

SS1

Structural evidence: Landscape Unit reports

SS1.1 The Long Mound

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Abstract

In its surviving form, the Long Mound was 135m long and between 13m and 18m wide (Fig SS1.7). It was aligned 7° north-east of true east-west at an azimuth of 83°. Almost exactly half of the mound was fully excavated. It was built of turf and incorporated much struck flint and smaller quantities of pottery and animal bone.

A pit beneath the mound has been radiocarbon dated to the mid fifth millennium cal BC, although this probably pre-dated the construction of the mound by several centuries.

It is suggested that initially the structure was about 90m long, constructed of turf and topsoil stacked within a system of regular bays defined by transverse and longitudinal stake lines along the northern and southern edges of the mound. At the eastern end of the mound there may have been a southward-facing 'chamber' defined by stake lines and possibly flanked by open bays, with a forecourt and façade lying to the east of the chamber.

Subsequently, a simple dumped mound with no bay structure was constructed beyond the easternmost stake line, the possible façade, with the 'chamber' area perhaps being covered by a low mound.

Following the extension of the mound to its full length of 135m, a gully was cut around the top edge of the mound the fills of which contained quantities of burnt debris, probably as dumped material, but perhaps with some burning *in situ*. At the eastern end stakes were set into the gully fill and may suggest the presence of some form of façade, which was probably refurbished at intervals.

The mound was at least partially flanked by broad shallow 'quarry pits', although no material from these was used in the mound make-up, and they may have post-dated its

construction. The earlier levels of the northern 'quarry pits' contained considerable quantities of Ebbsfleet ware.

1 Location and excavation

Discovery

The mound was centred at SP 97518 27252. Its extent and nature were discovered and investigated progressively, between 1985 and 1989. During 1985, the removal of the medieval stratigraphy exposed an extensive area of grey-brown sandy loam cut by late Saxon ditches. This was clearly an earlier soil horizon of unknown date and extent. The eastern limit lay within the area of excavation, but the western limit lay beyond it. In an attempt to establish the probable date and the depth of this deposit, a hand-dug trial trench (1261), 19m long by 1m wide, running from the eastern edge of the soil horizon to the western limit of excavation, was cut through this material and down to the underlying natural of gravel in sandy clay (Fig SS1.8). This trench established that the soil horizon was typically in excess of 0.5m thick, therefore unlikely to be a natural soil horizon. In addition, the absence of pottery and the presence of struck flint suggested that it could have been a prehistoric mound, probably a round barrow. By this time, the encircling ditches of Barrow 6 and the central dark loams of its primary mound had been exposed and recognised.

At the western limit of excavation and at the southern edge of the mound material, a smaller trial trench was cut down to natural in an unsuccessful attempt to locate an encircling ditch. The preliminary interpretation was that this was an unditched mound of subcircular or oval plan form with an average diameter of *c* 26m. A shallow gully cut into the top of this mound was located in the original trial trench, interpreted at the time as an early Saxon feature.

In 1986 the remaining medieval and late Saxon deposits and features were excavated. Whilst the top of the mound was exposed the

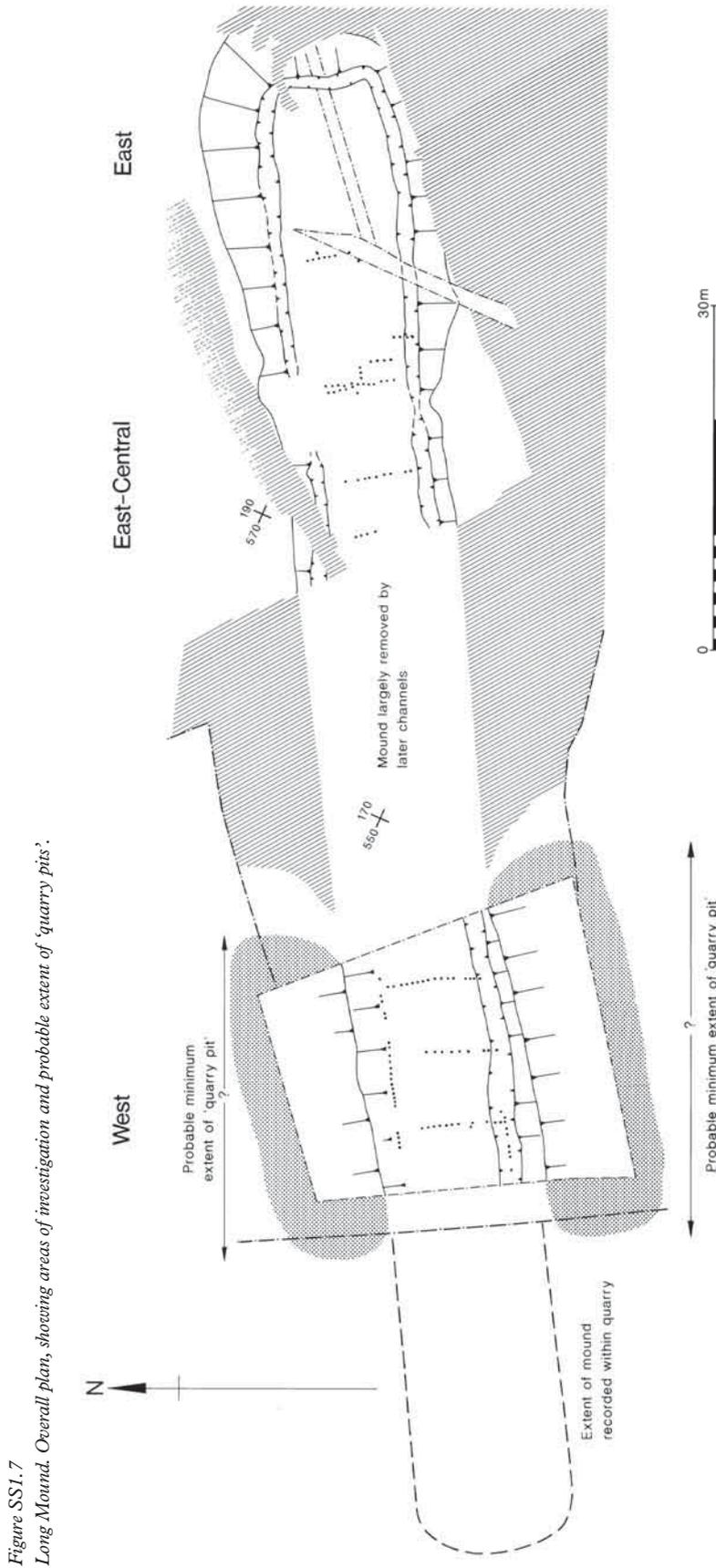


Figure SS1.7
 Long Mound. Overall plan, showing areas of investigation and probable extent of 'quarry pits'.

sides were still sealed by an intervening soil horizon up to 0.30m thick. This material was removed to fully expose the extent of the mound, producing a substantial flint scatter. The gully cut into the mound was fully excavated, although still interpreted at this stage as an early Saxon feature. The mound was excavated by hand in arbitrary spits each c 0.1m thick. The surface of each spit was levelled and the flint recovered from the mound was recorded two-dimensionally within each spit.

Removal of the mound exposed the subsoil, which survived only beneath the mound. Despite thorough cleaning of this surface, the only features located were two subsoil disturbances, possibly tree-holes (Fig SS1.8: F1752, F2073), one of which was associated with a flint scatter.

The subsoil was also fully removed down to the natural geology of gravel in sandy clay. Following full excavation of the eastern end of the mound, its interpretation was still restricted to that of an unditched mound of subcircular or oval plan, with no burial deposits within or beneath the mound.

In 1987, machine-stripping of the western half of the site rapidly transformed understanding of the monument. It was immediately seen that the mound continued westwards and was more than 45m long. At this point it had been largely removed by late Saxon and medieval leat and stream channels, which then formed the western limit of excavation (Fig SS1.7).

In order to establish the total length of the mound, a trial trench was machine-cut along the line of mound, running westwards from the western edge of the leat and stream channels. This trench, which was taken down to the top of, or slightly into, the mound, established that the mound was at least 100m long, and continued beyond the zone reserved for archaeological investigation into that being machine-stripped prior to gravel extraction. At this western end a further trial trench was cut across the width of the mound to establish that it was of comparable width to the eastern end.

As the realisation of the true length of this mound coincided closely with the machine-stripping of the adjacent quarry area, it was possible only to carry out a watching brief as the westernmost end of the mound was removed by box-scrappers. This enabled the western limit to be established to within a few metres, and the quarry face provided a full section of the mound and the underlying natural geology.

The western end of the mound, located initially in longitudinal and transverse trial trenches, was machine-stripped to fully expose the monument. A 75m length of mound therefore lay within the western half of the site, although the central 30m had been almost totally destroyed by leat and stream channels.

During 1988 the two available lengths of mound were fully excavated. Following the removal of later features and the post mound soil horizon, the gully cut into the mound was excavated, then the mound itself was removed in *c* 0.1m thick spits. In these areas the flint was three-dimensionally recorded. Transverse lines of stakeholes were located at subsoil level along with a limited number of possible small pits or postholes. At the western end, the mound was found to be flanked by pits or hollows.

During 1989, the western area was extended 6.0m further west, in order to obtain further stake lines and try to establish the extent of the features flanking the mound

Excavation

Due to the nature of its discovery and the destruction of part of the mound by later leat and stream channels, the Long Mound was divided into five lengths – three of which were fully excavated (Fig SS1.7).

Eastern area. The eastern end of the mound, 19.0m long, was excavated in 1986 before the full extent of the mound was known or suspected. This area was partially separated from the next length of mound by a 1.5m wide baulk.

East-central area. This next stretch of mound was 26m long, terminating to the west at the later leat and stream channels.

Central section. The third length was the largely destroyed 34m central section. Narrow and irregular islands of mound survived between the numerous leat and stream courses, but none of these was investigated.

Western area. The western area was initially 16m long, but this was later extended to a total length of 22m.

Westernmost section. The westernmost 29m of the mound was observed in watching brief, during its removal by box scrapers.

A total of *c* 69m out of the *c* 135m length of the Long Mound (51%) was fully excavated. In all three excavated areas the top surface of the mound lay directly beneath medieval or later soil horizons, and the sides were sealed by a pre-late Saxon soil horizon. In addition, across the eastern and east-central areas there were frequent intrusive

features cutting into or even through the mound.

The main difficulty created by this situation concerned the allocation of the struck flint recovered in the initial stages of excavation to the correct stratigraphic context. The context numbers initially allocated within these areas inevitably took in more than a single stratigraphic context; typically including the top surface of the mound, the post-mound soil horizon, the fills of unexcavated late Saxon and medieval features and, in a single instance, an early Saxon feature cut into the mound. These contexts, therefore, include flint from both the mound itself and the post-mound soil horizon, as well as small quantities of late Saxon to medieval pottery and other finds.

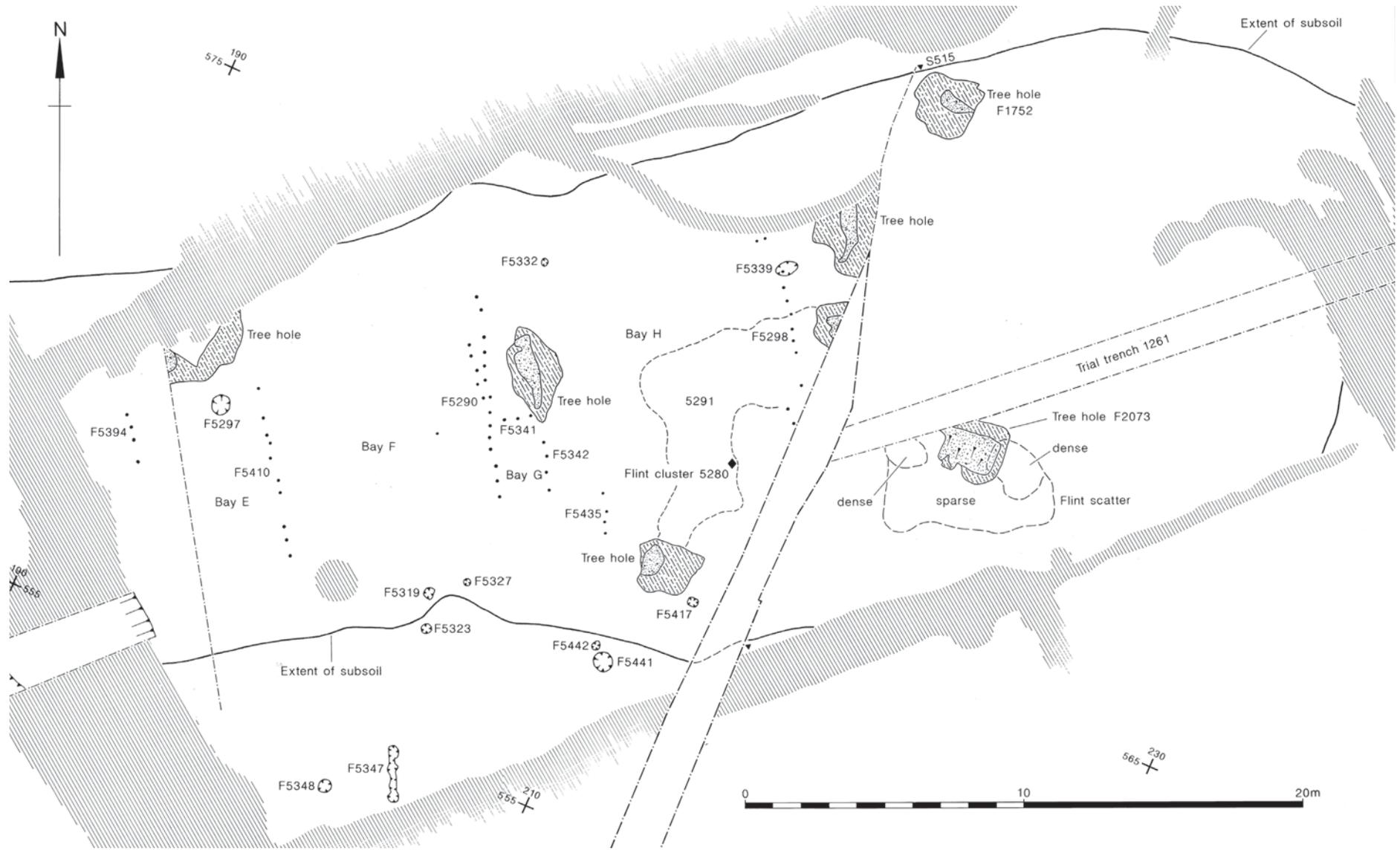
Once later features and the post-mound soil horizon had been removed, the mound was excavated in arbitrary spits each 0.10m to 0.15m thick. This typically entailed the removal of three major spits with intervening cleaning levels. In all instances the initial cleaning of the mound as well as subsequent recleaning, especially following the exposure of the mound over-winter, which occurred in all three areas, had already resulted in the loss of around 0.1m and in some instance up to 0.15m of the top surface of the mound. Each cleaning context or spit was numbered separately and the location and sequence of these spits was listed on a sequence diagram. At the eastern end of the mound the flint was two-dimensionally recorded within each defined spit, and a *c* 10% sample, by barrow load, of the mound material was dry sieved using a 10mm mesh. This produced few finds and only a *c* 5% sample was sieved from the remainder of the mound. Soil samples of *c* 10 litres of mound material were taken at regular intervals and from within each major spit.

Other details of excavation strategy are discussed in the relevant sections of the description of the excavated evidence. A particular note should be made of the problems of defining the true context of the pottery within the ‘quarry pits’ at the western end of the mound. On site it was recorded under too many context numbers, some apparently being post-mound levels. This problem is referred to where relevant.

2 The excavated evidence

The fine, almost stone-free mound survived to between 0.25m and 0.80m high, and was extensively burrowed by rabbits, moles and worms. It was also cut by later features, and

Figure SS1.8
Long Mound Plan of surface and features beneath east end.



its surface had been subjected to cultivation. There was thus ample scope for the introduction of later finds, especially small ones, into earlier contexts. There were also local difficulties, described below, in attributing finds to precise contexts. These considerations, and the dearth of dating evidence from some episodes, make the chronology of the monument problematic.

Phase 0 Natural deposits

The natural geology was of gravel in a red-brown sandy clay matrix. A few pieces of struck flint had penetrated into it (Table SS1.1).

Phase 1. Pre-mound deposits and activity

The dark, humic body of the mound overlay a subsoil of pale yellow-brown sandy loam almost free of pebble inclusions and, on average, *c* 0.10m thick (Fig SS1.18: 2072/2074; Fig SS1.17: 5551). The interface between mound material and subsoil was sharply defined, except in one area towards the east (Fig SS1.8: 5291). The clarity of this boundary was thought in the field to reflect the construction of the mound on a surface stripped of turf and topsoil. Micromorphological analysis of samples from the east end of the mound, however, points to a higher boundary between buried soil and mound, within the base of the darker mound material, masked by later biological activity and oxidation. The buried soil was a humic, compacted sandy loam, and had been trampled by livestock. The turves which made up the mound had been cut from rather more humic soils, were also trampled by livestock, were locally compacted, were heavily worked by worms, and incorporated finely fragmented charcoal, (Macphail, D4.8.2).

The subsoil was totally removed only at the eastern end of the mound. In the east-central and western areas it was sectioned across the width of the mound in narrow trenches, *c* 0.70m wide, adjacent to the major cross-sections.

Trample?

At the eastern end of the east-central area there was an irregular spread of light grey-brown clay silt up to 0.05m thick (5291), overlying the subsoil and sealed by the mound (Fig SS1.8). It was up to *c* 0.30m wide extending *c* 7.0m east-west and *c* 7.0m north-south. The layer was quite compact in comparison to both the subsoil and surrounding material at the same level. Its east-

ern extent was not clearly defined. It certainly continued as far as stakeline F5298, but was not certainly located to the east of this. Adjacent to stake line F5298 the layer was so thin and patchy that no certain relationship to the stakeholes was observed. The only finds from this layer were a cluster of a core rejuvenation flake, 17 flakes and 13 blades (Fig SS1.8: 5280), including four refitting pieces and tightly grouped in an area *c* 0.25m diameter. The compacted nature of this layer could suggest that it represented an area of activity prior to mound construction. The technology of the material is compatible with a Mesolithic date (Ballin SS3.7.7).

Subsoil disturbances

Burrows

The subsoil surface at the western end of the mound was heavily disturbed by a network of sinuous burrows, interpreted as a rabbit warren. Similar features had disturbed the mound itself from the top of its surviving surface. They made it difficult to locate and define genuine pre-mound features.

Treethrow holes

There were at least two and probably three major disturbances of the pre-mound subsoil at the western end (Fig SS1.9). Two were clearly in the form of gravel 'islands' surrounded or flanked by irregular areas of compact dark brown sandy silt. The larger of these had a maximum diameter of 3.7m. A further gravel island within an area very heavily disturbed by animal burrows may have been a third such feature. None of these was excavated, as they appeared to be pre-mound tree-hollows. Within the east-central area four widely spaced subsoil disturbances were recorded, but not excavated (Fig SS1.8). Each consisted of an irregular circular or oval ring of mottled brown sandy silts surrounding an 'island' of gravel. Their maximum diameters varied from 2.0m to 3.5m, but outlying patches of dark loams or gravel may suggest that these were merely the main parts of more extensive disturbances. As for the similar features at the western end of the mound, they may be interpreted as pre-mound tree-hollows. Two further such subsoil disturbances lay beneath the eastern end of the mound and these were both partially excavated (Fig SS1.8: F1752, F2073).

F1752 lay towards the northern edge of the mound, within an area extensively disturbed by medieval activity. It was up to 2.5m in diameter and consisted of a ring of mottled

Table SS1.1. Long Mound. Summary of finds

* = recorded, but unidentified or missing

Lithics are of flint unless otherwise stated

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

E = eastern area, EC = east-central area, W = western area

Cleaning horizons cut across mound and post-mound layers. Their contents are likely to derive largely, but not exclusively, from the mound

<i>Area</i>	<i>Phase</i>	<i>Context (s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Charred material</i>	<i>Environmental evidence</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
	0	5412, 5414				3 flakes, 3 blades, non-bulbar fragment				
E	1	2072, 2074 subsoil				In cluster around F2073: 7 non-bulbar fragments, core rejuvenation flake, 57 flakes, 28 blades, 5 microliths, 2 scrapers, 2 misc retouched. Elsewhere: 6 cores, 3 core rejuvenation flakes, 5 non-bulbar fragments, 30 flakes, 23 blades, 5 microliths, burin, leaf arrowhead fragment, 3 scrapers, borer, notch, 1 misc retouched	Hazelnut, onion couch grass tubers, small grass, free-threshing wheat, indet cereal	Compacted, trampled sandy loam soil beneath mound		
E	1	F2073 treehole				Blade core, 14 flakes, 9 blades, microlith	Hazelnut, indet cereal, indet nut			
EC	1	5291 trample?				Cluster of core rejuvenation flake, 17 flakes, 13 blades				
EC	1	F5339 stakepit				Hazelnut, free-threshing	wheat, indet wheat, indet cereal			
EC	1	5443, 5447 subsoil				2 flakes, blade				
W	1	5483, 5551 subsoil				2 flakes, 2 blades, borer				
W	1	F5488 pit				Flake, blade, microlith tip in lower fill	Charcoal: oak, indet		5767±58 (UB-3329) on oak trunk charcoal fragments from upper fill	4780–4460
W	1	F5691pit		Large or medium mammal vertebra fragment, indet fragment			*			
W	3.1	5282, 5407, 5408, 5459, 5463, 5671, 5678, 5679, 5680, 5681, 6018, 6020, 6026, 6028, 6036, 6305			Neolithic Bowl rim sherd, P27 (E)	37 cores, 12 non-bulbar fragments, 2 hammerstones, 211 flakes, 118 blades, 13 core rejuvenation flakes, microburin, 12 microliths, 3 scrapers, 3 notches				

W	3.1?	5267, 5268, 5455	1 rim sherd Neolithic Bowl, P26 (E) 1 sherd/0.5 g ?Neolithic (E) 2 sherds/1.5 g ?Beaker (?PB) 1 sherd/0.5 g (QS) 9 sherds/12.1 g (-)	14 cores, 49 flakes, 45 blades, core rejuvenation flake, 2 non-bulbar fragments, 2 microliths, notch, butt of flaked — probably tranchet — axe, 1 misc. retouched					
E and EC3.2		1078, 1079, 2061, 2063, 2066, 2067, 2068, 2069, 5272, 5273, 5275, 5276, 5277, 5278, 5279, 5407, 5408	Medium-sized bird tibiotarsus shaft fragment, ovicaprid tooth fragment, 11 indet fragments	4 sherds/17 g Neolithic (E) 1 sherd/2 g (F) 23 finds of indeterminate crumbs	68 cores, 52 non-bulbar fragments, hammerstone, 519 flakes, 316 blades, 38 core rejuvenation flakes, 25 microliths, 2 leaf arrowheads (1 burnt), 2 knives, 11 scrapers, 9 notches, 3 borers, 14 misc retouched	Vetch or tare, lesser celandine, stinking mayweed, campion, dock, brome grass, onion couch grass, large grass, indet grass, free-threshing wheat, emmer or spelt wheat, indet wheat, barley, indet cereal, hazelnut Charcoal: oak and indeterminate	Mound built of turves, sometimes trampled, containing fragmented, dispersed charcoal	5035±30 (OxA-7940) on sapwood rom oak charcoal (context 2061)	3950–3710
EC	3.2?	5271	Ovicaprid metatarsal shaft fragment	2 sherds/20 g ?Neolithic (E) 1 sherd/3 g (E) 1 sherd (-)	4 cores, 3 non-bulbar fragments, 2 core rejuvenation flakes, 34 flakes, 17 blades, 2 microliths, borer, 2 misc retouched				
E	3.3	2065			2 cores, 3 non-bulbar fragments, 16 flakes, 16 blades, core rejuvenation flake, burin, notch, 2 misc retouched	Charred oak plank (context 2062)		4602±72 (UB-3313) on oak plank on surface of mound	3630–3090
E and EC4.2		1088, 2016, 2023, 2028, 5177, 5178, 5179, 5199		1 sherd/2 g ?Beaker (TV) 1 sherd/1g SV	3 cores, 4 non-bulbar fragments, 93 flakes, 49 blades, 5 core rejuvenation flakes, 6 microliths, leaf arrowhead, scraper, flake from ground flint axe, 4 misc retouched	Chickweed, fat hen, petty spurge, black bindweed, onion couch grass, indet grass, tetraploid wheat Charcoal: *		4795±71 (UB-3417) on oak charcoal fragments	3710–3370
W	4.2	5449, 5454, 5684		1 sherd/0.2 g ?Neolithic (E) 1 sherd Beaker 1 ?rim fragment ?Dev-Rim, P106 (F) 2 crumbs ?Beaker (E, -)	3 cores, 8 flakes, 5 blades, microlith				
W	4.2 ?	5451, 5452, 6023		1 sherd/14 g (E)	3 cores, 5 flakes, blade, leaf arrowhead, laurel leaf				
E	4.3	990						3883±58 (UB-3324) on hazel/ alder charcoal from stake	2560–2140

Area	Phase	Context (s)	Human remains	Animal bone	Pottery	Lithics	Charred material	Environmental evidence	¹⁴ C BP	Cal BC
									4417±75 (UB-3320) on hazel/ alder charcoal from stake	3360–2880
									4970±50 (OxA-7951) on oak sapwood charcoal from stake	3940–3640
									5090±45 (OxA-7939) on oak sapwood charcoal from stake	3980–3770
W	4.4.iN	F5257			12 sherds/25.6 g Neolithic (E) 10 sherds Ebbsfleet, including P32–P35, P41–P43 (E) 7 sherds/5.4 g (E)	5 flakes, 9 blades				
W	4.4.iN	F5260				Flake	Charcoal: *			
W		F5263, contexts 5261/5528			1 sherd Ebbsfleet, P38 (E) 1 sherd Ebbsfleet, P47 (F) 4 sherds/19.2 g Neolithic (E)	2 flakes	Lesser celandine, hazelnut, cleavers, onion couch grass. Charcoal: buckthorn, <i>Prunus</i> sp, Pomoideae, indet		4770±45 (OxA-7943) on charred hazelnut	3650–3370
									4750±45 (OxA-7944) on charred onion couch grass tuber	3650–3370 cal BC
		F5263, remaining fills		?cattle tooth, 7 large mammal tooth fragments, 17 large or medium mammal tooth fragments, 56 indet fragments	2 Neolithic Bowl rims, P28, P30 (E) 2 sherds Ebbsfleet, P37, P46 (F) 1 sherd Ebbsfleet, P39 (E) 1 sherd/0.5 g	4 cores, core rejuvenation flake, 15 flakes, 6 blades, core rejuvenation flake, chisel arrowhead	Hazelnut, bedstraw, indet cereal, indet tuber Charcoal: *			

				?Beaker (E) 4 sherds/10 g Neolithic (E) 1 sherd/5 g ?Neolithic (TV) 1 sherd/1 g (F) 3 sherds/0.6 g (-) 2 fragments/ 2.2 g fired clay	
		F5266		2 sherds/0.7 g Neolithic (E)	Onion couch grass
W	4.4.ii N	5250, 5252, 5253, 5254		3 sherds/<12 g 14 cores, 11 non-bulbar fragments, Neolithic, 80 flakes, 69 blades, 8 core rejuvenation including P25 flakes, 3 microburins, 6 microliths, leaf (F) 2 sherds arrowhead, serrated flake, 8 scrapers, sherds Ebbsfleet, 4 misc. retouched P45, P49 1 sherd Ebbsfleet, P48 (MT) 3 sherds/3.25 g Ebbsfleet P33, P38, P44 (E) 1 sherd ?Beaker, P65 (F) 3 sherds Food Vessel, P88 (G) 3 sherds/21 g ?EBA (G, -) 13 sherds/25 g (F) 1 sherd/1 g (MT) 2 sherd/2 g (QS) 12 sherds/11.9 g (E) 1 sherd/1 g (PB)	
W	4.4.iS	F5549	infant cremation (context 5548/5550)	1 sherd/0.2 g – 2 cores, non-bulbar fragment, 2 flakes (context 5550) (slightly burnt), blade (context 5550)	Vetch or tare, onion couch grass Charcoal: oak
W	4.4.iS	5462/5464 5487, 5490, 5498, 5520/ 5526, 5521, 5522, 5542, 5543, 5545, 5546, 5547, 5550		2 sherds Core, 21 flakes, 15 blades, non-bulbar ?Grooved Ware, fragment, scraper, notch, 2 misc retouched P57, P59 (-) 11 sherds/>14 g from single ?pot Beaker, P64 (PB) 1 sherd/1g ?EBA (G) 1 sherd/18 g ?EBA (-) 1 sherd/1 g (G) 1 sherd/2 g (MT) 35 fragments/ 94.2 g possibly including fired clay (-)	

<i>Area</i>	<i>Phase</i>	<i>Context (s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Charred material</i>	<i>Environmental evidence</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
W	4.4.iiS	5247, 5248, 5249, 5251			1 sherd/1 g ?Mildenhall, P29 (-) 49sherds/>191.5 g from single ?pot Beaker, P64 (PB) 1 sherd/2 g ?EBA (G) 4 sherds/4.5 g (G) 2 sherds/1.5 g (E) 98.3 g (-) 1 fragment fired clay	11 cores, 5 non-bulbar fragments, 2 chips, 103 flakes, 59 blades, 4 core rejuvenation flakes, 2 chips, 2 microburins, 6 microliths, 2 leaf arrowheads, oblique arrowhead, 4 scrapers, notch, 5 misc retouched	Charcoal * (context 5251)			
	5	F5484							3970±45 (OxA-7942) on oak sapwood (context 5456)	2620–2340
									4015±45 (OxA-7941) on oak sapwood (context 5456)	2830–2460
									3995±50 (OxA-7952) on oak sapwood (context 5457)	2660–2350
	5	Remainder		*	4 sherds/1/1 g ?Neolithic (E) 3 sherds ?Beaker (E, PB, F) 2 sherds/2 g ?EBA (G) 2 sherds/6 g ?EBA (E) 1 sherd/4 g ?Dev-Rim (F) 1 sherd ?L-MBA, P107 (MT) 1 sherd ?LBA or IA, P110 (F)					
					0.2 g Roman 3 sherds/ 63 6.5 (F) 8 sherds/ 41.5 g (G) 3 sherds/1.5 g (MT)	Anvil, hammerstone, 57 cores, non-bulbar fragments, 25 core rejuvenation flakes, 565 flakes, 223 blades, microburin, 17 microliths, 2 barbed and tanged arrowhead fragments, unclassified arrowhead, flaked axe fragment, ground axe fragment, ground axe flake, 2 serrated				

3 sherds/3.1 g (QS)	blades, 18 scrapers, knife, fabricator, borer, notch, 22 misc retouched
32 sherds/37.7 g (E)	
21 sherds/13.1 g (-)	
*	
Cleaning	
1 sherd/0.5 g Neolithic (E)	Anvil, 108 cores, 123 non-bulbar fragments, 717 flakes, 382 blades, 32 core rejuvenation flakes, 3 chips, 2 microburins, 24 microliths, 4 leaf arrowheads, laurel leaf, 8 scrapers, knife, 8 borers, 8 notches, flaked axe fragment, axe sharpening flake, 4 flakes from ground axes, 20 misc retouched
?Beaker (PB)	
1 sherd/2 g (QS)	
27 sherds/258.9 g (E)	
12 sherds/10.7 g (-)	
*	
Unstratified and misc	
2 sherds/5 g EBA (G)	10 cores, 7 non-bulbar fragments, 4 flakes, 7 blades, microlith, truncated blade, leaf arrowhead, borer, 1 misc retouched
*	

sandy silts surrounding an 'island' of gravel. In section the fills were seen to be complex and convoluted with the dark loams continuing in places to the maximum excavated depth of 0.60m. The area above and around this feature had been disturbed by later activity, leaving the pattern of flint distribution within this area incomplete. However, there was a suggestion that, at subsoil level, there was a slight concentration of struck flint within and around this feature.

F2073 a second similar subsoil disturbance, lay beneath the southern side of the mound (Fig SS1.8: F2073). This was first located as a linear ridge of gravel standing above the subsoil level, visible before the mound material had been fully removed. With the full removal of the mound material it was seen to consist of a subrectangular ring of dark brown sandy silts surrounding an 'island' of gravel and measuring 2.60m east-west by 2.25m north-south. It was excavated in plan to a depth of 0.09m, where it was resolved as a subsoil disturbance, and not excavated further.

A blade core, 14 flakes, 9 blades and a microlith in the upper fill of F2073 were of Mesolithic character (Ballin SS 3.7.7) and formed part of a wider flint scatter in the surrounding subsoil (contexts 2072, 2074; Table SS1.1). The flint scatter extended over an area measuring c 6.0m east-west and at least 3.0m north-south; the subsoil to the north-west had been removed by a trial trench. It included a high frequency of blades, three microliths and a scraper. The flint scatter in this area, at its most intense, was c 88 pieces per cu m, the highest in the long mound. The immediately overlying humic material showed a slightly higher flint density in this area. It would appear that there was an act of localised flint deposition prior to mound construction. The flint seems to have been deposited within and around a natural disturbance, probably a tree hole. The most likely context would appear to be the deposition of flint either around a standing tree or around and within a hollow created by the removal of a tree. F5488, described below, indicates that there was activity on the site of the mound in the fifth millennium cal BC. An interval between flint deposition and mound construction would allow for the movement of material down the soil profile by worm action and trampling.

Struck flint from elsewhere in the subsoil at the east end was of similar character and included seven microliths and a possible leaf arrowhead fragment. The blades from phase 1

contexts in general tend to be smaller than those from the mound, which suggests that a higher proportion of this group than of the stratigraphically later ones is Mesolithic (Ballin SS3.7.7). Samples from F2073 and from contexts 2072 and 2074 contained small quantities of charred plant remains, including hazelnut shell fragments, an onion couch grass tuber, indeterminate grass and cereal seeds, and, from 2072, two grains of a free-threshing wheat, which were probably medieval intrusions (Campbell, D4.5.3).

Smaller natural features. Across the east-central area, in particular, there were many small patches of darker soil within the subsoil layer. Few of these looked convincing as cut features and it was suspected that many were root or animal disturbances. They were all sectioned. Those which appeared unconvincing, having convoluted or poorly defined edges, have been regarded as natural features. They were typically no more than 0.1m deep with irregular plans and profiles, filled with orange-brown sandy silt (eg 5293, 5294, 5296, 5409, 5411).

Pits

In the western area two substantial pits were cut into the pre-mound subsoil and sealed by the mound (Figs SS1.9, SS1.10: F5488 and F5691).

F5488 measured 2.13m by 1.00m by 0.38m deep. The moderately steep sides rounded into a concave and slightly irregular base. The primary fill (5489) was of red-brown sandy silt free from inclusions and contained a flake, a blade and a microlith tip. The upper fill (5461) lay centrally within the pit, measuring *c* 1.0m by *c* 0.60m by up to 0.20m deep. This upper fill lay within the subsidence hollow over the main feature fill. While partially mixed, there was a clear sequence of reddened sandy silts lying beneath orange silts and overlain by a spread, up to 0.1m thick, of grey-brown sandy silt containing comminuted charcoal, charcoal flecks and several large fragments of carbonised wood (5460). There were probably four fragments of carbonised wood, each measuring 100mm to 150mm by *c* 50mm and *c* 50mm thick. This sequence of burnt soil, charcoal and carbonised wood and the coherent state of the wood itself indicated that this was *in situ* burning. A sample of carbonised oak trunk from among these fragments has given a radiocarbon date of 4780–4460 cal BC (5767±58 BP; UB-3329). Other identified charcoal from the feature was also of oak (Campbell, SS4.5.3).

F5691 lay *c* 10m west of F5488 (Figs SS1.9–10). It measured 1.60m by 1.15m by 0.30m deep. The main fill (5697, 5698) was of grey-brown sandy silt mixed with some orange clay-silt and, particularly towards the bottom, patches of yellow-brown sandy silt derived from erosion of the surrounding subsoil. Two small pieces of burnt bone were recovered from the surface of fill 5697, one of them a vertebra fragment from a large or medium-sized mammal. The upper 80mm of the fill (5690) was of orange-brown sandy silt with occasional flecks of reddened sand and moderate flecks and small pieces of charcoal. The pit was of a similar form and filling to, and thus possibly contemporary with, F5488.

No similar features were located elsewhere beneath the monument. The early radiocarbon date suggests that at least F5488 resulted from activity considerably pre-dating mound construction, although the oak wood could have been old when burnt. A further two pits (F5266, F5269) located during excavation of the ‘quarry pits’ to the north of pits F5484 and F5488 (Fig SS1.13) may also have belonged with this early pit group (see ‘Quarry Pits’).

F5339 in the east-central area, was a small pit, measuring 0.80m by 0.56m and 0.08m deep (Fig SS1.8), filled with grey-brown mottled silt containing charcoal flecks, some burnt pebbles and some pieces of burnt bone (5338). It was cut by stakehole 5337 at the northern end of stake line F5298, and it may have been directly related to the insertion of this stake. A sample from it contained charred hazelnut shell fragments, two grains of emmer or spelt wheat, a grain of free-threshing wheat and grain of rye, at least the last two of which are likely to have been medieval intrusions (Campbell, SS4.5.3).

The remaining features in the same area (Fig SS1.8) may have been small pits or postholes, and appeared to pre-date the mound, although it is possible that some were the bases of later intrusions through the mound which went unrecognised until the subsoil was exposed.

F5297 lay to the west of stake line F5410 (Figs SS1.8, SS1.11). It was 0.66m in diameter and 0.20m deep, with steep sides and a fill of mid grey-brown silty sand.

Remaining features in the east-central area. Along the southern side of the mound six small features were excavated, although three actually lay at the very edge of the surviving extent of the subsoil (Figs SS1.8 SS1.11). F5319 was 0.35m in diameter and



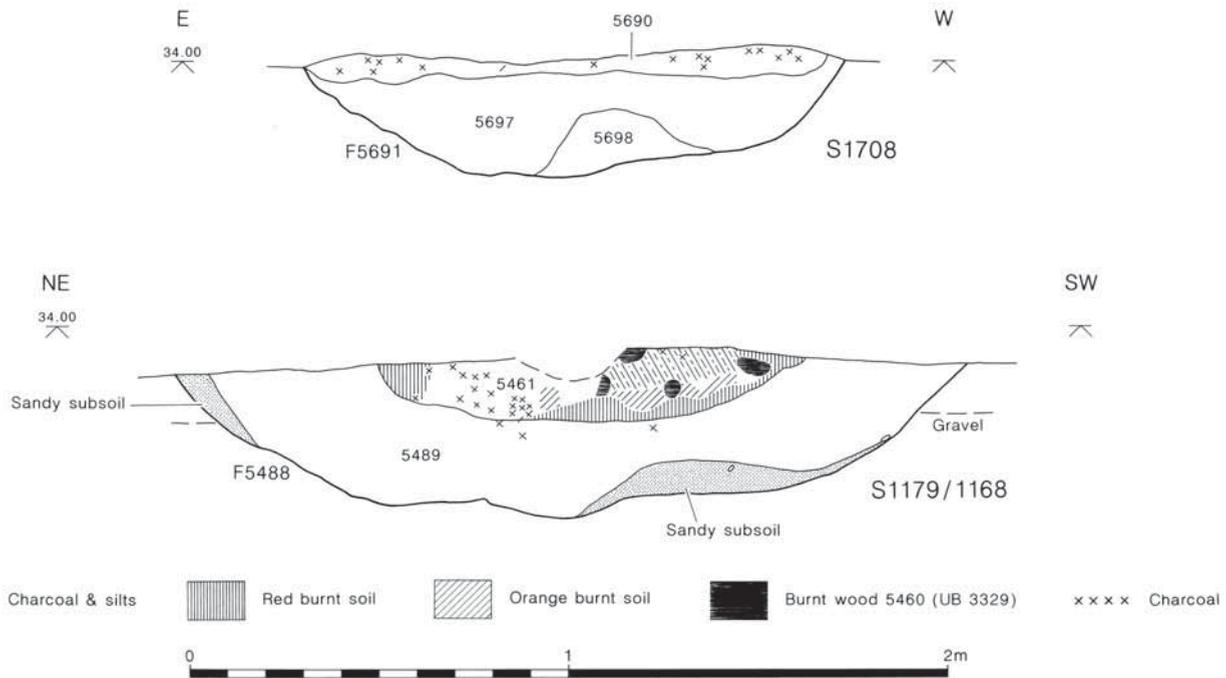


Figure SS1.10
Long Mound. Sections
of F5691 and F5488,
beneath the west end.
Their locations are shown
in Figure SS1.9

0.1m deep, with steep sides, filled with dark grey-brown sandy silt. Only 1.0m to the south of this, there was a pit of similar dimensions (F5323). This was 0.35m in diameter and 0.08m deep with moderately steep sides. The fill was of orange-brown silty sand with moderate pebbles. Just over 1.0m to the east of F5319 there was a smaller feature (F5327), up to 0.25m in diameter by 0.08m deep. The sides sloped inwards to a fairly pointed base and the pit was filled with orange-brown silty sand. Further to the east, there was a pair of small pits (F5441, F5442). The larger pit (F5441) was 0.7m in diameter by 0.09m deep with moderately steep sides, containing a fill of orange-brown silty sand. The smaller pit (F5442) was 0.34m in diameter and 0.09m deep with moderately steep sides, a rounded base, and a fill similar to that of F5441. These six features all lay close to the southern edge of the mound and immediately south of the anomalous stake line arrangement (bay G). They could be seen as relating to bay G and will be considered further in the discussion of the stakehole alignments. Two other possible features were located. F5417 lay near the southern edge of the mound and was 0.23m in diameter by 0.06m deep, filled with orange-brown sandy silt. Towards the northern side of the mound, F5332 was 0.24m in diameter by 0.09m deep, filled with grey-brown sandy silt.

Phase 2. Bay structure

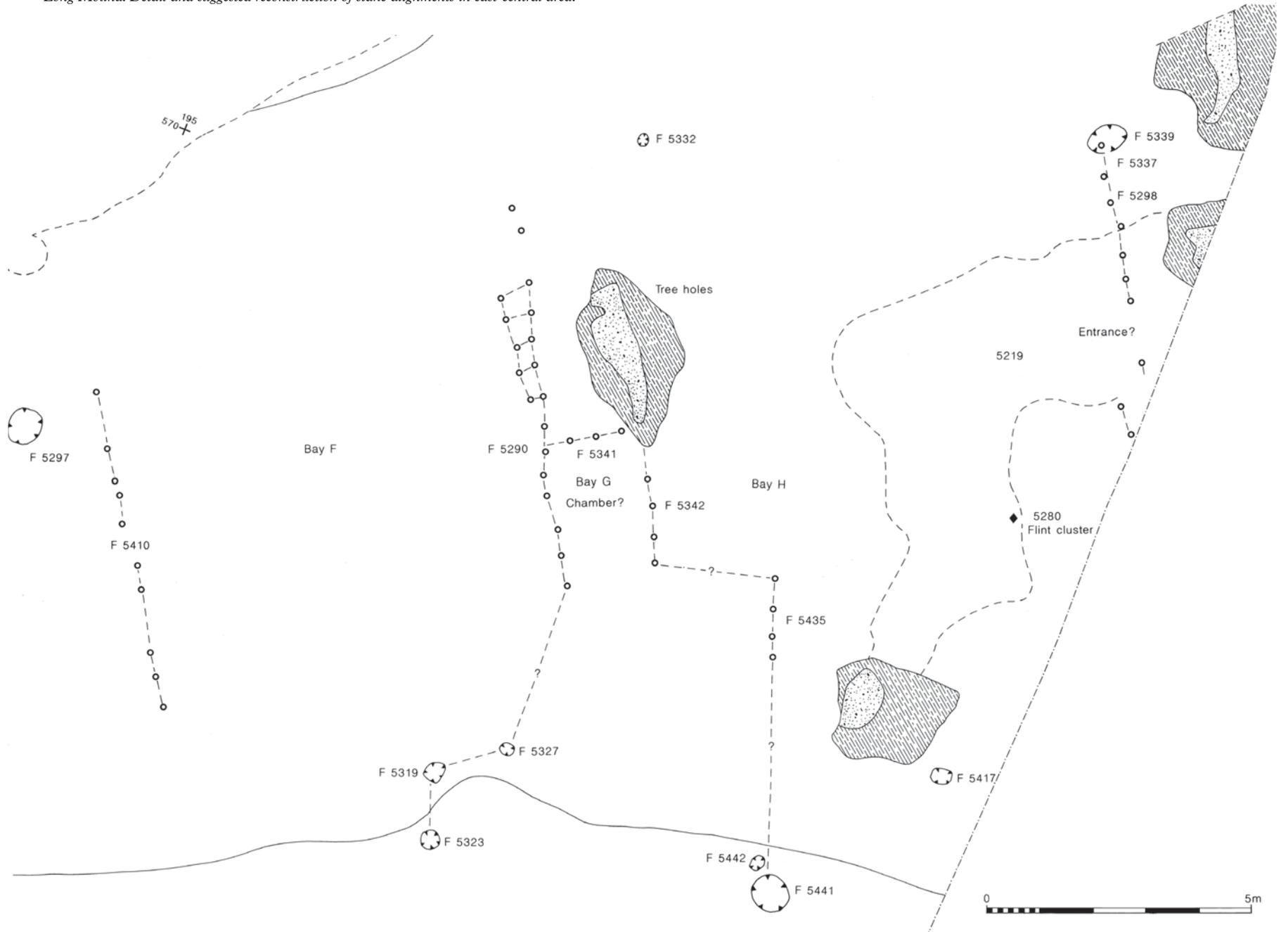
Within the western and east-central areas were lines of stakeholes and a few isolated stakeholes (Figs SS1.8–9, SS1.11). There can be no doubt that these features immediately pre-dated mound construction. Most of the lines were perpendicular to the axis of the mound, but at the western end two lengths ran parallel with the northern and southern edges of the mound. The transverse lines divided the mound into a series of ‘bays’. To the west, these bays were spaced at fairly regular intervals of between 6.2m and 7.0m, although in the east-central area the spacing was less even.

There was no axial stake line defining the central line of the mound. Wider gaps, however, in the stake spacing or changes in alignment occurred at around the mid-point of the mound in many of the stake lines. In addition, the single narrow bay (G) was terminated by a stake line at about the mid-point of the mound (Figs SS1.8, SS1.11). It seems likely that the axial line of the mound was marked in some fashion that has left no evidence, a turf stack perhaps, and the stake lines were set out with respect to this.

The stakeholes

The stakeholes were recognised during the cleaning of the subsoil surface following the removal of the mound. The subsoil itself was mottled with darker patches, frequently of

Figure SS1.11
Long Mound. Detail and suggested reconstruction of stake alignments in east-central area.



similar dimensions to the stakeholes, although in plan these could be distinguished from natural soil discolorations by the presence of clearly marked rings of compact and leached pale yellow subsoil surrounding the stakehole fills of dark brown-grey sandy silt. In some instances there was a thin ring, *c* 2mm thick, of brighter orange subsoil between the stakehole fills and the outer ring. The outer rings were typically around 30mm thick at the subsoil surface and were generally visible to depths of *c* 100mm. These rings were likely to have formed through mineralisation of the subsoil adjacent to the stakes.

The distinct lines of stakeholes inevitably influenced the process of stakehole recognition. The description provided above applies to the typical stakehole, although some excavated examples were shallow and did not possess the distinctive ring of mineralisation. Such examples were more likely to be accepted as genuine when they lay within a line of identified stakeholes. However, whilst some individual stakeholes may be doubtful and others lying away from the identified lines may have been missed, there is no doubt that the general pattern was one of a series of transverse lines.

All the identified stakeholes were boxed-sectioned to show the impression and the surrounding mineralisation, and the remaining fill of each stakehole removed. The stakeholes were consistently between 70mm and 110mm in diameter and from 100mm to 160mm deep. They were typically parallel-sided and tapered sharply to blunt rather than elongated points for only the bottom 50mm to 100mm. The bases of the stakeholes either lay within the subsoil or, in some instances, just penetrated the underlying gravel and clay. In all cases the stakeholes were filled with a dark grey-brown sandy silt (Fig SS1.12). No charcoal, nor evidence for carbonised stakes, was found and none had survived as even partial voids. In consideration of the regularity and the lack of disturbance of the surviving stakehole impressions, it appears that the stakes had decayed *in situ*.

The western stake lines

A general description is given of each transverse line of stakeholes on the western area, starting from the westernmost line (Fig SS1.9).

F5692. Delineated by 11 stakeholes over a total length of 6.50m. The northern section of the line was defined by a continuous sequence of seven stakeholes set from 0.45m to 0.55m apart, centre to centre. The southern part of the line lay at a slightly different

angle and consists of four stakeholes. The southern three were set 0.55m apart, whilst the isolated example lay 1.20m south and 1.25m north of its nearest neighbour.

