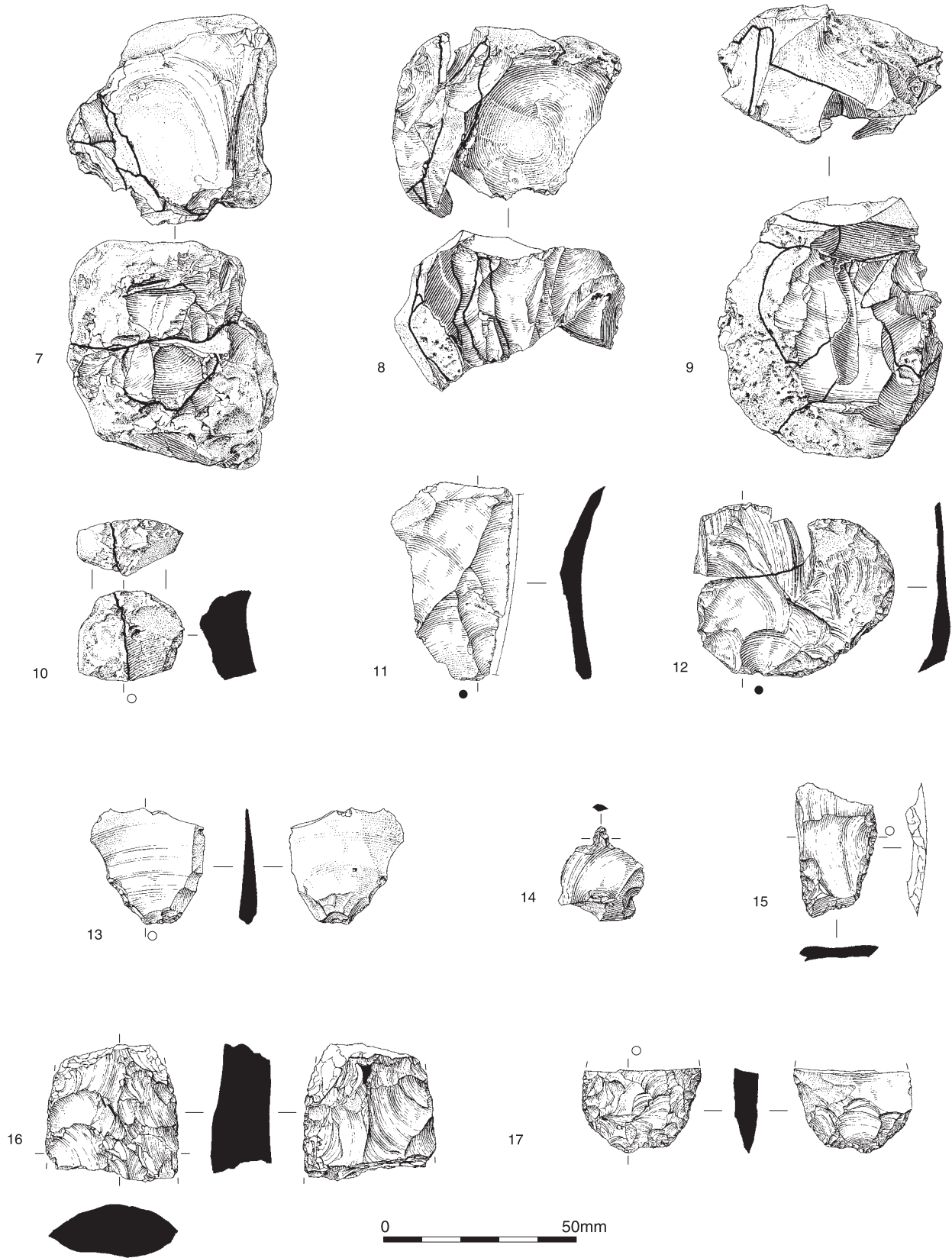


Fig. 8.12 Areas 20 and 24 worked flint

- 9 Pit 14070, fill 14071 (6 flints) and fill 14072 (1 flint). Refit group 96. Six flint refitted to a flake core. Combined weight 111g.
- 10 Pit 14070, fill 14073. SF 91241 and 91197. Thumbnail scraper, burnt and broken. Conjoined on a fracture from burning. Rounded, soft scraping use-wear on distal edge.
- 11 Pit 14070, fill 14071. SF 91040. Serrated flake on plunging blade-like flake, 8-10 teeth per 10mm. Part of flint group 86.
- 12 Pit 14373, fill 14377. SF 91309 (retouched flake) and 91321 (side scraper). Refit group 85. Note the curving line of retouch on side scraper 91321 as it approaches retouched flake 91309, indicating 91309 must have been snapped off early in the scrapers manufacture, otherwise the retouch would have followed a different line.
- 13 Pit 14066, fill 14068. SF 91018. Chisel arrowhead. Note minimal retouch to remove the bulb.
- 14 Ditch 15871, intervention 15207, fill 15208. Piercer, small flake with retouched distal point.
- 15 Ditch 14013, intervention 14280, fill 14282. Petit tranchet arrowhead.
- 16 Layer 15805. SF 93041. Fragment of partially polished axe (small area of polish shown black). Burnt before breakage.
- 17 Ditch 14000, machine intervention 14332. Other knife. Fine bifacial retouch, some invasive, especially on the dorsal surface. Probably Beaker flintwork.

Late Neolithic animal bone from Area 24

by Gillian Jones

All the bone from late Neolithic pit 14373 in Area 24 was burnt. It included several fragments of antler, probably of red deer, and a large rib, probably from cattle. The rib was laid on the base of the pit, and was about 0.30m long before excavation. It was broken into about 80 fragments, predominantly burnt black, with parts of the outer surface white. Other bones (Table 8.6) were from large or medium-sized mammals, though as with the rib, they were broken into pieces. Further fragments were retrieved from sieving (counts show only pieces more than 10mm in length). There was no evidence of human bone, small mammal, bird or fish. The

Table 8.6 Animal bones from pits 14373, 14066, 14070 and 14093

Pit	14373	14066	14070	14093
Date	LN	LN/EBA	LN/EBA	LN/EBA?
Cattle			1	
Pig				3
Deer antler	2 + 5s			
Large mammal	6		1	
Medium mammal	4		16	
Mammal	21 + 46s	10	2	2
Total	33 + 51s	10	20	5

s - sieved