F5554. A rather irregular line defined by nine stakeholes over a total length of 5.85m. The six stakeholes at the northern end were unusually widely spaced at 0.70m to 0.80m apart, with one exception at the 'typical' spacing of 0.55m. The three stakeholes at the southern end were spaced 0.55m apart. The northernmost end of this line had been disturbed by post-mound animal burrows.

F5553. A nearly complete line with 16 stakeholes along a total length of 7.70m. The northern nine stakes formed an almost straight line and were spaced consistently between 0.40m and 0.50m, with the exception of a single wider gap of 0.75m towards the northern end. The southern seven stakeholes lay on a line at a different angle and were spaced consistently between 0.40m and 0.50m with the exception of a single 'double' spacing of 1.0 m.

F5566. Defined by only three stakeholes located in the side of a medieval stream channel. They were spaced 0.55m apart. To both the north and south any continuation of this line would have been removed by the later stream channel.

The three nearly complete transverse lines had a considerable consistency of alignment. The two most complete, F5692 and F5553, both showed changes in angle at around the mid-point of the mound. In both instances the northern half of the line lay closely perpendicular to the longitudinal stake line along the northern edge of the

Figure SS1.12
Long Mound. Stakeholes
F5310, F5311, F5312
and F5313 (Part of F290)
under the east-centre of
the mound, box-sectioned.
(Photo Northamptonshire
County Council)



mound, whilst the southern half of the line deviated to the west of a straight continuation of the northern part. The more erratic stake line, F5554, can be seen as a single irregular row, but again the southernmost stakeholes deviated to the west of a straight continuation of the northern part of the line.

At the western end of the monument there were lengths of longitudinal stake lines along both the northern and southern sides of the mound.

F5711/F5552. Along the northern side of the mound 22 stakeholes were located along a total length of 14.70m. To the west there was a group of 4 stakeholes set 0.40m apart (F5711). To the east there was a gap of 2.30m and then a continuous, nearly straight, line of 11 stakeholes over a length of 4.35m spaced typically *c* 0.5m apart (F5552), although in two instances the spacing was only 0.3m. The eastern end of this continuous line was adjacent to the transverse stake line F5554. There was a broader gap of 0.75m to the next stakehole and east of this the line was fragmented with only a further six stakeholes being recovered over a length of 5.70m. This area had been badly disturbed by the post-mound animal burrows.

F5699. Along the southern side of the mound, a total of eight stakeholes were located along a length of 4.5m. They were spaced 0.5m to 0.55m apart with the exception of the two at the eastern end of the line, which were set only 0.3m apart, and the two broader gaps which were at double spacings of 0.95m and 1.0m. The area to the east of this had been extensively disturbed by later animal burrows and the subsoil was also disturbed by the gully (F938), which had been cut down through the mound. These two factors would certainly have been responsible for the loss of some stakeholes, although the complete absence of any examples to the east of line F5699 raises doubts as to whether the line was continuous.

The eastern stake lines

A general description is given of each transverse line of stakeholes starting from the western end of the east-central area (Figs SS1.8, SS1.11).

F5394. This genuinely would appear to have been a short line set to the north of the centre-line of the mound. It was defined by four stakeholes over a total length of 1.8m, which were spaced 0.45m apart, with the southernmost stake at a wider spacing of 0.75m.

F5410. An irregular and fragmentary line consisting of 10 stakeholes along a length of 6.2m. The closest spacings were typically 0.45m to 0.55m, although there was a single closer spacing of 0.30m. The broader gaps to the north (1.10m), and south (1.20m), could be viewed as 'double width' spacings, whilst the central gap was 0.8m wide.

F5290, F5341 and F5342 formed the only complex stakehole arrangement located beneath the mound. F5290 formed the western side and comprised of two distinct halves. To the north it consisted of two lines of five stakes each 2.05m long. The close pairing of the stakes along these lines would suggest that they may well have been contemporary, thus forming a single double-line of stakes. The spacing between the two lines decreased steadily, from 0.5m at the northern pair to 0.3m at the southern pair. Along the two lines the stake spacings varied from 0.45m to 0.55m. The two stakeholes beyond the northern end of the eastern component of this double line might indicate its continuance northwards, but both of these were shallow and could not be identified positively as stakeholes. The southern half of stake line F5290 consisted of a single row of seven stakeholes with a total length of 3.1m. The spacing of these stakes varied from 0.4m to 0.6m. It is possible to resolve this line into two groups, with the four stakes to the north on a straight line, and the three to the south forming a near-parallel straight line offset *c* 0.15m to the east.

A further stake line, F5342, lay parallel to, and 1.75m to the east of the southern half of line F5290. This array comprised four stakes over a total length of 1.70m with spacings of 0.5m to 0.55m. Near the centre-line of the mound, a line of three stakes (F5341) ran from line F5290 to the northern end of stake line F5342. These stakes were spaced 0.45m and 0.5m apart. There was a single, isolated, stakehole to the west of line F5290. The southern half of line F5290, the parallel line F5342 and the short longitudinal line near the centre of the mound F5341, formed a small three-sided 'chamber' – bay G; its possible significance will be considered in discussion of the bay structure.

F5435. This short line of four stakes lay parallel to line F5342 and 2.15m to the east, although it was also set further to the south. F5435 may have been related to the complex stake arrangement to its west. This line of stakes had a total length of 1.8m, with two spacings of 0.5m to 0.55m and a narrower spacing at the southern end of 0.4m.

F5298. The easternmost stake line consisted of a nearly straight row of eight stakes, over a total length of 4.25m, set across the northern half of the mound to just south of the centre line. Any further continuation to the south would have lain beneath the unexcavated baulk between the east-central and eastern areas of excavation. The spacings varied between 0.45m and 0.55m although there was a broader gap of 1.2m at the midpoint of the mound. The northernmost stake was set within the fill of a small pit (F5339). To the north of this two shallow and doubtful stakeholes may have defined a northern longitudinal line. At the southern end of the line there were two further stakeholes, but these were offset to the west of the main line by 0.5m to 0.6m. Any further continuation of this line would also have lain beneath the unexcavated baulk. Nevertheless, these suggest the possibility that the southern half of the line continued as a double row of stakes.

No stake lines were located beneath the mound in the eastern area, although the eastern end of the mound lay some 22m to the east of the final stake line. Given the fairly regular spacing of the transverse lines, a further two might have been expected. Although the stake lines did terminate at the boundary between separate areas of excavation, it is considered unlikely that any stake lines to the east were missed during excavation.

The stakehole alignments

At the most basic level, the stakehole alignments represented configurations of stakes driven into the subsoil, typically at regular intervals around 0.45m to 0.55m apart, centre to centre. It would seem likely these were not, however, merely free-standing stakes and that they supported hurdle-style fencing, which defined a series of bays along the length of the mound. Some clue as to the nature of such fences was provided by the occurrence of short stake lines which can be equated with individual hurdle panels.

In the eastern area there were three obvious short stake lines – F5394, F5342 and F5435. These were, respectively, 1.8m, 1.70m and 1.8m long and each consisted of four stakes. If these were regarded as indicating a possible minimum length of a section of fencing, then comparable patterns could be sought in the longer transverse lines. The most complete transverse line was F5553 at the western end of the mound, comprising 16 stakes. If these were divided into groups of four then the respective group lengths, from north to south, were 1.7m, 1.5m, 1.7m

and 1.4m. It can be suggested, therefore, that the full transverse lines may have been made up of four sections of fencing, each typically retained by four stakes set along lengths varying between 1.4m and 1.8m, with lengths of c 1.7m the most common.

Perhaps the most likely method of construction involved sets of four stakes being driven in along the required line, with pre-fabricated hurdles then attached to these free-standing stakes.

Stake line F5553 was 7.70m long, and if the individual hurdles had closely abutted this would suggest hurdle lengths of around 2.0m. Further to the west the two longitudinal stake lines were set 9.0m apart, suggesting either a four-fold division into lengths of 2.25m, or a five-fold division into lengths of 1.8m. It may also be noted that the two stake lines to the east forming bay G were set 1.75m apart, whilst there was a further gap of 2.15m to the short stake line (F5435) lying to the east.

The bay structure

Four bays, A to D, were situated at the western end of the mound (Fig SS1.9). Bay A was at least 5.3m long. Its western side was not located. Bays B and C were of closely comparable lengths, at 6.25m and 6.50m respectively, whilst bay D was slightly longer at 6.85m. The western bays thus seem to have been set out to reasonably consistent lengths of around 6.5m, with the two longitudinal stake lines indicating bay widths of 9.0m. Given the possibility that the widths may have been defined by four hurdle lengths of around 2.0m to 2.25m, it may be noted that the bay lengths could all have been closely related to three hurdle lengths of similar dimensions.

The eastern bays, E to H, did not form such a regular pattern, although this may have been due to a more complex structuring rather than merely irregular spacing (Figs SS1.8, SS1.11). Bay E was 4.75m long, against 7.75m for bay F. Bay G, the anomalous narrow bay, will be discussed separately. Bay H was 11.0m long with respect to the next full transverse line (F5290), but to the south it lay at least 7.0m east of the short stake line (F5435).

Given the presence of two sets of bays, one presenting a regular pattern and the other either an irregular layout or a complex structuring, it is difficult to reconstruct the possible appearance of the bay structure along the unexcavated lengths of the mound. The best assumption may be that bay lengths

of *c* 6.5m were typical for most of the mound, but with a deliberate departure from this pattern at the eastern end.

If regular bay lengths of 6.5m were extrapolated eastward from the regular pattern evident to the west, then the short stake line F5394 would have lain on one of these bay divisions, as would the transverse line F5290, which defined the western side of the narrow bay G (Figs SS1.8, SS1.11). Extrapolating this system westward to the recorded extent of the mound suggests that the latter may have comprised some 13 bays, each 6.5m long, with bays A to D possibly having represented the fifth to eighth bays from the west. Bay E would have been a short bay, and F and H long bays flanking the anomalous bay G.

Bay G. To the south, the stake lines defined a rectangular area measuring 1.75m by 2.7m, with its northern end lying at the midpoint of the mound (Fig SS1.11). This may have been a small enclosed, and perhaps roofed, 'chamber'. To the south and east there was a further short stake line (F5435), and it could be suggested that these may have defined the eastern side of a broader southern continuation of this bay or chamber. No similar stake line was located to the west. Two pairs of shallow pits, however, at the southern edge of the mound, F5441 and F5442 to the east and F5319 and F5323 to the west, may have defined part of a 'forecourt' approximately 6.0m wide and perhaps up to 6.0m deep, which fronted the 'chamber'. This 'chamber' area was flanked by the two longest bays, F and H, which may have been set out as broader bays because of its presence.

The absence of longitudinal lines of stakes along the northern and southern edges of the mound at the east end must also be considered. The apparent pattern to the west was of fully enclosed bays to the north, and at least partially enclosed bays to the south. Stakes were found along much of the northern edge of the mound and at least some of the gaps were probably due to later disturbance of the area by animal burrows.

Whilst only a short length of stakes was located along the southern edge of the mound, this area was heavily disturbed by later animal burrows, and the gully (F938) which cut into the mound and subsoil lay along the same line as the underlying stakes. These two factors may have removed or concealed further stakeholes. At the eastern end of the mound it would seem likely that, if longitudinal lines of stakes along the northern

and southern edges of the mound had been present, at least some clear examples would have survived, despite the disturbances.

Having already suggested that the transverse stake lines at the eastern end of the mound indicated a different and deliberate pattern of activity here, it may also be suggested that whilst longitudinal stake lines may have flanked the edges of the mound for much of its length, they were probably not present at the eastern end.

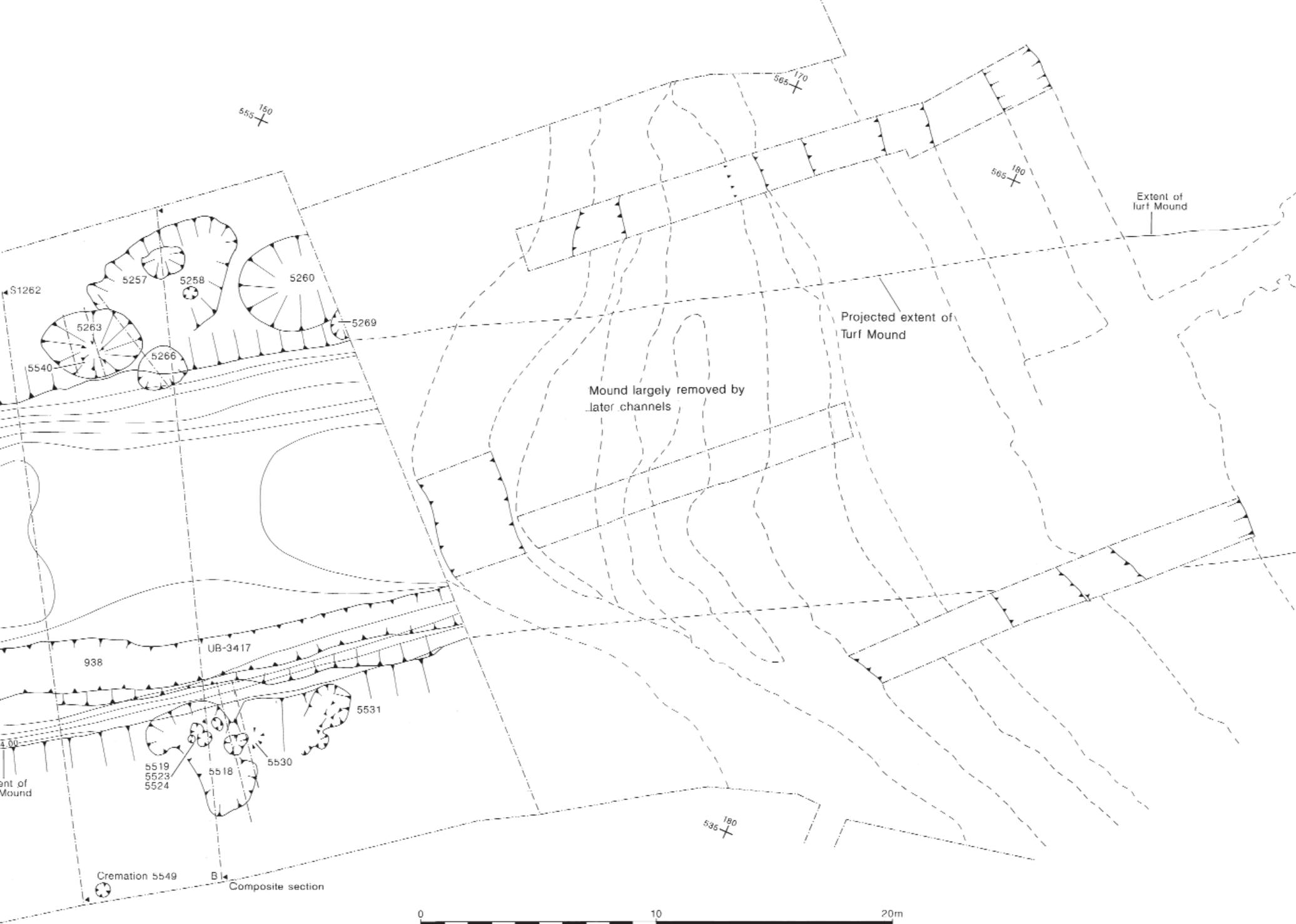
It is suggested, therefore, that at least initially the 'chamber' may have been a free-standing structure flanked by open bays, with perhaps the eastern bay (H) forming a forecourt area. The easternmost stake line could be seen as having formed a façade to this forecourt, with the central gap in the stake line, which was 1.2m wide, perhaps having formed an entrance. Trampling immediately inside this entrance could have generated the irregular spread of compact, light grey-brown clay silt described above which turned to the south at its western end before reaching the next stake line (F5435), perhaps suggesting an approach to the southwards-facing chamber (Fig SS1.11: 5921).

As described earlier, the easternmost end of this chamber area was defined by a short length of stakes (F5435). To the west of this, there was a similar short length of stakes (Fig SS1.8: F5394), but lying to the north of the centre of the mound. The area west of this had been destroyed by later activity, however this short stake line does not seem to have been merely a partial survival of a complete transverse stake line.

It could be speculated that this short stake line was a mirror image of the one to its east, defining the eastern end of a northwards-facing bay of similar form to the excavated example. A consequence of this interpretation is that the regular bay structure, interpreted as defining the original limit of mound construction, would have been shortened from *c* 14 bays to *c* 12 bays, a length of 78m. The postulated eastern end, consisting of two chambers and an eastern façade, all free-standing, would have been 30m long. In this shortened form, the mound would have required some 5500 sq m to 7000 sq m of soil stripping (some 8 to 10 times the surface area of *c* 700 sq m).

Phase 3. The mound

The mound had a total length of 135m. In the western area it was *c* 14.0m wide, as excavated, and at the eastern end reached *c* 18.0m. The southern side of the mound at



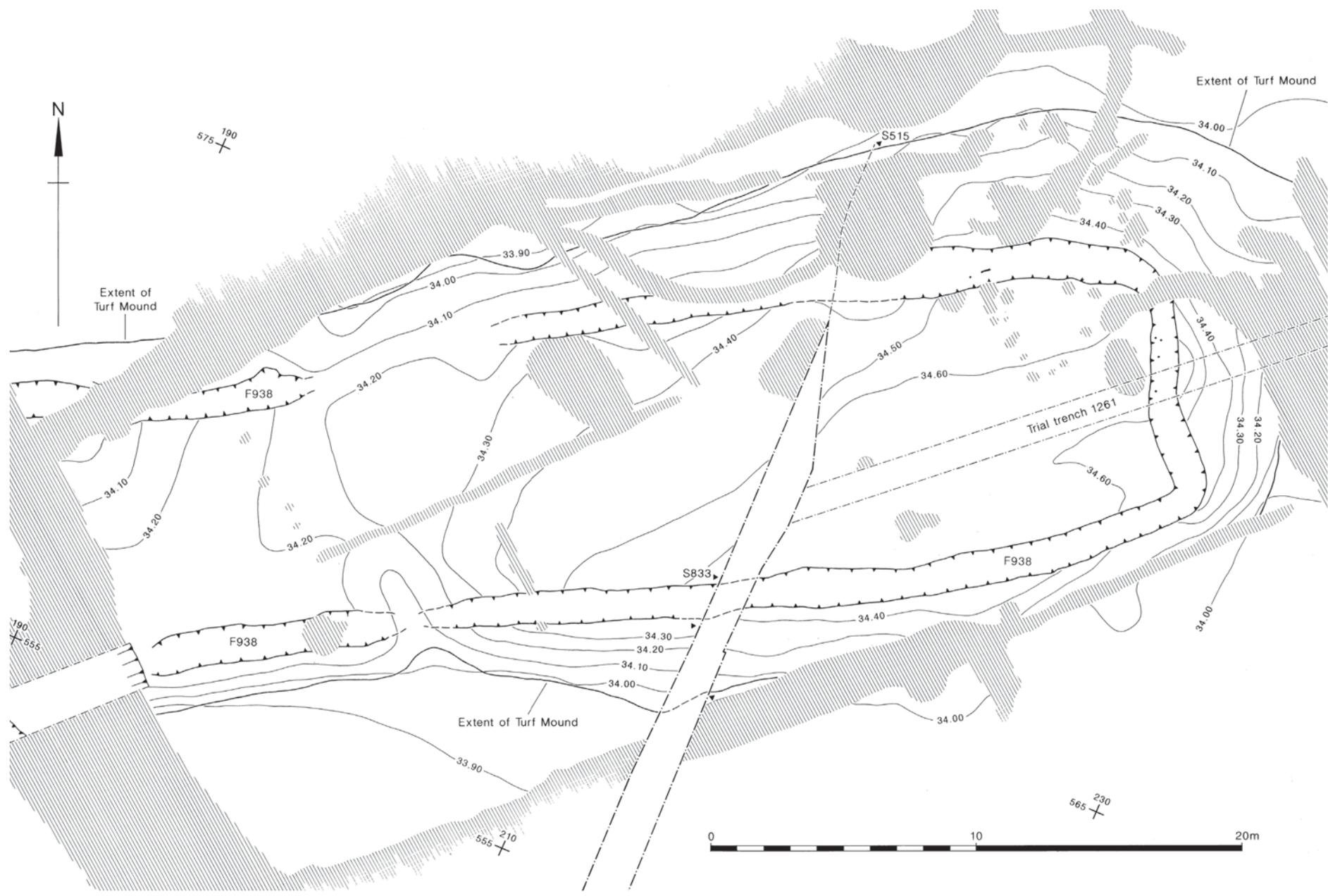


Figure SS1.14
Long Mound. Plan of east end, showing gully (F938) and extent of later disturbances (hatched)

the east, however, had been truncated by later ditches, and it could have been up to *c* 21.0m to *c* 22.0m wide. In the western area, which was the least disturbed by later activity, the mound survived up to 0.5m high (Fig SS1.17). At the eastern end it survived to a maximum height of 0.8m (Fig SS1.18). The mound was at its lowest in the east-central area (bay F), at only 0.25m high (Fig SS1.14). There was no obvious later disturbance in this area to indicate that this low point resulted from later activity, and it is considered likely that the mound was genuinely low across this area. The bulk of the mound was composed of a fairly homogeneous grey-brown sandy loam with few inclusions, which closely resembled the material forming the Turf Mound to the south and the primary mound of Barrow 6 to the north. As with these other monuments, this material is interpreted as indicating a mound composed entirely of turf or turf and topsoil, a conclusion confirmed by soil micromorphology (Macphail SS4.8.2).

While the mound make-up provides no evidence that it was other than a single construction, the favoured interpretation is that the easternmost stake line (Fig SS1.8: F5298) delimits the eastern end of the monument in its original form. Not only was the eastern end higher than the east-central area and the western end, but there was also a particularly low and narrow area immediately west of the eastern end which appears to reflect the original form of the mound (Fig SS1.14). The eastern end of the mound was also broader than the western (Fig SS1.7). This evidence

alone was not conclusive, and clearly this argument is considerably influenced by the underlying pattern of stake-hole alignments, which terminated at stake row F5298, some 22m from the eastern end of the mound, and by the abundance of struck flint in the eastern end.

The relation to the mound of the ‘quarry pits’ flanking at least part of its west end is uncertain and is discussed separately.

Phase 3.1. The west and central mound

The initial form of the Long Mound is interpreted as a mound up to 90m long by 9m wide, constructed within a regular system of defined bays with its vertical sides revetted by hurdle-work panels (erected during Phase 2, which was probably immediately prior to, and intimately connected with Phase 3.1). This mound may have been flanked by broad, shallow ‘quarry pits’ (see Phase 4.4). At its eastern end a small south-facing chamber of stakes and hurdle-work was flanked by broad open bays with the easternmost stake line forming a façade with a central entrance into a forecourt area. In total, this original monument would have been *c* 112m long.

The mound was largely homogeneous. In a limited area towards the west end, the lowest layer of the mound was darker, with a more compact consistency (Fig SS1.17: 5681), but this appears to have been only a minor variation. The conformity of the south edge of context 5681 to stake row F5699 and the near-conformity of its east edge to stake row F5692 (Fig SS1.9) strongly suggest that this was a distinctive kind of turf

Figure SS1.15
Long Mound.
East end with trial trench,
later features and gully
emptied and mound still
in place, looking east.
(Photo Northamptonshire
County Council)





*Figure SS1.16
Long Mound.
East-central area with
later features and gully
emptied and mound still
in place, looking west.
(Photo Northamptonshire
County Council)*

placed within bay A. It contained a discrete flint cluster, of three cores, two core rejuvenation flakes, 19 flakes, 15 blades, and a notch. Other finds from the mound were almost all of struck flint, including a high frequency of blades, a microburin and 12 microliths. As in all the mound contexts, blades were generally larger than in the underlying soil (Ballin SS3.7.7), suggesting that the material of which the mound was built incorporated a higher proportion of Neolithic material. Flint density was, as elsewhere in the mound, low in the bottom 0.10m of the mound (much of which was probably the upper part of the pre-mound soil), and much higher between 0.10m and 0.30m of vertical height. Other materials were scarce and degraded. There were a few indeterminate fragments of animal bone. The few pottery finds were often undiagnostic crumbs. The less comminuted fragments comprised a rim fragment from a plain Neolithic Bowl from context 6018 (sf 5166; Tomalin SS3.8.4: P27). Another came from context 5267, which may have formed part of the mound (sf 8343; Tomalin SS3.8.4: P26). The largest single group of pottery, 13 sherds/6.7g, came from context 5455, which impinged on the southern 'quarry pits', the boundary of which with the mound was unclear. The pottery may have derived from the pits, especially as it includes two crumbs (including sf 8997) in a tufa-tempered fabric

almost certainly from a probable pot Beaker more fully represented in the 'quarry pits' (Tomalin D3.8.4: P64).

Phase 3.2 The east end of the mound

This was a simple heaped mound, without internal bay structure or external revetment. This part of the mound survived up to 0.80m high and so originally may have reached 1.5m. At this stage it is possible that either the chamber and forecourt remained open or that they were covered by a low mound. The body of the east end of the mound was almost homogeneous. The major cross section revealed a slight variation between the material at the centre of the mound (2063) and that to the north and south (2061; Fig SS1.18). This might suggest that after the full width of the mound was established, the central area was built up to near its full height before more material was added along the northern and southern sides. The only distinct differences lay towards the surviving upper surface of the mound. A localised lens or tip of gravel and dark loam (Fig SS1.18) may indicate either a stage of mound refurbishment prior to the cutting of gully F938, or a tip of loam containing gravel within the original mound construction.

Pottery from the east end amounts to five sherds/19g, all featureless fragments, in flint- and (mainly) shell-tempered fabrics

compatible with Neolithic Bowl pottery from the area. A further three sherds/23g from context 5271, which may have been part of the mound, could also be Neolithic and include a minute rim fragment. Animal bone is confined to an ovicaprid tooth fragment, a longbone shaft fragment from a medium sized bird, and 11 indeterminate fragments, with an ovicaprid metatarsal shaft fragment from context 5271. Although the eastern end of the mound clearly contained more flint by virtue of its greater height, the flint density was also significantly higher in comparison to the east-central or western areas. There was also a higher flint density within the upper levels of the mound at the east. Below *c* 0.25m above the subsoil this end of the mound contained *c* 14 pieces per cu m; above this it contained *c* 21 pieces per cum. This may merely indicate that the turf and topsoil forming the eastern end of the mound was derived from an area containing a higher flint density, but there was a suggestion, given the higher densities towards the top of the mound, that at least some of the flint may have been deposited on the eastern end of the mound following and perhaps even during its construction.

The lithics are of similar character to those from the western end, with a substantial blade component, rather larger than those from phase 1, and a range of retouched forms including 25 microliths and, this time, diagnostic early Neolithic artefacts, in the form of two leaf arrowheads, one of them burnt (Table SS1.1). A foliate implement (sf 2597; Ballin SS3.7.6, Fig SS3.39:37) from the surface of the mound bears some resemblance to an early Bronze Age plano-convex knife, although its bifacial retouch could argue against this attribution. Burning and breakage are frequent.

Fragmented, dispersed charcoal was present in the turves from which the mound was built (Macphail SS4.8.2). Sapwood from a macroscopic fragment of oak charcoal from context 2061 has been dated to 3950–3710 cal BC (5035±30 BP; OxA-7940). There was a further visible charcoal fragment in context 2063. Samples from contexts 2061, 2066 and 2068 contained the charred remains of small amounts of lesser celandine, vetch or tare, hazelnut, stinking mayweed, brome grass, onion couch grass, campion, dock, large grass, indeterminate grass, barley, emmer or spelt wheat, free-threshing wheat, indeterminate wheat and indeterminate cereal. The stinking mayweed and free-threshing wheat are likely to be intrusive Saxon or medieval

seeds, which were especially noticeable in context 2066 (Campbell SS4.5.3).

Phase 3.3. Mound refurbishment

At the western end of the mound there was a layer of dark brown loam with a slightly higher gravel content than the remainder of the mound material, on the southern and northern sides of the mound (Fig SS1.17: 5722), extending for at least 6m, between sections S1727 and S1262. This was not a gravel capping, although it may have derived from a refurbishment of the mound surface following slumping of the sides of the mound. There were no finds.

A similar layer (2065) was seen in plan at the eastern end of the mound, recorded for a length of *c* 15.5m, up to 3.0m wide and 0.10m thick. This lay only along the southern side of the mound, and formed the uppermost surviving mound deposit (Fig SS1.18). It consisted of gravel pebbles in a matrix of grey-brown sandy loam and contained some charcoal, including a length of carbonised oak 'plank' (2062), 0.85m long by 0.16m wide and 0.15m thick, dated to 3630–3090 cal BC (4602±72 BP; UB-3313). This layer is interpreted as a dump of loam and gravel, most probably laid as part of a refurbishment to edges of the mound following slumping, but prior to the digging of gully F938 which cut through it. It contained a small amount of struck flint, of similar character to that from the rest of the mound, including a burin (Table SS1.1).

Phase 4 The gully and burnt material

Part of the function of this gully may have been to redefine the mound following the slumping of its sides.

Phase 4.1. The gully

Following the extension of the mound to its full length, a gully (F938) was cut around the perimeter of its upper surface (Figs SS1.7, SS1.13–14). The cutting of this gully post-dated the latest surviving level of mound material, the phase 3.3 deposits (2065, 5722; Figs SS1.17–18). It may originally have fully enclosed the top of the mound. Within the east-central area it was not recorded for two lengths on the north and south sides where the mound had survived to a height of no more than 0.25m (Fig SS1.14). It may not have been present along these lengths, where the original mound is believed to have been particularly low, but even if present it would have been very difficult to recognise because so little of the

mound had survived. At the western end, the gully was located only along the southern side of the mound (Fig SS1.13). Its absence to the north, however, could have resulted from slumping into the adjacent quarry pit.

At the eastern end, the long arms of the gully were not parallel, the distance between them following the variations evident in the width of the mound itself (Fig SS1.14). At the eastern terminal, the long arms were *c* 8.0m apart. To the west, the distance increased steadily to a maximum of *c* 10.0m between *c* 9.0m and *c* 17.0m from the east terminal. To the west of the two interruptions, they were again 8.0m apart. At the eastern end, the long arms turned smoothly and sharply into a concave eastern terminal.

Along the eastern terminal, the gully was from 0.80m to 1.20m wide, and between 0.25m and 0.35m deep. Given the greater height of the mound at the eastern end, the gully bottomed within the mound at a level of *c* 34.20m OD to *c* 43.25m OD. Along the long arms the gully was slightly broader, on average 1.10m to 1.40m wide. The profile was typically steep-sided with a flat to slightly concave bottom. Along the long arms the depth remained at *c* 0.25m to 0.35m, but the bottom level decreased steadily towards the west to around 34.05m OD immediately east of the two breaks in the long arms. To the immediate east and also to the west of these breaks in the long arms, the gully base was either just above or just into the pre-mound subsoil. The changing level of the gully bottom followed the same pattern as the changes in mound height, thus supporting the interpretation that the observed changes in mound height closely reflected its original form.

The southern arm of the gully at the western end of the mound was disturbed by animal burrows and partly by the machine-cut trial trench. Whilst the northern side of the gully was well defined, two possible southern edges were recorded along part of the length, giving widths of either *c* 1.50m or *c* 2.5m (Fig SS1.13). To the west, the gully was *c* 2.0m wide, and 0.25m to 0.30m deep, with its base just into the pre-mound subsoil. The profile was typically moderate to steep-sided with a flat bottom.

Phase 4.2. Gully infill

Throughout the excavated lengths, the gully was filled with dark brown sandy loam, very similar to the mound material itself. There were, however, frequent patchy spreads and mottles of orange-brown to red-orange

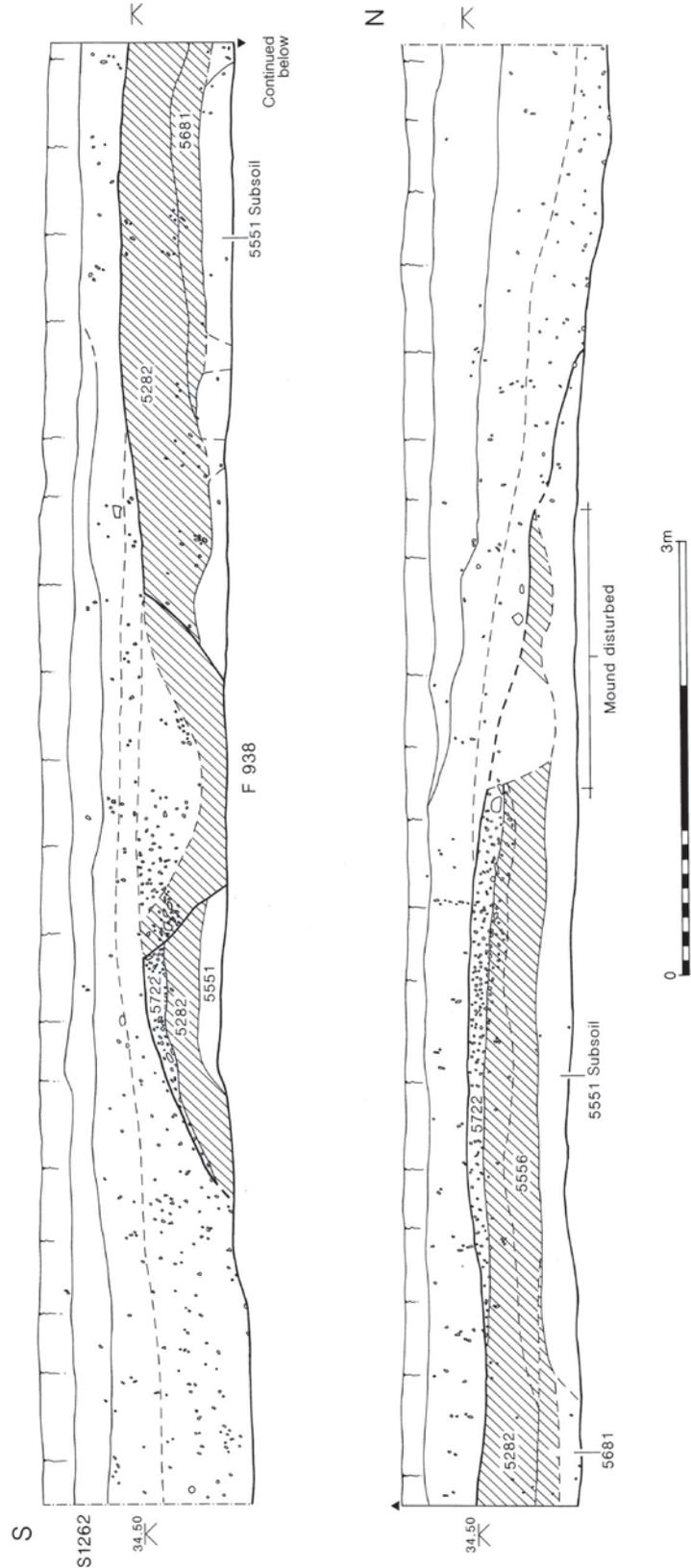
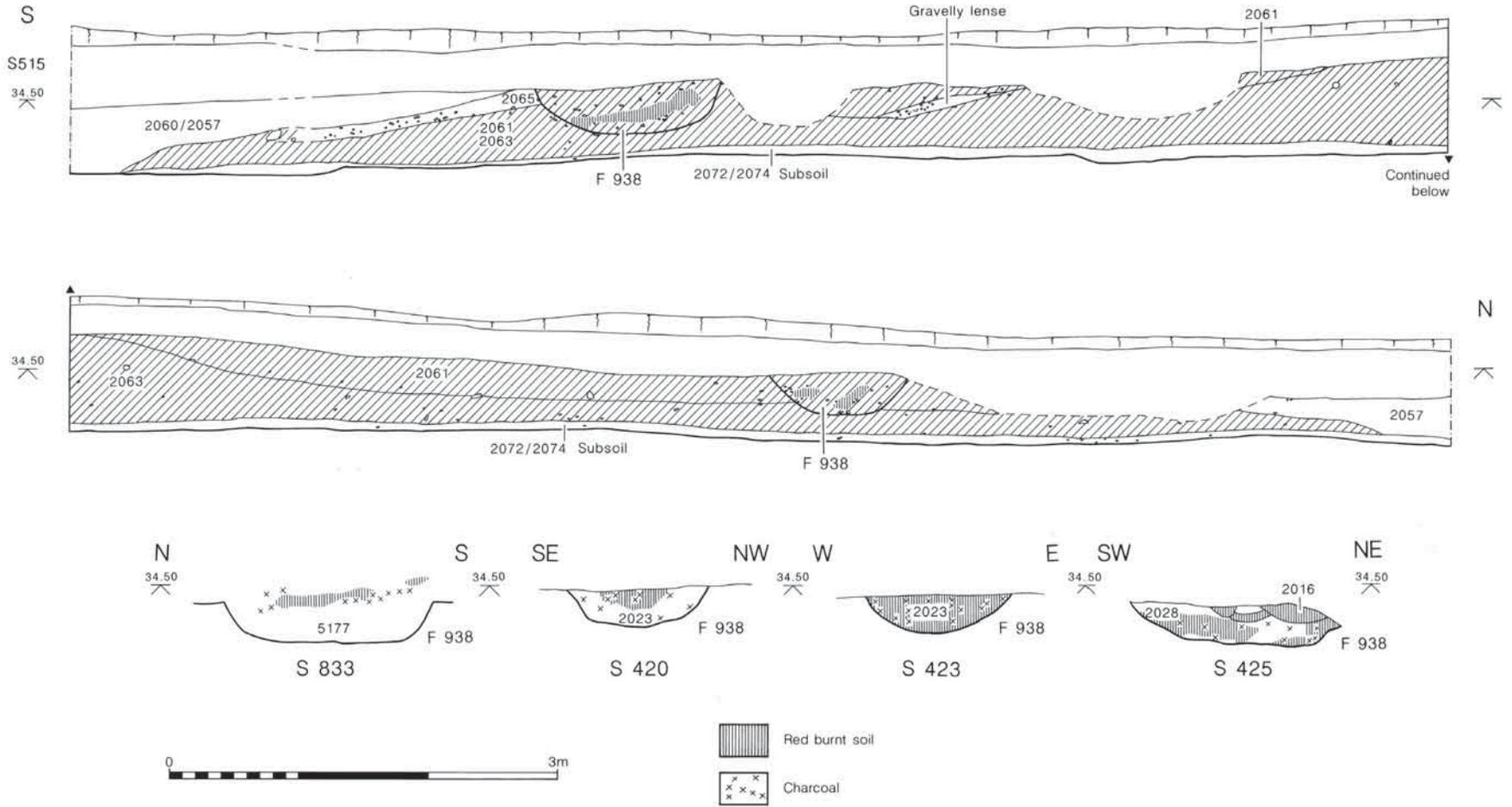


Figure SS1.17
Long Mound. Transverse section through west end.

Figure SS1.18
 Long Mound. Oblique section through east end, and transverse sections of the gully



sandy silt or clay silt, plus blackened sandy loam containing comminuted charcoal and small pieces of charcoal, and with the sparse pebble inclusions also being frequently reddened. Although burnt material was present along all excavated lengths, there were considerable variations in the nature and the quantity of this debris (Fig SS1.18).

There was no positive evidence as to whether the burnt fills of the gully had resulted from the dumping of burnt soil and charcoal, or from *in situ* burning. In no instance did a charcoal deposit overlie burnt soil, which would have been an indication of *in situ* burning. Generally, reddened sand and charcoal were intermixed, although two sections, S833 (Fig SS1.18) and S705, clearly showed reddened soil overlying charcoal deposits. It would seem more likely, therefore, that burnt debris was dumped in the gully, although it is possible that the mixing of the materials may have been caused by later disturbance. At the eastern end burnt debris was often present throughout the depth of the fills, with at least one section (Fig SS1.18: S425) indicating that this actually consisted of a succession of at least three, possibly even four or five separate deposits occurring over the duration of gully-silting. This would suggest that the deposition of this material was occurring intermittently over a considerable time scale, or that unburnt earth was scooped or shovelled up with burnt material, giving rise to alternating layers of burnt and unburnt material.

Further west, the gully appeared to have silted up considerably before the first burnt deposits were introduced. Within the east-central and western areas the burnt debris was mainly concentrated in the upper gully fill, with the lower *c* 0.20m of the fill containing some charcoal, but little or no reddened soil (eg Fig SS1.18: S833, S420). Oak charcoal from the gully fills at the western end of the mound provided a radiocarbon date of 3710–3370 cal BC (4795±71 BP; UB 3417). The greatest quantities of burnt debris were present along the eastern terminal and along the northern and southern arms for *c* 15m west of the terminal (eg Fig SS1.18: S423, S425). Along the northern arm at the eastern end, reddened sand lay against the inner and outer sides and the bottom of the gully, with further patchy spreads of reddened soil with charcoal occurring at higher levels in the fill (contexts 2016, 2028). Along the eastern terminal, reddened soil with charcoal (1088) filled much of the gully, and in places later dumps may have been placed in shallow

hollows cut into the largely silted-up gully (cf Fig SS1.18: S425), suggesting that the dumping of burnt debris occurred over a considerable time span. Along the southern arm, reddened soil was not generally present in the lowermost 0.1m to 0.2m of the fill, although some charcoal occurred at these levels, with the main concentration lying in the upper fills. It is uncertain whether charred stakes in the eastern end, described below, formed part of this fill or were inserted into it.

Finds consisted mainly of struck flint, of similar character to that from the mound, and almost certainly derived from it, since it was concentrated at the eastern end (Table SS1.1). The eight sherds from the gully were all plain body sherds or crumbs in fabrics which could be Neolithic, with the exception of what may be a middle Bronze lid fragment (sf 8859; Tomalin SS3.8.4: P106) from the west end. A sample from context 2023 at the eastern end contained charred remains of chickweed, fat hen, petty spurge, black bindweed, onion couch grass, indeterminate grass and tetraploid wheat (Campbell SS4.5.3).

Phase 4.3 Stakes in the gully

In addition to the general burnt debris, several carbonised stakes lay within the gully fills. Although neither regularly-spaced nor regularly-aligned, most were vertical or nearly vertical. There were four stakes along the eastern terminal (Fig SS1.19: samples 20, 24, 25, 26). These were not measured individually, but were up to *c* 240mm long by *c* 80mm in diameter. The southern two stakes (samples 20 and 24) were set nearly vertically within the gully fill, but did not penetrate through the base of the gully. The other two were inclined at *c* 45° and *c* 60°, but they may have been upright originally. Three of the four lay towards the inner edge of the gully, whilst the fourth was near the centre. A further five stakes were located along a *c* 6.0m length of the northern arm of the gully. Of these, four were set almost vertically within the gully fill and the fifth was lying near-horizontally within the fill. The positions and dimensions of these five stakes were not accurately recorded, but at least three of them lay towards the inner side of the gully. It is possible that other similar stakes may have been present within the gully fills, which were not recognised during excavation.

The fact that most of the stakes were almost vertical suggests that they were driven into the gully fills rather than placed there

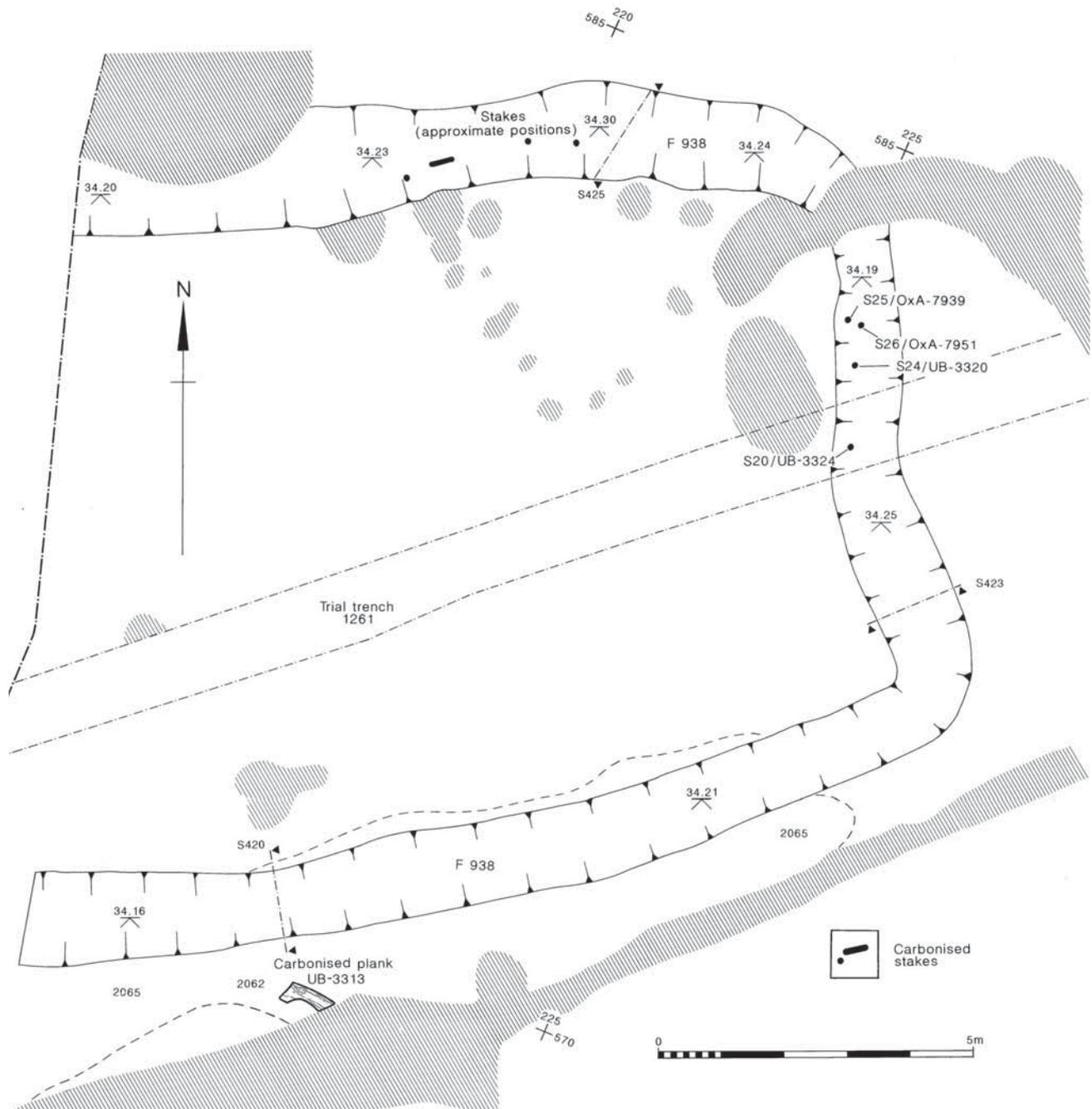


Figure SS1.19
Long Mound.
Plan of east end showing
carbonised plank, gully
and stakes in gully.

with the rest of the burnt debris. They may therefore have been burnt *in situ*, or their tips may have been charred prior to insertion. Too few were recovered to provide convincing evidence for any form of stake-supported façade. Free-standing stakes or slender posts may have been set intermittently in the gully at the eastern end and perhaps burnt there.

Radiocarbon measurements have been made on four stakes within a space of 2m (Fig SS1.19), with disparate results. Single fragments of oak sapwood charcoal from

samples 25 and 26 have been dated to 3980–3770 and 3940–3640 cal BC (5090 ± 45 BP and 4970 ± 50 BP; OxA-7939, -7951). The hazel or alder charcoal of sample 24 has been dated to 3360–2880 cal BC (4417 ± 75 BP; UB-3320), and that from sample 20 to 2560–2140 cal BC (3883 ± 58 BP; UB-3324). These last two dates do not overlap with each other or with the two single entity dates at 2σ . The calibrated ranges of the four measurements span one and a half thousand years. Even if the most recent date

is rejected because of extensive rootlet penetration of the sample (SS6), the three remaining stakes span more than a thousand years.

Phase 4.4 The 'quarry pits'

In the areas to the north and south of the western part of the mound the upper natural geology of gravel in orange brown sandy clay had been cut away, creating hollows which bottomed on the underlying calcareous gravels. As a result the surface of the natural gravel at either side of the mound sloped down to a general level of *c* 33.65m OD to the south and *c* 33.50m OD to the north, appreciably lower than the surface of the subsoil at the western end, which lay between *c* 33.95m OD and *c* 34.00m OD.

The full extent of these features was not established (Figs SS1.7, SS1.13). They were cut to general depths of *c* 0.35m (to the south), and *c* 0.50m (to the north). The southern pit was clearly more than 26.0m long and 7.0m wide, while the northern pit would have been more than 20.0m long and 7.5m wide. The inner edges of both were almost linear, parallel to the sides of the mound and the longitudinal stakehole lines (Figs SS1.7, SS1.13). The inner edge of the northern pit lay *c* 1.80m from the northern stake line, while the inner edge of the southern pit lay *c* 2.5m from the southern stake line. The two pits were set 14.0m apart. Their alignment on the mound means that they must have been cut either during or after its construction. They may have originally approached 80m long, running almost the entire length of the 'primary' mound. No 'quarry pits' flanked the eastern end of the mound, which may support the interpretation of a two-phase construction.

The bulk of the material obtained from these pits would have been a mixture of sandy subsoil and the upper natural of gravel and sandy clay. There were no such materials in the mound – not even in the phase 3.3 layers, which in any case occurred in the east away from the 'quarry pits' as well as in the west beside them. The bulk of the material from the 'quarry pits' cannot have been used for mound construction. If this material was moved the minimum distance, and if it was used to build a part of the monument, then it may have been used to form banks along the outer sides of the 'quarry pits' themselves. This would have changed the appearance of the mound radically. The 'quarry pits' must have been *c* 10m wide and if the material from them were used to form external banks

these may have been *c* 6m wide. The full complex of turf mound flanked by quarries with external banks would have been in total *c* 46m wide. In this configuration, the monument could have measured *c* 78m long by 46m wide, forming a rectangular complex of earthworks. This contrasts markedly with the long, thin mound. Within both pits several smaller features were cut from the bottom of the larger hollows:

The northern 'quarry pit'

Phase 4.4.iN. The lower pits and hollows. There were three large shallow pits (F5257, F5263, F5260) in the bottom of the northern quarry and two small shallow pits (F5266, F5269) at its upper edge. The northern edges of both of the smaller pits were truncated and they would appear, therefore, to have pre-dated the cutting of the quarry pit.

F5266 was a subcircular pit measuring 2.0m east-west by 1.75m north-south and surviving to a maximum depth of 0.11m. It was steep-sided and flat-bottomed. If it had been cut from the level of the subsoil, originally it would have been *c* 0.30m to *c* 0.35m deep. The surviving fill was a red-brown sandy silt, which contained two crumbs of pottery in a shell-tempered Neolithic fabric and a charred fragment of onion couch grass tuber.

F5269 was only partially excavated. It had a diameter of *c* 1.20m and survived to a maximum depth of 0.18m. It was a steep-sided and almost flat-bottomed cut. If cut from subsoil level it would have been *c* 0.40m deep originally. It was filled with mid grey-brown sandy silt including some mottles of darker brown sandy silt, similar to the mound material.

These pits were of similar form and both lay close to the northern edge of the mound (Fig SS1.13), F5266 being immediately adjacent to the pre-mound pit F5488 (Figs SS1.9, SS1.13). It is possible, therefore, that they both pre-dated the mound.

Three large but shallow hollows all lay closely adjacent to each other. There was a low ridge between F5260 and F5257. F5257 and F5263 met at their western and eastern edges respectively (Fig SS1.13), but no relationship between them was established.

F5260 was a broad but shallow subcircular hollow, which continued beyond the limit of excavation to the east, measuring at least 3.70m east-west by 4.00m north-south. It was up to 0.20m deep with respect to the surrounding natural. The hollow was filled with mid grey-brown sandy silt with

occasional charcoal flecks (5260), from which two flint flakes were recovered.

F5257 was subtriangular in shape, measuring 6.5m east-west by *c* 4.5m north-south. It was typically *c* 0.20m deep but with two localised deepenings, cutting *c* 0.08m (5258) and 0.15m below the general bottom of the hollow.

The primary fill was of grey-brown sandy silt, with some gravel and charcoal flecks (5257), containing two flint flakes and a crumb of pottery in a shell-tempered Neolithic fabric. Above this the fill (5255/5256/5259) was similar, but mottled with yellow-brown sandy silt. These upper fills contained 12 plain, shell-tempered Bowl sherds including sf 8230, and nine sherds of Ebbsfleet Ware, including sfs 8119, 8223, 8230, 8231, 8232, 8233, 8234, 8236, 8237 and 8286 (Tomalin SS3.8.4: P32–35, P41–43), and a few flakes and blades.

F5263 was a broad, shallow oval hollow measuring 4.1m by 2.85m north-south and 0.20m deep. There was a deeper cut (5540) within its base measuring 1.30m by 1.00m and 0.15m deep. This was filled with material (5541) indistinguishable from the general fill of the broader hollow pit. Against the northern side of the pit, in a band up to 0.70m wide, the fill (5261/5528) was of mottled dark brown sandy silt with frequent flecks of charcoal and occasional burnt pebbles. The charcoal from this layer was of scrub species (buckthorn, *Prunus* sp and *Pomoideae*), and there were also charred seeds of lesser celandine and cleavers, as well as charred hazelnut shell, a fragment of which was dated to 3650–3370 cal BC (4770±45 BP; OxA-7943), and onion couch grass tuber, a fragment of which was dated to 3650–3370 cal BC (4750±45 BP; OxA-7944). The associated pottery consisted of two sherds of Ebbsfleet Ware (sf 8288, 8289; Tomalin SS3.8.4: P38, P47), and plain body sherds in the same fabric. There were also two flint flakes.

The fill of the rest of F5263 (contexts 5262/5264/5265/5525 and 5529) was of mid grey-brown sandy silt mottled with yellow-brown to red-brown sandy silt. This fill contained a sparse scatter of sherds including two Neolithic Bowl rim fragments (sfs 8339, 8340; Tomalin SS3.8.4: P28, P30) and three Ebbsfleet Ware fragments (sfs 8293, 8296, 8299; Tomalin SS3.8.4: P37, P39, P46). Further plain body sherds included one sherd/0.5g possibly of Beaker. There was also a small amount of fired clay. Struck flint included a chisel arrowhead. Badly preserved

animal bone fragments in context 5262 were almost all teeth, one tentatively identified as cattle, the rest beyond identification. A sample from context 5529 contained the charred remains of hazelnut shell, bedstraw, indeterminate cereal, and indeterminate tuber

Phase 4.4.iiN. The upper fills. F5260, F5257 and F5263 were sealed by the lower fill of the larger quarry pit. This was removed in a series of spits (contexts 5250/5252/5253 and 5254). It was an orange to red-brown or mid brown sandy silt containing some pebbles up to 0.3m thick, which ran up the inner slope of the quarry pit to the level of the pre-mound subsoil and appeared to represent a slow accumulation of silt with little, if any, of the material coming from the slumping of the northern edge of the mound. There was a cluster of Neolithic Bowl (including sf 8130 (Tomalin SS3.8.4: P25) and Ebbsfleet Ware over and beyond the north-western end of the underlying hollow F5263, including sherds of vessels already represented in the underlying hollows (eg sf 8273, sf 8141; Tomalin SS3.8.4: P44, P45), as well as others (eg sfs 8119, 8129, 8288; Tomalin SS3.8.4: P33, P48, P49). The pottery distribution in and around F5263 would suggest that this material had been coming in from the northern side of the hollow rather than from the mound side. A sparse general scatter of pottery through the rest of the hollow included a ?Beaker sherd (sf 8136; Tomalin SS3.8.4: P65) and sherds of a Food Vessel in context 5250 (sfs 7925, 7926, 7870; Tomalin SS3.8.4: P88). Other probably early Bronze Age sherds were also present in the upper spits. There was abundant struck flint, far more than in the underlying pits (Table SS1.1). It was still largely of Mesolithic and/or earlier Neolithic character, including 6 microliths and a leaf arrowhead, and seems most likely to have eroded from the adjacent mound.

The layers above these upper ‘quarry pit’ fills were of very similar appearance, and conclusively post-dated the mound (contexts 5092, 5093, 5099). However, no clear boundary was defined partly due to the removal of all the deposits as arbitrary spits. Due to the arbitrary levels of excavation some pottery in the quarry fills was also allocated to contexts 5092, 5093 and 5099, but this was most likely to result from poor definition of the layer boundaries. There can be no doubt that this material was in fact within the top-most surviving fills of the full ‘quarry pits’. This situation makes it difficult to isolate the significant groups of material.

of a tufa-tempered vessel, probably a pot Beaker (Tomalin SS3.8.4: P64), alongside indeterminate fragments, fired clay and some struck flint (Table SS1.1).

F5531 measured 3.0m by 1.5m and was up to 0.36m deep. The base was convoluted, with circular hollows and a single linear hollow. The fill was of mid to dark brown clay silt with patches of yellow sandy silt. The convoluted profile suggested that this feature was a natural disturbance and it was not fully excavated. It was probably related to 5530 within F5518, which had a similar fill.

It was clear that in part contexts F5518 and 5530 were natural subsoil disturbances, possibly a treehole. The incorporation of some pottery into the fills may have been a result of later animal disturbances. However, the defined northern edge of these features did coincide closely with the northern edge of the southern quarry pit. It is possible, therefore, that these features were partially dug out, perhaps to remove a tree, thus creating a large but shallow hollow area, running from the western end of F5518 to the eastern end of F5531, a length of *c* 9.0m. The final fills of F5518 and 5530 (contexts 5462, 5464) consisted of red to mid-brown sandy silt tending towards grey-brown along the northern edge, adjacent to the mound. These layers contained a dense pottery scatter in which the majority of the sherds were small, certainly smaller on average than those from the northern quarry pit, and many were indeterminate. They included possible Grooved Ware (sfs 9144, 9148; Tomalin SS3.8.4: P57, P59), and grog-tempered early Bronze Age pottery as well as more of the tufa-tempered pot Beaker.

Phase 4.4.iiS. The upper fills.

The general fills of the full 'quarry pit', consisting of an orange-red to mid-brown sandy silt (contexts 5247–5249, 5251) were up to 0.25m in total thickness. No colour or textural differentiations were noted within these layers. They all contained a dense pottery scatter, largely limited to the area of the underlying feature F5518, and dominated by sherds of the tufa-tempered vessel which had occurred from the lowest spits of F5518 upwards. This would suggest that the recut into the lower fills suggested above had been made once some of the upper fills had accumulated.

A greater density of pottery was noted immediately adjacent to the mound. This could be interpreted as indicating that the pottery had been deposited on the mound

and had subsequently eroded out. However, the lack of pottery within both the surviving mound material and the fills of the gully cut into the mound does not support this suggestion. It is more likely therefore that the pottery was deposited directly into the recut. The small size of the sherds, most of which were indeterminate crumbs, may indicate that it was scattered and not buried. The pottery was concentrated in a restricted area, measuring *c* 6m x 3m with a depth range of *c* 0.60m and it is possible that the original scatter may have been more extensive – the pottery surviving within the recut, but being lost beyond it due to later disturbance of the upper fills of the 'quarry pit'. The diagnostic fragments included one possibly of Mildenhall Ware (sf 7786; Tomalin SS3.8.4: P29), more of the tufa-tempered vessel (eg sfs 7660, 7684, 7782; Tomalin SS3.8.4: P64); and grogged early Bronze Age sherds. There was also a fragment of fired clay.

Substantial quantities of struck flint were scattered throughout these layers, far more abundantly than in the underlying hollows. It was mainly of Mesolithic and/or early Neolithic character, but also included an oblique arrowhead (sf 7765). Much of it appeared to have been deposited in the quarry pit whilst it was silting. It is likely to have been eroded from the mound.

The boundary between post-mound levels and quarry fills could not be closely defined, given the similarity of these layers. It should also be noted that some pottery allocated to upper layers that were certainly post-mound layers – 5092, 5093 and 5099 – must have derived from the quarry pit fills. As with the northern quarry pit, this was a product of the poor definition of the layer boundaries.

The relation to the mound of the initial excavation of the 'quarry pits' depends on the date of the mound itself, and is discussed in section 3 below. Whatever the date of the mound, the upper fills of both 'quarry pits' and the recut in the southern one certainly post-date it and form part of early Bronze Age activity in the immediate area, further evidence for which is summarised under 'Phase 5'.

Phase 5. Later activity

The western end of the mound was undisturbed by cut features of Saxon and medieval date. The entire mound and the subsoil beneath it were, however, affected by a complex and sinuous network of disturbances which has been interpreted as a rabbit warren (5281). One burrow in the western end ran

across the top of a pit, destroying its stratigraphic relation to the mound so that it was thought to be a pre-mound feature.

F5484

This feature lay close to F5488, which contained oak charcoal dated to the fifth millennium, and to F5552, which remains undated (Fig SS1.9). It measured 1.75m by 0.80m by 0.30m deep, and was a steep-sided cut rounding into a concave and slightly irregular base. The primary fill (5486) was of red-brown sandy silt free of inclusions. The upper fill (5485) was of brown sandy silt that was heavily discoloured to red and, at the surface, to orange by burning. Four large pieces of carbonised oak up to 170mm long by up to 70mm thick lay above this in an area disturbed by burrowing (Fig SS1.21: 5456/57). The intact charred wood and the discoloured soils probably indicate *in situ* burning, occurring within the shallow subsidence hollow, 0.1m deep, over the main feature fill. Sapwood from each piece of oak has been dated to the mid third millennium, 2620–2340, 2830–2460 and 2660–2350 cal BC (3970±45, 4015±45 and 3995±50 BP; OxA-7942, -7941, -7952). There were no artefacts. The consistent dates show that the fire in the top of the pit was lit after a cut, probably the pit itself, had been made into the tail of the mound.

The mound.

The profile of the mound, as excavated, clearly showed it in its final form, with the outer edges tailing away gradually as a result of slumping and erosion. The sides of the mound were sealed by a soil horizon of red-brown sandy loam with some pebble inclusions. This was a fairly homogeneous layer that survived up to *c* 0.30m thick. The interface between this material and the mound was mixed and indistinct. The post-mound soil horizon contained a flint scatter most probably derived from the material within the mound itself. In all three areas the soil horizon had only survived beyond the limits of the gully cut into the mound, and above this level presumably had been removed by later activity.

The extent of loss from the top of the mound is unknown, but it may have amounted to at least 0.2m. It is believed, however, that the recovered profiles of the mound (Figs SS1.13–14) reflected original variations in height, the loss of material having been relatively consistent along its entire length. It may also be noted that at the western end,

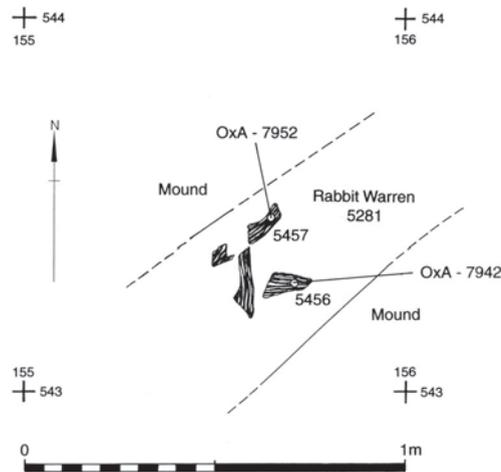


Figure SS1.21
Long Mound.
Burnt wood in F5484.
See Figure SS1.9
for location

which lay beyond the extent of medieval occupation, the modern ground level was slightly higher above the Long Mound, by 0.1m to 0.2m. The mound had therefore survived as a slight earthwork, even though the mound itself lay between 0.5m and 0.75m below ground level.

The post-mound horizon is interpreted as a cultivation soil and it is likely that the area was being ploughed, perhaps intermittently, from at least the Iron Age and certainly up to the late Saxon period. This ploughing would have disturbed the top of the mound, although the sides were probably rapidly sealed and were preserved fairly intact. Late Saxon and medieval activity had probably removed this ploughsoil from the top of the mound, so the upper surface would have been subject to a second stage of disturbance. Pottery from this horizon consisted largely of unclassifiable crumbs. Among them are a few small fragments possibly of Beaker, and certainly of Bronze Age pottery, including sf 6673 (Tomalin SS3.8.4: P107). This, like the pottery in the upper fills of the 'quarry pits' and the recut in the southern one, is likely to reflect contemporary activity on and around the mound. The struck flint is still largely of Mesolithic and/or early Neolithic character, but includes two barb fragments from barbed and tanged arrowheads (sfs 7137, 7136).

Within the quarried westernmost area, a stone-built feature (6037) was observed towards the western end of the mound. It was set directly on the mound, but a relationship to the post-mound soil horizon was not clearly established. It was subcircular in plan, measuring *c* 9m in diameter, formed of large blocks of limestone and ironstone, with particularly large ironstone blocks set towards the outer edges. A few sherds of medieval pottery were recovered from this

area, suggesting that the structure was of late Saxon or medieval date. In addition, the presence of such large blocks of limestone and ironstone would seem unlikely in a pre-historic setting given the rarity of limestone and ironstone in other prehistoric contexts in the area. A possibly related pit (6040), containing small limestone fragments, was observed in the gravel after the cairn and mound had been machined away. The pit, which was partly excavated, was subsquare in plan and more than 0.40m deep. In addition to the limestone fragments, it contained a flint blade and two non-bulbar fragments.

3. Discussion of stratigraphy and phasing

Phase 1

F5488, in which fifth millennium oak seems to have burnt *in situ* (Figs SS1.9–10) is likely to have predated the mound by some time. While most of the struck flint from pre-mound contexts could be Mesolithic, and some certainly was, a leaf arrowhead fragment from an unlocated findspot in the sub-soil at the east end indicates that Neolithic flint-working traditions were current by the time the mound was built. A cluster of struck flint in treehole 2073 and the immediately surrounding area reached a density of *c* 88 per cu m, the highest anywhere in the monument, and is likely to represent a single episode. The third millennium date of F5484, cut into the pre-mound surface close to F5488, is a warning against ascribing a single age to other features identified at this level. While most of the Mesolithic material from this and later phases is of later Mesolithic character, some of the larger obliquely-blunted points are likely to reflect earlier Mesolithic activity (Ballin SS3.7.7).

Phase 2

The stake-supported substructure was far more regular in the western area, where it also included lateral settings, than in the east-central area (Figs SS1.8–9). This prompts differing interpretations for each, although in both cases the stake rows may have supported hurdles or rails. In the western area, the regular layout of the bays and the lateral rows suggests a framework for the earthen mound, like those of some long barrows, as at South Street and Beckhampton Road in Wiltshire (Ashbee *et al* 1979), and of some stone long cairns, such as Hazleton North, Gloucestershire (Saville 1990, fig 46). The

former presence of an axial line, perhaps laid out in turves, is indicated by slight changes in alignment at the centres of the transverse rows (Fig SS1.9). The sharp distinction in section between the dark fills of the better-preserved stakeholes and their matrix (Fig SS1.12) argues against their having been removed before the mound was built.

The far less symmetrical layout of the east-central area, where the mound was slightest, has been interpreted as a free-standing structure, perhaps including a chamber (Fig SS1.11), mounded over only when the east of the end was built. The reconstruction is a tentative one and raises problems. If posts in F5323, F5327, F5417, F5441, F5442 formed part of a single structure with stakes in the stakeholes, then the posts would have to have been removed leaving the stakes standing, since the larger features had none of the dark pipes, often ringed with lighter material, which characterized the stakeholes. Furthermore other, similar features elsewhere in the area are not accommodated in the reconstruction (F5297, F5332, F5339), and the last of these predated the stake rows, since it was penetrated by one of the stakes. Some or all of these features may instead have held freestanding posts. If they did, their shallowness suggests that the posts are unlikely to have stood more than 1m high.

Phases 3 and 4.3

The east end of the mound differed from the west and east-centre in lacking any substructure, surviving to a greater height and incorporating far more struck flint. These distinctions suggest sequential construction, although there is no direct evidence for this, or for the nature of the sequence, if there was one. The division into phases 3.1 and 3.2 follows what seems a plausible interpretation.

The distribution of struck flint within the mound was uneven, horizontally and vertically. The salient features of the distribution are higher densities in upper than in lower levels throughout the length of the monument, and higher densities at the east end than elsewhere (see Appendix). The concentration around F2073 is likely to have been *in situ*. Interpretation of variations within the body of the mound originally tended towards deliberate incorporation as the earthwork was built up, while acknowledging the role of different turf sources and concentration of superficial material by the erosion of the soft, fine matrix of the mound. The lithics themselves, however, are overwhelm-

ingly of Mesolithic and early Neolithic character, even in layers overlying the upper fills of the ‘quarry pits’, which contained early Bronze Age pottery. This suggests a single, common source, and that source is most likely to have been the turves of which the mound was built. The only noteworthy Mesolithic assemblage found in fieldwalking was collected at West Cotton, just up the valley of the Cotton Brook from the excavated monuments (Humble 2006), and earlier occupation of this valley is likely to have generated the material incorporated in the mound. The imbalance in the material from the mound between abundant lithics, scant, badly-preserved crumbs of pottery and animal bone, and microscopically comminuted charcoal gives the impression of settlement material already weathered and degraded when incorporated into the monument.

The date of the mound is established only approximately. The weight of the artefact record is diminished by four considerations: (1) the derived character of almost all of the assemblage means that there was an unknown interval between the discard of the material and its incorporation into the mound; (2) the fine, soft matrix of the mound was highly permeable to burrowing, whether by earthworms, rabbits or moles, to such an extent that charred wheat grains probably of Saxon or medieval varieties penetrated to features beneath it; (3) its surface was disturbed by later cultivation and feature-cutting; (4) *in situ* and eroded mound material were not always clearly distinguishable. For all this, no artefact definitely from the mound or from beneath it need post-date the fourth millennium cal BC (Table SS1.1).

The east end, at least, must postdate a fragment of oak sapwood charcoal incorporated into it and dated to 3950–3710 cal BC (5035±30 BP; OxA-7940), and the whole mound must predate the cutting and filling of the gully. The date of the gully is, however, problematic. The relatively few finds from the gully include a single plain ?lid sherd tempered with calcined flint reminiscent of Deverel-Rimbury fabrics, and dates for stakes apparently driven into the filled gully and burnt there range from the early fourth to the mid third millennium cal BC (Phase 4.3 above). The top of the gully was, however, exposed to all kinds of superficial disturbance.

The combination of charred wood with burnt and unburnt earth suggests that the wood and some of the surface on which it was burnt were piled into the gully, perhaps

with smaller quantities of similar material added to the east end over an extended period. The origin of this material and the circumstances in which it was burnt can only be guessed at. Redeposition from the mound through which the gully was cut is not an option, since there was no burnt earth in the body of the mound, and, with the exception of a couple of fragments, the charcoal in the mound was microscopic. The burnt material might, for example, have derived from a demolished structure, or from an episode of land clearance. The stakes may have been inserted as a part of this process or at intervals after it, perhaps when smaller quantities of burnt material were added to the east end. This would accord with their small number and lack of obvious structural alignment. If they supported a façade or series of façades, it would be necessary to explain why only a few of the supports were burnt *in situ* or why only a few stake tips were charred to such an extent that they survived as charcoal. Burning *in situ* would account for the stakes remaining identifiable as coherent, single pieces of wood. If they did not burn *in situ*, they are likely to have disintegrated during backfilling, unless they were carefully lifted and placed in their final positions soon after combustion, in which case they may have been surviving fragments of longer poles or branches, the rest of which was burnt away.

While the oak charcoal from the west of the gully may have been up to a few hundred years old when burnt, this does not apply to the oak *sapwood* samples from the stakes in the east end, which have produced the earliest dates. Even if they had been protected from decay by forming part of a structure before being burnt, they are unlikely, when they were burnt and buried, to have been many years older than their age when cut. The two early fourth millennium stakes from the gully are thus unlikely to pre-date it.

The two younger dates on hazel or alder stakes might reflect insertion and burning of stakes over a further thousand years, but this seems over long for remembrance of the location of the gully and the persistence of a single practice over gaps of numerous generations. The disparate dates on stakes from the gully are discussed at length in SS6. Possible interpretations may be summarised as follows:

1. The widely divergent whole-stake samples (UB-3320, -3324) may have included some fragments derived from overlying deposits. The AMS results on single sapwood fragments (OxA-7939, -7951) are, following the argument above, reliable, consistent

measurements on *in situ* stakes in the gully or at the very least on young wood cut not many years before. In this case, the construction date for the mound can be estimated as *3940–3780 cal BC at 95% confidence*

2. All the stake samples came from stakes, which were inserted into the gully and burnt there over more than a millennium. In this case, the estimated construction date of the mound, based on the oak sapwood charcoal dates, is unaltered but its use lasted for well over a millennium, until *2500–2190 cal BC at 94% confidence*, the date of the latest stake (UB-3324). If, however, this sample was contaminated by rootlet penetration, then the activity may only have lasted until *3350–2900 cal BC at 95% confidence* (UB-3320).

3. On the premise that a context dates to the latest material recovered from it, UB-3324 dates the gully. This interpretation demands that the measurements on other apparently *in situ* stakes (OxA-7939, -7951, UB-3320) were made on redeposited fragments of charcoal. Part or all of each sample may not have come from the stake itself, and may have derived from the surrounding fill of the gully. In this case, it is possible that the gully was not cut until *2500–2190 cal BC at 94% confidence* (UB-3324), and the construction of the mound could have occurred at any point during the fourth or earlier third millennium. This interpretation calls, however, for a source of already old early Neolithic wood, perhaps preserved by waterlogging, which could have been drawn on, deliberately or accidentally, when the material was burnt and the gully was filled, or, indeed, for an entire burning event, scorched soil and all, preserved by burial, exhumed, and redeployed.

None of these is satisfactory. Economy of hypothesis favours the first.

Phase 4.4

The relation of the linear ‘quarry pits’ to the mound depends on the construction date of the mound. If the first or second chronological option is taken, then they were dug after the mound was built. If the third is taken, they may have been integral to its construction, but this does not account for the absence of sand and gravel from them in the mound itself.

In the northern pit, mid-fourth millennium dates on short-life samples from hollow F5263, dug into the natural deposits in its base, accord with Ebbsfleet Ware (which was absent from the mound), plain Neolithic Bowl, and a small amount of struck flint including a chisel arrowhead. Most of this

material seems to have come from the north, away from the mound. The southern pit was of different form, and partly natural in origin, and probably saw little deposition at this stage, unless an infant cremation in a pit cut into the base of the hollow goes back this far. In the third millennium, a pit was cut almost to the base and sherds of a single pot Beaker were placed in it. It is unclear whether all or a substantial part of the vessel was originally buried, to be dispersed by subsequent activity, or whether its sherds were scattered. The use of both ‘pits’ echoes that of long barrow ditches, including those of the Redlands Farm Long Barrow. They seem to have filled up by gradual silting, during which early Bronze Age sherds entered the upper fills and struck flint, probably from the mound, accumulated in the topmost fills.

Phase 5

Bronze Age material in the upper silts of the ‘quarry pits’ reflects contemporary activity on and around the mound, also seen in pit F5484, which must have been dug through the mound, and scattered, superficial finds.

4 Resource estimates

Phase 2

Frances Healy

If the stakeholes in the pre-mound surface indeed held supports for hurdles and if the structure east of F5290 is taken to have been as irregular as the plan suggests, and the remainder to have consisted of 13 more-or-less regular bays with external revetments (Figs SS18–9, SS1.11), the total length of hurdling would have been of the order of 165m. Experimental hurdle-making, including felling the coppiced poles with which to do the job, has achieved a rate of approximately two hours of work by a team of two for 3m of hurdling (Coles and Darrah 1977). On this basis, hurdles for the substructure of the Long Mound could have been made by two people in 110 hours.

Phase 3.1

The original mound is assumed to have been between 1.00m and 1.25m high, constructed of turves between 0.10m and 0.15m thick. The surface area of the mound was 810 sq m. If a mound 1.00m high were built of turves 0.15m thick, the stack would have been six or seven turves high, and an area of 4,860 sq m to 5,670 sq m (six or seven times the area of the mound) would have to have been stripped, requiring between 2916 and 3402

hours, plus transport. A mound 1.25m high, built of turves 0.10m thick would have been 12 turves high and an area of *c* 10,000 sq m (twelve times the area of the mound) would need to have been stripped, taking 6000 hours, plus transport. An intermediate value would have been a turf stack 8–10 turves high coming from an area of 7000 sq m to 8000 sq m, equating to 4200–4800 hours, plus transportation time. It must be noted, however, that these figures assume that all the bays were filled equally; and also in one season, otherwise some of the upper turves could have been cut from the same areas as the lower sods, after due regeneration of the grass cover, which may have reduced transportation times, and perhaps also turf-cutting time, due to the softer nature of the young shoots forming the vegetational cover.

Phase 3.2

Calculated on the same basis, the dumped deposit on the eastern part of the monument

would have consumed between 4000 sq m and 5000 sq m of turf, equating to 2400–3000 hours, plus transportation time.

Phase 3.3

The extent of this small degree of mound refurbishment cannot be ascertained due to the constraints of excavation

Phase 4.1

The gully cut around the perimeter at the top of the mound was on average 0.36 sq m in section. Due to large stretches of the mound having been removed by later activity, including modern quarrying, it cannot be certain whether the gully extended to the full length of the monument. If it did, then a total length of 240m by a width of 1m may serve as an estimate. This would have equated to *c* 127 hours for two men and a basketer, but this figure should be used for rough guidance only, due to the inherent assumptions caused by the ambiguity of the surviving data.

Appendix

Analysis of flint distributions

As part of the structural analysis a preliminary examination of struck flint distributions has been undertaken in order to examine various possibilities as to the derivation of this substantial body of material.

Approximately 3900 struck flints were recovered from the three excavated lengths of the Long Mound. In addition, over 1000 struck flints were recovered from the post-mound soil horizon and a further *c* 500 flints came from the fills of the two 'quarry pits'. The excavated areas amount to almost exactly a half of the total length of the mound. This would suggest that the material forming the mound could have contained originally perhaps some 8000 flints. This was an exceptionally large quantity of flint to be recovered from a single monument and raises the question of how this material has become incorporated into the turf and topsoil forming the mound. It could be purely residual within the turf and topsoil, having been deposited at an earlier period. However, during excavation it was observed that the upper levels of the mound at the eastern end appeared to be producing particularly high densities of flint. The examination of the distribution of the flint was an obvious means of seeking evidence for non-random distribution which could indicate that the flint or at least a proportion of the flint, was actually deposited during or after mound construction.

The vertical distribution of the flint was examined by plotting the flint positions and

by selecting a series of sample areas where the mound had survived to its greatest height and where there was the least disturbance by later features. In this study the vertical distribution of nearly 1000 flints within the Long Mound was examined. No attempt has been made to produce any quantitative analysis of the horizontal distribution of the flint but the plotting of the flint has served to identify a number of distinct flint clusters. The results obtained show considerable variations in the flint density from area to area and by height above subsoil within single areas.

East end

Flint at the east end was co-ordinated but not levelled, although it was assigned to a spit context with the top surface of the spit and the top surface of the underlying spit being levelled at 1m intervals. To examine the vertical flint distribution it was necessary to estimate the levels by reference to the overlying and underlying level plans. Individual flints were assigned to a 0.05m height above OD range and to a 0.05m height above subsoil range (by reference to subsoil level plans). To do this the difference between overlying and underlying spit levels was halved to give a mid-point. Flints derived from the early stages of spit removal were assumed to have lain slightly higher than the mid-point and those derived from later stages slightly lower than the mid-point. This process inevitably still produced a clumping of flints around the

mean level of each spit. Grouping into 0.10m height ranges for all spits appears to have removed this spurious clumping effect, with the exception of the uppermost level on the grouping by height above OD where the height range 34.55–34.59m OD probably contains too many flints and 34.50–34.54m OD too few.

The vertical flint distribution was examined within a 30 sq m sample area lying within the gully line and designed to include the highest surviving parts of the mound. The analysis of the vertical distribution of the flint would appear to suggest that there was a higher density of flint within the upper levels of the mound. From *c* 0.25m above subsoil the 30 sq m sample area produced on average *c* 73 flints per 0.10m of depth. This would represent *c* 21 flints/cu m of mound. Below *c* 0.25m above subsoil the 30 sq m sample area produced on average *c* 45 flints per 0.10m of depth. This would represent *c* 14 flints/cu m of mound.

This general pattern of flint density for the lower levels of the mound was not respected within an area around the natural feature F2073, a probable tree disturbance hole, here there was a dense flint scatter within the subsoil itself for some 2m–3m around the central area of the natural disturbance. The scatter covered *c* 6.0m east-west and at least 3.0m north-south. This disturbance was partially excavated and produced a further flint scatter down to at least 0.1m

below typical subsoil level (*c.* 34.20m OD). A 10 sq m area of highest flint density around F2073 produced the following numbers of struck flint:

Context 2072	54
Context 2073	30
Context 2074	4
TOTAL	88

The flint scatter in this area, at its most intense, was *c.* 88/cu m, nearly six times the density obtained for both the subsoil and the lowest level of the mound in the main sample area to the north and four times the density for the upper levels of the mound.

The immediately overlying bottom level of the mound, 2069, showed a slightly higher flint density in this area. However, the contrasting densities would suggest that it is more likely that the material attributed to the lowest mound context 2069 was in fact from the surface of the subsoil, 2072, than the reverse. It would appear therefore that there was an act of localised flint deposition prior to mound construction. The flint would appear to have been deposited within an area centred upon a natural disturbance, probably a tree hole. The most likely context would appear to be the deposition of flint either around a standing tree or around and within a hollow created by the removal of a tree. This may pre-date the mound by a considerable margin.

The eastern end of the mound consistently produced the highest flint densities and the results support the idea that the upper levels of the mound contain more flint. It has been suggested, however, that the eastern end of the mound was constructed at a later date. The differences may, therefore, merely reflect this process, with the turf and topsoil forming the eastern end being derived from a different area, at a different time and containing more residual flint as a result of this. However, the possibility that at least a proportion of the flint was deposited during and after mound construction should not be ignored. The process suggested is one in which struck flint was being deliberately scattered across the area following the deposition of each 'layer' of turf and topsoil. In addition, it is suggested that flint was being deposited on the mound surface following its construction, with this surface concentration being blurred by later removal and disturbance of the actual surface and the vertical re-distribution of flint as a result of disturbance and earth worm action. It is equally arguable that concentration in the upper levels may have been a product of the erosion of the mound surface, during which the soft, fine matrix would have washed or blown away leaving an increasing density of flint behind.

The flint at the eastern end appeared to contain a very high proportion of burnt material. It may be noted that a few flint axe fragments, two of them burnt, were recovered from the eastern end of the mound and all of these lay high up in the mound. Given the known deposits of burnt material within the

gully cut into the mound, it may be tentatively suggested that burnt flint was being deposited or scattered across the mound surface.

The other areas of the mound were all characterised by a low flint density in the bottom 0.1m of the mound and much higher densities between 0.1m and 0.3m of vertical height.

East-central area

Flint was co-ordinated and levelled with the exception of the initial cleaning context, 5000, which produced a substantial quantity of flint. This area was divided into two; eastern and western halves. To the east three 5m grid squares were examined, one of which was not a full 25sq m, giving a total sample area of 67.50 sq m. To the west two 5m grid squares were examined, a total area of 50sq m. The area was divided in order to separate the higher mound to the east from the lower mound to the west, with these two areas lying to either side of the anomalous transverse stake lines. The flints from unit 5000 were included in the analysis by assigning them to level and height groups in proportions determined by the level contours of the upper surface of the mound.

It may be significant that the area of bays E-G in the east-central area produced the lowest flint density, only 1 flint/cu m for the bottom 0.1m of the mound. It was this area which may have originally been open, being occupied by a 'forecourt' and at least one 'chamber'.

Context 5291 has been interpreted as a trampled surface within the forecourt area, bay H. Within this surface there was the only example of a discrete deposit of struck flint, 5280. A dispersed scatter of *c.* 70 flints was also present, over an area measuring *c.* 5m east-west by *c.* 2m north-south, around the northern end of the easternmost stake line, F5298. A small sample of 3sq m. of this area was examined and this demonstrated that the majority of this flint scatter was located in the bottom 0.05m of the mound material, layers 5275 and 5278.

A small cluster of *c.* 10 flints was also present at *c.* 1.5m beyond the northern end of the stake line F5410 separating bays E and F. In this instance the scatter lay at a height of around 0.15m above subsoil and within the mound, layer 5273. If their location was deliberately related to the stake line they must have been deposited during mound construction but with the stake line still visible.

Western area

Flint was co-ordinated and levelled with the exception of the initial cleaning contexts over the mound and the cleaning and uppermost levels of the post-mound soil horizon which were co-ordinated but not levelled. All flint were assigned to a spit context relating to either the mound or the post-mound soil horizon, with some of the uppermost contexts taking in exposed surface or mound and the

post-mound soil horizon. The vertical flint distribution was examined within two 5m square areas above bays B-D defined by the 5m internal site grid, to give two 25 sq m sample areas. These were analysed separately, with the results being combined to provide a single large sample area of 50 sq m. Individual flints were assigned to a 0.05m height above OD range and to a 0.05m height above subsoil range.

The westernmost 6m of the western area was excavated in 1989. In this area, bay A, the mound appeared to possess a higher flint density, so a second sample area of 62.5 sq m. was located at this westernmost end.

In the western area there was only a single flint cluster. This consisted of some 15 flints within an area measuring *c.* 0.8m by 0.3m within the basal layer of the mound, 5681. This layer was isolated in excavation as being distinct from the overlying mound material. While it has been interpreted as a mound construction layer, and not as a pre-mound soil horizon, the presence of a localised flint cluster might suggest that the deposition of this primary layer of turf was accompanied by a deliberate act of flint deposition.

These localised flint scatters provide evidence that there were a number of acts of flint deposition, at least some of which were related to various stages in the development of the Long Mound. These deposits appear to consist largely of flakes and blades and were certainly not purely of retouched or 'special' items. They related to a range of features; a tree-hole (possibly a standing tree) and some stake lines, or they lay within layers at the very base of the mound.

Finally, mention should be made of the flint recovered from the 'quarry pits' at the western end of the mound. The analysis of the vertical distribution of this material indicates that the flint density was highest towards the top of the surviving fills and above the level at which the bulk of the pottery was recovered. The flint densities within these fills reached maximums of 8 to 11 flints/cu m, comparable to the densities within the mound itself. As there was little evidence for substantial amounts of mound material being eroded into these 'quarry pits', except within a narrow band immediately adjacent to the mound, it would appear that quantities of flint were being scattered within the 'quarry pit' whilst they were silting, but largely at later dates than for the deposition of the pottery.

Given the large quantities of flint recovered from the 'quarry pits', further sample areas of 40sq m and 49sq m were located over the northern and southern 'quarry pits' respectively. In these instances the flint could only be analysed with respect to levels OD.

While it must be accepted that a proportion and perhaps a large proportion of the flint within the Long Mound was residual, it could also be argued that there was a certain amount of flint deposition occurring at intervals throughout the use of this monument.

SS1.2 The Avenue

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Jon Humble*

Abstract

The Avenue consisted of discontinuous alignments of tree-holes or pits and lengths of ditch. It lay at the southern end of the Stanwick excavations, in a low-lying gravel area to the east of the river Nene. A 55m length of the monument was sampled in 1992 by the Mobile Field Team of the Central Archaeology Service of English Heritage. The south-west terminal was located; the northern terminal had probably been exposed, although not excavated, in the previous year. The sides of the monument were formed by two parallel, discontinuous alignments of ditches and hollows, in which there was much burnt material, at least some of it burnt *in situ*.

1 Location and excavation

The Avenue was centred at SP 97192 71637. It was discovered in 1992 during top-soil stripping in advance of fieldwork designed to recover additional evidence of the second millennium field system, and was excavated by Frances Blore, in consultation with Jon Humble, in the summer of 1992 (Blore 1992). Its components were at first dismissed as treeholes, due to their irregular plans, their fugitive edges and the amount of burnt material in them. Once their true nature and importance became clear, it was possible to extend the excavated area and investigate it more fully (Blore 1992). The features directly underlay ploughsoil, without intervening alluvium.

The sampling strategy involved on-site floatation and sieving (and where possible on-site sorting of sieved residues), so that the strategy could be continually modified as more information became available.

2 The excavated evidence

Phase 0 Natural stratigraphy

Natural stratigraphy in the area of the Avenue consisted of two deposits. Context 87428, a deposit of banded sands and gravel, was overlain by 87429, a 10YR 4/4 yellow-brown loamy sand or silty loam *c* 0.20m deep, which extended over much of the site. All recorded human activity

was stratigraphically later than this upper deposit.

Phase 1 Construction

The Avenue consisted of two rows of approximately parallel negative linear features 60m long and 7–9m apart. There was something of a break between the south-western end, which included four major linear features and was oriented *c* 52° from true north, and the north-east end, which was made up of one major length and approximately 16 smaller features suggestive of shrub-holes and was oriented *c* 56° from true north (Fig SS1.22).

Phase 1.1 The south-western end

Two parallel slightly irregular ditches were cut through natural sand and gravel. The southern ditch (F87575) was 18m long, 0.80m–1.60m wide and 0.35m–0.60m deep. There was a blunted butt at its north-east end; and at the south-west end it was truncated by the Segmented Ditch Circle. The northern ditch (F87651) was 8m long, 0.60m–0.70m wide and 0.15m–0.30m deep, with two rounded butts.

To the south-west of the Segmented Ditch Circle, two shallow ditches with opposed butts formed a terminal. A north-eastern terminal may be represented by features planned but unexcavated in 1991.

Each section through the ditches was given a separate number. They are described from south-west to north-east:

South-western terminal

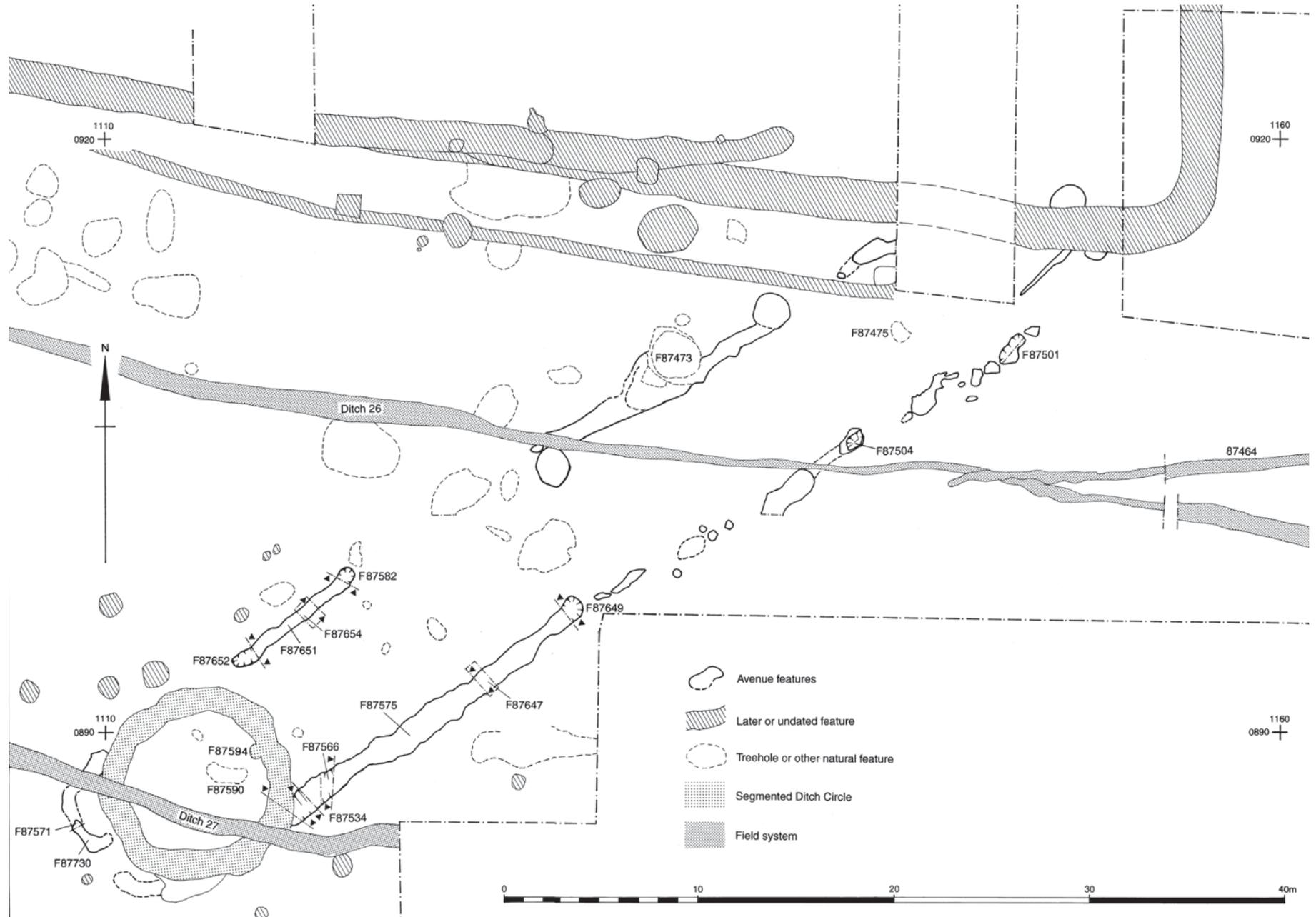
Both ditch butts were in-turned, with a gap 1.30m wide between them. The south-east side was unexcavated. Two sections were cut across the north-west side (F87730), although neither was drawn. In section F87571 the ditch was *c* 1m wide and apparently very ephemeral. In section F87573, across its intersection with Bronze Age ditch F87524, it was recorded only that the box section showed the two ditches cutting.

F87575 (south ditch):

Section F87534. The ditch was 1.35m wide by 0.45m deep. The south side of the cut was angled at 70°, the north at *c* 30°. The base was approximately flat.

Section F87566. The ditch was 2.00m wide by 0.60m deep, or, if over-excavated into natural deposits, 1.20m wide by 0.50m deep. The south side of the cut was of undulating profile, with an average gradient of *c* 50°, the north side was angled at 80°. The base was flat.

Figure SS1.22 Avenue. Plan.



Section F87647. The ditch was 1.15m wide by 0.60m deep. The sides were angled at *c* 50°–60° and the base was rounded.

Section F87649. The north-east butt was *c* 1m wide by 0.36m deep, with a rounded base.

F87651 (north ditch):

Section F87652. The south-west terminal was 0.68m wide by 0.20m deep, with a rounded base.

Section F87654. The ditch was 0.60m wide by 0.15m deep, with sides angled at 40° to the north and 70° to the south; the base of the cut displayed an undulating profile.

Section F87582. The north-east terminal was 0.70m wide by 0.30m deep, the sides were angled at *c* 70° with a scoop-like profile and the base was flat.

Phase 1.2 The north-eastern end

There was a gap of 10m in the northern row of features, but one of only *c* 0.50m in the southern row, at the point where the alignment of the Avenue altered by approximately 4°. At this point too the forms of the constituent hollows became less regular and they became more fragmented, especially in the south row.

The north row

None of the features in the north row was excavated. In plan they were made up of two linear features and one or more possible small negative features. The major linear feature was of irregular outline, but *c* 14m long and 0.80m–2.50m wide. Subcircular bulges within the linear features were planned as ‘T[ree] B[ole]’s.

The south row

The south row was a line of soil discolorations *c* 26m long. Three were excavated and proved to be negative features with the appearance of tree or shrub holes.

F87506 was undescribed and was machined away before it could be planned.

F87501 was an irregular cut, 1.70m long by an average 0.60m wide and 0.23m deep, oriented north-east/south-west; the profile was not recorded.

F87504 was an irregular rectangular cut, 1m long by 0.65m wide, oriented north-east/south-west; the profile was not recorded.

The north-east terminal

Both sides of the Avenue ran up to the northern limit of the 1992 excavation. Beyond that limit, its north-east end is likely to have been formed by features exposed

and planned, but not excavated, in 1991 (Fig SS1.22). The line of the north side is continued by features marked on successive plans as ‘T[ree] B[ole]’ and ‘black pit’. The north-east end seems to have been formed by two undescribed subcircular features both cut by a Romano-British ditch.

The edges of the ditches and hollows were difficult to define, the fills often merging with the surrounding deposits.

Phase 2 The fills

Phase 2.1 The south-western end

The south-west terminal

The fills of both ditches in section F87573 were a dark yellowish brown (10 YR 3/4), friable, slightly plastic silt loam, described as identical with the fills of the Segmented Ditch Circle. The fill of section F87571 was not described. A sample from it contained 31 bone fragments, including 15 from large or medium mammal long bones and two indeterminate mammal bone fragments.