colour of burning was recorded as black (31%), white (13%) or mixed (56%, brown/black/grey/white). Nicholson's experimental work (1993) found temperatures of about 300°C for sheep bones burnt black, 500°C for grey/light grey, and 700°C for white.

The three small late Neolithic pits 14066, 14070 and 14093 in Area 24, contained a few animal bones (Table 8.6), including a fragmented cattle molar tooth and three pig teeth. The pig teeth were probably from one, immature individual (a first and second incisor, both unworn). Some of the bone was burnt (six fragments in pit 14066, one in pit 14070 and both mammal fragments in pit 14093).

Area 10: late Neolithic tree-throw holes and a pit

by Tim Allen, Anne Marie Cromarty and Ken Welsh

Tree-throw holes

A number of features in Area 10 were classified as tree-throw holes on the basis of their irregularity and poorly defined edges. Of these features, three have been dated to the late Neolithic or late Neolithic/early Bronze Age (6920, 6481 and 6359; Fig. 8.13; Table 5.36). They contained small assemblages of flint and, in one case, of pottery. The features are discussed as a whole in Chapter 5.

Pit 6252

A small shallow pit, 6252 (Fig. 8.13; Table 5.35), at the south end of the site contained very small sherds of both early and late Neolithic pottery, but these may well have been residual, as the pit lay very close to the spread of Neolithic pottery in Evaluation Trench 88 (see Chapter 5).

Late Neolithic pottery from Area 10

by Alistair Barclay

A total of nine sherds (29g) of late Neolithic Grooved Ware was recovered from contexts within Area 10 (Table 8.7). With the exception of a rim (P110) and three decorated body sherds (P109, 111-2) all of the fragments are plain body sherds. The nine sherds occur in a variety of fabrics of which the most common is grog and sand-tempered (G2- and GA2-). Three sherds in fabrics tempered with flint as well as grog (FG2-, FGA2-) are of uncertain late Neolithic date.

Of the three diagnostic sherds only the simple, slightly beveled and incurving rim (P110), which is thought to come from a Durrington Walls style jar, can be placed in a substyle, while the three body sherds (P109, 111-2) could belong to either this substyle or the Clacton substyle. Of the nine sherds only three came from features of probable contemporary date, while the remainder came from features of later date (Table 8.7). No Grooved Ware was recorded as coming from the three areas of midden deposit within the Area 10 hollow.

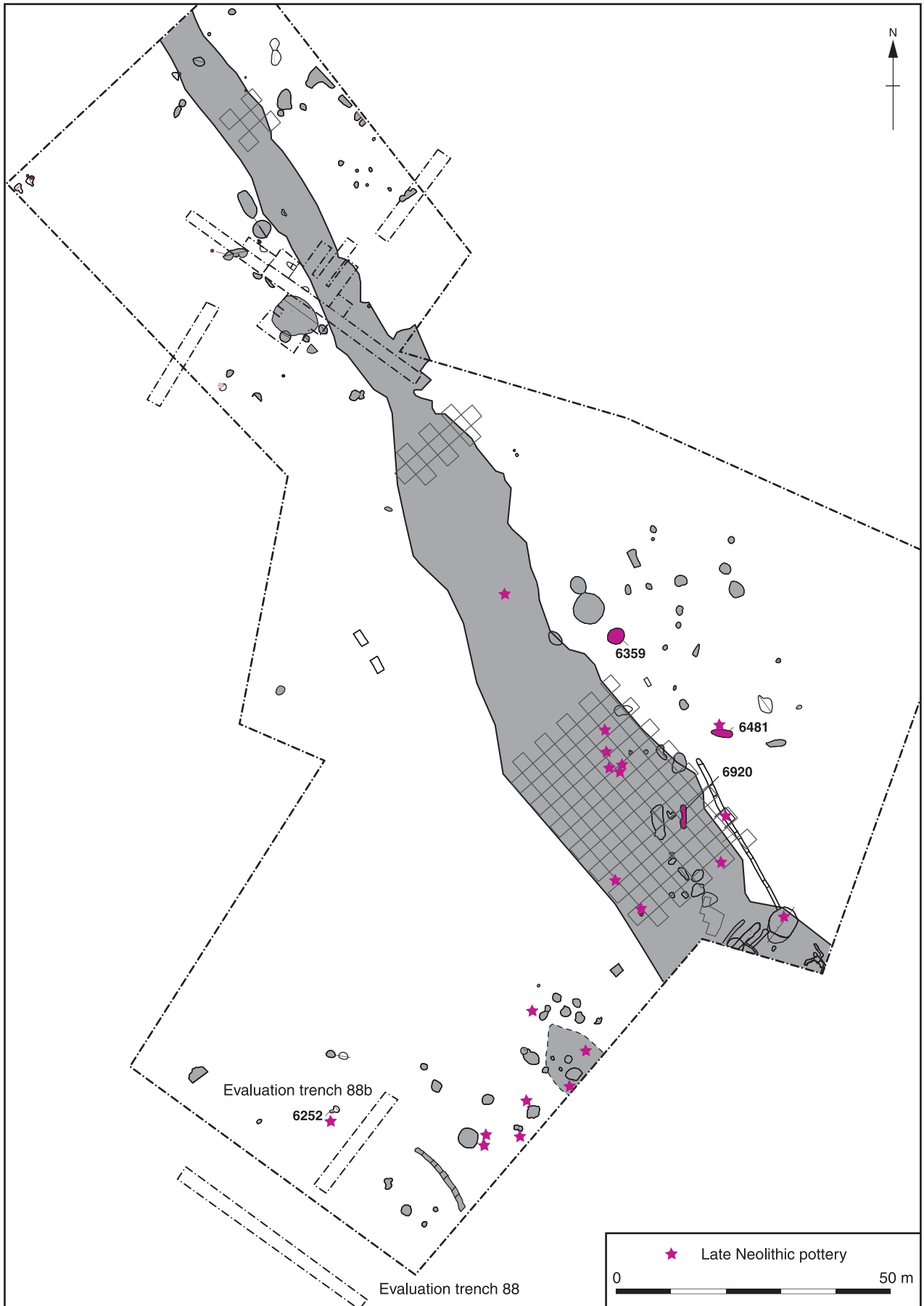


Table 8.7 A summary quantification by context of all late Neolithic pottery

Context	Feature	Fabric	NoSh	Wt	Cat. No	Comment
6224	Pit	GF2/LN	1	3g		Residual in waterhole
6236	MBA	FG2/LN	1	8g		Residual in MBA pit
6252	Pit 6252	FGA2/LN	1	1g		
6270	Grave	GA2/LN	1	2g	P109	Decorated body sherd in grave fill
6319	Pit	GA2/LN	1	2g		Residual in pit
6425		G2/LN	1	11g	P111	
6434	Hollow	GA2/LN	1	3g		Residual in IA feature
6463	Tree throw hole	GA2/LN	1	5g	P110	Rim from fill of tree throw hole
6774	Tree throw hole	GA2/LN	1	4g	P112	Dec body sherd from fill of tree throw hole
6839	Tree throw hole	G2/LN	1	1g		Residual within post-med tree throw hole
			9	29g		