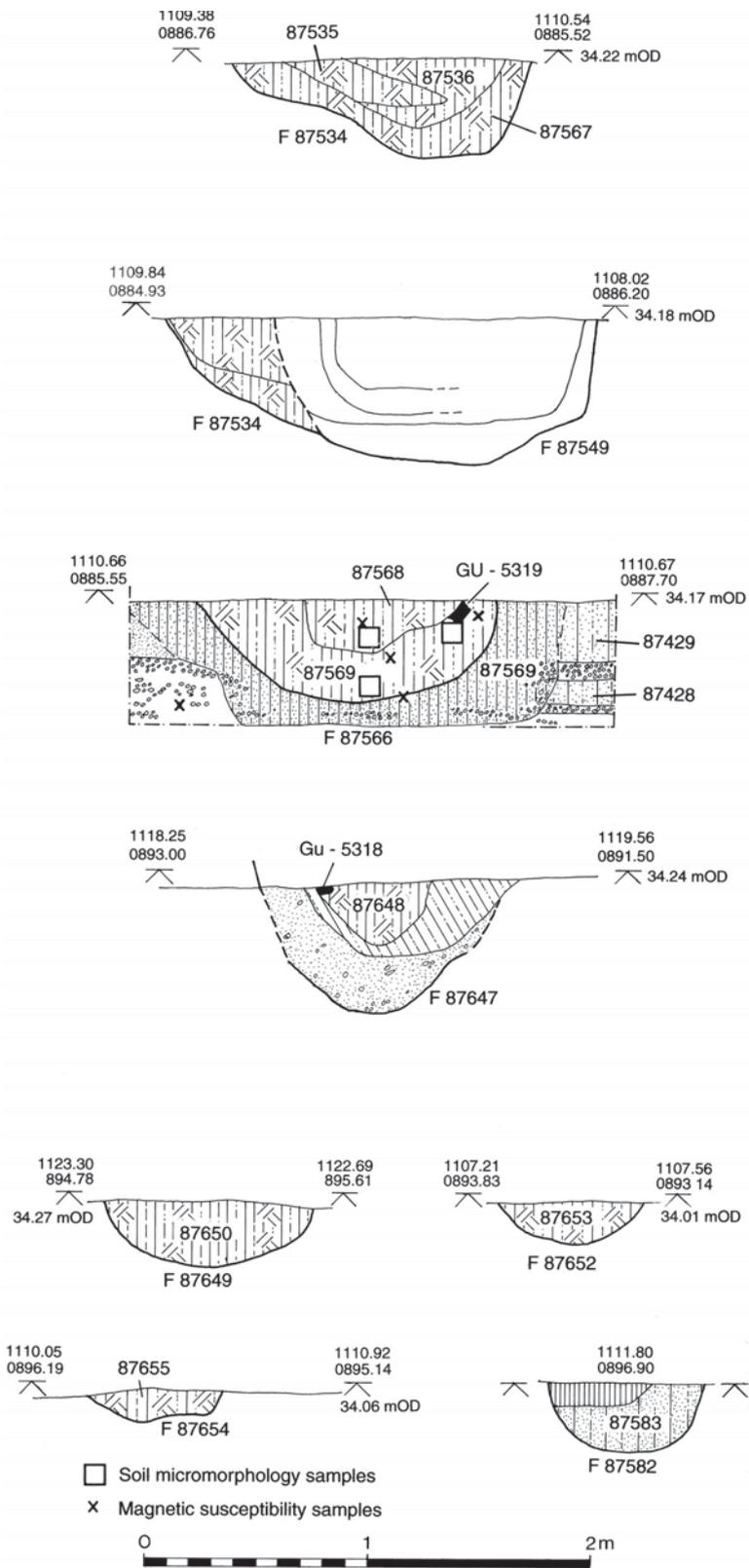
Where the Segmented Ditch Circle cut the Avenue ditches, charred material and burnt earth were far more prevalent on the line of the southern ditch, F87575, than on the line of the northern ditch, F87651 (Fig SS1.22). This suggests that F87575 may have run continuously to the terminal.

F87575

Section F87534. In the north-east face of the section (Fig SS1.23), the basal fill 87567, was a dark yellowish brown (10YR 3/4) silty clay-loam with a 1% pebble content up to 0.15m deep, slightly mixed and with faint blackening. This was overlain by two interleaved deposits. Context 87535 was a mixed fill, made up of black (10YR 2/1) and very dark brown (10YR 2/2) silty clay-loams with 1% small stones and 1% charcoal flecks; it gave the impression of consisting of scorched soil and burnt organic material. Context 87536 was a dark brown (10YR 3/3) silty clay-loam with 2% small stones and <1% charcoal flecks; it was also mixed, but less obviously burnt. In the south-west face of the section, where the ditch was cut by the Segmented Ditch Circle (Fig SS1.23), the two truncated fills were similar to 87536. Contexts 87535 and 87536 are thought to equate with context 87569 in section F87566, 1.50m to the east.

Section F87566. The basal fill of this section (Figs SS1.23–24) was context 87570, a 10YR 4/6 dark yellow-brown loamy sand, with bands of very small stones

Figure SS1.23
Avenue. Sections.



conforming to the gravel bands in the surrounding natural deposits, of which it was probably a disturbed area. The basal fill of the ditch was probably 87569, a mixed dark brown silty clay loam with varying degrees of burning and some blackening, which was virtually identical to 87535 in segment F87534 immediately to the south-west. The top fill was 87568, a red (2.5YR 4/8) silty clay loam mottled with dark brown (10YR 3/3) silty clay loam with 1% small stones and 1% charcoal flecks. Photographs and a sketch plan show that the reddened deposit 87568 was a subcircular patch, cupped by the blackened matrix of 87569 (Fig SS.24). At the interface of the two was a single piece of oak charcoal, c 100mm x 60mm, dated to 4040–3530 cal BC (4990±110 BP; GU-5319; Figs SS1.23–24).

This section was sampled by Richard Macphail (SS4.8.2). The magnetic susceptibility of the burnt and charcoal-rich areas was much enhanced, indicating burning *in situ*. The potential for soil micromorphological analysis was limited because the deposits had been biologically transformed by worm action, cultivation, weathering and other agents, due to the lack of a protective cover of alluvium. Nonetheless, where parts of the fills had resisted biological reworking, the reddened soil of 87568 showed evidence of having previously been worked by small, probably acidophyle, mesofauna, while the charcoal rich layer, because of its increased nutrient content (ash), appeared to have been worked by larger mesofauna. These were probably relict forest soils. Superimposed on these soil features were thick, impure clay infills and coatings, some in worm burrows, which were probably the result of fine ploughsoil washing into the prehistoric soil.

Section F87647. The fill pattern was very similar to that of section F87566 (SS1.23). A silty clay loam fill (87648) was dark brown to black (10YR 2/2) at the bases and sides, especially towards the outer edge, with a bright orange/red (2.5YR 4/6) patch at the centre. At the interface of the two, in an almost identical position to the oak charcoal fragment in section F87648, was a fragment of oak charcoal c 70mm x 60mm, dated to 4040–3710 cal BC (5090±60 BP; GU-5318). A bulk sample (99228) from 87648 was analysed and proved to contain fragments of both fast and slow-growing oak (Campbell SS4.5.3). Charcoal was abundant in samples from several other sections.

Section F87649. The butt was filled by 87650, a very dark brown (10YR 2/2) silty



Figure SS1.24
Avenue.
F87575: west face of box section 87566, showing burning, oak charcoal, and location of magnetic susceptibility and soil micromorphology samples. (Photo English Heritage)

clay-loam with a 1% content of small stones, without any reddening (Figs SS1.23, SS1.25).

F87561

Section F87652. The south-east butt was filled by 87653, a very dark grey-brown (10YR 3/2) silty clay-loam, with 1% small stones (Figs SS1.23, SS1.27).

Section F87654. The central segment was filled by context 87655, a very dark grey-brown (10YR 3/2) silty clay-loam. Also included in this deposit were a <5% pebble content and very occasional flecks of burnt clay and charcoal, but no reddening (Figs SS1.23, SS1.27).

Section F87582 The north-west butt was filled by context 87583, a dark yellowish brown (10YR 4/4 to 4/6) silty sand, with a pebble content of <3%. There was *in situ* burnt clay in the top of the fill (Fig SS1.23).

Phase 2.2 The north-eastern end

F87506 was filled by context 87507, which was not described. It contained a flint flake and a charred plant assemblage made up of lesser celandine, black bindweed, dock, onion couch grass, one grain of emmer or spelt wheat, and two indeterminate wheat glume bases (Campbell SS4.5.3). An onion couch grass tuber is dated to 4330–3990 cal BC (5325±50 BP; OxA-7867).

F87504 was filled by context 87505, a very dark brown (10YR 2/2) sandy clay-loam which contained a single indeterminate bone fragment.

F87501 was filled by context 87502, a very dark brown (10YR 2/2) sandy clay-

loam. It contained eight bone fragments, including a small mammal caudal vertebra, a broken flint bladelet, and charred plant material comprising lesser celandine, vetch or tare, sloe, black bindweed, dock, hazelnut shell, elder, onion couch grass, indeterminate grasses, three grains of emmer or spelt wheat, three grains of indeterminate wheat, five grains of indeterminate cereal, and two fragments of indeterminate glume base or rachis (Campbell SS4.5.3). A hazelnut shell fragment is dated to 3940–3650 cal BC (4979±45 BP; OxA-7868).

None of the features in the north row was excavated.

Phase 3. Internal features(Fig SS1.22)

F87475, towards the north-east end of the enclosed area, had an irregular plan and uneven sides and base, and was interpreted as a treehole. It was filled by a very dark

Figure SS1.25
Avenue.
F87575: section 87649 through north-east butt (Photo English Heritage)



Figure SS1.26
Avenue.
F87651: section 87652
through south-west butt.
(Photo English Heritage)



brown sandy clay loam with 1% very small stones and small, infrequent, areas of burning. The only find was a fragmentary microlith (AOR 91801). At the south-west-end, within the Segmented Ditch Circle, two other features were sectioned. There is no record of the smaller one, which was unnumbered. The larger, F87590, was very shallow and without definite shape and appeared to be a natural hollow. Seven unexcavated features between the Avenue ditches in the 1992 area were all apparently natural.

Figure SS1.27
Avenue.
F87651: north-east face
of box section 87654.
(Photo English Heritage)



Within the apparent north-east end, planned in 1991, a 'black pit or butt end of ditch' was cut by Romano-British ditch F85154, and a slight, gully-like feature was cut by the Romano-British ditch which also cut the probable terminal features.

Phase 4 Later Activity

Two treeholes postdated the north row. The more southerly of them, F87473, contained a Beaker body sherd (Tomalin SS3.8.4: P80). The Segmented Ditch Circle was built on the south-east end of the Avenue (SS1.11), and ditches of the second millennium field system cut across it (SS1.23). There were also isolated Iron Age and Romano-British features (Crosby in prep).

3. Discussion of stratigraphy and phasing

It must be remembered that only a small proportion of the monument was excavated (Fig SS1.22). The paucity of finds, other than charred plant remains and charcoal, seems, however, to have been consistent, especially given the flotation or wet sieving of 410 litres of fill. The minute amount of animal bone (Table SS1.2) consists entirely of tiny fragments recovered during this exercise. Campbell's opinion that some of the hulled wheat from the samples may be intrusive (SS4.5.3) is reinforced by the shallowness of the features and the intense biological reworking documented by Macphail (SS4.8.2).

The same biological re-working may have contributed to difficulty in defining the edges of some features, as may tree or scrub growth. Although most of the components of the Avenue appeared to be treeholes prior to excavation, because of their irregular plans and the amount of burnt material in them, their sections are not consistent with this, tending to display regular stratigraphy rather than the evanescent relationships characteristic of treeholes (Fig SS1.23). Small trees or shrubs may perhaps have been burnt standing, after they had died (or been killed), but they do not seem to have fallen. The monument consisted of rows of ditch segments and hollows of varying size and regularity, not dissimilar to the segments of a causewayed enclosure. The upper fills, and sometimes the entire fills, contained charcoal, charred plant remains and burnt earth. At least some burning took place *in situ*, as evidenced by the patch of fired clay in the north-east butt of F87651 (Fig SS1.23)

Table SS1.2. The Avenue. Summary of finds

Lithics are of flint

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Feature</i>	<i>Context</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Charred material</i>	<i>Soils</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
2.1 Fills of ditches at SW end	SW terminal	87572	31 bone fragments, including 15 from large or medium mammal long bones and 2 indeterminate mammal fragments						
	F87575	87568–9				Charcoal, including single oak fragment, c 100 mm x 60 mm	Enhanced magnetic susceptibility, possibly a relict forest soil	4990±110 (GU-5319)	4040–3530
		87535–6				Charcoal			
		87648				Fast and slow-growing oak charcoal, including single piece c 70 mm x 60 mm		5090±60 (GU-5318)	4040–3710
	F87651	87655	1 indeterminate bone fragment			Charcoal			
2.2 Fills of hollows at NE end	F87506	87507			Flake	Lesser celandine, black bindweed, dock, onion couch grass, 1 grain emmer or spelt wheat, 2 indeterminate wheat glume base fragments		5325±50 (OxA-7867)	4330–3990
	F87504	87505	1 indet. bone fragment						
	F87501	87502	8 bone fragments, including a small mammal caudal vertebra		Broken bladelet	Lesser celandine, vetch or tare, sloe, black bindweed, dock, hazelnut shell, elder, onion couch grass, indeterminate grasses, 3 grains emmer or spelt wheat, 3 grains indeterminate wheat, 5 grains indeterminate cereal, 2 fragments indeterminate glume base or rachis		4979±45 (OxA-7868)	3940–3650
3 Internal features	F87475	87476			Fragmentary microlith				
4 Later activity	F87473	87474		Comb-impressed style 3 Beaker body sherd (MT; P80)		Charcoal			

and, especially, two patches of reddened soil with enhanced magnetic susceptibility, surrounded by blackened material including charcoal, in F87575 (Figs SS1.22–23). These suggest the lighting of individual fires in the partly filled ditch, with high temperatures at the centre of the fires destroying all organic material and reddening the soil, and lower temperatures around the edge producing a halo of blackened earth and charcoal.

Two single pieces of charred oak from comparable positions in these patches yielded statistically consistent dates in the early fourth millennium cal BC; a charred hazelnut shell from the north-east end of the alignment provided a third consistent measurement (Fig SS6.5: GU-5318; GU-5319; OxA-7868). These three measurements provide an estimated date of 3860–3620 cal BC at 92% probability. If the monument was short-lived, this may have been close to the time of its construction. A short life would be consistent with the backfilling implicit in largely homogeneous fills, with little or no trace of the natural silting, although the hollows may have been maintained for an indefinite period before this.

Despite slight differences in form and alignment between the north-east and south-west halves of the Avenue, their common spacing and their contiguity suggest that they were constructed as a whole, as does agreement between the oak charcoal dates from the south-west and the hazelnut date from the north-east. The slight change in alignment may reflect a short hiatus, with the shift in orientation resulting from either incorrect observation of the original bearing, or deliberate relocation to a new axis.

If the monument was indeed short-lived, then fifth millennium dates on a tuber sample from F87506 and two redeposited tuber samples from the main fills of the Segmented Ditch Circle (Fig SS6.6: OxA-7867, –7907, –7958) could reflect vegetation burning in an earlier period. Alternatively, if the fires from which the dated oak charcoal came were lit in the ditch tops at the end of an extended use-life, the tuber samples may point to a fifth millennium origin.

Late fifth millennium onion couch grass tubers indicate that little-grazed grassland was then present in at least some of the surrounding area (Campbell and Robinson 2007), while the early fourth millennium fills of F87575 may have been made up of relict forest soils (Macphail SS4.8.2). There is a hint of patchy, recently initiated clearance.

Cremation F87594, within the Segmented Ditch Circle, was on the midline of the Avenue, but eccentric to the Circle, and may conceivably relate to the earlier rather than the later monument. It is attributed to the Circle because it was recorded as cutting it and because there were two further cremations in the actual segments of the Circle (SS1.11). The intersection was, however, a minimal one, which could have been misread; and a redeposited ninth or eighth millennium hazelnut from the cremation (Fig. SS6.6: OxA-7906) would accord as well with an earlier as with a later date. The location of the Segmented Ditch Circle directly over the south-west end of the Avenue, some 2,000 years after its construction, must mean that the Avenue had remained visible as an eroded, silted earthwork.

4. Resource estimate

Frances Healy

This is even more approximate than those for many of the other monuments, because so little of the Avenue was excavated. The mean depth of those features for which depths were recorded, approximately 0.36m, was taken as the depth of the remaining features. This yields a total volume of 13.82 cu m, or just over twenty hours of work for a team of three, if all of the monument was built at the same time.

SS1.3 The Turf Mound

Andy Chapman, Tony Baker, Dave Windell, Jo Woodiwiss

Abstract

A full understanding of the development of the monument is not possible because much of the evidence was obtained during a watching brief and salvage excavations while the area was being machine stripped prior to gravel extraction. Part of the north-eastern end of the mound was fully excavated and the proposed interpretation is based on the evidence obtained here and on the general outline of the monument's plan-form obtained within the quarry area.

The Turf Mound consisted of a slightly elongated, unditched mound built early in the fourth millennium, onto the southern tail of which a later ditched, subcircular mound was built in the third millennium. Fences

were built, and burnt, in two gullies cut into the original north mound. Both mounds were of turf or turf and topsoil construction.

A probable tree-hollow, containing a flint scatter including two leaf arrowheads, predated the construction of the north mound by an unknown margin. A pit containing a sherd of Grooved Ware or Beaker and a red deer antler underlay the south mound. There was no evidence that this pit had contained an inhumation burial.

A scatter of Beaker sherds on top of the north mound and in a pit cut into it reflect activity perhaps contemporary with the construction of the south mound.

1. Location and excavation

Discovery

The Turf Mound was centred at SP 97475 72368. In 1986 a trial trench (Fig SS1.28: 3119) was cut by machine in the field to the south of West Cotton, to determine whether the Long Enclosure continued a significant distance to the south. Once it was established that the Long Enclosure was absent, the section was recorded and the trench backfilled.

The trench, however, had revealed a layer of dark grey sandy loam (3130), 19.50m wide and between 0.10m and 0.35m thick. This was broken by two V-profiled cuts 10.50m apart. Both were filled with dark grey sandy loam which was similar to the general layer but also contained frequent charcoal flecks and small pieces of charcoal; although no artefacts were recovered. Layer 3130 overlay mottled natural sands and was sealed by up to 1.20m of alluvial clays. At the time it was regarded as a buried soil of unknown date and no further action was proposed.

In 1987 gravel extraction began to the west of West Cotton. By this time the western area of the site had been opened, and the western end of the Long Mound had been located in salvage conditions during machine stripping prior to gravel extraction. When machine stripping began in 1987 a watching brief was maintained within the area of the earlier trial trench. As the extent of the buried soil layer became apparent it was realised that this deposit was likely to be an intact mound of prehistoric date.

Excavation

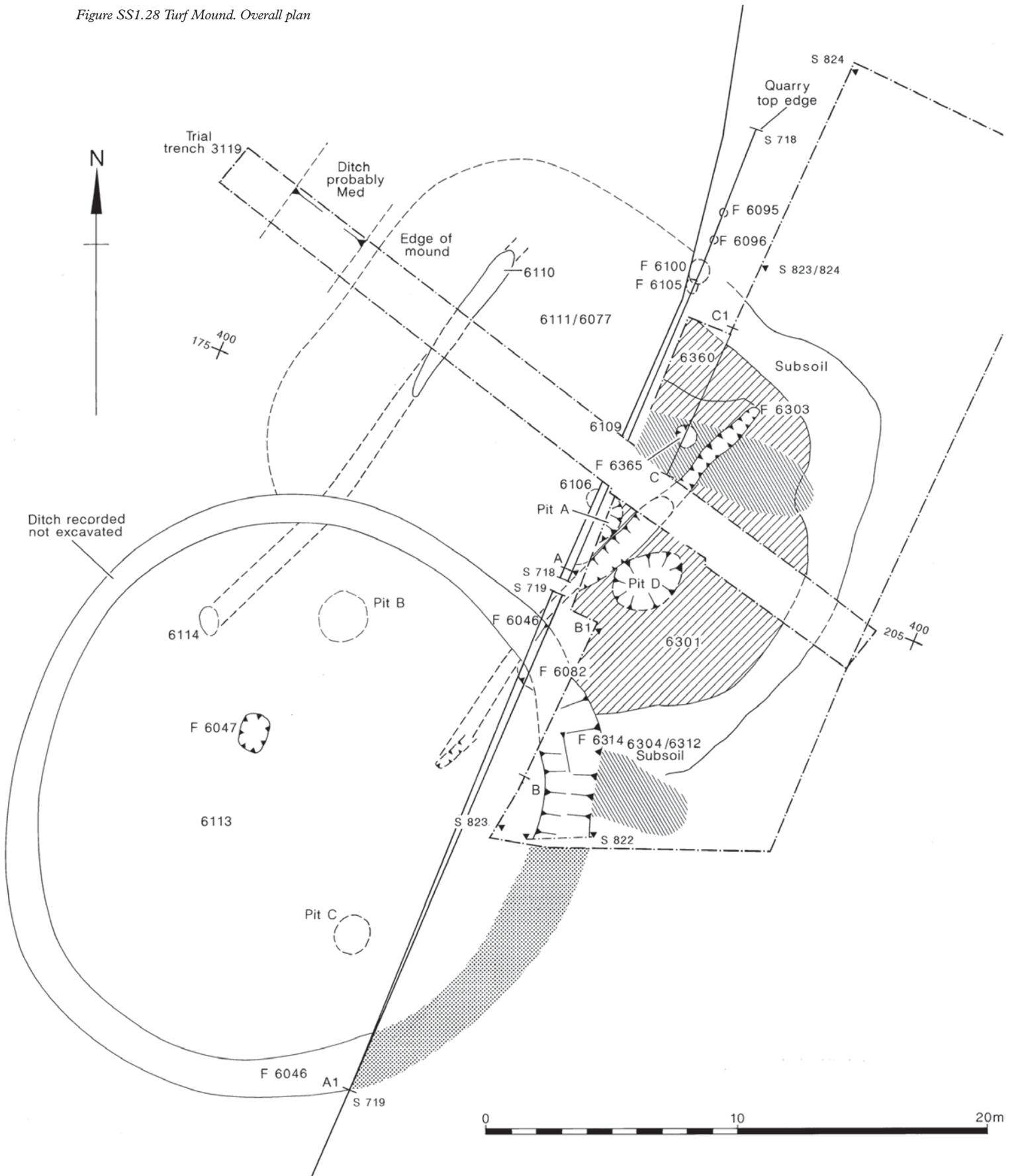
Because the area had been relinquished as of minimal archaeological interest, it was not possible to halt the machining, although the

watching brief was maintained with the prospect of locating burials beneath the mound. The only large feature located was a grave-like pit (Fig SS1.28: F6047), which appeared as a void when the overburden was stripped off. This area was temporarily reserved from further machine disturbance and the feature was fully excavated.

Later in 1987, a roughly rectangular area, 32m north-south by 10m east-west, lying to the immediate east of the quarry edge, was fully excavated. This took in the surviving part of the north-east end of the mound and a short length of the ditch enclosing the southern half of the mound. The upper levels of alluvium were removed by machine and the remainder was removed by hand to fully expose and excavate the mound. Finally, a narrow extension was made along the western side of this area, measuring 12.50m north-south by 1.50m east-west, in order to obtain a further length of the eastern gully cut into the top of the mound (Fig SS1.28).

The major part of this monument was thus recorded in difficult circumstances; it was possible to make observations and measurements only for short periods of time and within the areas of least machine disturbance. The available evidence within the quarry area is therefore clearly incomplete and the nature of some of the features observed must remain unresolved. Much of the general interpretation necessarily depends on extrapolating the evidence obtained in the fully excavated area. This was occupied almost entirely by the north mound, which subsequently proved to be the earlier of two monuments, one built onto the other. Only a very small part of the later south mound was fully excavated (Fig SS1.28). In the fully excavated area the mounds were removed by hand, largely by trowelling. Initially some 5% of the mound material was sieved through a 10mm mesh to recover struck flint. This was abandoned when it was found that virtually no additional material was being recovered. As with the other turf-built mounds, even very small struck flints were easily recognised during normal trowelling. All finds were fully three-dimensionally recorded. Soil samples for flotation and fine sieving were taken at various locations and levels during the removal of the mound. In the quarry edge section a soil column for micromorphology was taken by Dr Richard MacPhail from the approximate centre of the exposed face of the south mound.

Figure SS1.28 Turf Mound. Overall plan



2 The excavated evidence

The earliest and latest phases (1–2 and 4–5) can be identified with reasonable surety. Only a provisional sequence, however, can be suggested for a series of additions and alterations to the north mound (phase 3), although it is this phase which is the best-dated.

Phase 1

Phase 1.1 Natural deposits and features predating the north mound

The sequence of pre-mound deposits appeared almost identical beneath both the phase 2 north mound and the phase 5 south mound, the second of which was sampled by Richard Macphail (SS4.8.2, Fig SS4.39). The natural calcareous gravels lay at a depth of 0.50m to 0.60m below the base of the mound. Above this there was a layer of orange sandy clay with gravel from 0.10m to 0.25m thick (Fig SS1.30: 6088; the Bt horizon described by Macphail). This in turn was sealed by a layer of soft pale yellow sand containing frequent, intermittent lenses of light brown sand (Fig SS1.30: 6086, 6087; the Ah and Eb/B horizon described by Macphail). The apparent consistency of these horizons beneath both mounds would suggest that acidification evidenced beneath the south mound (phase 4.1) had already begun by the time the north mound was built.

Over these sands and sealed by the mound, a possible remnant topmost soil horizon was recognised in a number of places. It was not observed in the quarry face, but was recorded in both plan and section within the fully excavated area. Here the layer was a friable light to medium brown slightly gritty sand up to 100mm thick (Fig SS1.31: 6312). It was present across the whole area sealed by the mound, apart from where it had been disrupted by an extensive natural disturbance (F6310/6311/6313), which is described below. In a band between 1.50m and 3.00m wide around the margins of the mound there was a layer of mixed subsoil and mound material (Fig SS1.33: 6304). This was probably a product of post-mound disturbance, but it still served to provide the best definition of the full extent of the mound.

The nature of the pre-mound soil horizon and the sharply defined boundary between it and the overlying mound material suggested that prior to mound construction the area had been stripped of turf and topsoil. In the absence of soil micromorphological work under this part of the monument it is impossible to be sure of this. Within the soil was a

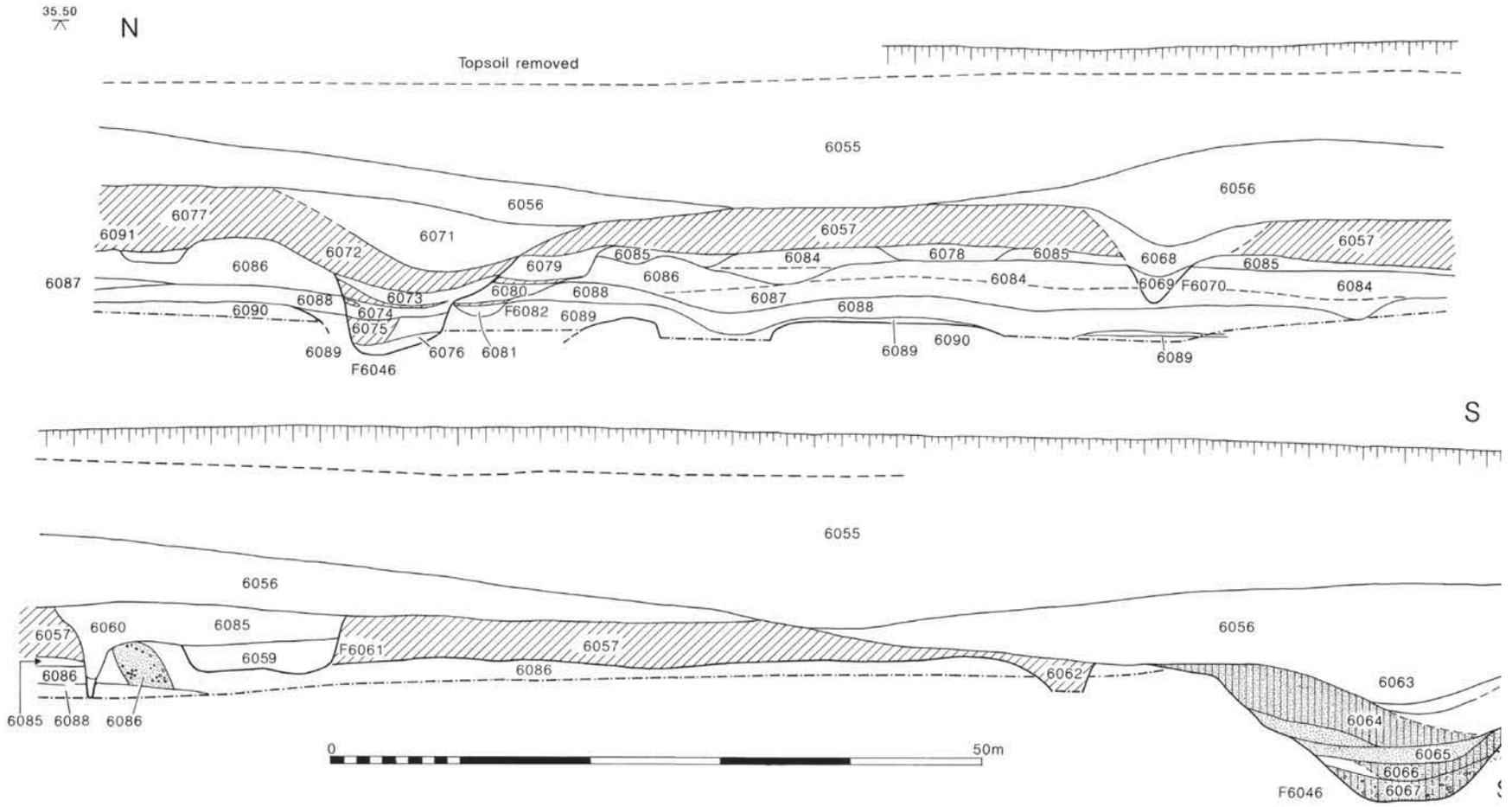


small amount of struck flint, including a microlith (Table SS1.3), perhaps slightly concentrated towards the centre of the mound. A small sherd of eroded comb-impressed Beaker (Tomalin SS3.4.8: P72) was within the area of a probable pit (pit D) cut through the mound into the underlying surface (phase 6).

The pre-mound soil horizon was disrupted by a major disturbance at least 4m square. Initially this appeared as a subrectangular area of dark grey brown sandy loam, (6310) projecting from a subsquare area of similar character, but of slightly lighter colour (6311/6313; Fig SS1.32). The feature was sectioned, confirming the diffuse edges and convoluted boundaries characteristic of a treehole. Whether it represents a tree fall pre-dating the mound construction by some considerable time, or a deliberate felling closely prior to mound construction is unknown. Twenty-two pieces of struck flint, including two leaf arrowheads, were scattered across an area of *c* 4 sq m, with fourteen concentrated in an area of *c* 1 sqm. While the feature was only partially excavated, it was clear that the flint lay within the top 0.10m of the fill, since none were recovered below this in the small area taken down to a greater depth. The flint had therefore collected or been deposited in the hollow over the main fills of this feature. Although the total number is small, the flint density here was considerably higher than for the pre-mound subsoil and the mound itself. If the area had been stripped of its turf and topsoil prior to mound construction, the recovered scatter may have been the chance survival of part of a more extensive topsoil scatter where it lay slightly deeper over the natural feature. Alternatively, they could represent a small but deliberate deposit of flint

*Figure SS1.29
Turf Mound.
Excavation at the
quarry face.
(Photo Northamptonshire
County Council)*

Figure SS1.30 Turf Mound. Section A-A1



within the hollow. A further small, eroded comb-impressed Beaker sherd from 6313 was, like the fragment from 6312, in the probable area of a phase 6 pit D.

A sinuous subsoil feature (Fig SS1.32: 6308) lay to the north of the larger disturbance and this appeared to be a natural subsoil feature.

Phase 1.2 Cut features beneath the north mound

Following the machine removal of the mound within the quarry no features were observed cutting into the underlying sand as

it was being exposed and removed. Despite the difficult circumstance of observing the removal of the sandy subsoil by box scrapers, it is considered unlikely that any larger features ($c > 1$ m) were removed unobserved.

A number of small features of possibly human origin was, however, recorded in the quarry edge section (Fig SS1.28). These were all filled by dark brown to grey-brown sandy loams similar to the overlying mound material, although such material was also characteristic of the natural convolutions and probable tree holes observed here and elsewhere on the site.

Figure SS1.31
Turf Mound.
Sections B-B1, C-C1,
S822.

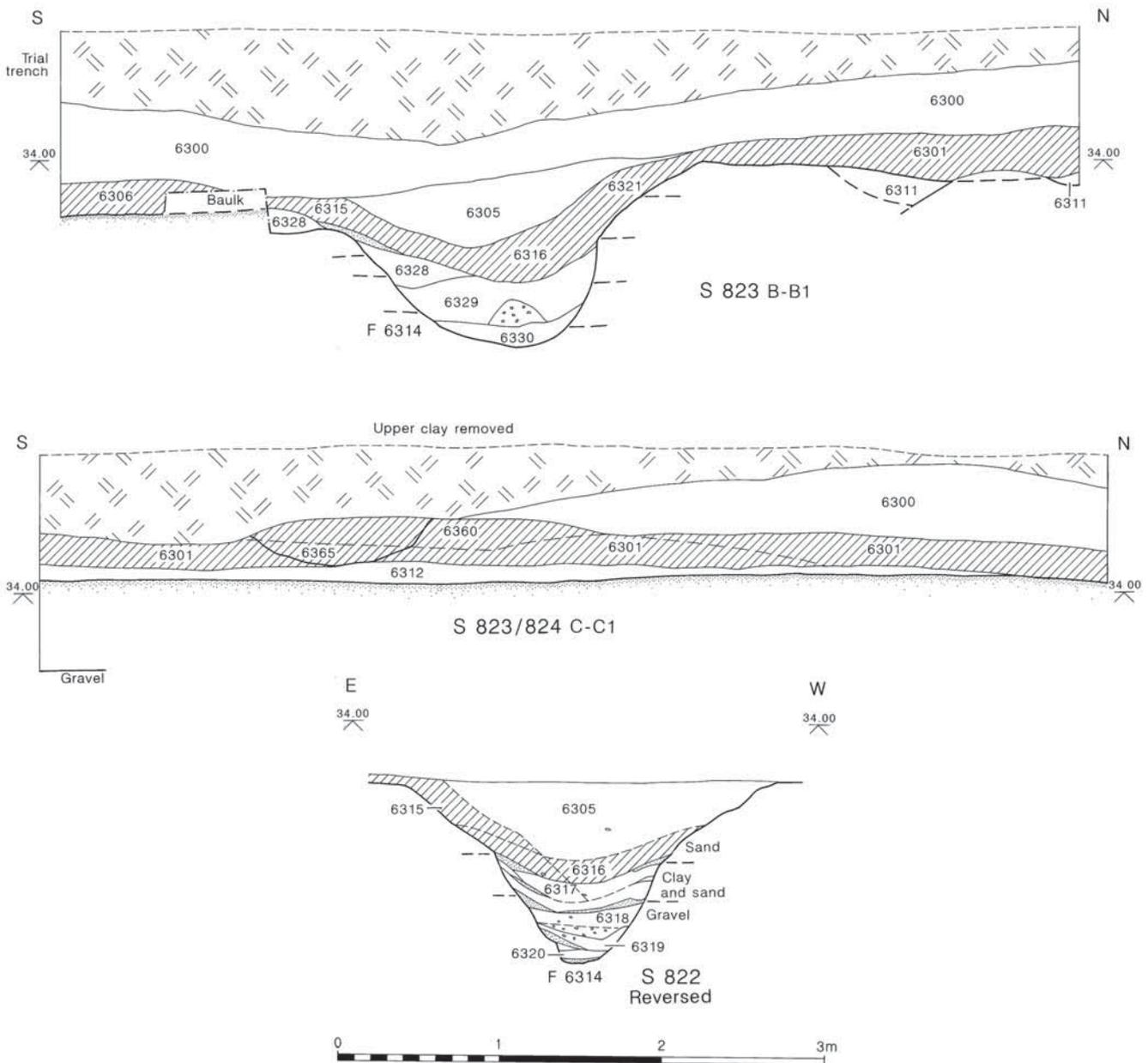


Table SS1.3. Turf Mound. Summary of finds

* = recorded, but unidentified or missing

Lithics are of flint unless otherwise stated

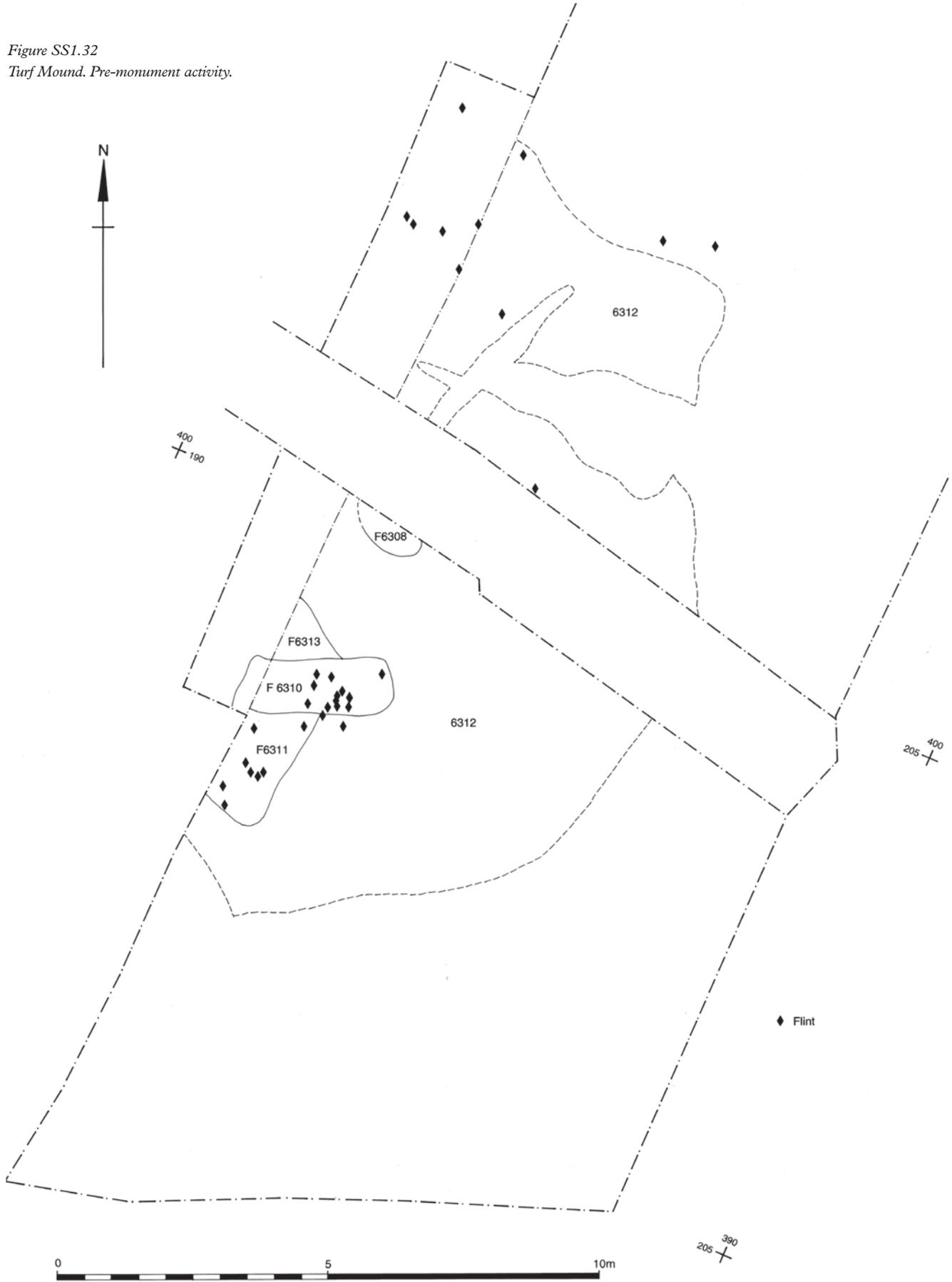
Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

Pit D, a cut through the SE quadrant of the north mound, was identified only from artefact distributions. Material probably from it is distinguished here by the words 'Pit B'.

<i>Phase</i>	<i>Context</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Other artefacts</i>	<i>Charred material</i>	<i>Environmental evidence</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
1.1	Treethrow hole F6310/6311/ 63134		1 sherd Beaker, P72 (G; pit D)	non-bulbar fragments, 13 flakes, 3 blades, 2 leaf arrowheads					
	Pre-mound soil 6312		1 sherd/1g Beaker (-; pit D)	Core, 2 blades, 6 flakes, microlith					
2.1	N mound 6111, 6301		1 sherd/7g ? Neolithic (F) 8 sherds/>13g Beaker, including P70, P74 (G) 4 sherds/8g Beaker, including P69, P72 (G; pit D) 1 sherd/1g Beaker P67 (QS) 3 sherds/2 g Beaker, including P68, P71 (QS; pit D) 1 sherd/4g Beaker (MT) 5 sherds/4.5 Beaker (-) 7 sherds/22g Beaker (-; pit D) 1 sherd/0.5g Beaker (E) 1 sherd/1g Roman (at edge of a medieval plough furrow, and probably introduced by it) 7 sherds/28g (F) 1 sherd/2g (E) 2 sherds/15g (-)	6 cores, 32 flakes, 4 non-bulbar fragments, 18 blades, serrated blade, 4 microliths, 2 scrapers, 2 misc retouched					
2.2	Upper N mound 6360			Blade, flake, non-bulbar fragment					
3.1	W gully					Hazelnut shell fragment			
	Original E gully 6367			Flake					
3.2	Recut of E gully 6302		3 joining sherds/13g ?Neolithic Bowl (QS) 4 crumbs/0.5g Beaker (-); co-ordinates do not fall in gully, and are close to pit D)	2 blades		Hazelnut shell fragment, 2 cleavers seeds, 1 indet cereal grain			
						Charred oak stake <i>c</i> 80mm diameter <i>in situ</i>		4937±56 (UB-3314) on <i>in situ</i> oak stake	3910–3640

				Oak charcoal fragments near stake and possibly derived from it	4873±56 (UB-3317)	3770-3530
				Charred hazel root	5035±35 (OxA-7945)	3950-3700
6361		1 sherd /3 g Beaker (G; pit D)	Core, non-bulbar fragment, flake	Charred hazel root	4975±35 (OxA-7865)	3910-3660
6362		1 crumb/0.5 g Beaker (G; pit D)	Core rejuvenation flake			
4.1	Soil beneath S mound			Microscopic charcoal	Acid argillic sandy soil, with features suggestive of herding. Similar to body of S mound	
4.2	Pit beneath S mound F6047	Red deer antler	1 sherd Grooved Ware or Beaker, P58 (G)	Hazel 'plank' (largely decayed, charred end remaining)	3920±30 (OxA-8017) 3870±30 (OxA-7947)	2470-2290
					on fragments of 'plank'	
5.1	Ditch of S mound		2 sherds/10.5g Beaker (G)	Core, blade, 4 flakes	Charcoal, in 6075 and 6065	
5.2	S mound			Much microscopic charcoal	Turves, with acid, blackish-brown, highly humic sandy loam Ah horizon and patches of leached sandy Eb horizon	
6	Pit B			Charcoal		
7.2	Fills in top of silted ditch 6305, 6071		2 sherds/2.5g Beaker (G)Core, 6 flakes, 2 sherds/10g ?EBA (G) 3 blades, scraper 1 sherd/1 g (MT) 1 sherd (-)			
	post-mound soil horizon 4122, 6300		4 sherds/28g ?Neolithic (F) 1 sherd/2g ?Neolithic (MT) 1 sherd Peterborough Ware, P50 (F) 4 sherds/3.5g Beaker, including P66 and P73 (G) 1 sherd/0.2g Beaker (F) 3 sherds/4.5g Beaker (QS) 2 sherds/9g Beaker (-) 2 sherds/10 g ?EBA, P89 (G?) 2 sherds/1.5 g (F) 1 sherd/1 g (G) 1 sherd/4 g (E)	9 cores, 9 non-bulbar fragments, 62 flakes, 10 blades, 2 core rejuvenation flakes, microburin, 2 scrapers, notch, borer, 5 misc retouched	Relatively short-lived ploughsoil, formed on sandy loam soil and mound material	
7.3	?Saxon posthole F6095		Rim and neck fragment of plain ?Peterborough Ware bowl, P53 (F)			
7.4	Alluvium				Alluvial clay deposited as very wet sediment	
Cleaning	4121, 5087	*		Core, non-bulbar fragment, core rejuvenation flake, 10 flakes, 5 blades, scraper		

Figure SS1.32
Turf Mound. Pre-monument activity.



F6105 was V-profiled, 0.60m in diameter and 0.30m deep, and could have been a small pit or posthole.

F6109 was a steep-sided, flat-bottomed cut 0.15m deep and at least 0.30m in diameter but cut away by the trial trench. The dark brown sandy loam fill contained some charcoal flecks, suggesting that the feature may well have been open at the time of mound construction.

F6106 was a bowl-shaped hollow 0.80m in diameter and 0.28m deep with a grey sandy fill. It lay within an area of natural convolutions with similar fills and could either have formed a part of them or have been a shallow pit.

Phase 2 The north mound

Within the quarry area the removal of the mound (6111, 6113) by box scrapers was observed. The northern edge of the mound was defined within the excavated area (Figs SS1.28, SS1.33). To the east and west the extent of the mound was defined by the limits located in the original trial trench and in the fully excavated area. The mound measured *c* 23.5m from south-east to north-west. On the north-west side it had probably been partially removed by a medieval boundary ditch. If it had been roughly symmetrical about the two gullies then in its eroded form it could have been *c* 27m wide. Its other dimension is more problematic. If the south-west edge recorded in the fully excavated area is projected eastwards it suggests a length of *c* 25m. The constriction of that edge may, however, reflect truncation by the medieval plough furrow which cuts it. If the phase 3.2 gullies were laid out symmetrically to the mound, and if their inferred south-western extent was the true one (see phase 3), then the mound may have been *c* 30m long. It survived to a maximum of 0.50m high between the two gullies.

The mound material was closely comparable to that of the Long Mound and the primary mound of Barrow 6, consisting of a compact, homogeneous, dark grey-brown sandy loam with virtually no inclusions apart from a scattering of charcoal flecks, which appeared to have been derived from a turf or turf and topsoil construction. Nevertheless, no evidence of individual turves was observed, the material being almost completely undifferentiated. Like the other monuments, it was prey to worm action and animal and root disturbance.

There was evidence of two constructional phases (2.1 and 2.2), the upper part of the

mound between the gullies being of a slightly different nature to the lower mound. At this location the bottom 0.10m of the mound was identical to the general appearance of the mound (6301), but the upper 0.20m of material (6360) was a distinctly darker grey and contained more frequent charcoal flecks, including some small pieces of charcoal.

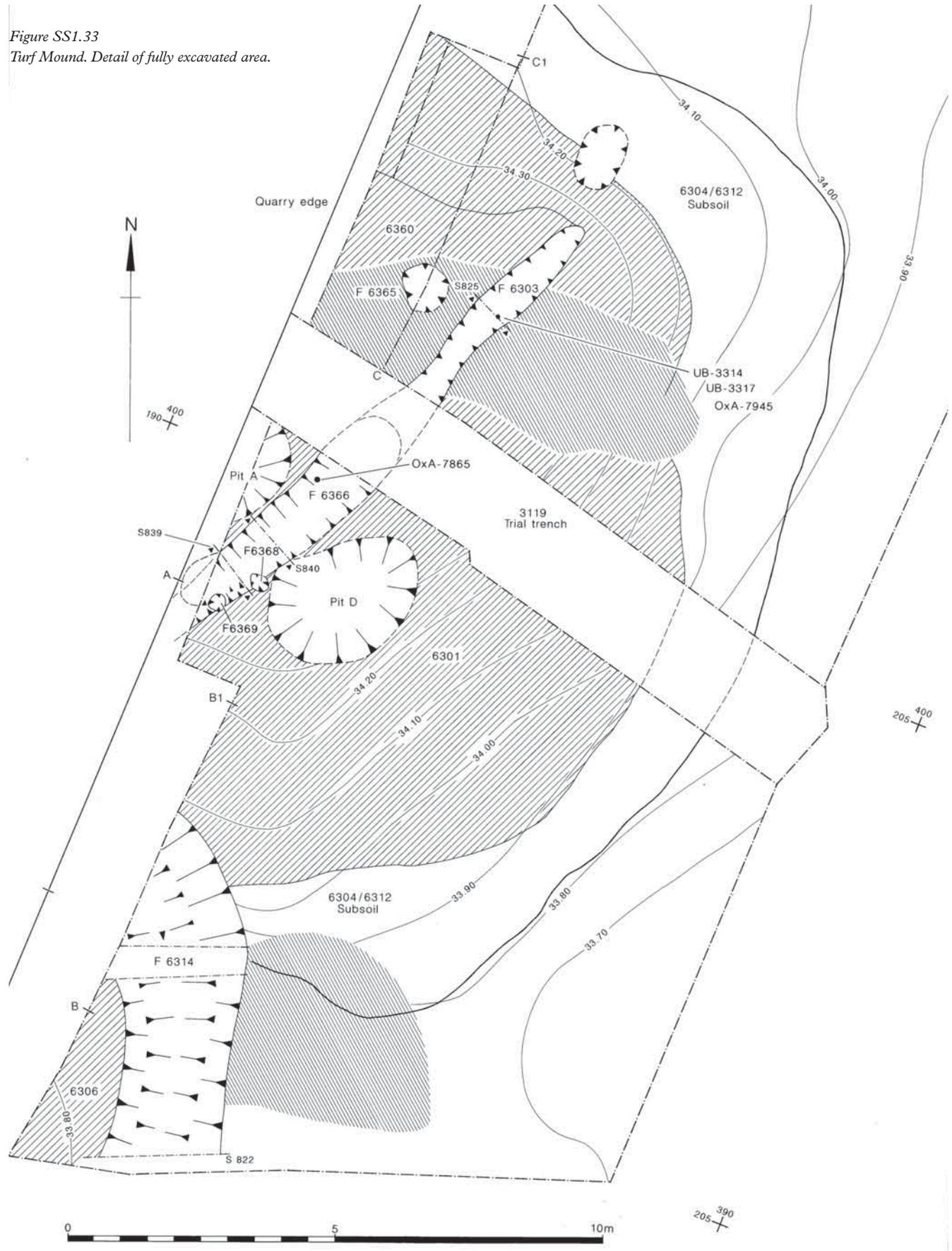
To the north the upper layer (6360) terminated quite abruptly against a low ridge of lower mound material up to 0.2m high (Fig SS1.31: section C–C1), and appeared to be lying within a shallow hollow. It was cut by shallow pits (phase 6 below). Given the small area available for investigation, the full extent of this layer is unknown, but it may be suggested that it probably occupied the area between the gullies and that it relates to a phase of mound refurbishment.