Table 8.8 The late Neolithic to early Bronze Age assemblage from Area 10

CATEGORY TYPE	Late Neolithic?		LN/EBA?		Grand total
	Pit 6252	Treehole 6481	Treehole 6773	Pit 6743	
Flake	3	6	1	3	13
Blade				1	1
Irregular waste	1				1
End scraper		2			2
Grand total	4	8	1	4	17
Burnt unworked flint (g)	0	95	125	0	220
Burnt no. (%) (exc. chips)	0	0	0	0	0
Broken no. (%) (exc. chips)	1	4	1	1	7
Retouched no. (%) (exc. chips)	0	2	0	0	2

Catalogue of illustrated late Neolithic pottery (Fig. 8.14)

- 109 6270. Grooved Ware, Durrington Walls substyle. Body sherd with grooves (2g). Fabric GA2 /LN. Firing: ext. reddish-brown; core and int. black. Condition average.
- 110 6463. Grooved Ware, Durrington Walls substyle. Plain rim sherd (5g). Fabric GA2/LN. Firing: ext. brown; core and int. black. Condition average.
- 111 6425. Grooved Ware. Body sherd with indeterminate impressions (11g). Fabric G2/LN. Firing: black throughout. Condition worn.
- 112 6774. Grooved Ware. Body sherd with grooves (4g). Fabric GA2 /LN. Firing: ext. and core black and int. reddish-brown. Condition average.

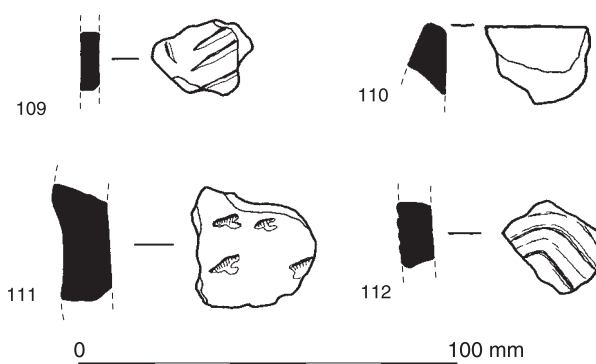


Fig. 8.14 Late Neolithic pottery from Area 10

Late Neolithic flint from Area 10 by Hugo Anderson-Whymark

Late Neolithic flint was recovered in small quantities from four probably contemporary features (Table 8.8). In addition, a number of late Neolithic flints were recovered from the hollow including keeled and discoidal cores and a crude, slightly irregular, barbed and tanged arrowhead (Fig. 5.69, 21).

Fig. 8.13 (facing page) Late Neolithic features in Area 10

Late Neolithic pottery from Areas Ex1-3, 11 and 1 by Alistair Barclay

Late Neolithic pottery was recovered from just two contexts in Areas Ex1 and Ex2. Six sherds were assigned a late Neolithic (Grooved Ware) date on the basis of firing and appearance. Four sherds, including

a rim, were recovered from Area Ex1 (context 131: a late Neolithic/early Bronze Age horizon, see Chapter 9) and two sherds were recovered from Area Ex2 (context 912, probably equivalent to the late Neolithic/early Bronze Age horizon in Area Ex1). All of the sherds are principally grog-tempered (GA2/LN, GO2/LN, GAF2/LN, GFA3/LN). The rim is similar to one recovered from Area 10.