Within the mound there was a sparse flint scatter, including three microliths as well as material of either Mesolithic or earlier Neolithic character (Table SS1.3). The vertical distribution of the flint was analysed by taking two sample areas, one of 25 sq m lying to the south-east of the excavated gully and one of 6 sq m lying north-west of it. Flint from the post-mound soil horizon was included with the flint from the mound for this analysis. This would, on average, increase all values by *c* 20%, with the exception of those from within the smaller sample area.

For the area to the east of the gully the analysis indicates a density of *c* 6 flints/cu m for the bottom 0.1m of mound height and values of *c* 2.3 flints/cu m and *c* 2.9 flints/cu m for 0.10m to 0.19m and 0.20m to 0.29m of mound height respectively. This would appear to indicate a slight concentration of flint within the bottom 0.1m of the mound material. However, as a greater area of the mound survives at this level, it is inevitable that a higher density value is obtained for the lower part of the mound. The small sample size also makes these differences of doubtful significance. At best, it can be suggested that within this part of the mound there was a scatter of some 2 to 6 flints/cu m. This value is considerably lower than the flint densities within the primary mound of Barrow 6 and at the east end of the Long Mound. However, it is comparable to the values obtained for the bottom 0.10m of the Long Mound, apart from at the eastern end. Most, if not all, of this material may be regarded, therefore, as being most probably residual within the turf used for the construction of the mound.

The smaller sample area, to the north-west of the gully, shows a different distribution

Figure SS1.33
Turf Mound. Detail of fully excavated area.



pattern. The bottom 0.10m of the mound within this area produced a total of 16 flints, giving a density of nearly 27 flints/cu m. Given the very small sample size no clear general conclusions may be drawn from this, but it is possible to speculate that the higher flint density in this area may indicate that there was a deliberate concentration of flints within the lower mound levels, but only towards the centre of the mound.

Pottery from the mound consists of small, eroded fragments, all but one Roman sherd coming from an area south of the trial trench and east of the eastern gully. The Roman sherd (sf 6421) was close to the more northerly of the two medieval plough furrows that cut the mound (Fig SS1.33) and may have been introduced by it. Eleven sherds/39g are of indeterminate form but in mainly flint-tempered fabrics compatible with those of Neolithic Bowl from elsewhere in the area (sfs 6307, 6352, 6425, 6429, 6604, 6423). All the Beaker sherds are typologically early, and several may come from a single vessel (Tomalin SS3.4.8: P66–P74). They are even smaller and more abraded than the indeterminate sherds. Three (sfs 6419, 6427, 6428) were close to or coincided with the more southerly of the two medieval plough furrows at its intersection with the ditch of the south mound. Of the remaining Beaker sherds, many of those that were measured-in (sfs 6301, 6304, 6305, 6306, 6308, 6309, 6416, 6418, 6426, 6475, 6603, 7426, 7427) were near the probable location of a retrospectively-defined Beaker period pit (phase 6 below) and may relate to it. It is thus possible that small Beaker sherds from elsewhere in the mound may have been intrusive. This is significant in the light of the dating of the gullies cut into the top of it (phase 3).

Phase 3 The gullies

The two parallel gullies are the most significant of all the features located or suspected, although the recorded evidence for them is extremely variable. Part of the eastern gully was fully excavated, while a comparable length of the western gully was observed in plan and recorded in a single section. The southern extent of both gullies is, however, uncertain, with only intermittent indications that they were present in the area eventually occupied by the south mound.

Phase 3.1 The original gullies

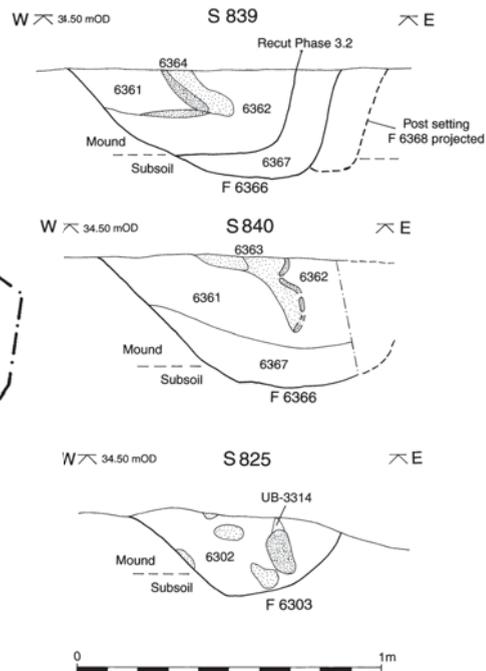
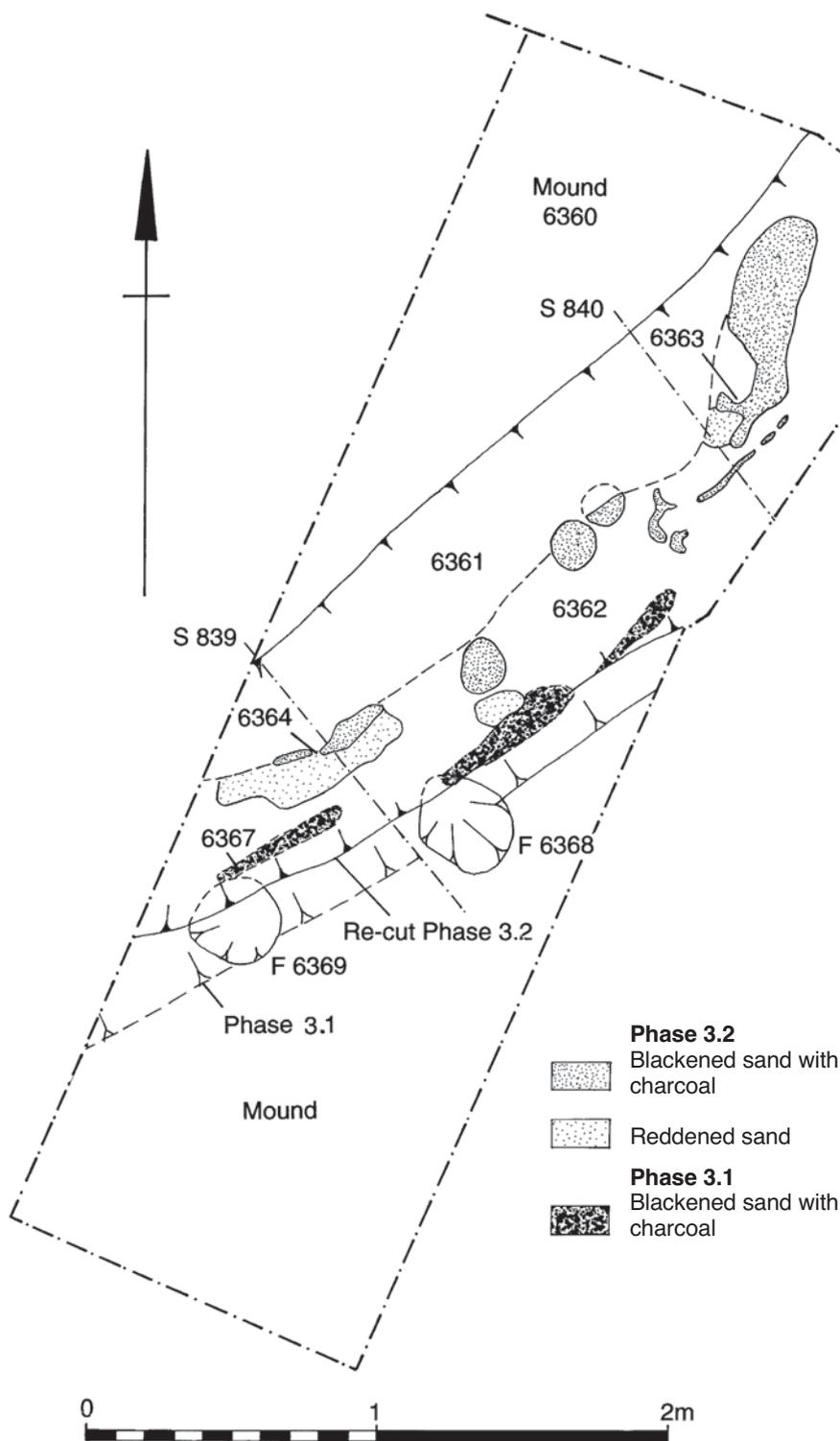
The western gully was recorded in section in the original trial trench and was observed in plan during machine removal of the

mound. The only section was obtained in the original trial trench where it was no more than *c* 1m wide and *c* 0.55m deep. The mound here survived to a height of *c* 0.30m and the feature was cut through it and *c* 0.25m into the underlying deposits. In plan the upper fill was a linear spread extending both to the north and south of the trial trench, with a total extent of *c* 7m (Fig SS1.28: 6110). The fill consisted of dark grey-brown loam, heavily mottled with reddened sand and containing frequent charcoal flecks and numerous small pieces of charcoal as well as a small charred hazelnut shell fragment. As recorded, this feature was very similar in form and fill to the more thoroughly investigated eastern gully. It is therefore assumed in all further analysis that the two gullies may be equated in form and function.

Evidence for a southward continuation of this gully is slight. Given the circumstances this would necessarily be so, especially if the gully to the south contained less of the burnt material which had rendered it visible at the northern end. A faint trace of a ditch line was observed as a discontinuity on the northern edge of the ditch of the south mound. The absence of any observed intrusion into the ditch would suggest that the gully, if present, would have been the earlier feature. This discontinuity lay directly in line with 6110. A further 7m to the south, within the enclosing ditch of the south mound, a 0.60m diameter patch of dark loam containing reddened sand and charcoal was observed during machine removal of the mound (Fig SS1.28: 6114). This material was very similar to the known gully fill and the feature lay *c* 1.0m west of a straight continuation of 6110. On the basis of this evidence, it is suggested that the gully probably did continue to the south, having a total length of at least 19.50m. In plan it would appear to have been slightly bowed towards the east rather than being strictly linear.

The eastern gully was recorded in the section of the original trial trench and was subsequently excavated for lengths of 4.50m to the north of the trial trench and 4m to the south (Fig SS1.33: F6303, F6366). To the south it continued beyond the excavated area and a short length of gully with a similar fill was observed during machine removal of the south mound. The combined evidence indicated a total length of *c* 19.5m (Fig SS1.28). To the south of the trial trench the gully survived to a depth of 0.43m and contained evidence for two successive cuts (Figs SS1.33–34).

Figure SS1.34
Turf Mound. Plan and sections of eastern gully.



The original cut had a steep to near-vertical eastern side, with the western side removed by the recut. It was up to 0.43m deep, cutting through the mound and up to 0.08m into the underlying deposits, and was probably between 0.60m and 0.80m in width, being broader towards the north. The surviving fill (Fig SS1.34: 6367) was a dark grey-brown to dark brown sandy loam with frequent charcoal flecking and some small mottles of reddened sand. It contained a particular concentration of blackened sand with charcoal forming a linear band towards the eastern side of the cut immediately adjacent to the western edges of two post settings; the only artefact was a single flint flake. The northern post socket (Figs SS1.33–34: F6368) was 0.35m deep and up to 0.30m in diameter. At the base the cut had a diameter of 0.15m. The fill was indistinguishable from the general gully fill and the post hole was only recognised where it was cut beyond the eastern side of the gully and through its base. The southern post socket (Figs SS1.33–34: F6369) lay within the gully fill and was recognised as a cone of darker grey loam more heavily charcoal-flecked than the general fill in this area. It was 0.30m deep, 0.30m in diameter at the surface, and 0.20m in diameter at the base.

North of these two posts it proved difficult to locate the gully sides and base, partly due to the presence of an underlying natural

feature. Consequently, the sides were overcut so that evidence for any further posts would have been lost. To the south the surviving eastern side of the original gully appeared to continue southward on a straight line. The gully was not however identified in the drawn section of the quarry face (Fig SS1.30), and may have been missed when the section was originally drawn.

Evidence for a southward continuation of the gully was located beneath the south mound, where, following machine removal of the mound, a short length of gully was located cutting into the underlying soil. To the south, it terminated at a convincing butt end. The feature could be seen running north for more than 1m, but was then lost in machine disturbance. There was a brief opportunity to partially excavate the butt end, which was *c* 0.40m wide and *c* 0.30m deep with a fill of dark grey sandy silt containing frequent charcoal flecks and some reddened sand. The general position and alignment of the feature would indicate that, if it was the southern end of the same gully, then it lay *c* 1.5m east of a straight continuation of the northern part of the gully (Fig SS1.28).

It is believed that the original gully did not appear north of the trial trench (phase 3.2 below) and that it therefore terminated within the trial trench. Accepting these possible northern and southern limits, the original gully would have been *c* 14m long.

Phase 3.2 Recut in the eastern gully

The recut of the eastern gully to the south of the trial trench was 0.30m deep and 0.75m wide to the south, but was probably broader towards the north, perhaps 0.90m in width. It had a U-shaped profile with a steep to near-vertical eastern side and a more gently inclined western edge, at *c* 45°. At the southern limit of excavation the gully appeared to be turning towards the west (Fig SS1.33). In general the fill (Fig SS1.34: 6361, 6362) was a medium brown to grey-brown sandy loam with charcoal flecking. There was, however, a central linear division within the fill evident in both plan and section. In plan, the fill along the western half of the gully (6361) was generally lighter in colour and contained less charcoal and little reddened sand. A central sinuous division separated this from the fills to the east. This division was defined to the south by linear or roughly circular patches of blackened sand with charcoal. To the east, patches of reddened sand lay immediately against the blackened sand. To the north an irregular patch of blackened sand

lay to the west of a thin linear spread of blackened sand with charcoal.

In section these deposits continued downwards for 0.15m to 0.25 m, forming a near-vertical division of the fills, but with contorted and sinuous boundaries. The blackened sand and charcoal, where best-preserved, was a thin and sharply defined band, 20mm to 40mm thick. The reddened sand, which lay against the east and west side of the charcoal band, was generally thicker, at 50mm or more. These central burnt deposits tended to merge into the fill of the eastern half of the gully (6362) which contained more charcoal than 6361 and was generally tinged red. Much of the charcoal, while in small pieces only 10mm to 20mm long, clearly had its grain aligned along the length of the feature. Charred hazel root from 6361 is dated to 3910–3660 cal BC (4975±35 BP; OxA-7865). Single, small eroded Beaker sherds from 6361 and 6362 were both found near the edge of pit D (phase 6 below) and are likely to relate to it.

The 4.5m length of gully to the north of the trial trench (Fig SS1.33: F6303) was up to 0.70m wide and 0.39m deep, although generally it was shallower, being partly cut away by a medieval furrow. The gully cut down through the surviving mound and from 0.10m to 0.15m into the underlying deposits. Even though a northern terminal was not located, the rapid shallowing of the gully at its surviving northern end indicated that originally it had continued for perhaps only another *c* 0.50m. The gully was filled with dark grey-brown to near black sandy loam (6302) similar to but generally slightly darker than the mound itself. There were scattered patches of reddened loam and reddened sand occurring as blocks or mottles up to 200mm square and *c* 50mm thick, in addition to a general scatter of charcoal, with concentrations frequently present immediately against the blocks of reddened sand. The fill also contained a single large block of carbonised oak, which appeared to be part of a small post set near vertically within the fill. It was 80mm in diameter and is well preserved to a height of 150mm. Above this it was poorly preserved for a further 50mm (Fig SS1.34: S825). The stake is dated to 3910–3640 cal BC (4937±56 BP; UB-3314) and charred oak fragments from nearby, probably from the same stake, to 3770–3530 cal BC (4873±56 BP; UB-3317). Charred hazel root from nearby is dated to 3950–3700 cal BC (5035±35 BP; OxA-7945). All three samples were from 6302, as were

3 joining sherds/13g in a quartz sand-tempered fabric, possibly of Neolithic Bowl. Four crumbs/0.5g in a Beaker fabric (sf 6430) are recorded as from 6302, but have co-ordinates which place them outside the gully and close to pit D.

The cut at this point had a U-shaped profile with the western side sloping at *c* 45°, while the eastern side was slightly steeper at *c* 60°. This northern length of gully showed no indication of having been recut. Its fills were most closely similar to the recut gully to the south. It is suggested, therefore, that this northernmost length of gully can be equated with the recut to the south, with the original gully having either terminated within the area destroyed by the trial trench or having been totally removed by the recut. As the original cut was consistently the deeper of the two to the south, the former interpretation is preferred.

Phase 4 Deposits and activity predating the south mound

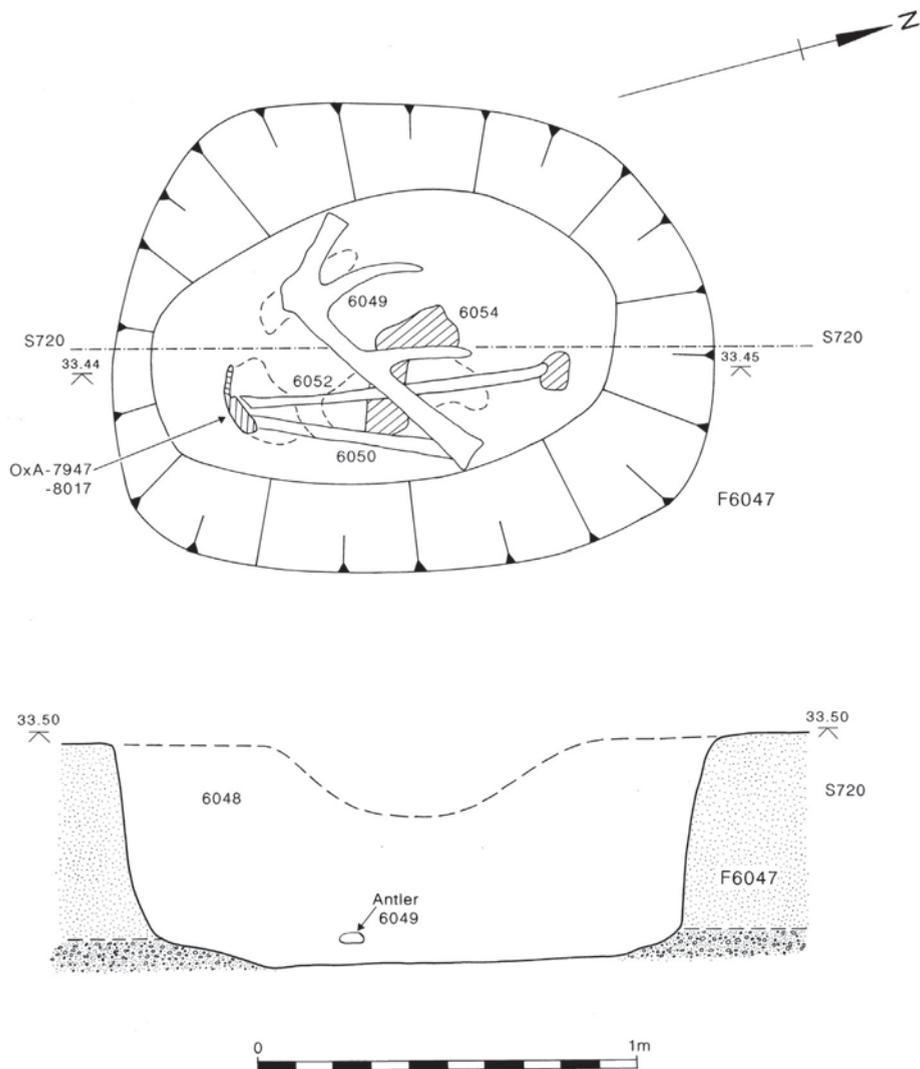
Phase 4.1 Natural deposits and features

The natural deposits underlying the south mound were the same as those underlying the north (phase 1.1). Immediately below the base of the mound in part of the quarry edge section was a layer of light brown stone-free sand, 50mm to 100mm thick (Fig SS1.30: 6085), which was not observed under the north mound, and which was the surface of an acid argillic sandy soil with features suggestive of herding (Macphail, SS4.8.2).

Phase 4.2 Features below the south mound

F6047. A single large pit may have been the primary feature beneath the south mound (Figs SS1.35–36). It was recognised as a void immediately following the removal of

Figure SS1.35
Turf Mound.
F6047.



the last of the overlying mound material, which may imply that the fills had slumped following the decay of organic contents. It was subrectangular and measured 1.55m north-south by 1.22m east-west, with a surviving depth of 0.60m (some 0.10m may have been lost during machining). The sides were near-vertical but shelved slightly more towards the base, which was flat to slightly concave and of oval plan. It was cut through 0.50m of sand and up to 0.10m into the underlying gravel. At the base of the pit there was a sharply defined linear soil mark of grey-brown sand (Fig SS1.35: 6052). This was 800mm long from 40mm to 60mm wide and no more than 10mm thick. At its northern end there was a small patch of dark grey-brown staining while at its southern end there was a rectangular patch of hazel charcoal (Fig SS1.35: 6053), the surviving grain of which indicated that it was a single, rectangular piece of carbonised wood measuring 105mm by 45mm and less than 5mm thick. Two samples of the charcoal have been dated to 2470–2290 cal BC (weighted mean of 3920 ± 30 and 3870 ± 30 BP; OxA-8017 and -7947). The charcoal appeared to be related to an oval soil stain, grey in colour and with a greasy texture, that directly overlay the charcoal and the southern end of the linear stain. The charcoal had originally been observed as a thin band along the southern edge of the oval stain which measured 250mm by 160mm. At this level the remainder of the basal pit fill (6051) consisted of a complex pattern of mottled soils varying from grey greasy staining, similar to the oval area, through brown and grey-brown sands to the dark grey sandy loam of the general pit fill. It is possible that the grey greasy staining represented the body stain of a decayed inhumation, with the oval area towards the south perhaps being a skull stain. It does seem likely that the staining had resulted from the decay of organic matter, but the absence of tooth fragments and the survival of the overlying antler suggest that if there were organic materials present they probably did not include bone.

At a slightly higher level there was a second linear soil mark (6050) towards the eastern side of the pit, associated with a sherd of Grooved Ware or Beaker (Tomalin SS3.4.8: P58). The soil mark was at least 500mm long and 60mm to 80mm wide. It was slightly lighter grey than the general pit fill with a fibrous texture running the length of the stain, perhaps suggesting that it had been caused by the decay of a length of wood. As



with the lower linear soil mark, its southern end ran to the rectangular fragment of carbonised wood. The best interpretation that can be offered for the two linear soil marks is that they represent stains surviving after the decay of two lengths of wood from 40mm to 80mm in diameter, which may have overlain or been attached to a further piece of wood of which only the carbonised surface had survived. These were clearly closely associated with the patchy grey staining.

Immediately above these basal fills and deposits, and some 50mm above the floor of the cut, there was a poorly-preserved red deer antler (Figs SS1.35: 6049). Most of the antler survived in very soft condition, and the upper 0.25m of the shaft was present only as a grey-brown soil stain. It fragmented on lifting. The larger pieces were submitted for radiocarbon dating but failed to produce a date. The antler survived sufficiently well for a basic description to be provided. It was a shed antler from the right side with the lower three tines (brow, bez and trez) surviving. The only indication of any working was the absence, presumably the removal, of the crown tines. This left a total beam length of 0.65m. The presence of the third or trez tine would suggest that the antler had not been utilised as a pick or rake.

The pit fill above the antler was a homogeneous dark grey sandy loam (6048), with mottles or lenses of clean yellow sand present towards the cut sides. At the surface of the fills there was a substantial void of up to *c* 0.70m diameter and *c* 0.20m deep.

F6082 was seen only in the quarry edge section. It lay on the southern side of the ditch surrounding the south mound and was partly cut away by the ditch (Figs SS1.28, SS1.30). It had a V-shaped profile, the surviving southern side being heavily eroded.

*Figure SS1.36
Turf Mound.
Red deer antler exposed
near the base of F6047.
(Photo Northamptonshire
County Council)*

It was 0.55m deep and had a surviving length of 1.20m. While the plan is unknown, it is most likely to have been a pit *c* 2m in diameter with a conical profile. The pit fill was a light to medium brown sandy loam, but at 0.10m and 0.30m above the base of the cut there were continuous thin spreads, 20mm to 40mm thick, of dark grey sandy loam. The fills were sealed by the mound, which dipped down slightly to fill a subsidence hollow in the final pit fill. The pit fills and the eroded profile indicate that the pit was left open to silt naturally. The thin spreads of dark loams might suggest, however, two episodes of deliberate soil deposition and, perhaps, the laying of turves over the existing fills.

Phase 5 The south mound and ditch

Phase 5.1 The ditch

Only a 5m length of this ditch was excavated (Fig SS1.33: F6314), although an accurate and near-complete plan (Fig SS1.28: F6046) was compiled during and after the machine stripping in the quarry area. During machine stripping tacheometric measurements were taken to the inner and outer edges at frequent intervals. Following the machine stripping, the base of the cut survived in the gravel and further measurements were taken.

In plan the ditch circuit was slightly ovoid, measuring, centre to centre, 23m north-east to south-west by 21m north-west to south-east. The northern end followed a closely circular plan, while the southern end was elongated and formed the oval. Within the limits of accuracy of the recorded plan, the shape was quite regular and its axis of symmetry would lie between azimuths of 35° and 38° with respect to OS north. This is similar to the alignment of the gullies on the Turf Mound immediately to the north. While the difference in ditch circuit diameters amounts to only 2m, the close coincidence of the axis with this other element of the structure suggests that the plan shape and its alignment were deliberate, and not merely accidental products of a plan that was only roughly circular.

A 5m length of the ditch was excavated on the north-eastern side and sections of the ditch at the north-east and south-east were recorded in the quarry edge. These showed this eastern side of the ditch to have been between 0.90m and 1.15m deep from the surviving surface of the pre-mound soil. It was between 1.30m and 1.40m deep from the surviving surfaces of the mound adjacent to the ditch. While the depths lie within a

fairly narrow range, there are two particular effects that may be noted. Firstly, the bottom level of the ditch varied by 0.54m, the cut bottoming at its lowest level, 32.49m OD, at the southern end of the fully excavated length, and at its highest level, 33.03m OD, to the north-west of this in the quarry face. To the south-east the ditch bottomed at the intermediate level of 32.64m OD. This variation is in part due to the sloping surface of the underlying subsoil. To the north-east the subsoil level was up to 0.30m higher than to the south-east. In general, the ditch was dug to a consistent depth, but with respect to a sloping subsoil surface. There is, however, a second effect evident on the north-eastern side. In a length of *c* 8.0m, from the southern end of the excavated area to the quarry edge section to the north-west, the ditch bottom rose by 0.5m, from 32.49m OD to 33.03m OD, with the depth changing by 0.25m, from 1.15m to 0.90m, the shallowest part of the ditch recorded. The ditch was therefore at its deepest beyond the south-eastern edge of the northern part of the mound and became steadily shallower to the north-west as the height of the adjacent mound increased. While no records of ditch depth were obtained within the quarry area, the observation of the machine removal of this part of the ditch did suggest that it was deeper to the south and shallower to the north. The available evidence does suggest that as the ditch cut across the central part of the pre-existing mound it followed the mound contours and, in effect, rose up over the mound. It was also cut to a slightly shallower depth here.

The shallowing of the ditch as it crossed the mound was probably largely the result of a change in the ditch profile. To the south-east and at the southern end of the excavated area the ditch had a steep sided V-shaped profile. The lower sides sloped at 60° to 70° and there was a well-developed erosion cone on the top 0.40m to 0.50m of the cut, sloping at *c* 40°, where the ditch was cut through a thick layer of sand. Where the ditch was cut through the mound it had a U-shaped profile. The sides were steep to near vertical and rounded smoothly into a concave bottom. Where it crossed the north mound the ditch was therefore shallower but broader than the ditch to the south-east.

The ditch fills (Figs SS1.30–31) follow a simple sequence, the only significant differences within the recorded sections being the higher quantities of grey brown loams, derived from erosion of the north mound,

that were coming into the ditch where it cut across that mound (Fig SS1.31).

The primary fills (6067, 6319, 6320, 6330) were of light grey to yellow-brown sandy silts containing some gravel. In the section where the ditch cut the north mound (Fig SS1.30), the primary fill contained a large block of dark grey sandy loam (6075) derived from collapse of a part of the mound's outer slope. Clearly these primary fills were largely derived from rapid erosion of the upper sides of the ditch, which were cut through natural sands with little gravel.

In all sections, the secondary fills were very mixed (6066, 6065, 6317, 6318, 6328, 6329). Typically they consisted of light brown to medium brown sandy loams. These were, however, mixed with and contained lenses of clean yellow sands. Where the ditch cut the north mound, these fills contained lenses of dark grey-brown mound material and two phases of secondary filling (6073, 6074) were separated by a thin continuous spread of mound material (Fig SS1.30).

The final fill consisted of dark grey-brown to medium brown sandy loam almost free of inclusions (6064, 6063, 6321, 6316, 6315). On the section highest on the mound the fill was an entirely dark brown sandy loam (6072), derived from erosion of the north and south mounds to either side of the ditch. To the south-east, the fill against the inner side of the ditch was material from the south mound, while the fill against the outer slope was a medium brown sandy loam, presumably derived from erosion of an external topsoil. The ditch fills were almost devoid of finds (Table SS1.3).

In all sections the final fill had stabilised with a surface slope of about 30°. Even after silting the ditch would therefore have survived as a broad depression up to 0.70m deep with respect to the surviving height of the mound.

Phase 5.2 The south mound

The mound material appeared to be undifferentiated (Fig SS1.30: 6057). It was built of turves, which had a highly humic, acid, blackish-brown, sandy loam Ah horizon with patches of leached sandy Eb horizon, and was comparable to the underlying soil (Macphail, SS4.8.2). It survived to a maximum of 0.36m high, and the quarry face section suggests that it may have occupied the whole of the area surrounded by the ditch. Considerable quantities of sand and gravel would have been obtained from the digging of the ditch, but these do not, however,

appear within the surviving mound material or the upper ditch fills, indicating that this material was not used as a capping for the mound and it must have been disposed of elsewhere.

Phase 6 Features cut into the mounds

The north mound

In the fully excavated area a number of features were cut into the top of the north mound. Only a small area lying between the two gully lines was available for excavation. This area was triangular in shape, measuring 10.40m north-south by up to 3.70m east-west and it had been partially removed in the original trial trench. The evidence surviving in this area would suggest that there may have been considerable activity on the top of the mound between the gully lines, with this involving the digging of shallow hollows into the surface of the mound.

As has already been noted, the upper part of the mound across this area (6360) was slightly different in character to the lower mound and the mound to the east of the excavated gully. Two shallow hollows were located and these appeared to be cut into this material.

F6365 lay towards the northern end of the area and it appeared to be cut through the upper mound material (Fig SS1.33). The eastern half was removed, unrecognised, and the western half was seen during the subsequent excavation of the narrow western extension. It was a roughly circular bowl-shaped hollow, 1.10m in diameter and *c* 0.30m deep. The fill was a dark grey-brown sandy loam almost identical to the upper mound material but slightly darker in colour.

Pit A. To the south of the trial trench and immediately west of gully F6366, the lower part of 6360 filled a shallow bowl-shaped depression (Fig SS1.33). It was only partly excavated but was at least 2m long and up to 0.24m deep, penetrating to within 0.05m of the base of the primary mound (6301). Although it was only recognised following the removal of the upper mound, it is a possibility that, like feature F6365, it had actually been cut down through the upper mound material but was unrecognised due to the similarity of the fill to the surrounding mound material.

It is thus possible to suggest that, after the deposition of the upper mound material, shallow pits were cut into the north mound in the area between the gullies. The similarity of the fills to the upper mound material

would suggest that they were backfilled quite rapidly with the excavated material.

Pit D was not recognised at all during excavation and was removed along with the mound material. However, during post-excavation, examination of the pottery distribution revealed a concentration of sherds within an area of *c* 3m north-east to south-west by *c* 2.0m north-west to south-east, lying immediately to the east of gully F6366 and extending from the surface of the mound down to and slightly into the underlying pre-mound subsoil and tree hollow (6312, 6313), in contrast to the pottery scatter elsewhere, which was restricted to the upper 0.05m of mound material. On the basis of this distribution, it is suggested that a substantial pit had been cut down through the mound to a depth of *c* 0.45m. The fill would have been a grey-brown loam identical to the mound material and this suggests that the pit had probably been open for only a short time and had been deliberately backfilled. Incorporated into the backfill were some 24 sherds from Beakers in four different fabrics, all, insofar as they retained any characteristics, with simple horizontal rows of comb-impressed decoration. These were scattered throughout the fill, indicating that they came from vessels broken prior to deposition.

The south mound

During machine removal of the south mound possible features cutting into the mound were observed.

Pit B was observed on the surface as a roughly circular area, *c* 2m in diameter, of very dark grey loam with charcoal and some reddened sand. The fill was very similar to the observed fills of the western gully (6110, 6114). There was no opportunity to investigate this feature further so its form is totally unknown. The definition of the feature on the surface and the nature of the fill would suggest, however, that it was most probably a pit.

Pit C was less certain than pit B. It was noted as a roughly circular area *c* 1.50m in diameter which was a darker grey than the general mound material. No charcoal or reddened sand was observed and there was no opportunity to investigate the feature. While it is possible that this was a pit similar to pit B, the lack of any distinctive inclusions makes it impossible to state this with any certainty.

Given the recognition of one probable pit and one possible pit cut into the surface of

the south mound, it would seem possible that there may well have been further such features which went completely unrecognised during the extremely unfavourable circumstances in which these observations were carried out. While the machine removal of the mound left some areas sufficiently clean and level to permit the surface identification of soil differences, much of the area was lost in the ruts created by the box scrapers and the bulldozer.

Phase 7 Later activity

Phase 7.1 Disturbances below the post-mound soil

Within the quarry edge section two major disturbances of the mound were recorded (6061, 6070). The larger disturbance (6061) was 2.20m long and had an irregular profile and an upper fill similar to and merging into the post-mound soil horizon. This was probably a natural disturbance, possibly a tree-hollow. The second disturbance (6070) was again largely filled with disturbed mound material, with a final fill was the post-mound soil horizon (6056). While less certainly of natural origin, this feature also appeared to post-date the mound by a considerable period of time.

It is possible that these features indicate a period of tree or scrub regeneration over the abandoned mound. The similarity of their final fills to the overlying soil horizon might suggest an episode of tree or scrub clearance prior to cultivation.

Phase 7.2 Post-mound soil

The fill of the subsidence hollow in the top of the silted ditch was a red-brown sandy loam (6071, 6305) identical in character to the post-mound soil horizon, although it did contain some patches of mound material, as well as some struck flint and a few Beaker and early Bronze Age sherds (Table SS1.3).

The post-mound soil horizon (6056/6300) was a homogenous red-brown sandy loam with few inclusions. Over the mound it survived to a maximum depth of 0.60m but in places it had been entirely removed by ridge and furrow cultivation, with the regular pattern of this ploughing regime preserved as a series of undulations in the surface of the soil horizon. This soil horizon probably spanned a considerable period of time, running from perhaps the late Iron Age through to the medieval ridge and furrow ploughing, although no direct dating evidence was obtained. It contained struck flint and Neolithic and Beaker pottery, both almost certainly derived from the upper part of the

monument (Table SS1.3), and a collection of predominantly late Neolithic or Bronze Age struck flint (Ballin SS3.7.7).

Phase 7.3

A group of three features recorded in the quarry edge section at the northern end of the Turf Mound were cut through this post-mound soil horizon but were truncated by the ridge and furrow ploughing and are likely to be Saxon or early medieval in date. They consisted of two postholes or timber slots (6095, 6096) set 2m apart, and a further 2m to the south there was a pit 0.95m in diameter and 0.5m deep (F6100). The fills of all three features contained fragments of limestone which were frequently both heavily worn and burnt. A rim sherd, perhaps of Peterborough Ware or Neolithic bowl, came from posthole 6095.

The final deposit in this area (6055) was a homogenous layer of light brown tenacious clay with few inclusions. Over the peaks of the ridges it was as little as 0.35m thick but over the furrows it was up to 1.0m thick. This layer comprised water-deposited alluvial clays believed to have been deposited in the late medieval and early post-medieval period, with their deposition fossilising the preceding ridge and furrow pattern.

3. Discussion of stratigraphy and phasing

As noted above, the evidence for the sequence, and in some instances the character, of phase 3 is slight and open to interpretation, and only a provisional scheme is proposed for this part of the sequence. Furthermore, the interval separating the construction of the north mound from the insertion into it of the phase 3 gullies is unknown.

Phases 1–2

Leaf arrowheads from the treehole beneath the north mound formed part of a small assemblage of early Neolithic character (Ballin SS3.7.7), indicating that Neolithic flint-working traditions were current by the time the mound was built. The mound itself must pre-date the early fourth millennium gulleys cut into it and the handful of small, abraded Beaker and later sherds from it must have been intrusive, as argued above (Phase 2.1).

Phase 3

The gullies with their stake and hurdle fencing would have formed a semi-enclosed

space on top of the mound. In its original form this space may have measured *c* 15m north-east/south-west by 8.50–10m north-west/south-east. Both gullies appear to have been slightly bowed towards the centre of the mound, with the minimum width occurring approximately at the mid-point and the maximum width at the two ends. This semi-enclosed space may have covered most of the top of the original mound, although it should be noted there is little confirmatory evidence for a continuation of the gullies into the southern half of the mound. A new semi-enclosed space was created slightly further to the north-east, where the mound had been heightened by the addition of layer 6360, perhaps at least in part with material obtained from the recutting of the gullies. This would have been flanked by new fences to the south-east and north-west and would have measured *c* 12m north-east/south-west, with the width tapering from 11m at the north-east to *c* 8m at the south-west. If a central longitudinal axis is constructed then an alignment for the gully system of 40° to 41° east of OS north is obtained.

The nature of the fills of the recut gully and, to a less extent, the fills and the two post sockets of the original gully suggests that these features held fences supported at intervals by small posts. The sinuous but roughly linear spreads of blackened sand with charcoal may be interpreted as the carbonised remains of thin wood-work, most probably wattle-work. The appearance of these deposits in section would suggest that this wattle-work had been burnt *in situ*. The penetration of this burning through the gully backfill may be due to the loose weaving of the wattle-work allowing oxygen in and, thereby, permitting combustion even of the buried base of the wattle-work. The reddened sand adjacent to the charcoal deposits may have been merely burnt soil, but it did appear to be sand rather than loam and therefore different from the loam fills. It may perhaps represent burning of a sandy daub applied to the wattle-work.

In the original gully the fence was set towards the eastern side and appears to have been supported by posts of 0.15m to 0.20m diameter. In the recut gully the fence was set centrally and was probably supported by more slender posts or stakes, the carbonised example recovered having a diameter of 80mm. While such detailed evidence is not available for the western gully the presence

of similar burnt fills is taken as an indication that it too had also held a fence or fences that had been burnt *in situ*.

All four radiocarbon measurements for samples from the recut of the eastern gully are statistically consistent. The sample for UB-3314 was the tip of a stake which had burnt *in situ* and occupied a circular stake-hole *c* 10mm in diameter, which strongly suggests that the stake was of fairly young wood and thus close in age to its insertion. A stake charred *in situ* can scarcely have been derived from an earlier context, and the consistency of all the dates strongly suggests that the estimated date for the fence in the recut east gully of 3750–3620 *cal BC* at 77% probability or 3600–3520 *cal BC* at 18% probability is likely to reflect its actual age (SS6). The intervals between the construction of the mound and the cutting of the two successive gulleys can only be guessed at. Even if they were negligible, the north mound must have been one of the earliest monuments in the area.

The southward extent of both gullies is uncertain. There is tenuous evidence that the ditch of the south mound cut through a faint trace of the western gully, although no comparable discontinuity was noted where the ditch would have been expected to cut the eastern one.

Phases 4–6

It is impossible to tell how much time elapsed between the digging of Pit F6047 and the construction over it of the south mound. The later third millennium dates for the charred hazel ‘plank’ from the pit, and the possible Grooved Ware attribution of the associated sherd suggest that it may have been a late Neolithic deposit in the tradition of the rather earlier pit F31820, further to the south. The overlying ditched mound, on the other hand, may have been contemporary with the dated round barrows in the immediate area, all built at the turn of the third and second millennia. If so, the phase 6 pits dug into the north mound, at least one of them cut at a time when stylistically simple Beaker was current, may have been contemporary with its construction. The south-east end of the north mound could have provided a focus for the digging of the pit and the construction of the south mound independently of each other.

The sections do not show the ditch cutting the north mound, they simply show material from both mounds silting into it (Figs SS1.30–31). The strongest evidence

for this relationship is the way in which the ditch became narrower and shallower as it crossed the site of the end of the north mound (phase 5.1 above; Fig SS1.28), suggesting that its upper part was cut into the body of the mound and removed with it during the stripping of the quarried area.

The ditch and the south mound may not themselves have been contemporary, since the mound was entirely turf-built, although most of the upcast from the ditch would have been sand and gravel (Figs SS1.30–31). This must have been placed elsewhere. The possibility of an external sand and gravel bank receives little support from the sections.

4 Resource estimate

Since the Turf Mound was a multi-phase monument excavated under salvage conditions, the exact phasing of this site was not as certain as for other barrows in the Raunds complex.

The north mound

The north mound is likely to have measured *c* 27m by between 25m and 30m (phase 2 above) and to have stood to between 0.75m and 1.00m in height. Its construction would have required the de-turfing of an extensive area of ground. If the entire mound had been built with turves of between 0.10m and 0.15m in thickness, the stack would have needed to be at least five turves high; with thinner turves stacked to 1m it could have been as much as 9 turves high.

If the material for the mound had been exclusively turf, the total area stripped may have been somewhere between *c* 3000 sq m and *c* 5600 sq m, whilst a stack of 7 turves would have required the stripping of *c* 4300 sq m. This last figure would have corresponded to a stripped area of 65m x 65m. Using Hurst’s (1899) turf cutting figures of 0.6 hours per sq yd (taken to be equivalent to 1 sq m – to use a conversion figure from yards to metres would introduce an accuracy not intended in Hurst’s original text), to deturf an area of 3000 sq m would have taken 1800 hours, for 5600 sq m the figure would have been 3360 hours, whereas the mean figure of 4,300 sq m would have required 2580 hours of turf cutting.

The gullies

The exact form of the phase 3 gullies is uncertain, due to the very uneven recorded evidence, and the following figures should be

taken with extreme caution, and are based on maximum interpreted lengths.

The eastern gully showed evidence for recutting, and probable extension to the north. The length of the original gully was estimated at *c* 14.0 m, with the recut extending a further *c* 5.50m at approximately the same width and depth (based on the incomplete nature of the evidence). Using the formula, we arrive at 4.50 hours for the original gully and 6.30 hours for the recut and extended gully, assuming that it ran the full length of the original one (based on a team of three).

The western gully. The evidence for the southern part of this gully is slight, but if it is accepted the cut would have been *c* 18.94m in length, like the final extent of the eastern gully, although apparently a little wider and deeper, resulting in a postulated figure of 5.95 hours for a three-man team.

The south mound

If the south mound occupied the whole area surrounded by the ditch, it would have measured *c* 22m by 20m. It is likely to have been lower than the north mound, since it survived to a height of only 0.36m compared with the north mound's 0.50m. Assuming a height of 0.50 to 0.75m, a fairly straight-sided stack, and the same turf thicknesses as above, the stack would have been between three and seven turves high, giving a total stripped area of between 1040 sq m and 2425 sq m, with a value of 1730 sq m for a height of five turves.

The ditch of the south mound

This was oval in plan, measuring some 23.0m north-east/south-west by 21.0m north-west/south-east, and survived to a depth of between 1.30m and 1.40m. The straightforward calculation as to the volume of the ditch produced a figure of 89.92 cu m. According to Startin's figures, a team of three would have taken 132.24 hours to complete this task.

Two points should however be noted:

- i) The calculations are based on the rather small 5m length of ditch excavated.
- ii) There was no evidence that the spoil derived from the ditch was used to enlarge the mound, or to construct an external bank. The spoil could have been deposited some small distance from the monument for the basketer to have been able to keep up with the diggers (Startin 1982, 50), but if deposited further afield, extra time naturally would have been required.

SS1.4 The Long Barrow

Philippa Bradley

Abstract

The Long Barrow was situated on a low gravel island in the floodplain of the river Nene at SP 96483 71014. There was some evidence for pre-barrow disturbance to the old ground surface. The two flanking ditches contained well-preserved organic remains including worked oak, hazel and lime. A stone mortuary structure or cist situated towards the rear of the barrow and a central pit are interpreted as primary features. The cist contained a few weathered fragments of human bone and may have been cleaned out and then backfilled. A substantial timber façade appeared to belong to this phase of activity. A turf and gravel mound revetted with a fairly insubstantial timber and turf palisade was constructed over the primary features. The Long Barrow subsequently became the focus for later activity. A substantial postpit containing Peterborough Ware may have acted as a marker and three inhumations were cut into the top of the Long Barrow. A middle Bronze Age cremation cemetery was situated at the north-east end of the barrow. Roman and later ploughing had denuded the barrow, particularly at its north-west end. Alluvium partially sealed the monument.

1 Location and excavation

The Long Barrow lay on a small, low gravel island in the floodplain of the Nene at SP 96483 71014, overlooking a low-lying area adjacent to a palaeochannel (Fig 1.4). The island sloped gently from south-east to north-west, with a mean surface height of 36.5m OD; the barrow was aligned south-west/north-east, with its wider, higher end to the north-east and was partly sealed by alluvium so that it did not show up on the aerial photographs. The barrow was identified in the field as a low mound and evaluation Trenches 21 and 27 were subsequently excavated across it. Limited excavation of the features encountered was undertaken and the monument was interpreted as a round barrow, corresponding to its description in the Northamptonshire Sites and Monuments Record. After initial excavation, however, it became apparent that the monument was in fact a long barrow and the excavation strategy was modified accordingly.

Figure SS1.37
 Long Barrow. Overall plan.

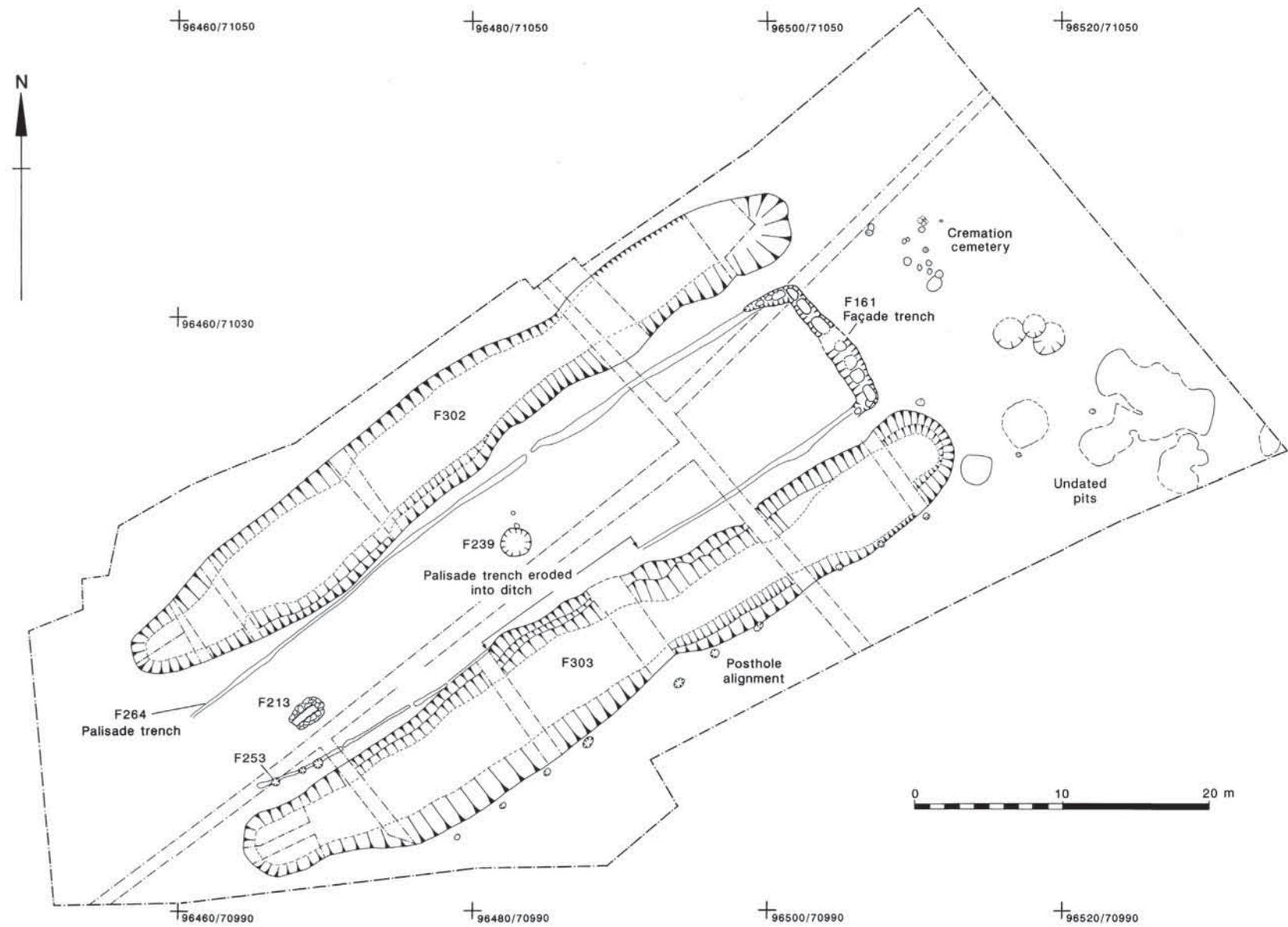




Figure SS1.38
Long Barrow.
From the north-east.
(Photo Oxford Archaeology)

The topsoil was removed mechanically under close archaeological supervision using a 15-ton 360° machine with toothless bucket. The barrow was divided into quadrants (A to the east, B to the south, C to the west and D to the north) and excavated, leaving transverse and longitudinal baulks (Fig SS1.37). Most further excavation was manual but some limited machining was also undertaken, chiefly restricted to the removal of the alluvium from the tops of the ditches in some segments (Fig SS1.38). This material had a relatively low archaeological priority. Manual excavation of these thick and cohesive deposits would have adversely affected the excavation programme and would have reduced the time available to complete the excavation of the lower fills of the ditches.

The front and rear portions of the mound were fully excavated by hand; the central section was more selectively excavated once it was established that there were no archaeological features showing on the surface. This area was also selectively machine-excavated, using a JCB, after the mound excavation was completed to establish that no further features lay beneath the extensive area of old ground surface. Approximately 50% of the old ground surface was hand-excavated, a large enough sample to establish its character over the whole area.

Approximately 75% of the Long Barrow ditches was excavated by hand and 25%

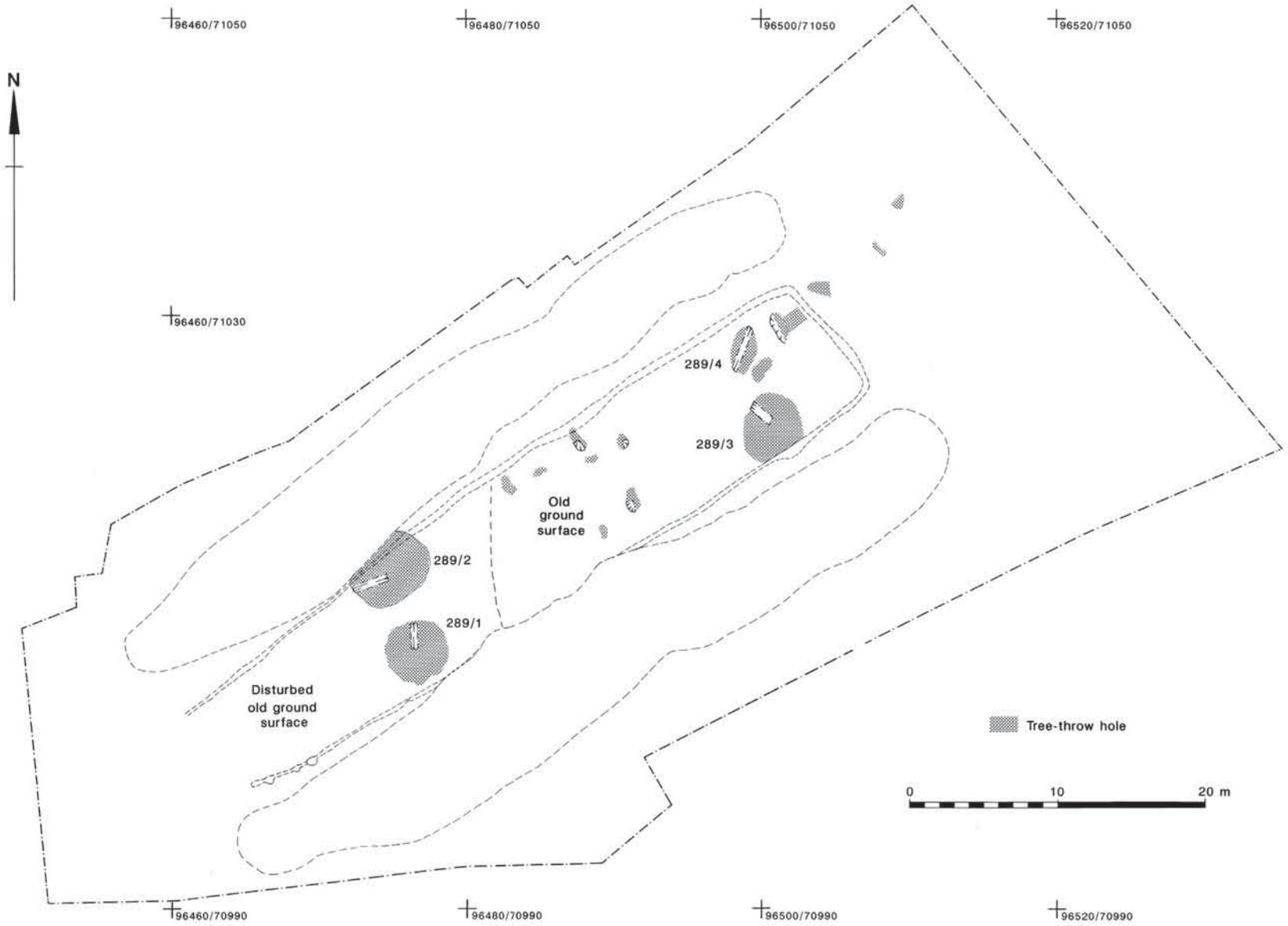
machined. Deposits within the ditches were excavated by hand, planned and photographed. Both transverse longitudinal sections were excavated across the ditches and mound.

Layers of the barrow mound and upper ditch fills were sieved for artefacts. This policy was, however, discontinued as few artefacts were retrieved and the layers concerned were becoming increasingly difficult and slow to sieve. A similar exercise at West Cotton also produced very few finds (SS1.1). It was felt that hand excavation of these deposits would recover a representative sample of artefacts.

Discrete features were planned, half-sectioned and photographed. The total excavation of discrete features was carried out as appropriate. Environmental samples were taken as appropriate and in consultation with the relevant specialists. Environmental analyses were co-ordinated by Mark Robinson under the aegis of the Raunds Area Project. Much of the initial environmental work was therefore specific to the research aims of the Raunds Area Project rather than to the monument itself. This slight imbalance has been rectified through further post-excavation analysis designed specifically to address environmental issues relating to the Long Barrow.

Contexts were recorded by a method devised by the OAU for use on rural sites

Figure SS1.39
Long Barrow. Pre-barrow activity.



(‘The Thornhill Farm System’, Wilkinson 1992). Each feature was numbered in a continuous sequence; each excavated segment or section of that feature was then given a letter (A for the first to be excavated, B for the second etc.); and each fill or spit within that segment or section was given a number (1 for the topmost deposit, 2 for the next, etc). Thus, in the case of the Long Barrow, 161/A/8 represents the lowest layer (8) of the north-west section (A) of the façade trench (161; Fig SS1.42). The section letter was omitted where features or layers were excavated in plan, as was the layer or spit number where there was only a single fill. Where stratigraphy was complex, as in the Long Barrow ditches (Fig SS1.43), layers were given individual numbers from the same sequence as the features. The site grid was based on the National Grid.

Some contexts were not fully described in the field and these have been assigned numbers during the post-excavation process.

The excavation was directed by John Moore, Denis Jackson was assistant director and Mark R Roberts supervised on site.

2 The excavated evidence

Phase 0: pre-barrow activity (Fig SS1.39)

Landscape setting

When the Long Barrow was built, its immediate surroundings were largely open grassland with some woodland or scrub nearby. It may have been built in a recent clearing. There is some evidence for marshy areas within the grassland, although the floodplain was not waterlogged in the Neolithic or Bronze Age (Campbell and Robinson, 2007). A relatively open landscape would have allowed intervisibility with the other contemporary monuments.

The old ground surface

The remnants of an old ground surface were recorded over much of the area under the mound (152, 153, 155, 168, 217, 218 and 237). It was a red-brown sandy silt loam with up to 30% gravel. A thin layer (155), approximately 0.02m thick, of red brown cohesive silt loam with 20% gravel was recorded at the north-east end of the pre-mound surface. This was tentatively interpreted on site as relict turf. The south-west end of the mound had largely been destroyed by later ploughing. The old ground surface (218) survived here in disturbed patches between 0.04 and 0.10m thick. Finds included 14 flakes, blades and blade-like flakes, a serrated flake,

an end scraper and a multi-platform flake core. This material would appear to belong technologically to the earlier Neolithic.

A layer of dark reddish-brown clay silt loam with 10% gravel inclusions (219) overlay the old ground surface. The layer was recorded as becoming more yellowy towards the east. This layer had a maximum thickness of 0.22 m; it was much thinner towards the south-west end of the Long Barrow where the monument had suffered much plough damage.

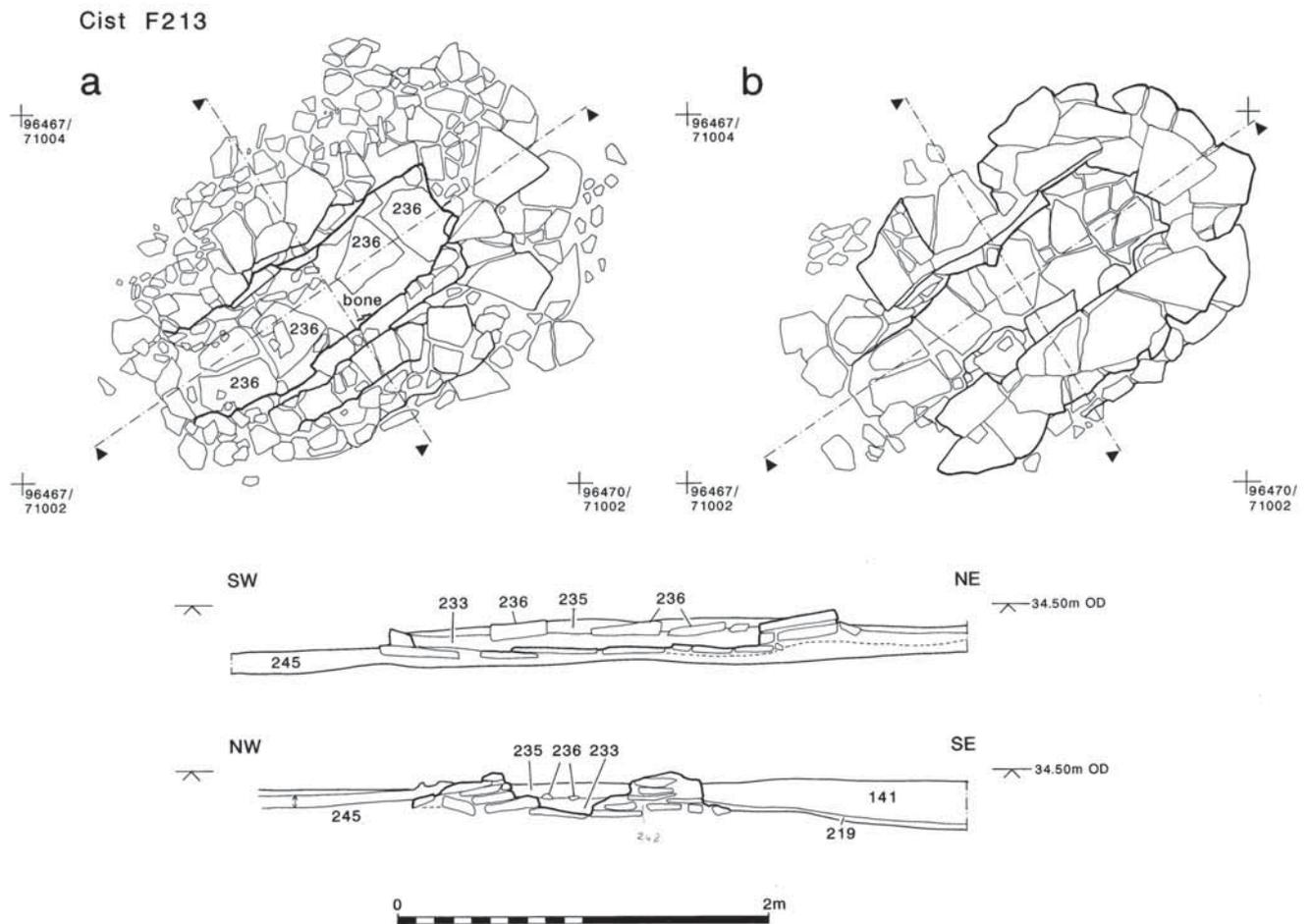
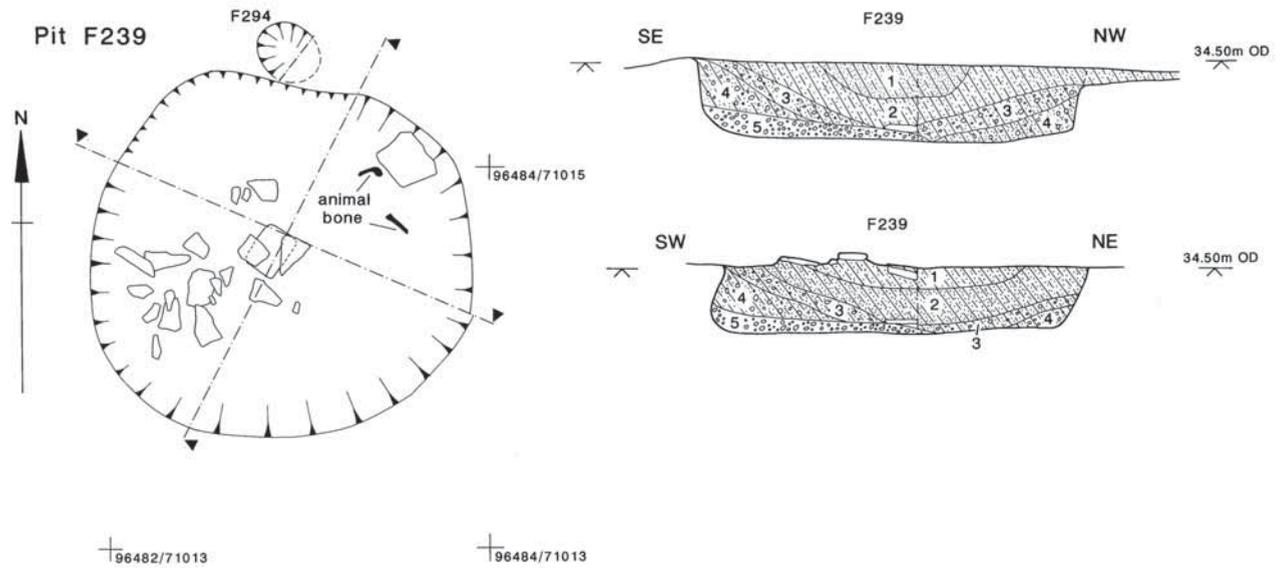
Treethrow holes

A number of irregular features underneath the Long Barrow mound cut through the old ground surface into the underlying natural sand and gravel (Fig SS1.39). They were given the context number 289 (subsequently divided into 289/1–4 during initial post-excavation work). These features were generally irregular in plan and 5.5m long. They were all filled with a mid red-brown slightly sandy silt loam. Three unretouched flint flakes were recovered from 289/1. These features have been interpreted as treethrow holes. Similar features were also found in evaluation Trench 21, at the north-east end of the Long Barrow. A number of smaller irregular features were excavated and found to be undulations within the natural gravel surface. Five other apparent features were found to be animal disturbance upon excavation.

Disturbance of the old ground surface

Some evidence for disturbance to the pre-mound surface was noted during the excavation. However, due to the later cross-ploughing (see phase 4 below) it was extremely difficult to disentangle these episodes of activity. Six soil monoliths were taken for micromorphology from contexts 138 and 219 (samples 151–6, Fig SS1.45). A preliminary study of the soil thin-sections by Dr Richard MacPhail identified disturbance, possibly arding, in at least one of the samples (154; Oxford Archaeological Unit 1992, 7–8). However, the results of the detailed study show that the cultivation history of the site is less clear. There certainly seems to have been disturbance which may be the result of animal trampling, arding, or spade-removal of the turf; and the treethrow holes attest clearance of the site prior to monument building (Macphail, SS4.8.1). The presence of dung beetles and microfossil evidence for nitrogen enrichment of the ditch fills would support the micromorphological evidence for animal trampling. At the

Figure SS1.40
 Long Barrow. Pit F239 and cist F213.



location of sample 154, 0.30m of mound material overlying layer 219 may suggest that this disturbance was of prehistoric date. However, the evidence is rather tentative and relies heavily on the soil micromorphology and environmental data.

Phase 1: primary barrow features (Figs SS1.40–42)

Two features underlay the mound. A cist or mortuary structure at the south-west end of the monument and a pit at the centre appear to be primary features. Later ploughing had disturbed both; the pit had also suffered some animal disturbance.

Central pit 239

Pit 239 measured approximately 3m by 2m (Figs SS1.40) and has been interpreted as a primary feature. It was located 15m north-east of the cist at approximately the centre of the Long Barrow (SP 96483.0 71014.6). It had been cut through the old ground surface (152) into the natural sand and gravel below. The north-east side of the pit had suffered extensive animal disturbance. The pit was steep-sided and slightly undercut to the south-west. It was flat-bottomed with a step in it to the north-east. It was filled with reddish and grey-brown sandy silt loams with up to 10% gravel. The lower layers (4 and 5) had more gravel (between 40% and 90%) which probably represents the primary silting of the pit. There was a scatter of limestone blocks around the top of the pit and several blocks were noted within the upper fill, perhaps indicating that there was once a cairn over the pit. This feature seems to have been left open and infilled by natural silting.

A sherd of Beaker pottery was recovered from layer 2 of the pit (Barclay SS3.8.3: P13) and a red deer humerus from layer 3. It would appear that the pit had been disturbed in antiquity. A radiocarbon determination of 910–760 cal BC (2655±55 BP; OxA-5551) was made on the red deer bone from layer 3. The determination is clearly anomalous, perhaps due to the animal disturbance. Two flakes, a core fragment and an opposed platform core were recovered from the upper fill of the pit. An edge-blunted microlith was found in layer 2.

Posthole (?) 294

A possible posthole (294) may have just cut the edge of pit 239 or had no relationship with it at all (Fig SS1.40). It was 0.20m in diameter and 0.30m deep, with steep sides and a flattish base, rising slightly to the



south-west. The upper fill was a greyish light brown sandy silt loam with 20% gravel. A mid-brown sandy silt loam with 5% gravel underlay this fill.

Cist

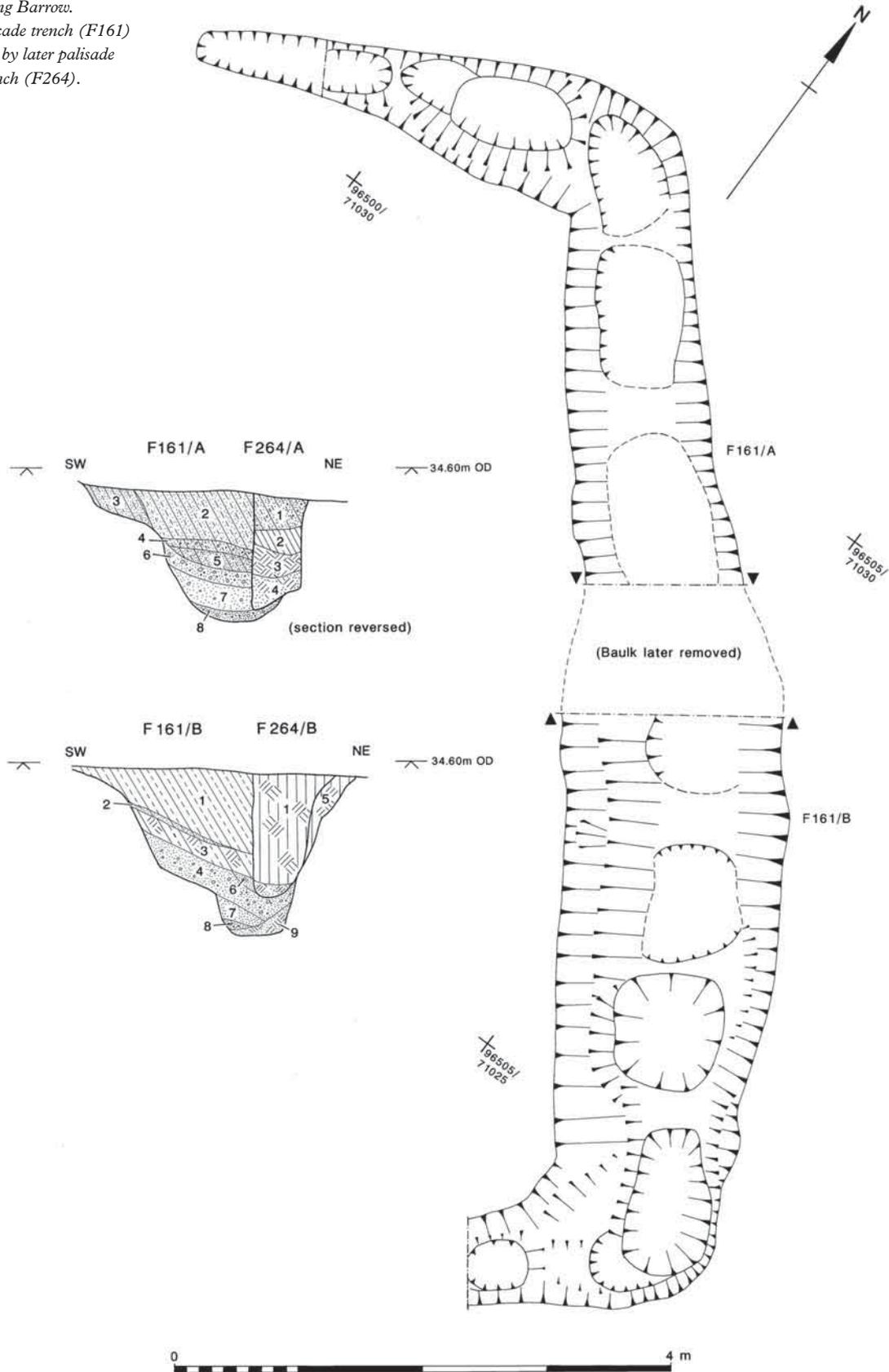
The cist first appeared as a spread of stone measuring approximately 2.80m by 2.10m. Upon the removal of the damaged stones, a linear, trench-like cist (213) lined with limestone blocks was revealed. It was aligned on the long axis of the monument and had been placed slightly off-centre, approximately 7.5m from the south-west end of the barrow (Figs SS1.37, SS1.40–41)

The cist measured 2.60m by 0.48m internally at its base. It had been built up from the old ground surface; four to six courses of limestone blocks measuring 0.50m by 0.40m and up to 0.06m thick survived to a height of 0.20m. The base of the feature had been lined with limestone slabs with a maximum dimension of 0.40m. The walls of the cist were up to 0.50m wide (Figs SS1.40–41). It was filled with grey brown silty loams. Approximately half-way up the fill underneath layer 235 there were several large subrectangular limestone blocks measuring approximately 0.30m by 0.40m and up to 0.08m thick. These blocks appear to have been carefully placed on top of 233. It is possible that a small cairn covered the cist, although plough damage makes interpretation difficult.

Some small, weathered fragments of a single, probably human, long bone were

Figure SS1.41
Long Barrow. Cist F213.
(Photo Oxford Archaeology)

Figure SS1.42
 Long Barrow.
 Facade trench (F161)
 cut by later palisade
 trench (F264).



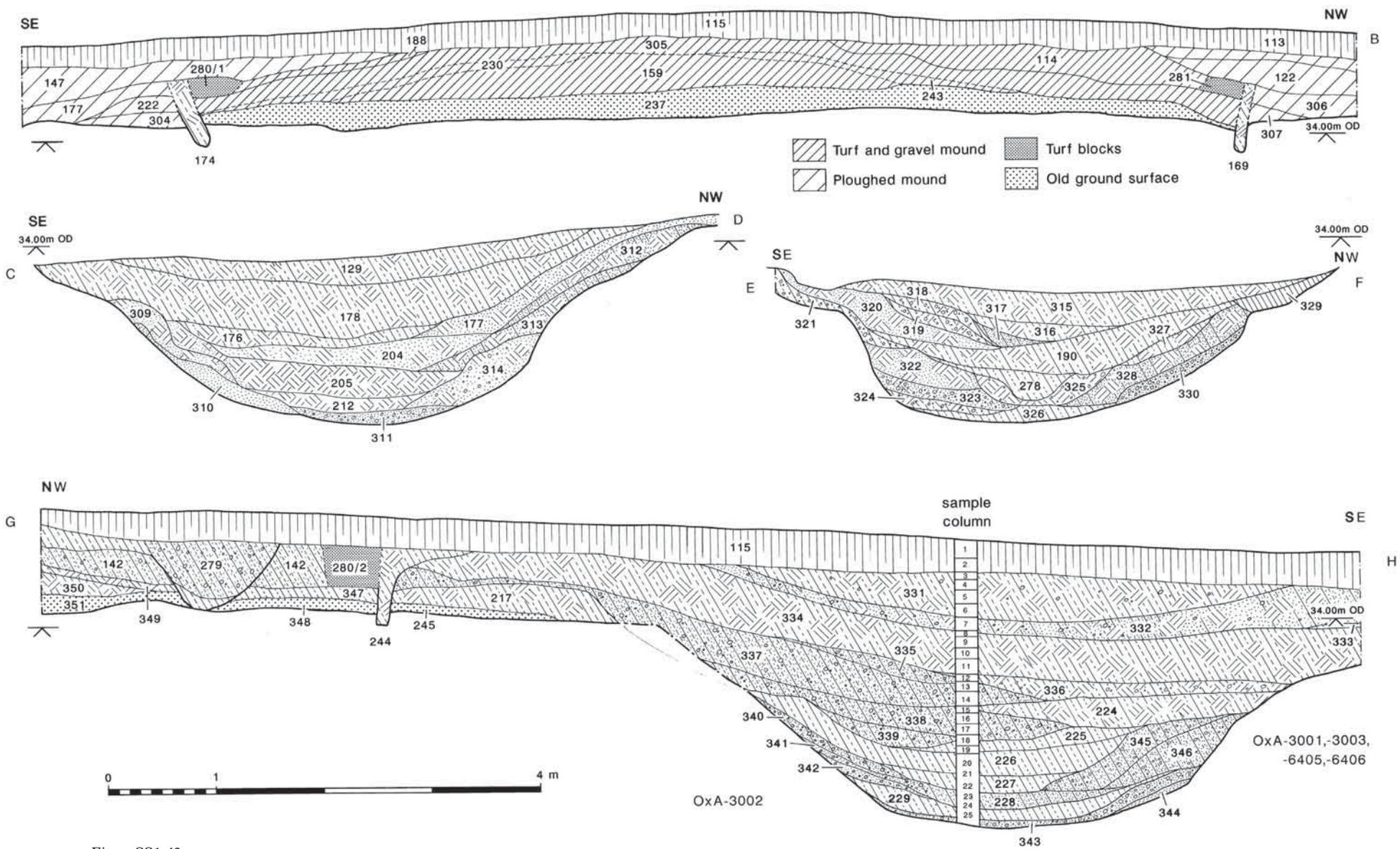


Figure SS1.43
Long Barrow. Sections through mound and ditches.



Figure SS1.44
Long Barrow.
Ditch layers 183, 184/A,
quadrant B.
(Photo Oxford Archaeology)

found in the greyish brown silty clay loam fill (233) of the cist (Fig SS1.40). Two radiocarbon determinations were obtained from this material, providing a weighted mean of 3710–3510 cal BC (4825±65 BP (OxA-5632); 4820±80 BP (OxA-5633)). Fragments of unidentified animal bone were recovered from the same fill.

Façade

The primary phase was represented by a substantial trench (161) transverse to the long axis of the monument (Figs SS1.37–38, SS1.42). It was 9.70m long, up to 1.80m wide at the top narrowing at the base to 0.40m, and up to 1.30m deep. There were two shorter lengths of trench (maximum length 4m) to the south-west and north-west, approximately at right-angles to the main façade trench. It would originally have been fairly steep-sided with a slightly undulating base. This feature was filled with a series of brown sandy silts containing between 2% and 40% gravel.

Timber positions were recorded along the base of this trench. These postholes were subcircular in plan, measuring 1.20m by 0.68m, or oval, having a diameter of 0.90m. They were between 0.58m and 0.85m deep. Some of the largest were at the centre and the smallest at the ends, suggesting that the posts graded outwards with the tallest and thickest at the centre. The pattern of silting within this feature would indicate that the posts were removed and the façade trench was left to silt up naturally. Once the façade trench had silted up a smaller, less substantial feature was cut through it (Fig SS1.42; see phase 2 below).

Phase 2: barrow construction: palisade, ditches, mound

Phase 2.1: Palisade

The palisade trench was found only on three sides of the Long Barrow. It consisted of a narrow, discontinuous trench (F264), measuring approximately 0.40m wide and up to 0.60m deep (170, 174, 220 = 170/D, 244, 264 = 174 and initially thought to be the same as 169). It was widest and deepest at the north-east end of the barrow, where it cut into the less stable fill of the palisade trench rather than into undisturbed soil, and where the mass of the mound would have been greatest. The feature generally had vertical sides and a rounded base. Postholes and timber positions were found in parts of the feature (172, 200, 253, 262 and 263). In some places the postpipes within the mound material could be seen to slope outwards at approximately 20° from vertical, probably due to the eroding mound collapsing and forcing the revetment outward (Fig SS1.43).

Erosion of the inner edge of the south-east ditch had removed a 13m length of the palisade trench (Fig SS1.37). A substantial quantity of waterlogged wood was found in the barrow ditch here (Figs SS1.46–49). Elsewhere, a berm, originally perhaps two metres wide, still separated the palisade trench from the edges of the ditches.

The slight nature of the palisade trench would indicate that the revetment was insubstantial. There is, however, evidence for additional support inside the timber palisade, by the way of turf blocks (280/1–2, 281) which were found against its inner edge (Fig SS1.43). It is not clear whether these blocks were placed along the whole length of the palisade. The position of 280/1 and 280/2, on the same side of the palisade trench but separated by approximately one metre, may suggest that they were placed along the whole of the inner edge of the revetment.

Phase 2.2: Ditches

The ditches were cut into the natural sand and gravel to a maximum depth of 1.60m. The northern ditch (F302) was 54m long and varied between 4.2m and 7.5m wide at the top, narrowing to 1.80–2.50m at its base. The southern ditch (F303) was 55m long and varied between approximately 4.5m and 9m wide at the top, narrowing to 2.80–3m at its base. The butt ends were very regular, almost semicircular in plan, and they may have been dug as separate features at the end of each ditch length. The sides of both

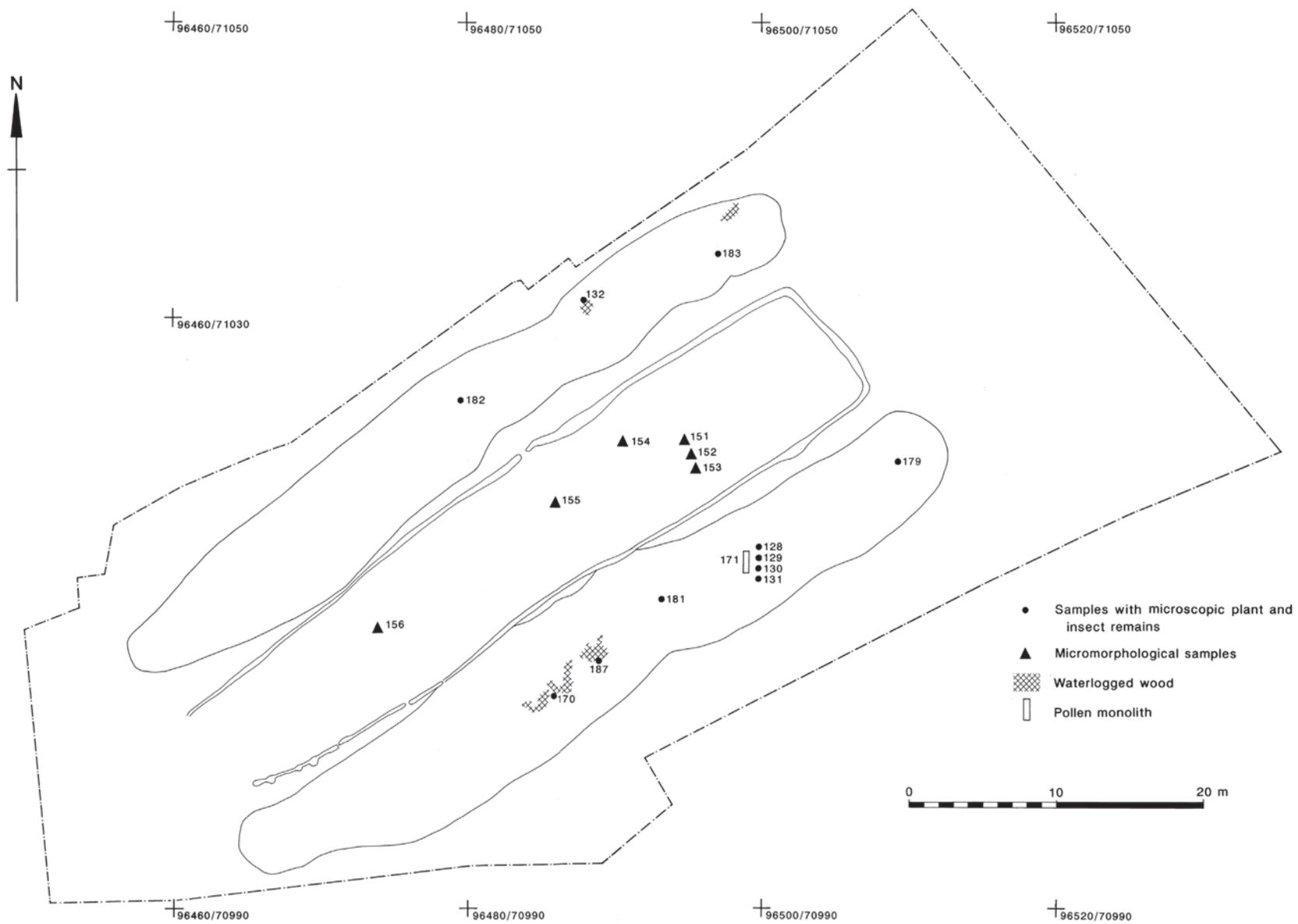


Figure SS1.45
 Long Barrow. Location of environmental samples and waterlogged wood.

Figure SS1.46

Long Barrow. Bone, antler and waterlogged wood in north-east butt of north-west ditch (upper); waterlogged wood in south-east ditch (lower).



ditches sloped gradually (generally at 45–50°, although steeper angles were noted) into a flat or slightly undulating base. The slight kink in both ditches towards the front of the barrow might suggest an extension of the monument at some stage in its construction. However, the underlying natural located here consisted of sand and was much softer than the surrounding gravel. It therefore seems much more likely that these irregularities were caused by differential erosion.

Phase 2.2.i: Primary ditch silting

The primary fills consisted of natural sand and gravel. The ditch sides weathered fairly rapidly with brown sandy gravels and clayey gravels being deposited. Once the ditches had stabilised, waterlogged deposits (eg 204–205, 212, 226–229, 231–232, 278) built up in both ditches just above the primary fills (Figs SS1.43). Pollen and rich assemblages of insects and plant remains were recovered from some of the waterlogged layers. These show that when the ditches became stable they were filled with stagnant water which was well-vegetated with aquatic plants. Waterlogged wood was recovered from three areas of the barrow ditches just above the primary fills: two concentrations in the southern ditch at SP 964885.70 71004.45 and 96488.70 71006.85 and a smaller group of material in the northern ditch, close to the butt end at SP 96497.15 71037 (Fig SS1.45). The material in the butt of the northern ditch seems to have been deposited with some care. Wood, some animal bone, and a red deer antler with cut marks were found in close association (Fig SS1.46).

The waterlogged wood consisted largely of small offcuts, woodchips and pieces of bark (Figs SS1.47–49). This material has been interpreted as woodworking debris deposited in the ditches. Although several activities seem to have been occurring it is likely that this material is the debris from the construction of the revetment. Due to the delay between excavation and analysis it is impossible to say whether or not the pieces of bark were deposited as such or had originally been more complete pieces of wood. The majority of the woodchips are oak, but lime and hazel are also represented. There are differences in the spatial distribution of the material; some of the larger pieces occur together, while woodchips are clustered in the centre of the southern ditch and roundwood occurs in another group to the north of the woodchips (Fig SS1.46). Many of



the pieces had clear toolmarks (Figs SS3.18–20), some of which fitted a flint axe found in the southern ditch at SP 96484.80 71008, approximately 1m above the deposit of wood (Fig SS3.21). It seems likely that the axe was deposited in the mound after its use during the construction of the monument and had eroded into the upper ditch fills.

Figure SS1.47

Long Barrow.

Waterlogged wood 240, 241.

(Photo Oxford Archaeology)

Phase 2.2.ii: Secondary ditch silting

Layers indicating a period of gradual silting were recorded (eg 181, 184, 187, 190 and 234) above the waterlogged deposits (Fig SS1.43). These deposits were rich in animal bone (Table SS4.37), struck flint and pottery, especially towards the north-east end, where struck flint and Peterborough Ware were concentrated in opposite butts (Figs SS1.50–52) and animal bone was concentrated with the flint in the south-east ditch (Table SS4.37). The upper ditch fills

Figure SS1.48

Long Barrow.

Waterlogged wood 240,

241, 250.

(Photo Oxford Archaeology)





Figure SS1.49
Long Barrow.
Waterlogged wood 283, 284.
(Photo Oxford Archaeology)

included layers of eroded and ploughed-out mound material (for example, contexts 180, 183, 186, – see phase 4). The upper sections of the ditches were filled with alluvium (eg 135). Once the ditches had silted almost to the top at least three small dumps of charcoal were placed in shallow scoops (149 in the north ditch, 173 and 179 in the south ditch – see phase 3). Roots of alder trees grew into the waterlogged layers of the ditches following sedimentation, with two clusters of roots found in the southern ditch. Possible recuts were noted in both ditches. These were localised and did not represent extensive recutting along the entire ditch.

Several irregularities were noted in the ditch bases (for example, contexts 282 and 290 and a similar feature recorded in section 58). Typically these features were subcircular in plan with maximum dimensions ranging from 0.30m to 2.40m. They were between 0.20m and 0.30m deep, 282 and the example in section 58 had shallow bowl-shaped profiles while 290 had steeper sides with a flattish base. They were filled with grey sandy clays and silts; 282 had a very gravelly layer at its base. These features have been interpreted as natural solution hollows.

Phase 2.3: Mound

The mound was approximately 50m long and survived to a maximum height of 0.60m at the north-east end. Virtually all of the south-west end had been removed by later ploughing. The mound had been constructed of dumped gravel and layers of reddish-brown sandy silt loam with yellow mottles (142, 144); this material has been interpreted as turf. Some surviving turf was recorded at the north-east end of the pre-mound ground surface (155). Incorporated in the mound were a

weathered, probably adult human longbone fragment (context 144), an adult metatarsal fragment (context 159), animal bone fragments including a cattle phalanx and molar (contexts 138, 146), an indeterminate crumb of pottery (context 136), 4 cores, 3 non-bulbar fragments, 45 flakes and 13 blades.

There was no positive evidence for construction of the mound in bays as in the West Cotton Long Mound (Figs SS1.7–9, SS1.11; Windell *et al* 1990, 9), or the South Street and Beckhampton Road barrows in Wiltshire (Ashbee *et al* 1979). But gravel banks were recorded (210, 230) which probably indicate differential dumping (Fig SS1.53). There also appeared to be a division along the centre of the mound, with turf construction to the north and gravel dumping to the south.

Modelling of the whole series of dates from the long barrow places the construction of the mound in 3800–3640 cal BC at 95% probability (Bayliss *et al*, SS6). This is, however, a minimum age for the start of construction on the site, since the façade, which preceded the mound revetment, remains undated.

Phase 3 secondary use (Figs SS1.54–58)

Phase 3.1 marker post

A large posthole (F203=F206) measuring 1.05m by 0.80m lay 5m beyond the north-east end of the barrow (Fig SS1.54). The postpit was bowl-shaped with a rounded base and fairly steep sides. It was 0.38m deep and may have been truncated by Roman ploughing. It was filled with a grey-brown sandy silt loam with up to 30% gravel. A postpipe containing some charcoal was recorded. The fill represented backfilling around a post. The pit would have contained a large upright timber which may have been split as the postpipe was oval in plan. The posthole was cut by a middle Bronze Age cremation (106). A late Neolithic/early Bronze Age sherd (Barclay SS3.8.3: P11) was recovered from the posthole and a Peterborough Ware sherd from the cremation, in addition to the Deverel-Rimbury urn in which it was contained.

Phase 3.2: Inhumation cemetery

Three inhumations were presumably cut into a layer of barrow mound (128) although a grave cut could be identified for only one (Figs SS1.54–56). The burials were aligned along the main axis of the Long Barrow, indicating that the mound was still visible as an earthwork during the early Bronze Age. The richest burial (131) was situated in the middle of the group.

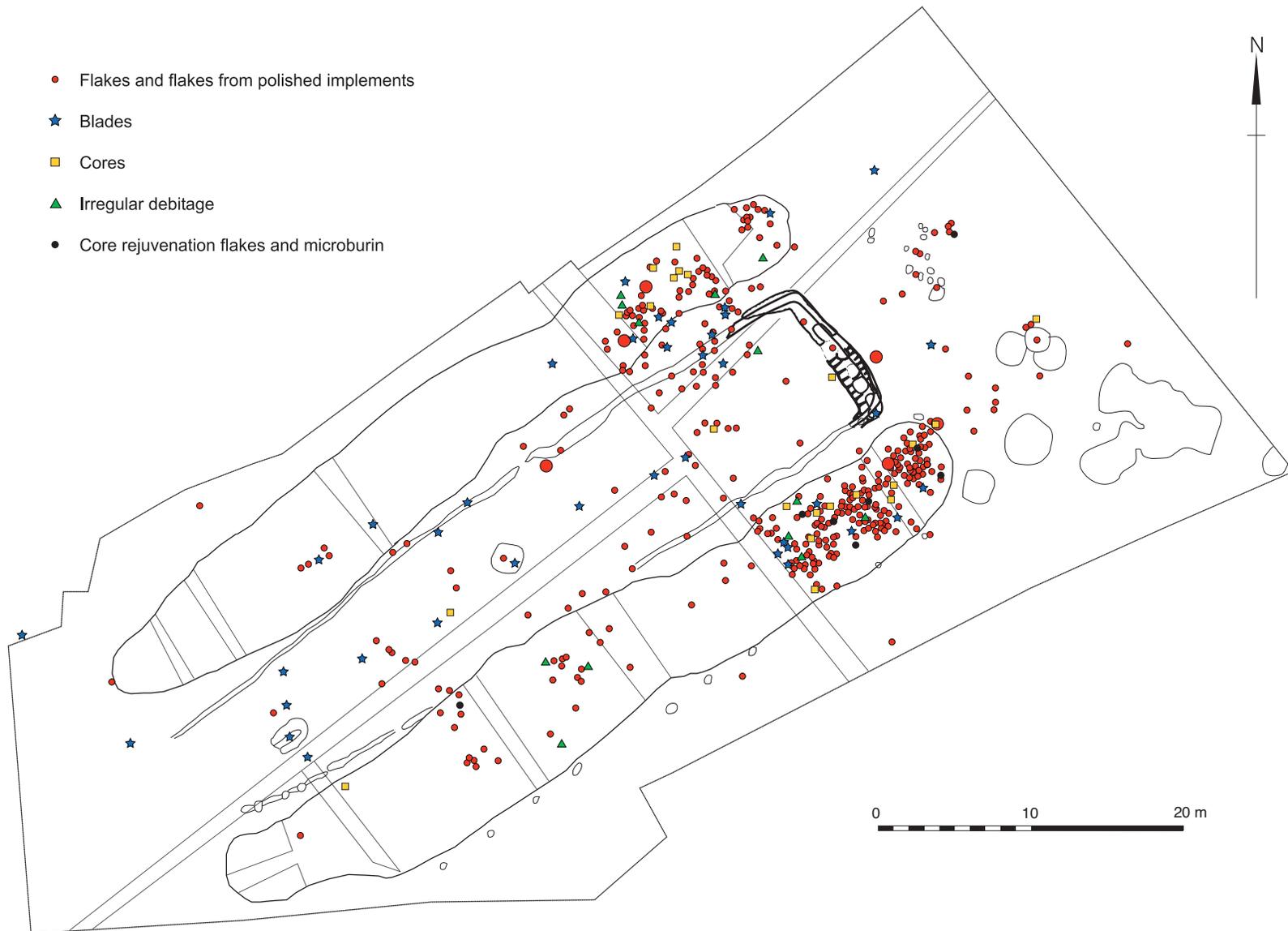
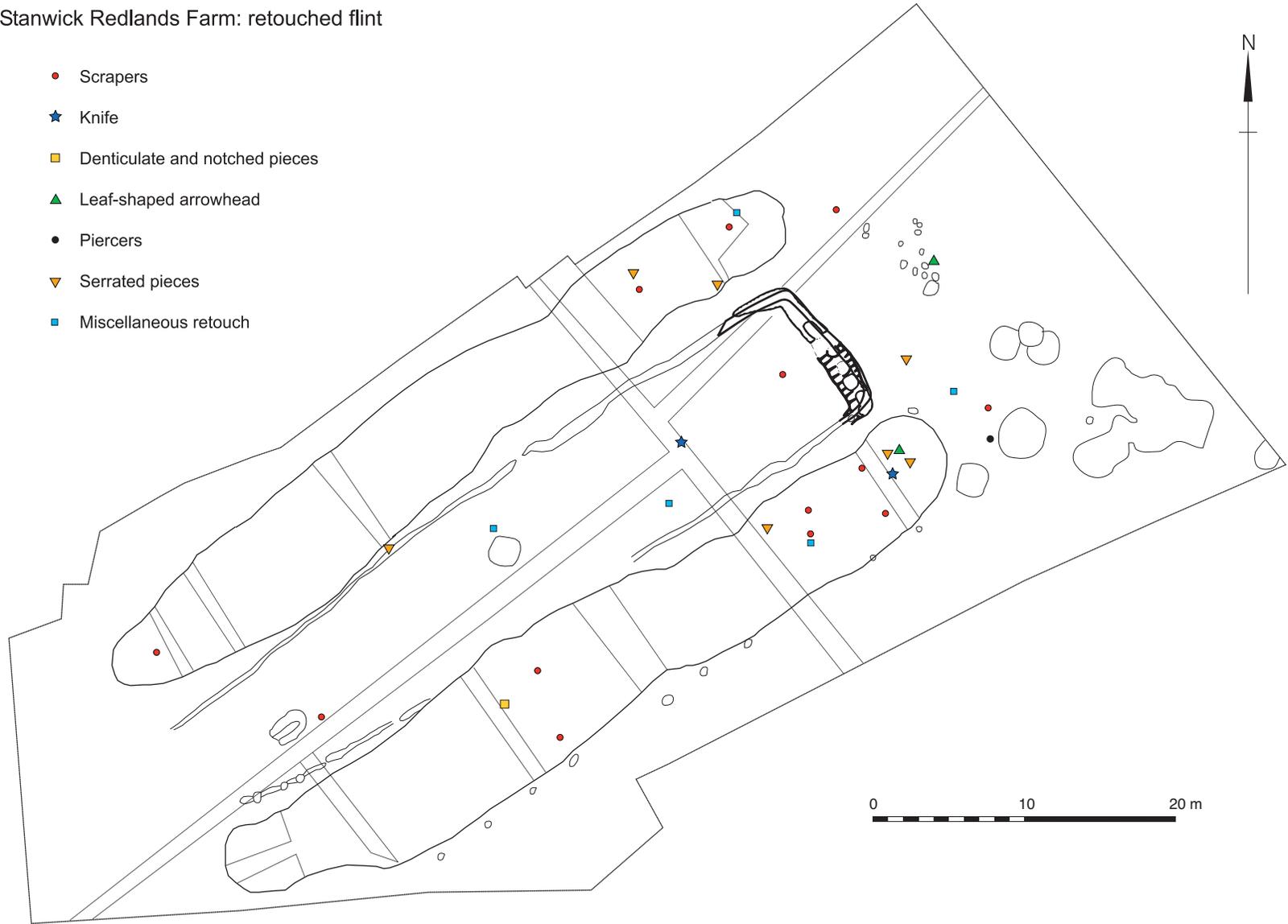


Figure SS1.50 Long Barrow. Distribution of flint debitage.