Late Neolithic animal bone from the watching brief on the former Thames channel

by Gillian Jones

A small assemblage of animal bone was recovered during the watching briefs on the former Thames channel from probably late Neolithic layers. The upper part of a red deer antler – the upper beam, trey tine and the base of the crown – was found in layer 12129, the bank of the former Thames channel. Layer 12181 was a cut associated with late Neolithic burning, at the bottom of which was a partial pig skeleton. Layer 12165 which lay below this, also contained bones from pig. There were very good matches in maturity and size between the two groups of bones, with a complete set of right metatarsals from 12165 matching exactly in size the left metatarsals from 12181 (Table 8.9). Bones from

both layers were subadult, with late-fusing elements unfused, and were of large size. The vertebrae from 12165 were more mature than those from 12181, but vertebral fusion is quite variable, and all are probably from the same individual. The bones were well preserved, and no butchery marks or burning was observed on them.

The bones were measured and these are presented in detail (Table 8.9) despite some bone elements being not fully mature, as measurements of whole animal skeletons are rare, especially for pig. There would have been some further size increase in, for example, the lengths of the femur and tibia.

Measurements indicate that the pig could be wild. The distal humerus is within the range, and below the average, for wild boar from modern collections, and is just within the ranges for Mesolithic wild boar from central and northern Europe (Albarella *et al.* 2009, fig. 22), including those from Star Carr (Legge and Rowley-Conwy 1988).

However, it is much more likely to be a domestic pig. The measurements can be compared with those from the large collection of late Neolithic domestic pigs from Durrington Walls (Albarella and Payne 2005). For almost all measuring points, the Eton

Table 8.9 A pig partial skeleton from 12165 and 12181

Context		Maturity and size	
12165	vertebra	2 cervical, 1 thoracic, 1 lumbar	epiphyses partially fused (f-u, f-u, f-g, f-f), large
	rib	1	immature
	foot	R metatarsal III R metatarsal IV R mt II and V, 1 lateral phalanx	fused, GL 86.1, Bd 18.1 fused, GL 92, Bd 18.7
12181	vertebra	3 thoracic	eps partially fused (u-g, u-u, u-u)
	rib	8	immature, 4 R, 3 L, 1 uncertain.
	forelimb	L humerus	pu-df, SD 18.2, Bd 42.4, BT 32.7, HTC 21, HT 30.6
		L radius	pf-dg, GL 158, Bp 31.7, SD 19.4, Bd 37.6, BFd 29.6
		L ulna	pu-du, DPA 39.4
	hind limb	R pelvis	fused
		R femur	pg*-df, GL 229, GLC 229, SD 20.4, Bd 49
		L tibia	pu*-df, GL 209.5, Bp 52.5, SD 22, Bd 31.5, Dd 27.8, SDmin 15.3
		L fibula	pu-df
	foot	1 L carpal	
		L metacarpal III	df, GL 78.9, Bd 18.9, BFd 18.2
		L metacarpal IV	df, GL 80.7, Bd 17.8, BFd 16.9
		L mc II and V	df
		L and R astragalus	R, GL 42.3, GLI 42.3, Bd 26.3
		R calcaneum	pf, GL 81.6, GB 24,
		3 tarsals	L cuboid, L and R navicular
L metatarsal III		df, GL 86.3, Bd 18.2, BFd 17.1	
L metatarsal IV		df, GL 92.2, Bd 18.6, BFd 17.6	
L mt II and V		df	
phalanges 1 and 2		10 first, df, 7 second, df	
phalanx 3		4, DLS 32.6, 33.8, 34.0, 36.0	

Fusion: f – fused, u – unfused, g – fusing, p – proximal, d – distal; * femur: trochanter major fused, head epiphysis loose; * tibia: prox epiphysis loose but fits closely. Further details are preserved in the archive.

12181 measurements are within the range of pigs in the Durrington Walls collection but above the average. As a typical example, the humerus distal breadth, at 42.2mm, compares with 36.2 – 47.4, mean 41.1mm, for the Durrington sample (N102). For long bone lengths, the metacarpals, metatarsal III and calcaneum are within the ranges for Durrington, but metatarsal IV, with a Greatest Length of 92.2, is longer than any in the metrical database, the longest being 89.4. The sample size, however, for this bone in the Durrington study is very small (just four bones).

The Durrington study suggested a set of 'standard' measurements for many bones, and, as expected, the Eton pig is somewhat larger than this standard, on average 105.5%, with a log ratio of 0.023.

The size of the Eton pig cannot, therefore, be used to resolve conclusively its wild or domestic status, though the finds, the associated burning, and the fact that pig is a frequent find at late Neolithic sites means it is probably domestic. In Area 16, Pit 16023 contained the partial skeletons of two very young pigs.