Figure SS1.51
 Long Barrow. Distribution of retouched flint implements.

Stanwick Redlands Farm: retouched flint



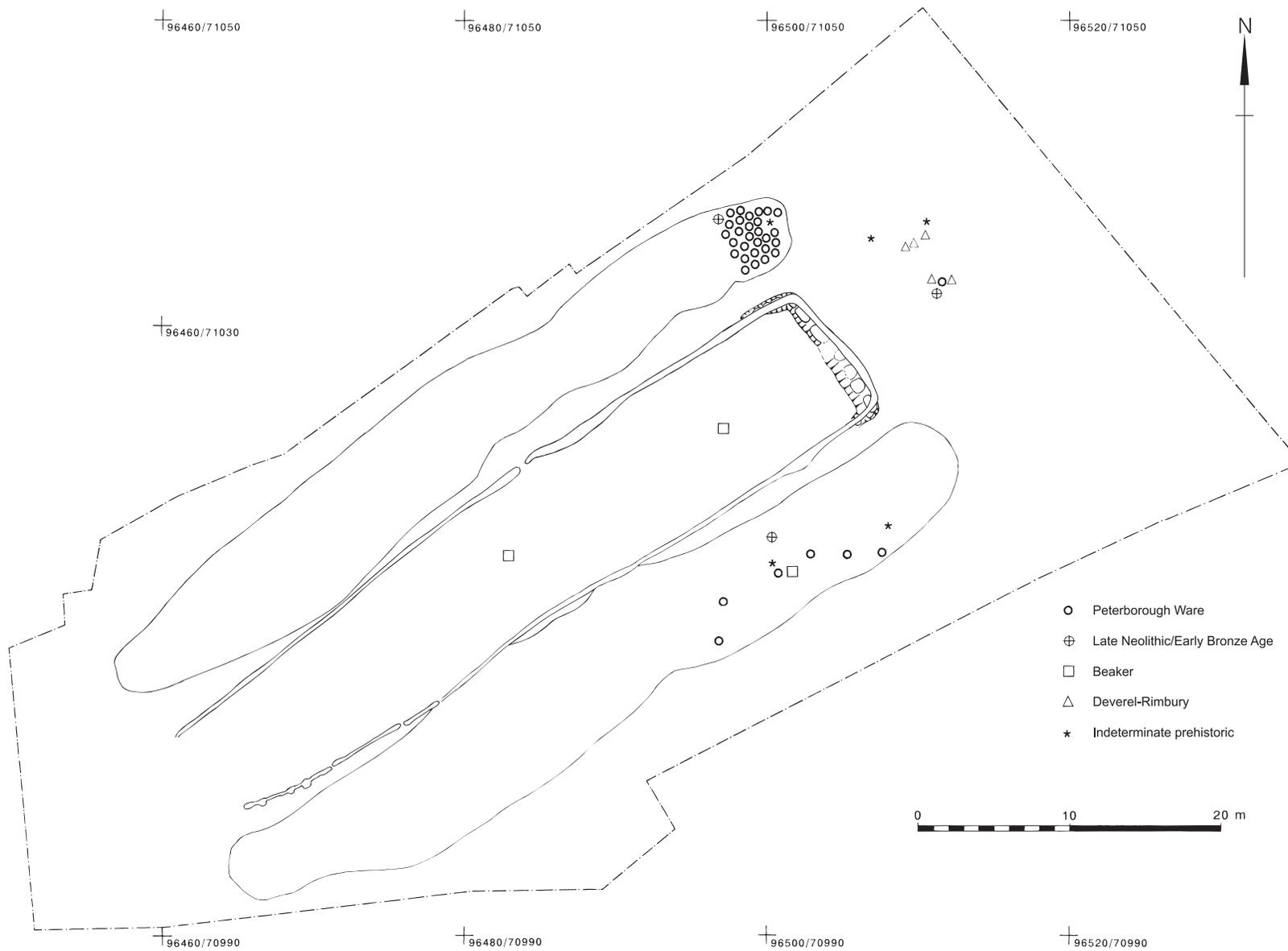


Figure SS1.52
 Long Barrow. Distribution of prehistoric pottery.



Figure SS1.53
Long Barrow.
Gravel bank 230.
(Photo Oxford Archaeology)

Inhumation 130 lay approximately 5m from the north-east end of the barrow. No grave cut was identified (Fig SS1.55). The skeleton had suffered some plough damage and the bone was spread over an area of approximately 1m by 0.30m. Although heavily disturbed it was possible to determine that the skeleton, which was that of a possibly male adult, was crouched, lying on its left-hand side facing east. A radiocarbon determination of 2200–1890 cal BC (3665±45 BP; OxA-5549) was obtained. No grave goods were found.

Inhumation 131 lay 3m south-west of 130, and had been placed slightly off-

centre to the main axis of the barrow (Figs SS1.55–56). The burial was an adult female. The skeleton lay on its right-hand side in an oval grave, approximately 1.2m by 0.9m and 0.08m deep. The left arm was crossed over the right and the legs were drawn up tightly into the body. A radiocarbon determination of 1890–1630 cal BC (3450±45 BP; BM-2833) was obtained.

A shale armlet decorated with two deep grooves was on the right arm just above the elbow (Figs SS3.12–13). A copper alloy ‘basket’ earring (Figs SS33.5–6) was found on the left-hand side of the skull. A fragmentary fingernail- and comb-decorated Beaker (Barclay SS3.8.3: P12) was found to the south-east of the body. There were two unretouched flakes close to the lower spine (P Bradley SS3.7.5, Fig SS3.30: 15–16). The burial had been badly damaged by ploughing. A sherd refitting to the Beaker was found in context 128, a layer of disturbed barrow matrix into which the grave was cut.

Two further individuals were identified amongst the human bone. A second adult was represented by two mandibular incisors, a fragment of frontal bone and possibly a fragment of ilium. A subadult was represented by an immature humeral diaphysis. A radiocarbon determination of 2290–1980 cal BC (3730±45 BP; OxA-5550) was obtained on this bone.

Inhumation 163 lay 3m south-west of 131 and was very badly disturbed by ploughing (Fig SS1.55). No grave cut was visible. Orientation and body position were not discernible. The bone was spread over an area of 0.40m by 0.40m and was in poor condition. An invasively retouched knife (P Bradley SS3.7.5, Fig. SS3.31: 17) was found approximately 0.10m south of one group of bone and may have originally been a grave good. Unfortunately, insufficient bone was preserved to allow a radiocarbon determination to be obtained.

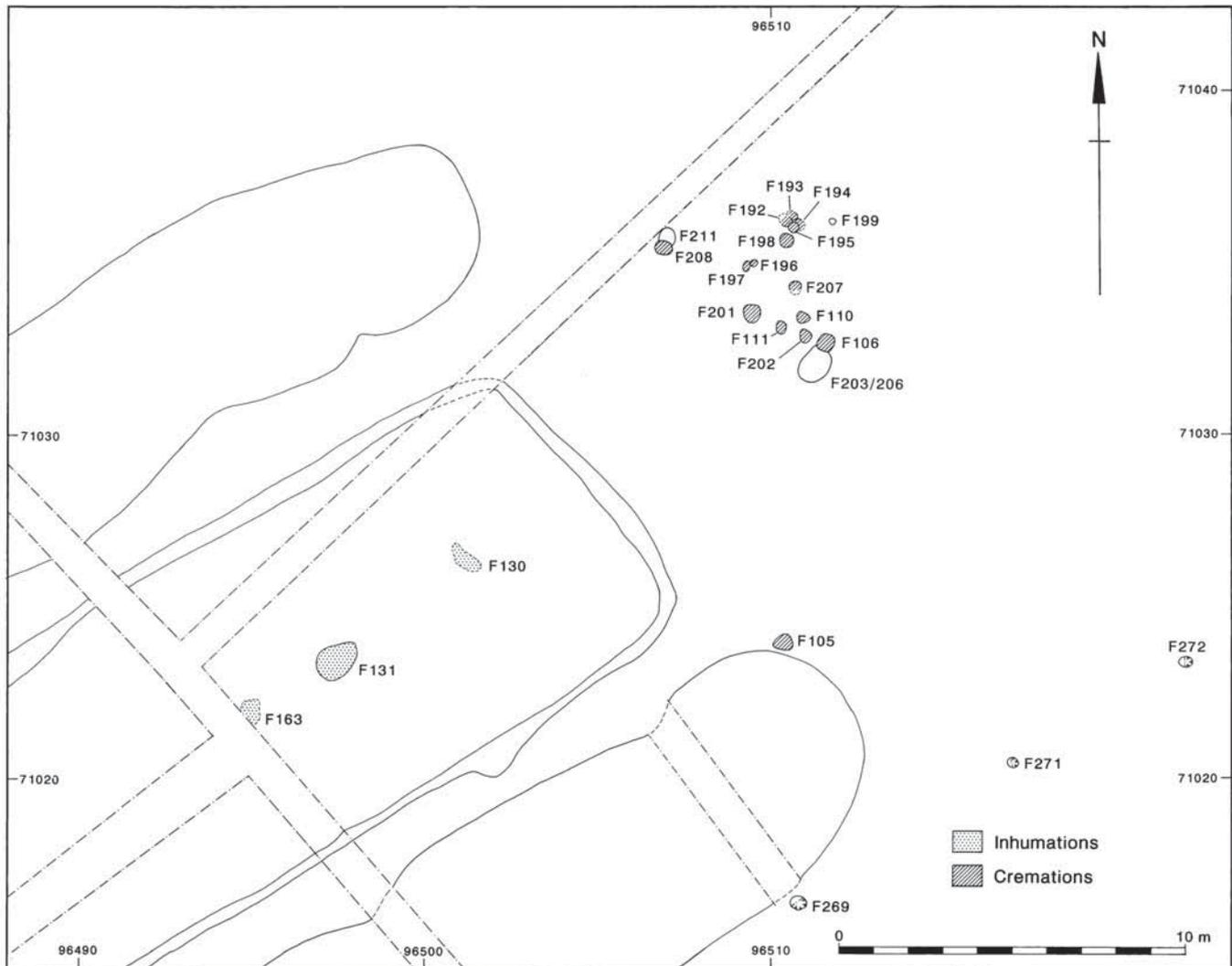
Context 151. The lower part of a small, plain vessel in an early Bronze Age fabric (Barclay SS3.8.3: P14) may be all that is left of a further insertion into the mound.

Phase 3.3 Middle Bronze Age cremation cemetery

A small middle Bronze Age cremation cemetery was located approximately 7m north-east of the end of the Long Barrow (Figs SS1.54–55). It had suffered very badly from Roman and later ploughing. The excavation of evaluation Trench 21 also damaged cre-

Table SS1.4. Long barrow. Dimensions of cremations beyond the north-east end

Context	Length (m)	Breadth (m)	Depth (m)
F105	0.55	0.45	0.05
F106	0.46	0.46	0.28
F110	0.60	0.50	0.10
F111	0.30	0.30	0.10
F192	0.30	0.20	0.11
F193	0.20	0.20	0.11
F194	0.40 (max surviving)	0.40 (max surviving)	0.16
F195	-	-	0.20
F196	-	-	0.07
F197	0.40	0.31	0.14
F198	-	-	0.26
F201	0.56	0.50	0.10
F202	0.40	0.30	0.10
F207	-	-	0.22
F208	0.55	0.50	0.40



mation 193. Only the bases of the cremations survived, and some deposits had been spread by the plough. A total of 15 cremations were excavated (105, 106, 110, 111, 192–198, 201, 202, 207 and 208). Fourteen cremations were grouped together and one was found close to the terminal of the south-east barrow ditch (105). The dimensions of the cremations are summarised in Table SS1.4.

Where the features survived they appeared to be circular or oval in plan, relatively shallow and bowl-shaped. The cremation vessels were placed centrally or slightly off-centre within the pits. They were filled with grey or brown silty loams with between 5% and 50% gravel. Large pieces of charcoal were visible in the fills of some of the cremations. Varying survival of bone and pottery may indicate that some were only partial or token deposits, although plough damage undoubtedly accounts for some of the differences. Several

deposits seem to have contained more than one individual, for example 192, 193 and 198. A radiocarbon determination of 1860–1420 cal BC (3320 ± 80 BP; OxA-2989) was obtained on *Quercus* charcoal from this deposit.

In addition to these cremation burials, cremated bone was recovered from a spread at the north-east end of the Long Barrow (134), one of the three deposits of ashy material in the upper fills of the Long Barrow ditches (173), and the postpit located outside the north-east end of the Long Barrow (203=206). Some of this material undoubtedly derived from the cremation deposits, for example the cremated bone from 134 and 203=206.

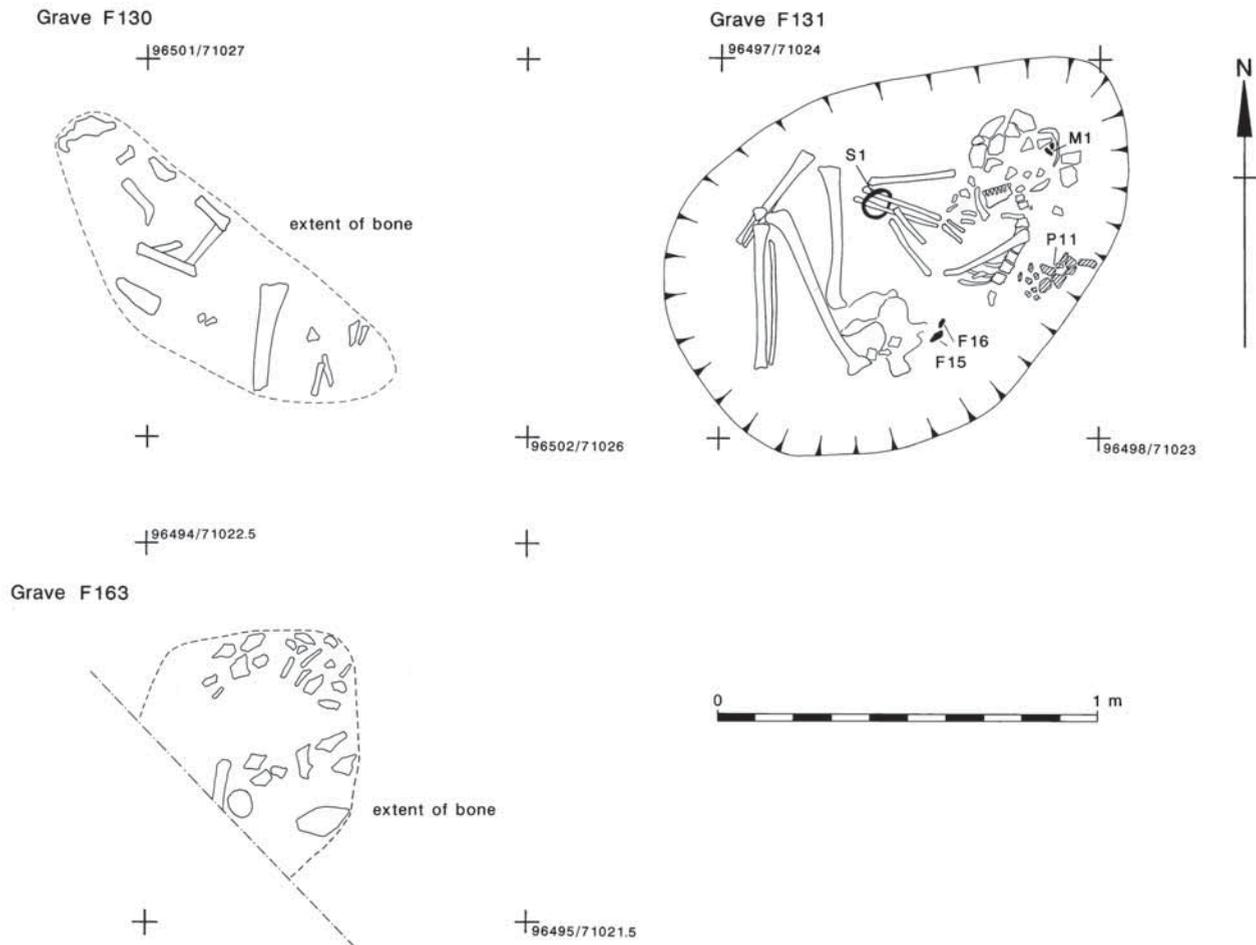
Cremation 105 was situated approximately 7.50m south of the main group, near the southern barrow ditch terminal (303). The feature was damaged by initial machining.

Figure SS1.54
Long Barrow.
Location of Beaker burials
and middle Bronze Age
cremation cemetery.

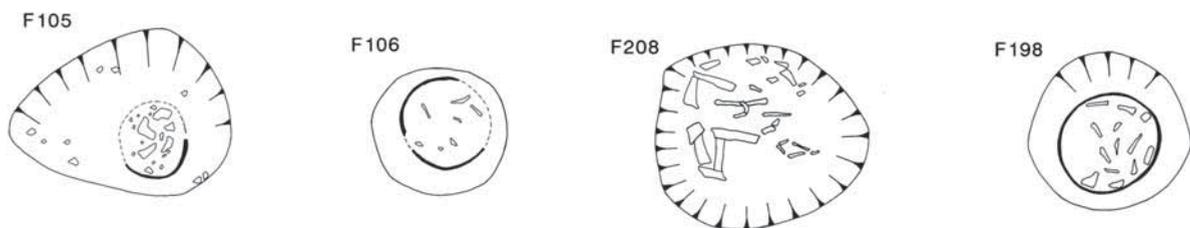
It was ovate in plan, measuring 0.55m by 0.45m. The remains of a Deverel-Rimbury vessel were located within a subcircular area slightly off-centre. A few fragments of cremated bone and pottery were recovered from machine spoil which may have been associated with this deposit. Subsequently the bone was lost. The feature was filled with a grey brown silt loam containing 5% gravel inclusions.

Cremation 106 was situated to the south-east edge of the main group of cremations and it cut posthole 203. It was circular in plan with a diameter of 0.46m and was 0.28m deep. It was bowl-shaped and was filled with a dark grey slightly clayey silt loam containing 10% gravel. The cremation vessel was placed slightly off-centre. A substantial quantity of Deverel-Rimbury pottery was

Figure SS1.55
Long Barrow.
Detailed plans of Beaker burials and middle Bronze Age cremations.



Cremations



recovered including fragments of the base of the cremation vessel. A small quantity of cremated bone was recovered. Context number 107 was assigned to additional unstratified cremated bone recovered from the area around cremation 106; some of this bone may also derive from cremations 110 and 111.

Cremation 108 (see 196–197 below, originally numbered as 21/12 in the evaluation) was located approximately 1.30m south-west of the group of four intercutting cremations (192–195). Upon excavation it was seen to be two intercutting features and numbered 196 and 197. These cremations are described below.

Cremation 109 (see 192–195 below, originally numbered as 21/11 in the evaluation) was situated north of cremation 196. Upon excavation it was seen that there were really four intercutting cremations. These were numbered 192–195 and are described below.

Cremation 110 was situated 0.20m north of 202 in the southern part of the cemetery. It was oval in plan measuring 0.50m by 0.60m and was 0.10m deep. The cremation was shallow and bowl-shaped. It was filled with a greyish brown silty loam containing up to 50% gravel and some large pieces of charcoal (up to 0.08m). A small quantity of cremated bone was recovered.

Cremation 111 was situated south-west of cremation 110. It was subcircular in plan with a diameter of 0.30m. It was shallow (c 0.10m deep) and had a flattish base and sloping sides. It was filled with a greyish brown silty loam containing 20% gravel. A substantial deposit of human bone representing one adult was recovered. Some small stones and a piece of flint were also recovered.

Cremation 192 (originally numbered 109 and 175) was one of four intercutting cremations located 2.5m north of 110. It cut cremations 193 and 195. It was oval in plan measuring 0.30m by 0.20m and was 0.11m deep. It was bowl-shaped and was filled with a dark brown silt loam. Identifiable fragments of one adult and one subadult were recovered.

Cremation 193 (originally numbered 109), was circular in plan with a diameter of 0.20m. It was bowl-shaped and 0.11m deep. It was filled with a dark grey-brown silt loam with mottles of scorched earth. It was cut by 192 and cuts 194. This cremation was partly damaged during the machine excavation of evaluation Trench 21. A quantity of cremated bone was recovered; this represents the remains of one adult, one subadult and



one infant. A single sherd of indeterminate prehistoric pottery was also recovered.

Cremation 194 (originally numbered 109) was part of the group of four intercutting cremations in the northern area of the cemetery. It was subcircular in plan with a maximum surviving diameter of 0.40m. It was 0.16m deep and was bowl-shaped. It was filled with a yellow-brown clayish silt loam with less than 5% gravel. This cremation was cut away to the south and west by 193 and 195. A quantity of cremated bone representing one adult was recovered.

Cremation 195 (originally numbered 109) was circular in plan with a diameter of 0.35m. It was cut by 192 and it cut 194. It had a slightly irregular bowl-shaped profile and was 0.20m deep. It was filled with a very dark grey silt loam. A quantity of cremated bone was recovered, representing the remains of one adult.

Cremation 196 (originally numbered 108) was a shallow bowl-shaped feature located approximately 1.30m south-west of the group of four intercutting cremations (192–195). It appeared to be cut to the west by cremation 197. It was subcircular in plan with a diameter of 0.20m and was only 0.07m deep. It was filled with a grey-brown clayish silt loam containing 5% gravel. A few fragments of cremated bone and pottery (including a base sherd) were recovered.

Cremation 197 (originally numbered 108) was oval in plan, measuring 0.40m by 0.31m. It was 0.20m deep and had a bowl-shaped profile. It was filled with grey-brown clayish silt loam containing 5% gravel. 197 appeared to cut 196 although

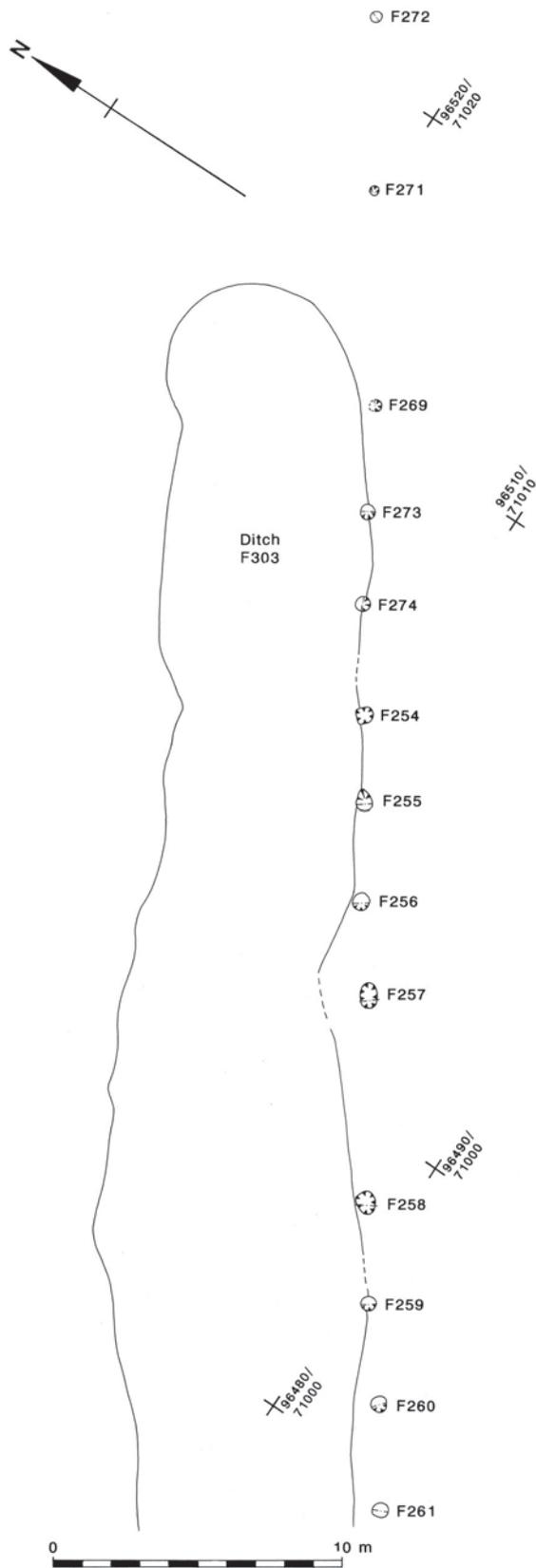
Figure SS1.56

Long Barrow.

Burial F131.

(Photo Oxford Archaeology)

Figure SS1.57
Long Barrow.
Detailed plan of
posthole alignment.



this relationship was not recorded in the field. A small circular area, with a diameter of approximately 0.14 m, was recorded within cremation 197. This was labelled as 196, but it is most likely that this was in fact the cremation pot.

Cremation 198 was circular in plan with a diameter of 0.40m and was 0.26m deep. It was located to the south of the group of four intercutting cremations (192–195). 198 had a slightly irregular bowl-shaped profile and was filled with a dark grey silt loam containing 20% gravel. The cremation vessel was placed slightly off-centre within the pit. A substantial quantity of Deverel-Rimbury pottery and the cremated remains of one adult and one subadult were recovered from the deposit.

Cremation 201 was subcircular in plan, measuring 0.50m by 0.56m and was 0.10m deep. It was located 0.50m north-west of cremation 111. It had a slightly irregular almost flat base and steep sides. It was filled with grey-brown silty loam. The cremated remains of one adult ?male and a possible child were recovered from this feature.

Cremation 202 was located 0.20m south of cremation 110. It was an irregular oval in plan, measuring 0.40m by 0.30m. It had a bowl-shaped profile and was 0.10m deep. The feature was filled with a grey-brown silty loam containing 30% gravel. A few small fragments of calcined bone were recovered from this feature. It may perhaps be a token deposit or severely disturbed by later ploughing.

Cremation 207 was located 1.50m south of the group of intercutting cremations. It was circular in plan with a diameter of 0.50m and was 0.22m deep. It was bowl-shaped and filled with a dark grey silt loam. A gravel lens was recorded on the north-west side of the feature. The cremated remains of one adult individual were recovered. A few small stones and one burnt flint were also recovered from this feature.

Cremation 208 was located 3.90m west of cremation 198. It cut ?posthole 211. It was a slightly irregular oval shape in plan (0.50m by 0.55m) and was 0.40m deep. It had a rounded base and steep, almost vertical sides. The cremation was filled with grey-brown silt loams containing 5% gravel. Charcoal and cremated bone were recovered. A radiocarbon determination of 1860–1420 cal BC (3320±80 BP; OxA-2989) was obtained on *Quercus* charcoal from this deposit. The cremated bone represents an adult ?male and one possible subadult. A sin-

gle sherd of indeterminate prehistoric pottery was recovered.

Phase 3.4: Burnt deposits

Three small deposits of ashy material were recorded in the upper fills of the Long Barrow ditches. 173 was located 13.40m from the butt end of the southern barrow ditch; 179 was approximately 11m south-west of 173 and 149 was located 8m from the north-east butt end of the northern barrow ditch.

Deposit 149 was described as a small dark grey lens of burnt material including charcoal, pottery and unburnt bone. However, no pottery or bone from this context was recorded during post-excavation analysis.

Deposit 173 was a small ashy lens in ditch fill 129. It was rather amorphous and seemed likely to be a dump of burnt material rather than a cut feature. The deposit was a very dark grey organic silt loam. Two fragments of cremated human bone and a small quantity of charcoal were recovered from this deposit.

Deposit 179 was a small, bowl-shaped feature with a diameter of 0.30m. Its relationship to the upper ditch fills was not recorded although from the section it is possible to say that it was a cut feature rather than a lens or dump of material. It was very shallow (0.05m deep) with an irregular base and was filled with ashy material.

Phase 3.5: Posthole alignment (Fig SS1.57)

Thirteen postholes were found along the southern edge of the Long Barrow (254–261, 269, 271–274). They were subcircular in plan and were between 0.36m and 0.60m long, and 0.35m and 0.45m wide; the depth was also variable (0.12m to 0.35m). Their dimensions are summarised in Table SS1.5. They were generally steep-sided with flat or slightly rounded bases. The fills were grey-brown silty sand loams with up to 20% gravel. The postholes were fairly evenly spaced at 3.25m to 3.75m intervals. The spacing increased to *c* 6m towards the north-east. The only dating evidence for the alignment was a small sherd of Deverel-Rimbury pottery from posthole 269. Posthole 274 appeared to be sealed by alluvium. Postholes 254, 259, 273 and 274 cut the south-east barrow ditch (303).

Phase 3.6: Undated but probably prehistoric features

Pit F279 was subcircular, measuring 1.20m by 1.50m, and was cut into 142, an upper

Table SS1.5. Long barrow. Dimensions of postholes in alignment along outer edge of south-east ditch

<i>Context</i>	<i>Length (m)</i>	<i>Breadth (m)</i>	<i>Depth (m)</i>
F254	0.53	0.45	0.26
F255	0.45	0.42	0.26
F256	0.42	0.42	0.19
F257	0.52	0.45	0.29
F258	0.54	0.48	0.32
F259	0.50	0.50	0.26 (maximum)
F260	0.60	0.55	0.22
F261	0.48	0.45	0.18 (maximum)
F269	0.45	0.45	0.26 (maximum)
F271	0.40	0.35	0.15 – 0.20
F272	0.36	0.36	0.12
F273	0.45	0.45	0.22
F274	0.45	0.45	0.35 (maximum)

layer of mound material. The pit was situated 2m south-east of inhumation 163. It was bowl-shaped with sloping sides and a rounded base. It was 0.64m deep and filled with two layers of reddish brown silty loam. The primary fill was slightly clayey and contained 10% gravel inclusions and the upper fill was much more gravelly with 50% inclusions. The pit was cut from the same level as the Beaker inhumations and may be contemporary. However, no artefacts were recovered from the feature.

F199 was a small circular feature located 0.80m east of cremation 194 (Fig SS1.54). It was bowl-shaped and had a maximum diameter of 0.32m. It was very shallow, measuring 0.08m deep and was filled with a grey-brown silt loam containing 20% gravel. It is possible that this originally contained a cremation and was severely truncated by later ploughing. However, no cremated bone or pottery was recovered and none of the fill was retained for flotation. F199 may therefore have been a truncated posthole, possibly marking the edge of the cremation cemetery.

Posthole F211 was another undated but prehistoric feature (Fig SS1.54). It was cut by cremation 208 and was situated 3.5m west of cremation 198. It was subcircular in plan, measuring 0.60m by 0.65m. It was 0.18m deep. It had a slightly irregular base and steep sides. It was cut into layer 120. No cremated bone or charcoal was recovered perhaps suggesting that it was not associated with the cremation cemetery.

Phase 4: Later activity, truncation*Later activity*

Several large, irregular intercutting pits were located in the north-east part of the site 10m from the Long Barrow (292, 296–299; Fig SS1.58). Limited sections of these features were excavated and where shapes could be determined they tended to be subcircular in plan. They had sloping sides and flat or slightly undulating bases. They were between 0.38 and 0.46m deep and filled with grey-brown silty clay loams containing 5–75% gravel. Only a crumb of indeterminate pre-historic pottery was recovered.

Five other large, circular or subcircular pits were also excavated (132, 133, 270, 300 and 301). These were located approximately 6m north-east of the Long Barrow. They were generally circular or subcircular in plan (diameters of 1.2m to 2.3m) and were quite shallow (0.20m to 0.75m deep). They had sloping sides and flat or rounded bases. They were filled with greyish-brown sandy silt loams containing between 20–25% gravel. No artefacts were recovered.

A series of ?Roman quarry pits was excavated 125m to the south-west of the Long Barrow (Area E, Trench 92). These were very similar to the intercutting pits near the Long Barrow and may be contemporary. There is ample evidence for Roman activity in the vicinity, at the Redlands Farm villa to the south-west (Keevill 1992) and the Stanwick villa to the north-east (Neal 1989).

Truncation

The monument was extensively ploughed (Fig SS1.58). Cross-ploughing was noted over a considerable area of the mound (context 209). The cultivation may have had at least two phases as several directions of cross-ploughing were recorded. From approximately SP 96485 71015 westwards the mound was heavily damaged by Romano-British and later ploughing. The south-western end of the barrow was so badly damaged that the palisade trench could not be traced (see phase 2). The north-eastern end of the mound survived to a height of 0.60m. Four sherds, three of probable early Romano-British date and a single sherd of later Romano-British pottery, in plough-disturbed layers (124, 129, 142 and 166) may provide a *terminus post quem* for this activity.

The eroded mound material and subsequent ploughsoils filled the upper parts of the Long Barrow ditches. In the very top of the ditches alluvium was recorded.

The alluvium did not cover the whole of the monument but was recorded in the majority of ditch sections.

3. Discussion of stratigraphy and phasing

Despite fairly extensive plough damage, a sequence of activity has been established for the Long Barrow at Redlands Farm, Stanwick. Initially the area was cleared of woodland. This may have been a relatively limited clearing within a wooded landscape. Further disturbance, possibly including arding, also seems to have taken place. Turf from the surrounding area was almost certainly stripped to provide building material for the monument.

Structurally three features belong to the primary funerary monument: the cist, pit and façade (Figs SS1.39–42). Phasing has been based on the spatial and stratigraphic relationship of features, radiocarbon determinations and to some extent the artefacts found within those features. The cist is of an interesting form and its position towards the rear of the Long Barrow is noteworthy as such mortuary structures are more commonly found at the front of such monuments. A seemingly disproportionate amount of effort has been put into the cist's construction given the quantity of human bone recovered from it. However, it would seem likely that the deposit of human remains recovered is simply the final burial act and that the cist was used as a temporary store for bodies prior to their circulation and reburial elsewhere.

The cist seems to have been left open at its south-western end, possibly to facilitate access during funerary activity. The burial of human remains undoubtedly took place although the final phase of mortuary activity left little in the way of human skeletal material within the cist. Bone preservation is such that differential preservation is unlikely to have biased the sample recovered from the cist. The careful removal of human remains from the site is instructive and raises the question of where the remains were subsequently buried.

Pit 239 may have been used for defleshing bodies; it may alternatively have been the remains of another cist which had been disturbed, possibly during the early Bronze Age. Its final contents were thoroughly mixed, including a Beaker sherd, an animal bone dated to 910–760 cal BC (2655±55 BP; OxA-6046) and a microlith.

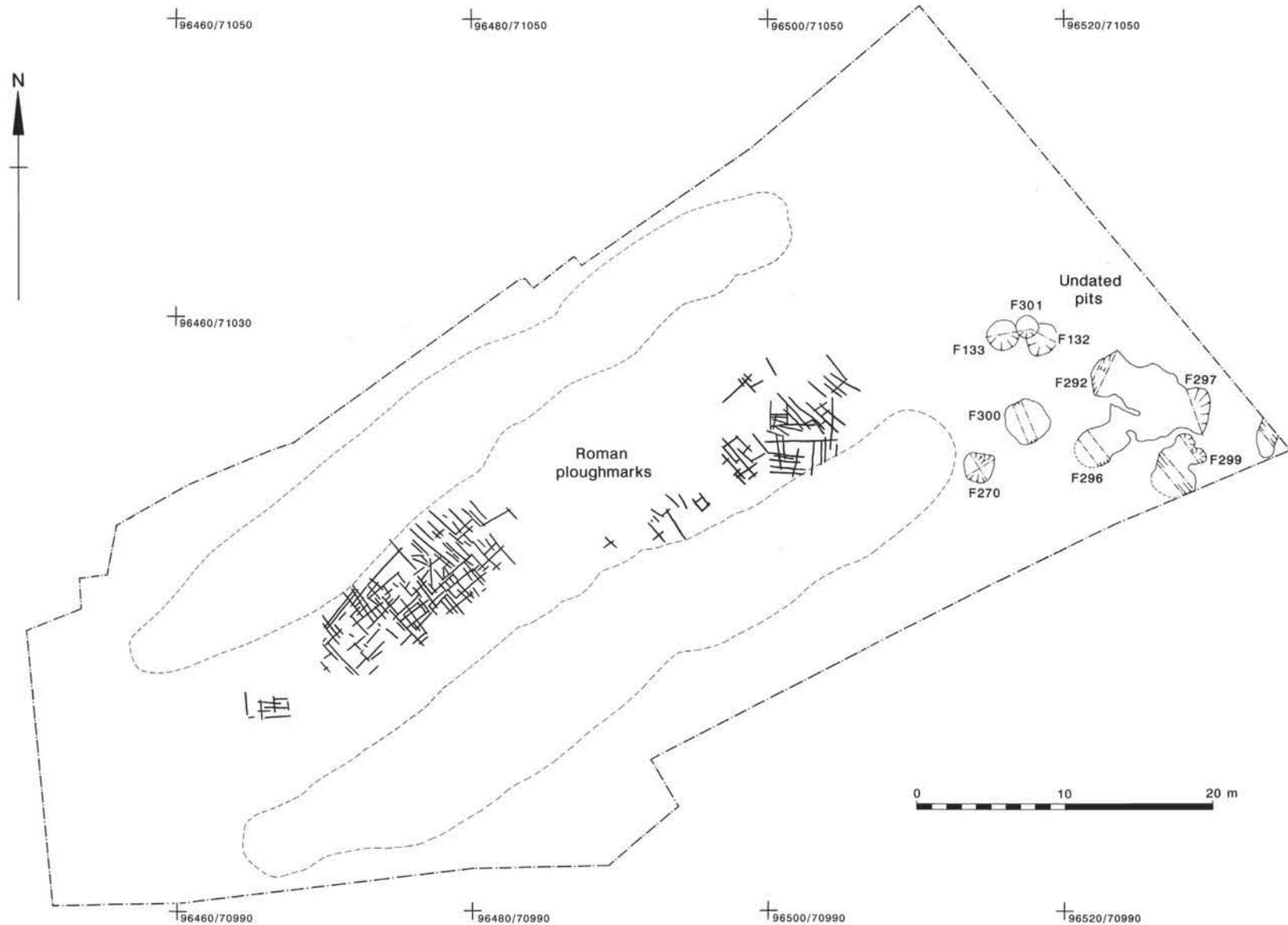
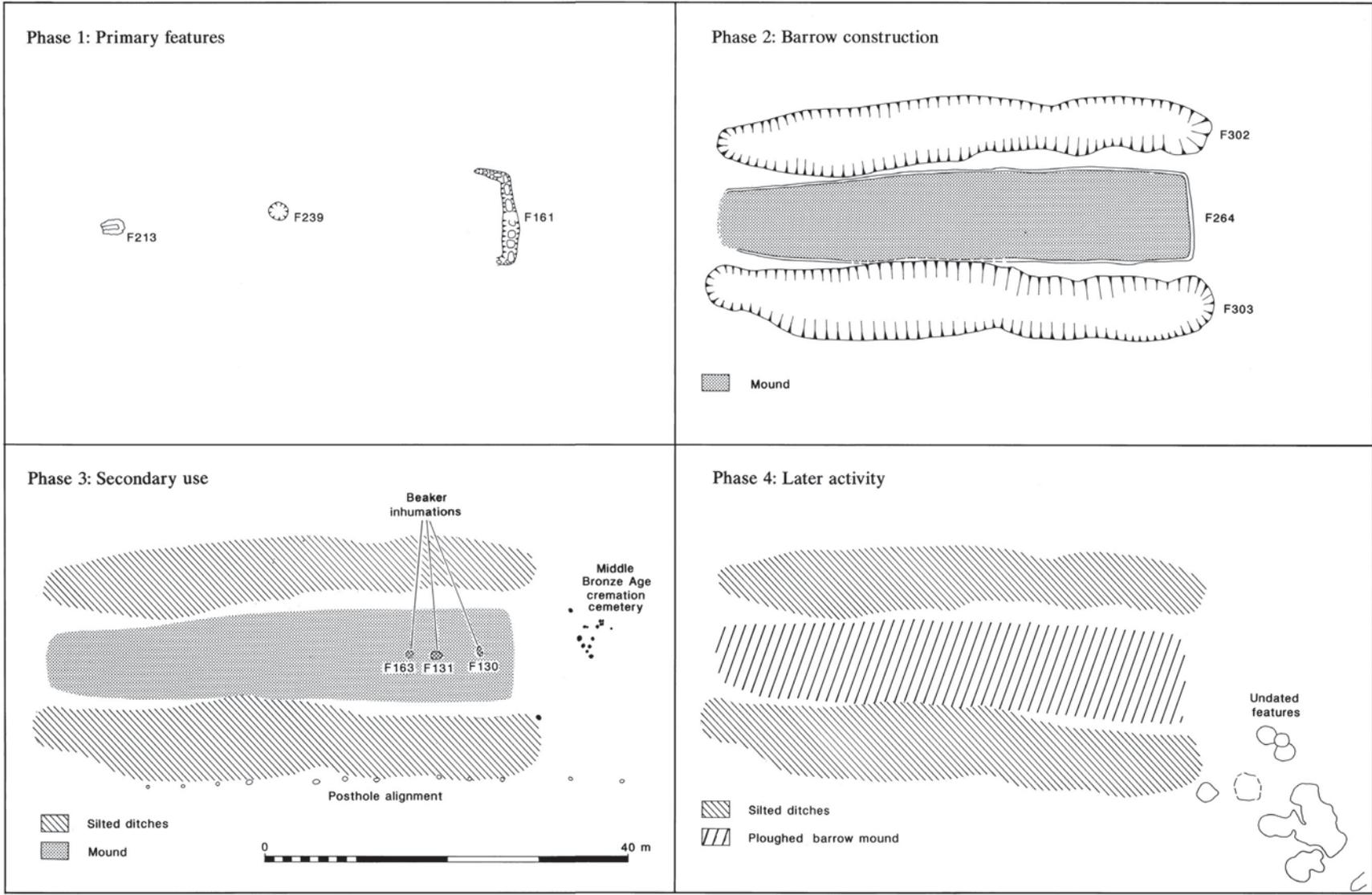


Figure SS1.58
Long Barrow. Romano-British ploughmarks and undated features.

Figure SS1.59
Long Barrow. Phasing.



A possible mortuary sequence may be envisaged:

1. Burial of human remains in the cist and/or pit
2. Removal of bone and careful cleaning out of cist and pit
3. Re-burial of human remains at other locations
4. Backfilling of cist and placing of token deposit of human and animal bone in cist
5. Construction of mound over mortuary features

The façade may have been the focus for ritual and mortuary activity and would have provided a barrier between the outside and the funerary world. Unfortunately no suitable samples were retrieved for radiocarbon assay so that the façade's proposed contemporaneity with the cist and pit remains unproven. The proposed relationship of these three features derives solely from their spatial positioning. Few finds were recovered from the façade except for some worked flint and a fragment of fired clay (Barclay SS3.8.3). The height of the façade can be estimated at a maximum of 2.50m and substantial posts with diameters of 0.90m were used.

The ditches were parallel and flanked a rectangular turf and gravel mound. The mound was contained by a narrow, discontinuous palisade. It is uncertain whether the palisade continued around the south-west end of the barrow, as it was badly plough-damaged, although this seems most likely.

The ditches would originally have been fairly steep-sided with flat bases (cf Ashbee 1984, 44–45, figs 32, 47; Kinnes 1992, 65). The butt ends of the Redlands Farm ditches were carefully dug, possibly as separate features which were then joined to the main body of the ditches (Fig SS1.37). The wood-working debris in the ditches almost certainly derives from the construction of the palisade (Taylor SS3.6). The toolmarks on some of the woodchips and the matching flint axe provide a remarkable insight into Neolithic wood-working techniques.

The mound was slightly in excess of the average size given by Kinnes for long barrows (1992, 67) and its original height has been estimated at between 1.10m and 1.70m. The mound itself was constructed from locally available materials: gravel from the ditches and turf, some of which was probably stripped from the area prior to initial monument construction. If turf was cut from the area this activity may explain the disturbance identified in the soil thin sec-

tions. There was no definite evidence for the division of the monument into bays during construction (Macphail SS4.8.1), as in the long mound at West Cotton and elsewhere in Britain (Kinnes 1992, 72).

The placing of the small Beaker inhumation cemetery at the front of the Long Barrow must have been a deliberate action, although whether this implies continuity of ritual activity is uncertain. The positioning of the burials could simply utilise the highest part of the Long Barrow, although their spatial arrangement along the central axis suggests some forethought. Similarly the clustering of middle Bronze Age cremations also suggests that the 'place' retained some special significance and was therefore suitable for the interment of the dead long after the initial burial function of the monument had ceased.

The environmental evidence indicates that the Long Barrow was situated in a cleared area within a wooded landscape. Woodland regeneration has been suggested (Robinson SS4.3.1; Wiltshire SS4.2) and radiocarbon determinations on *in situ* alder root clusters from the barrow ditch suggest that this had taken place by the turn of the third and second millennia cal BC (OxA-6403, -6404).

4 Resource estimates

The façade

Frances Healy

The façade trench would have had an approximate volume of 10.10 cu m, the excavation of which would have made 14.86 hours of work for a team of three (Startin 1982, 153). It would have held thirteen or fourteen uprights, and the D-shaped to sub-rectangular plan of most of the sockets suggests that they held half-trunks. The relationship between the dimensions of the postholes and those of the posts is difficult to judge. If the posts occupied roughly 60–80% of the area of their postholes, as at Street House, Cleveland (Vyner 1984, 153, fig 3) then the largest would have measured approximately 1m by 0.80m and the smallest 0.50m by 0.40m. The sections in Figure SS1.42 suggest that the sloping inner face of the trench may have served as a ramp by means of which the posts were manoeuvred into place. If so, the distance between the inner edge of the trench and the outer edge of the base of each posthole (up to 1.90m) should approximate to half the length of the

Table SS1.6. Long Barrow. Summary of finds

* = recorded, but unidentified or missing

Lithics are of flint

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Context (s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Other artefacts</i>	<i>Charred material</i>	<i>Environmental evidence</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
0			3 identifiable fragments cattle, 1 of red deer		19 flakes, 12 blades, core, 3 retouched including scraper		Charred onion couch grass tuber Ash charcoal	Hints of animal-trampling and dunging in soil underlying mound		
1	Façade				Core, 2 flakes, scraper	1 fragment/5g fired clay				
	Cist	Weathered longbone fragments	Unidentified				Indeterminate charred cereal grain		4825±65 (OxA-5632) 4820±80 (OxA-5633) both on longbone fragments	3710–3510
	Pit 239 (disturbed)		Humerus, red deer	2 sherds Southern style Beaker, P13 (GF3/BKR)	2 flakes, 2 cores, microlith				2655±55 (OxA-5551) on red deer humerus	910–760
						§				
2.1	Palisade			1 sherd Deverel-Rimbury (from disturbed context 264)	7 flakes, 2 blades, 2 retouched					
2.2.i	Primary ditch fills		Cut-marked, shed red deer antler 7 identifiable fragments of cattle, 2 of pig		25 flakes, 1 blade, 1 frag irregular debitage	Waterlogged wood, mainly oak, with some hazel, lime and Pomoideae, mainly the debris of lightweight wood- and timber-working, some axe-marked.		Plant remains, insect remains and pollen reflecting wet conditions in the ditch, and a wider environment of grazed, herb-rich grassland with some woodland, scrub developing towards the top of the waterlogged deposits.	4810±80 (OxA-3001) 4560±140 (OxA-3002) 4790±90 (OxA-3003) 5005±50 (OxA-6405) 4960±45 (OxA-6406)	3760–3370 3650–2890 3760–3360 3960–3660 3910–3640
2.2.ii	Secondary ditch fills		14 identifiable fragments of cattle, 3 of red deer, 1 equid tooth	60 sherds Peterborough Ware, including P1–P8 (various fabrics) 1 sherd ?Beaker 2 sherds indeterminate Late Neolithic/early Bronze Age, P10–P11 (SAG2/LNEBA, GI2/LNEBA) 2 sherds indeterminate prehistoric 1 sherd late Iron Age/early Roman (from topmost, plough-damaged layer)	23 cores, 362 flakes, 24 blades, 14 frags irregular debitage, 24 retouched including ground flint axe					

2.3	Mound	Weathered, probably human long bone fragment Adult metatarsal fragment	2 identifiable fragments of cattle	1 crumb (<1 g) indeterminate	4 cores, 3 fragments irregular debitage, 45 flakes, 13 blades		
3.1	Posthole 203=206	13 g cremated bone, probably attributable to cremation 106, which cut the posthole		1 sherd indeterminate late Neolithic/early Bronze Age, P10 (SAG2/LNEBA)		Alder roots growing down into ditch in late third/early second millennium	3685±65 (OxA-6404) 2290–1880 3610±80 (OxA-6403) 2200–1740 Both on alder roots
3.2	Inhumation 130	Adult ?male skeleton					3665±45 (OxA-5549) 2200–1890
	Inhumation 131	(1) Adult female skeleton (33–45 yr) (2) 2 teeth, skull fragment and ?pelvis fragment of 2nd adult (3) Subadult humerus shaft fragment		Beaker, P12 (GAS3/BKR) 2 flakes	Cu alloy basket ‘earring’ Shale armet		3450±45 (BM-2833) on (1) 1890–1630 3730±45 (OxA-5550) on (3) 2290–1980
	Inhumation 163	Probably adult skeleton		knife			
	Layer 151 in mound			7 sherds from base and lower body of small EBA urn, P14 (S3/EBA)			
3.3	Cremation cemetery	c 15 cremation deposits, most of individual adults, a few combining adult and subadult or infant remains		1 sherd Peterborough Ware > 200 sherds Deverel-Rimbury, including P15–P16 (S3/DR) 1 sherd indeterminate prehistoric		Charred seeds and tubers, including cereals and onion couch grass Charcoal mainly oak with some Pomoideae	3320±80 (OxA-2989) 1860–1420 on oak charcoal
3.4	Burnt deposits	A few fragments cremated bone		1 sherd Deverel-Rimbury			
3.5	Posthole alignment			1 sherd Deverel Rimbury	1 flake		
4				1 sherd indeterminate prehistoric 8 g Roman	56 flakes, 6 blades, 2 frags irregular debitage, 4 cores, 7 retouched		Roman cross-ploughing probably accompanied by manuring

post, which could have been tipped into the hole once its point of balance was on the ramp edge (Mercer 1981b, 149–50). In this case, the central posts could have been as much as 3.80m long and could have stood 2.50m high once in place.

If the front was built of seven half-trunks 4m long and 0.70–0.80m across, and the sides were built of six half trunks 3m long and 0.40m across, the total requirement of 23 metres of trunk could have been met from a single oak the bole of which had grown to a height not unusual in natural forest (Startin 1978, 153–4). Felling the tree, trimming it and cutting it into lengths could have taken about 15 worker hours, according to the figures cited by Startin (1978, 154–5). Splitting the lengths into two could have taken as little as two minutes each according to Darrah (1982, 221); five are allowed here. Taking a weight for green oak of 1073.34kg per cu m (Mercer 1981b, 152), the total weight to be transported would have been almost 9 tonnes, with the larger central posts weighing a tonne or so each. Since the barrow was built in a recently made clearing in woodland, the distance may have been short. In these circumstances, Gibson’s rate of two hours per post for timbers only some of which were as large as these, assuming a team of six and the use of animal traction (1994, 184) may be appropriate. Erecting them, following Gibson’s estimate of four to six hours per post for a team of twelve, could have taken a further sixty-five hours. The total labour requirement might have been as follows:

<i>Task</i>	<i>Worker hours</i>
Digging trench	45
Felling tree, trimming it, cutting it into lengths	15
Cleaving lengths into two	1
Transport	156
Erection	780
Backfilling	30
Total	1027

The ditches and mound

Paul Backhouse

Calculations

All the following calculations are based on Startin (1982, 153) who gives an excavation rate of 0.68 cu m per hour for a prehistoric

team of picker and shoveller and an appropriate number of carriers. The rate of 1 sq m per 0.6 of an hour was used to calculate the time taken for turf cutting (Hurst 1899, cited by Startin 1982, 50). The expansion factor of the soil to calculate the height of the monument was also ignored due to the fact that it was primarily of gravel and sand (Rea 1913, 35).

The ditches

To produce an estimate for the work involved in creating these monuments, it was decided to digitise the site plan and also a number of cross sections of the ditches. This method facilitated manipulation of the site data.

A number of measurements were taken from the site to produce the average area of the ditches and sections through the ditches. This was calculated as 4.48 sq m, which was then combined with the average length of the two ditches, to give the total quantity of soil excavated.

Area F302: average section x average length
= average volume
 $53.69 \times 3.22 = 172.85$ cu m

Area F303: average section x average length
= average volume
 $54.94 \times 3.22 = 176.88$ cu m

Creation of the barrow

The soil taken from the cutting of the ditch is presumed to have been placed within the palisaded area. In order to calculate the likely height of the barrow the area within the palisade enclosure was measured. This figure was then combined with the total volume of soil excavated to produce the estimated height of the Long Barrow.

Area inside palisade (F239) = 376.78 sq m

Total soil removed from ditches =
349.73 cu m

Total height of barrow = volume ÷ area =
 $349.73 \div 398.31 = 0.928$ m

This calculation assumes a flat topped-barrow. A height of 1.7m would be appropriate for a wedge-shaped mound. These figures represent the minimum and maximum height ranges for the barrow.

Time taken to create the barrow

It is assumed that the turf that would have been stripped was used to turf, or, on the evidence of Figure SS1.43, torevet the Long

Barrow. The area stripped for each ditch would have been $314.74 + 369.09$ sq m = 683.83 sq m which would take 410 worker hours. To dig the ditch would be 349.72 sq m at 0.68 cu m an hour which would be 514.32 hours for a team of three or 1543 worker hours. This then gives a total construction time for the ditches of 1953 worker hours or 651 hours for a team of three.

Estimated work force

It has been suggested that the four termini of the ditches were dug separately to the rest of the ditch, thus a maximum of 6 work teams could have been employed, these probably consisted of 3 team members which would take 108 team hours to complete the whole of the monument. It was assumed that the removal of spoil would have little or no impact on the time taken to create the monument (Startin 1982, 50).

The palisade

Frances Healy

The palisade was less substantial than the preceding façade but far longer. The slot in which it was set ran for at least 115m and was between 0.14m and 0.40m wide and 0.20m and 0.60m deep. This yields an approximate volume of 8.7 cu m. Postpipes, where they survived, fitted tightly in the slot (Fig SS1.42). The woodworking debris in the waterlogged lower ditch fills consisted primarily of by-products from the felling of lightweight timber trees and timber-working. Some derived from shaping posts and stakes, and some of the roundwood was coppice. The roundwood was of a suitable size for wattle fencing, and would also have been suitable for revetment, prompting the tentative conclusion that the wood in the revetment was half-split roundwood of approximately 120mm diameter (Taylor SS3.6), which agrees with the dimensions of the postpipes in Figure SS1.42. If the wood-working indeed related to the revetment of the barrow, that revetment may have taken the form of close-set posts, of hurdles supported on stakes or posts, or of posts linked by horizontals, perhaps planks, which retained the turf facing behind them. An indication of height is provided by the elevation of 1.70m estimated above for the higher, north-east end of the barrow. The spacing of the posts is uncertain, although the continuous slot suggests that they were close-set. In revetted long barrows such as Fussell's Lodge, Wiltshire (Ashbee 1966)

or Kilham and East Heslerton, both in Yorkshire (Manby 1976; Vatcher and Vatcher 1965) the intervals between the posts were generally equal to or less than the diameters of the posts themselves. In the smaller, and probably later, oval barrow in the henge entrance at Maxey, the posts were contiguous and squared (Pryor *et al* 1985, 62–64, pls XII–XIII). For the purposes of this estimate the Long Barrow posts are taken to have been approximately one post-width apart.

Digging the slot would have made 36 hours of work for a team of three. The slot would have held approximately 480 posts, which could have been up to 2.70m long at the north-east end (the estimated 1.70m mound height plus the *c* 1m depth of the slot in Figure SS1.42) and as little as 1m at the south-west end, which suggests a mean post length of 1.85m. The wood in this case would have come from young trees or mature coppice. If the usable part of each bole or pole was 6m long, the requirement could have been met from about 80 poles, each providing six posts. Using the same criteria as for the façade, felling the wood, trimming it and cutting it into lengths could have taken about 55 worker hours, and splitting the lengths into two a further 20. The total weight to be transported would have been about 5.30 tonnes, for which a gross rate of 24 hours per tonne for a team of 6 is derived from Gibson's figures, quoted above. Posts of around 11kg would have been relatively easy to set in place. Ten minutes work by two people seems a reasonable guess – but it *is* a guess. Estimated at this rate the task would take 160 worker hours.

<i>Task</i>	<i>Worker hours</i>
Digging slot	36
Felling wood, trimming it, cutting it into lengths	55
Cleaving lengths into halves	20
Transport	127
Erection	160
Backfilling	24
Total	422

SS1.5 The Long Enclosure

*Andy Chapman, Tony Baker,
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Abstract

The Long Enclosure at West Cotton measured 117m long by 17m wide internally, and was oriented south-west to north-east, and was defined by a single and probably continuous ditch. The northernmost 26m of the enclosed area lay within the area of total excavation. To the south of this area, the two sides and the southern end of the ditch were located by machine-cut trial trenches. The ditch fills indicated the former presence of internal banks along the sides, and episodes of localised recutting. The only artefacts were a sparse scatter of struck flint, without pottery. A red deer antler rake and two cattle bones were recovered from the primary ditch fills. There were no archaeological features within the excavated part of the enclosed area, although there were two tree-hollows.

1 Discovery and excavation

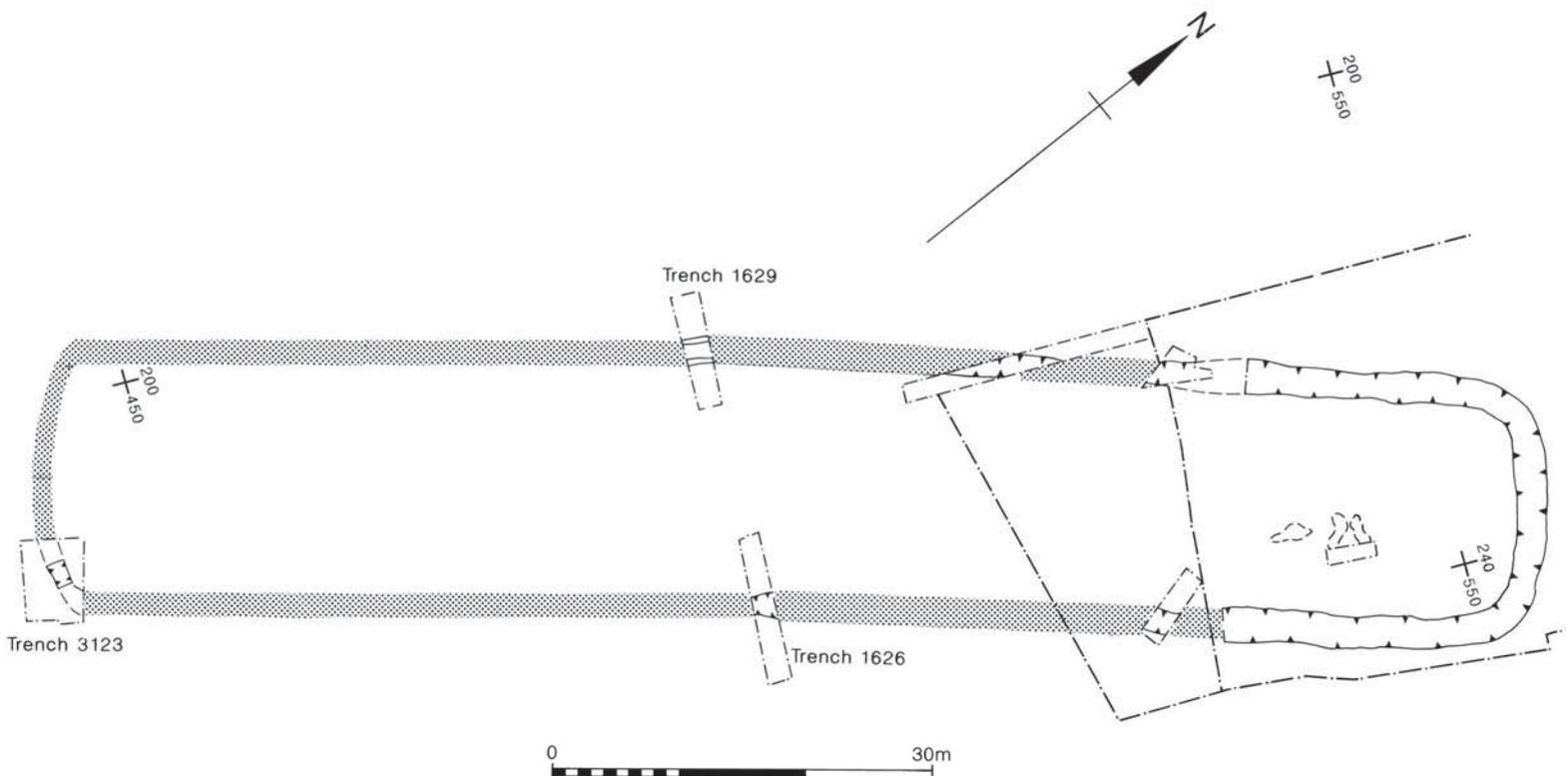
The Long Enclosure was centred at SP 97546 72454. Its existence was unknown prior to excavation. The initial machine-

stripping of the area was carried out in 1985, when the modern topsoil, layers of postmedieval alluvium and a medieval soil horizon were removed. The exposed surface was a layer of gravel in clay (context 224), through which late Saxon features were cut. At the southern end of this area silt, gravel and clay deposits indicated the presence of a sequence of streams and what were later seen to be artificial leats of late Saxon to postmedieval date.

Excavation of the late Saxon features revealed lengths of an earlier ditch sealed by the clay. A number of box sections were cut through the clay and segments of the underlying ditch were excavated. A machine-cut trench along the western edge of this area revealed a further length of the enclosure ditch (F487), although at the time it was not apparent that these features constituted a single ditch line. In these initial investigations no finds were recovered from the ditch fills, and it was considered that the short lengths of linear ditch which had been revealed were most likely to be parts of an Iron Age enclosure system.

In 1986 the area was further machine-stripped to remove the clay layer 224 and to expose the underlying natural gravel. At this stage, the plan was revealed and it was apparent that a single, continuous ditch

Figure SS1.60
Long Enclosure.
Overall plan.



defined an elongated enclosure of unknown length. The southern end of this area was not taken down to natural because of the known presence of stream channels. To the south, four trenches were cut by machine to establish the total length of the enclosure (Fig SS1.60).

To the immediate south of the main area, excavation trenches were cut across the lines of the two arms of the ditch: the eastern arm was located and excavated (Trench 1626); and the western arm was located, but could not be excavated due to the high water level (Trench 1629). In Trench 3123, the southern end was located and excavated after a trench further south had failed to locate the enclosure ditches, although it cut into the previously unsuspected Turf Mound. Another trench cut to locate the western arm south of Trench 1629 was abandoned due to flooding.

Within the area of total excavation, the ditch was excavated in lengths varying from 1.50m to 3.0m, with intervening baulks of comparable dimensions. The ditch fills in each section were separately numbered and recorded prior to the removal of the baulks: few artefacts were recovered from the ditch fills and it was hoped that the removal of the baulks would produce further finds and dating evidence. Soil samples for flotation were taken from the secondary ditch fills at various places around the ditch circuit at the northern end. The area enclosed by the ditch was cleaned, but no archaeological features were located.

2 The excavated evidence

Phase 1. The enclosure ditch

The Long Enclosure was defined by two parallel arms of a ditch set *c* 19.50m apart, with rounded corners leading into a slightly convex northern end. Trial trenches to the south confirmed that the long arms were parallel for *c* 70m. Further to the south, the only evidence for the ditch was from Trench 3123, and it is presumed that this represented the southern terminal, making the enclosed area *c* 117m long (Fig SS1.60).

Within the open northern area, a 65m length of the ditch was fully excavated (Figs SS1.61–62). The cut was between 2.10m and 2.60m wide and from 0.75m to 0.95m deep, with basal levels ranging from 33.13m OD to 32.69m OD. In the trial trench across the eastern arm, the ditch was only 1.55m wide, but here the upper levels had been



removed by later activity. At this point the ditch was only 0.55m deep, but the bottom level of 32.84m OD, lying within the range of levels at the northern end, indicated that the ditch was originally of a similar depth to the northern end. To the south, the terminal was cut to a depth of 32.86m OD, although here the ditch had been even more heavily truncated leaving it only 1.30m wide and 0.30m deep.

At the northern end both the width and depth varied irregularly rather than consistently around the length of the ditch. However, the bottom levels were consistently higher around the northern terminal, at just over 33.00m OD, whilst along both the eastern and western arms the bottom levels became progressively lower, to around 32.70m OD at the southern limits of full excavation. This pattern, however, was also reflected in the surviving gravel surface, which was at its highest along the northern end. It would seem that the ditch was probably originally dug to a near constant depth, but it is possible that the northern end was slightly shallower. As the original ground surface has been lost, this could not be established with certainty.

In profile the bottom 0.20m to 0.30m of the cut was steep to almost vertical-sided. The base was typically narrow at *c* 0.30m wide, varying between 0.20m and 0.40m, with a bottom profile either rounded or nearly flat. At 0.20m to 0.30m above the base, there was generally a sharp break to a shallower slope of around 40°. Above this the upper edges generally became even shallower, varying between 30° and 40°. The profiles were usually quite symmetrical, indicating that both the inner and outer slopes of the ditch had eroded in a similar fashion.

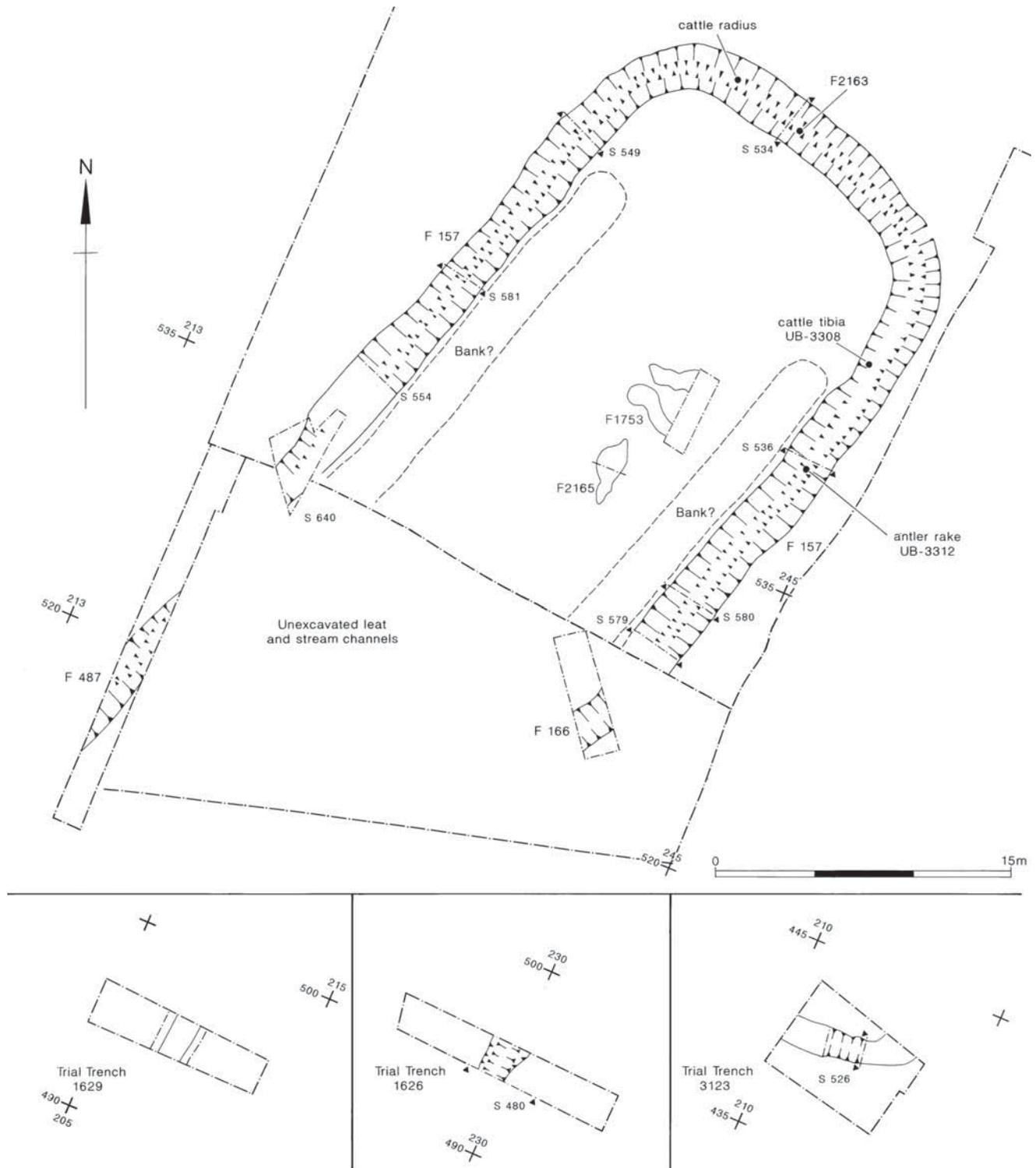
*Figure SS1.61
Long Enclosure.
North end during
excavation.
(Photo Northamptonshire
County Council)*

Figure SS1.62
 Long Enclosure.
 North end and trial trenches
 1629 (west side), 1626 (east
 side) and 3123 (south end).

Variations in profile around the ditch circuit were all likely to be due to variations in the natural, which ranged from consolidated gravels to loose sandy gravels. To the south, the eastern arm, Trench 1626, had a profile similar to that to the north, but with a rela-

tively broad and rounded base. The profile of the ditch at the southern end (Trench 3123), also had a relatively broad base, c 0.40m wide (Figs SS1.63–64).

If the surviving basal profiles were indicative of the original ditch profile, then the



ditch may well have been some 1.50m to 1.70m wide at prehistoric ground level with a depth probably around 1.20m to 1.30m, allowing for a loss of *c* 0.30m from the original ground surface. It would have been a steep-sided, perhaps *c* 60° to *c* 70°, V-shaped cut with a narrow base around 0.30m wide.

The stream channel located between the presumed southern end and the arms of the ditch located in trial Trenches 1626 and 1629, is thought to be post-prehistoric and to have represented a shift in the stream course from a probable early channel to the north of Barrow 6. It is, however, possible that was in fact an early channel, pre-dating the Long Enclosure (Panel 2.1). If this were the case the Long Enclosure would either have been laid out across an active stream or have been much shorter, probably between 75m and 85m long, with the ditch to the south forming part of a separate enclosure.

This doubt was partly raised by the fact that the eastern side of the southern end lay *c* 2.5m to the east of the position that would have been expected, had the eastern arm run straight for its entire length (Fig SS1.60). If it is accepted that this was the southern terminal of the Long Enclosure and that the basic plan form of two closely parallel ditches was respected to the south, then this discrepancy could be explained in two ways. Firstly, the ditches may have been slightly curved rather than linear. However, there was no indication of this for the northern 70m of the enclosure. The second, and the preferred, option is that the alignment of the ditches changed at about the midpoint of the enclosure. To the north the parallel arms were at an angle of 40° east of north. A change in alignment of *c* 3° at around the mid point, to an alignment of *c* 37° east of north would have produced the observed discrepancy.

Phase 2 primary silts

The primary fills, which were largely consistent along the entire length of the ditch, were of clean calcareous gravels, within a variable matrix of sands and some clay (Figs SS1.63–64: contexts 2148, 2141, 2126, 2102, 2162, 2155, 2081, 2082, 3135, 3136). Any variation tended to reflect change in the local natural, and these fills were indicative of fairly rapid erosion of the sides of the ditch.

There were three finds of particular significance. Midway along the excavated length of the eastern arm there was a shed red deer antler, retaining the brow and bez tines, both with worn tips, and with the trez tine broken off. It lay within and towards the

base of the primary fill, *c* 0.10m above the bottom of the cut, in context 2102 close to S536 (Figs SS1.62). It must have been deposited at an early stage in the accumulation of these silts, and therefore could have been used as a pick or rake during the construction of the enclosure. If the ditch had been actively maintained for some time, by periodic recleaning and removal of the primary silts, then it could post-date the creation of the enclosure by an unknown period of time. There was no clear evidence, however, to indicate that the ditch was maintained in this fashion. A radiocarbon date of 3360–2880 cal BC (4411±77 BP; UB-3312) was obtained from this antler.

Also within the primary fill of the eastern arm of the ditch, and 6.30m north of the antler, there was a 170mm length of cattle tibia. This was also in context 2102, but lay slightly higher, *c* 0.15m above the bottom of the cut. It was probably deposited towards the end of the accumulation of the sand and gravel forming the initial primary silting that filled the deepest part of the cut. A radiocarbon date of 3360–2460 cal BC (4278±156 BP; UB-3308) was obtained on it.

Towards the western side of the northern end, a 180mm length of cattle radius was recovered from the primary silts in context 2126, *c* 0.05m above the base of the ditch. This was also submitted for radiocarbon dating, but because of problems in processing it failed to produce a date. A small quantity of struck flint was also present (Table SS1.7).

Phase 3 localised recuts

Context 2143

The southernmost section on the western arm (S554) showed a unique sequence of filling. Against the western, outer, side the phase 2 silts consisted of an initial primary fill of clean and soft orange sand (context 2144) overlain by a fill of gravel in orange-brown sand (context 2146). The outer slope of these deposits was quite steeply angled at *c* 35° to 40°, suggesting that they may have been truncated by a recutting of the ditch.

In this instance it is possible to suggest that the apparently rapid accumulation of clean sands and gravels against the outer edge of the ditch was most probably due to an early collapse of the ditch side itself. At a depth of *c* 0.20m below the surviving surface, there was a localised layer of soft orange sand within the natural gravels. Erosion of this layer followed by collapse of the overlying gravel would have accounted for the observed ditch fills. The outer side of the ditch, which

A NEOLITHIC AND BRONZE AGE LANDSCAPE IN NORTHAMPTONSHIRE

Figure SS1.63

Long Enclosure. Sections through north end (S534), west side (S549, S581) and south end (S526).

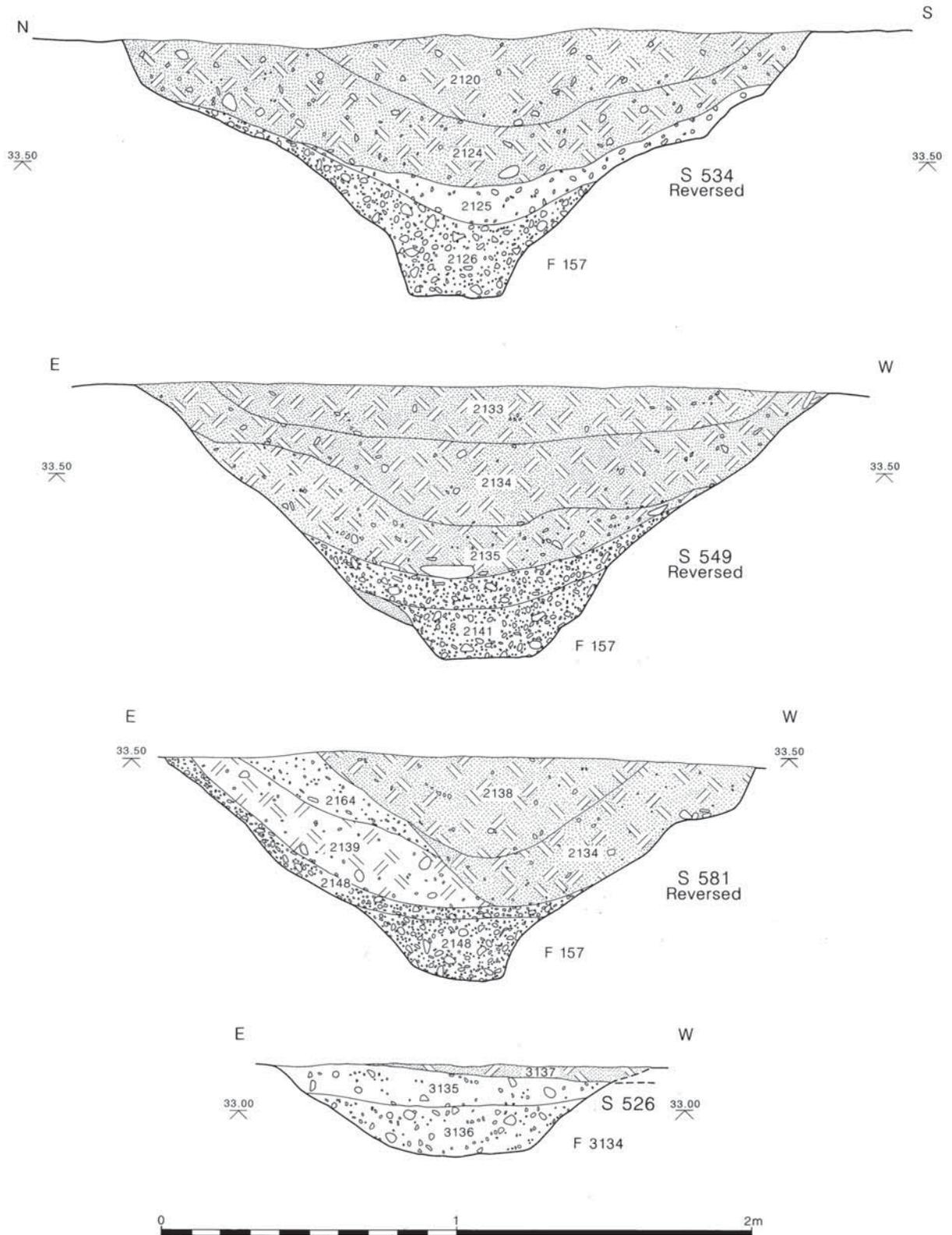


Figure SS1.64
Long Enclosure. Sections through east side (S480, S580, S536).

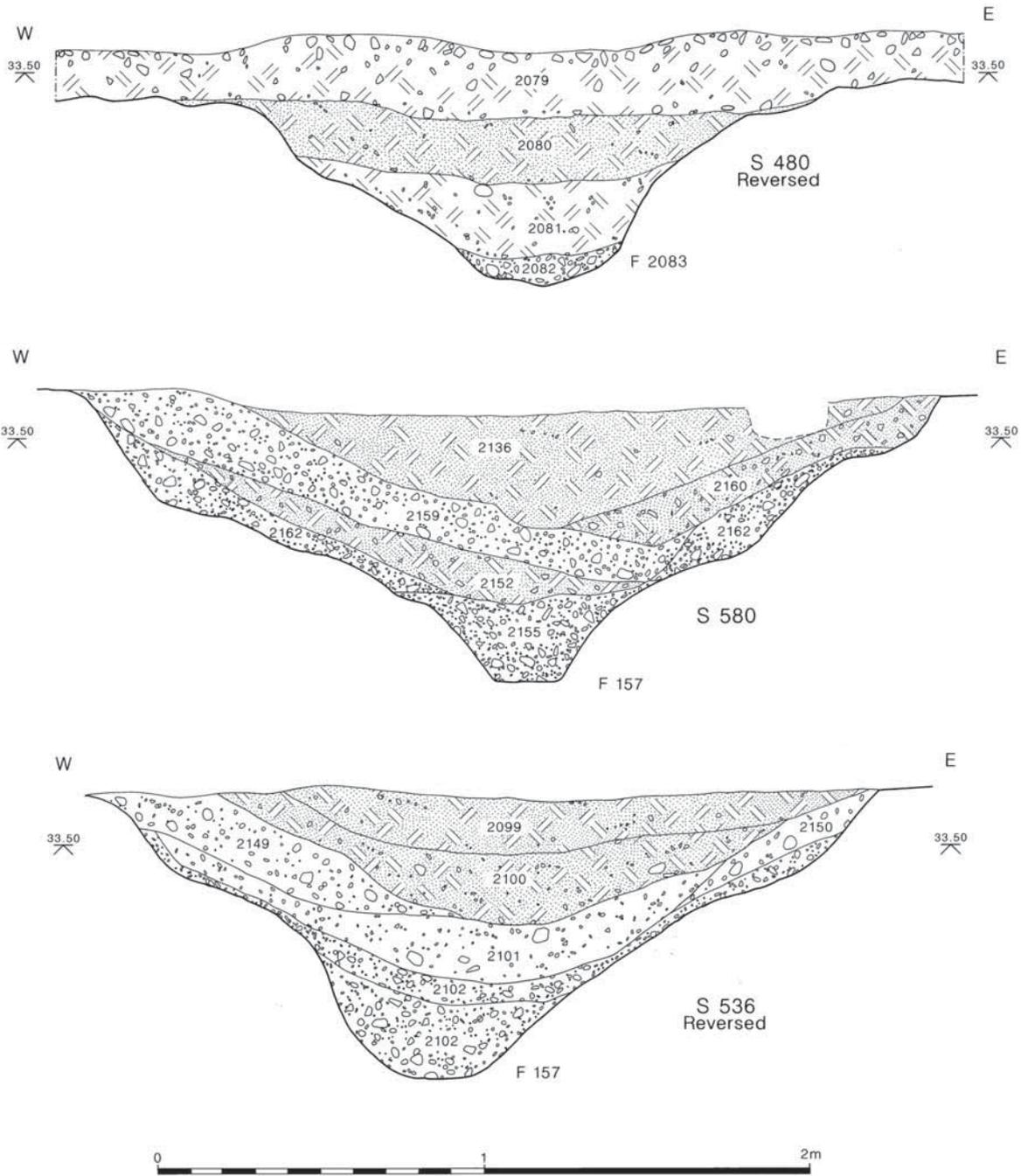


Table SS1.7. Long Enclosure. Summary of finds

Lithics are of flint unless otherwise stated

<i>Phase</i>	<i>Animal bone</i>	<i>Lithics</i>	<i>Charred material</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
2 primary silts	Red deer antler rake, cattle tibia and radius, bone fragments from flotation	1 blade, 7 flakes		4278±156 (UB-3308) on cattle tibia	3360–2460
				4411±77 (UB-3312) on antler rake	3360–2880
3 localised recuts in primary silts			Charcoal flecks in F2163		
4 secondary silts	Bone fragments from flotation	3 cores, 2 non-bulbar fragments, 20 flakes, 3 blades, microlith, 1 misc retouched	2 vetch or tare seeds, 2 hazelnut fragments, 2 seeds stinking mayweed, fragment of onion couch grass tuber, indeterminate Gramineae seed, rachis fragments of tetraploid and hexaploid wheat, 10 grains free-threshing wheat, 6 grains indet wheat, 5 oat grains, 13 grains barley (12 sprouted), 9 grains indet cereal		
			Includes intrusive historic period cereal varieties		
5 localised recut in secondary silts		Flake, blade			
6 final silts		Core, 19 flakes, 5 blades, 1 misc retouched			
U/S & misc		2 cores, non-bulbar fragment, 4 flakes, 2 blades	Charcoal fragments from ditch, context unclear (sample 36)		

bows outward for a short distance here (Fig SS1.62), was probably recut only along the length where this specific collapse had occurred.

The second stage of primary filling in this section consisted of an orange sandy clay with some gravel (context 2143). This was overlain by a phase 4 secondary fill of grey sandy clay with moderate gravel inclusions (context 2132) similar to the initial secondary fills seen around much of the circuit.

Context 2163

Charcoal was rare throughout the fills of the ditch. However, a single context, 2163, did produce a concentration of charcoal. Near the middle of the northern end a small oval pit, measuring 0.35m by 0.28m and 0.30m deep, was cut down through the primary ditch fills and c 0.05m into the natural at the base of the ditch (Fig SS1.62). The pit fill was a grey clay mixed with a moderate amount of sand and gravel and included frequent but mainly small flecks of charcoal. As this feature only just penetrated the natural, it would appear that it was cut down

through the primary silts and did not represent a standing post around which the primary silts had accumulated.

Phase 4 secondary silts

The secondary fills showed considerable variation around the fully excavated northern end of the enclosure. Along the northern terminal and around the north-western corner, to S549, the pattern of filling appears to have been entirely due to natural silting (Fig SS1.63: contexts 2125, 2135). The initial secondary silting was a mid to dark orange-brown sandy clay with moderate pebble inclusions, and in places, mottles of darker grey-brown staining. This fill had accumulated fairly evenly from both sides of the ditch. The upper secondary silting (Fig SS1.63: contexts 2124, 2134) was generally lighter in colour, being a mid orange-brown sandy clay, with a similar or slightly lower incidence of pebble inclusions. This too had accumulated fairly evenly from both sides of the ditch.

These fills would appear to have been derived partly from continued erosion of the

ditch sides, but this alone would not account for the dark colour that was particularly evident in the initial secondary silting. The generally dark colour, the occasional presence of even darker mottles and the symmetrical silting pattern perhaps could be best interpreted as indicating the presence of topsoil and turf eroded from the top edges of the ditch. This would imply that at least the areas immediately adjacent to the ditch, both internally and externally, had a turf and topsoil cover and may not have been stripped when the enclosure was constructed.

The secondary silting along the eastern arm of the ditch was broadly similar to the northern end, but included some material possibly derived from an internal bank. The initial secondary silting was a dark grey-brown sandy clay with moderate gravel inclusions (Fig SS1.64: contexts 2101, 2150, 2152), which although similar to the equivalent deposit along the northern terminal, was generally darker in colour. It had accumulated fairly evenly from both sides of the ditch with the exception of a single section (Fig SS1.64: S580), where it had accumulated from the inner, western, edge. This layer had probably been formed in a similar fashion to the initial secondary silting along the northern end; from erosion of the turf and topsoil adjacent to the ditch, although along this eastern arm slightly more material was derived from the inner edge in some places. It should be noted, however, that the initial secondary fill was consistently darker along the long arms of the enclosure where it was sealed by the gravel presumed to have come from the erosion of internal banks. This indicated a difference in the material being deposited, and perhaps the possibility that the gravel banks had been revetted with turf collected during the clearing of the ditch course.

In all the sections along this arm of the ditch, for a length of at least 12m, there was an upper secondary fill restricted to the inner, western side only. This consisted of gravel in mid to dark orange-brown sandy clay (Fig SS1.64: contexts 2149, 2159). While some gravel had come into the secondary fills from the outer, eastern, edge of the ditch, the greater quantities derived from the inner edge can be seen as indicating the possible presence of an internal bank. Where an upper secondary fill was distinguishable from the final ditch fill it was a mid orange-brown sandy clay with moderate or few gravel inclusions (Fig SS1.64: context 2100).

Finds remained scarce (Table SS1.8). A small quantity of struck flint is likely to have

derived from the surrounding topsoil, and charred plant remains included historic period cereal varieties likely to be intrusive from overlying Saxon levels as well as two fragments of hazelnut shell and one of onion couch grass tuber (Campbell SS4.5.3).

Phase 5 localised recut

The western arm of the ditch had the most complex sequence of secondary filling. For a length of at least 6m (between S548 and S581) the secondary fills were extremely asymmetrical. Against the inner, eastern, side the phase 4 fills consisted of a layer of dark brown clay loam (Fig SS1.63: context 2139). This was overlain by a layer of gravel in orange brown sandy clay (Fig SS1.63: context 2164). Both of these layers seemed to have derived exclusively from the inner side of the ditch. However, the angle of $c 40^\circ$ on their outer side was steeper than would have been expected for a natural angle of rest. It can be suggested, therefore, that it is likely that these layers had been truncated by a recutting of the ditch along its outer, western, side.

The apparent accumulation of a large quantity of material exclusively against the inner edge was, therefore, probably partly due to recutting. Nevertheless, it can still be suggested that this sequence of activity was most likely to have resulted from erosion or partial collapse of an internal bank. The quantity of gravel entering the ditch from the inner side exceeded the quantities present in the upper secondary fills along the northern terminal and was similar to the concentrations of gravel against the inner slope along the eastern arm.

It can be suggested, therefore, that along the western length of the ditch there was erosion of gravel from an internal bank, with this happening either on such a scale or so rapidly that it became necessary to recut this length of the ditch. The fill of this postulated recut (Fig SS1.63: context 2134) was a mid orange-brown sandy clay with moderate gravel inclusions.

Phase 6 final fill

The final fill was consistent around the 65m length of the excavated ditch. It consisted of an orange-brown sandy clay with few gravel inclusions (Figs SS1.62–63: contexts 2138, 2133, 2120, 2099, 2136). Frequently this fill either was indistinguishable from the upper secondary fill or merged smoothly with it, and appeared to have accumulated slowly during a long period of stability.

If there were internal banks of sand and gravel, no significant quantity of this material entered the ditch during this period, suggesting that denudation of the banks by ploughing post-dated the final infilling of the ditch.

The interior

The area enclosed by the Long Enclosure ditch was 17m wide at the northern end of the monument. If the ditches were consistently parallel and the enclosure was 117m long internally, the area enclosed would have been nearly 2000 sq m.

Only the northernmost 26m of this area was excavated, a total of *c* 440 sq m. This amounts to *c* 22% of the probable total area enclosed. It would have been possible to uncover a much greater proportion of the interior of the enclosure, yet the trial trenches cut to the south of the main area excavation clearly showed that the ground surface had been severely truncated by later activity related to several stream and leat channels of late Saxon to postmedieval date. This activity is likely to have lowered the surface by at least 0.50m over much of the length of the enclosure and in places by nearly 1m. These areas were also sealed by nearly 2.0m of late Saxon to post-medieval alluvial clays.

At the northern end of the enclosure the loss of ground surface was at its minimum and the later overburden of alluvial clays was relatively thin at *c* 0.30m deep. It was decided, therefore, that only at the northern end was there any prospect of identifying any internal features.

Following the removal of the later deposits, the exposed surface within the enclosure was a layer of gravel in orange brown clay up to *c* 0.10m thick. In places the underlying calcareous gravels were exposed, with a substantial area of such gravels being exposed in the northern western corner of the enclosure. Original ground surfaces were preserved beneath the mounds of monuments to both the north and south of the Long Enclosure. These would suggest that the gravel and clay layer was typically *c* 0.20m thick and, obviously, there would have been a developed soil horizon above this. The loss of ground surface was likely, therefore, to have amounted to at least 0.20m and probably averaged around 0.30m to 0.40m. The truncation of the upper ditch fills indicates that the loss of ground surface was considerable. As a result of this, it is certain that any shallow features that may

have existed within the northern end of the Long Enclosure have been lost.

Despite careful cleaning of this area, only two features could be located (Fig SS1.62). Both were partially sectioned and proved to be natural. The larger feature was *c* 4m in diameter, and consisted of dark grey clay silts around a central area of clean gravels. A box section was cut across the feature, which showed that the fills were complex and convoluted. The smaller feature was filled with a homogenous nearly black clay silt. The excavated portion probably formed part of a larger natural feature, and it is likely that both were tree-holes. These were clearly pre-late Saxon in date, but it is impossible to determine whether they represent trees standing before, during or after the use of the enclosure.

The only firm conclusion that could be drawn from the investigation of the interior of the enclosure at its northern end is that it did not contain any man-made features of substantial depth, and any shallow negative features had been lost, given the later lowering of the ground surface. For similar reasons, no standing traces had survived of the internal banks, and the evidence for their former presence rested solely upon the nature of the fills.

3. Discussion of stratigraphy and phasing

The chronological order of events was unequivocal and comprised the initial construction of the enclosure, and its gradual infilling, punctuated by localised recuts to the ditch.

It cannot be proven that the enclosure was the result of a single construction, although this seems the most likely interpretation. Furthermore it is not known with certainty whether the stream which bisected the enclosure pre-dated or post-dated the monument. There was no evidence for the preparatory stripping of turf and topsoil over the area of the monument. Material derived from the ditches appears to have been banked along the inner perimeter of the long arms to within *c* 7m short of the terminal. It is possible that the banks were revetted with turf.

The initial fill of the ditch is consistent with the fairly rapid erosion of the ditch walls. Recuts seem to have been localised and, in one case, prompted by the localised collapse of the ditch wall. In these circumstances the two dated antler and bone from locations away from the recuts in the

primary silts are likely to be close in age to the construction of the monument, in which the antler implement may have been used, while the cattle tibia may have been redeposited. Modelled with the other measurements from the area, the date on the antler provides an estimated construction date of 3350–2890 cal BC at 95% probability (SS6).

Secondary fills showed considerable variation around the excavated part of the ditch, and appear to result from a combination of ditch slipping, erosion and creeping of the internal bank.

There was evidence for the recutting of the ditch along the northern part of the west arm, cutting through Phase 4 deposits.

4 Resource estimate

Estimates for the capacity of the ditch were based initially upon the plan and sections recorded in the northern area of the enclosure which was fully excavated, because here the truncation of the contemporary ground surface was the least severe. Averages were derived, and extrapolated to the full extent of the enclosure. With an average width of 1.92m and an average sectional area of 0.98 sq m, the total area of the ditch would have been 515.58 sq m with a capacity of 505.27 cu m. This provides an estimate of 743 hours for a team of three to construct the ditch, with the spoil heaped as banks. In compensation, however, for the loss of the contemporary ground surface and the widening of the ditch profile caused by erosion, in its original form the cut was perhaps *c* 1.6m in average width and *c* 1.25m deep, with a cross-sectional area of *c* 1.20 sq m. With these dimensions, the volume of the ditch may be estimated at 514.56 cu m, representing 756 hours of labour for a team of three. The two results compare favourably, and it is clear that the monument would have required a considerable investment of resources to construct.

In previous discussions of enclosures of this type, it has been suggested that the upcast from the ditch may have been used to form a mound rather than banks. At West Cotton, however, if the material from the ditch had been used to construct a mound *c* 17m wide then that mound would have been only *c* 0.15m high, including an expansion factor of 1.08 (Rea 1913, 35; Startin 1982, 49) To have formed a mound of any significant height, it would have been necessary for large quantities of material to be brought in from beyond the enclosure.

SS1.6 The Causewayed Ring Ditch

Aidan Allan, Stéphane Rault and Jon Humble

Abstract

The Causewayed Ring Ditch was a suboval enclosure, 21m north-south by 23m east-west, with an east-facing causeway. The ditch may originally have contained timbers. After a minimal amount of localised primary silting, the original ditch was deliberately backfilled. The monument was later redefined by a narrower recut. There was no definite evidence for a bank or mound associated with either phase. An undated post-built structure *c* 4m in diameter, situated *c* 5m to the east may, given its close proximity to the monument, have been related to it.

1 Location and excavation

The Causewayed Ring Ditch was uncovered in Trench B118 (NGR SP 97404 72150), immediately north of the Roman villa complex and 95m south of Barrow 5 (Fig 1.4). The site was excavated by Clare Halpin in 1987, having previously been recognised as a cropmark (Halpin 1989, 9).

The ditch was excavated in a number of arbitrary sections which equated to *c* 50% of its circumference (Fig SS1.65). Each was allocated a separate number as follows (clockwise from the northern terminal; asterisk denotes excavated section): 38046*; 38047; 38048*; 38049*; 38050; 38051*; 38052; 38053*; 38054; 38055*; 38056*; 38057=38105; 38058; 38059*; 38060; 38061*. There were variations in the recording strategy employed for apparently contemporary episodes occurring in stratigraphically isolated ditch sections. In some cases subdivided numbers were allocated, but elsewhere the fill's generic context number. Most finds were recorded individually. Trench B118 contained archaeological deposits dating to the Neolithic, Bronze Age, Iron Age, Roman and medieval periods.

2 The excavated evidence

Phase 0 Natural stratigraphy

The underlying geological deposit (context 47183 in both B100 and B118) was made up of varying proportions of sand and gravel. This was overlain by 38113, a 10YR 4/4



Figure SS1.66
Causewayed Ring Ditch.
General view at end of
excavation.
(Photo English Heritage)

dark-yellow brown sandy clay-loam up to 0.30m in depth, which was cut by the Causewayed Ring Ditch and other features (Fig SS1.67). Context 38113 is interpreted as the lower part of the prehistoric soil. Two flint flakes were recovered from it.

Phase 1 Initial construction

The ditch (F38045) formed an elliptical enclosure 21m north-south by 23m east-west (ditch centre to ditch centre), which encompassed an area of 310 sq m. It was interrupted to the west by a 3m wide causeway aligned $c 79^\circ$ west of true north. The terminals either side of the entrance were rounded. The ditch itself was generally 2.60m wide (occasionally reaching 3m) by 1.50m–1.70m deep, with an undulating V-shaped profile, with a base no more than 0.20m–0.30m wide, except in the terminals where the bottom was wider and flatter. The sides were angled at 45° , with a slight tendency for a steeper profile around the south-west side, where, in sections 38057=38105 and 38061, the sides were angled at 50° and 60° respectively. In sections 38049 and 38055 (at the north and south-east sides of the monument respectively), there was a slot 0.20m wide by 0.30m deep in the base of the ditch (Figs SS1.67, SS1.69). It extended the full length of section 38049, but was not planned in section 38055 (Fig SS1.65). Since not all ditch sections were excavated, it is not known how widespread this feature was.

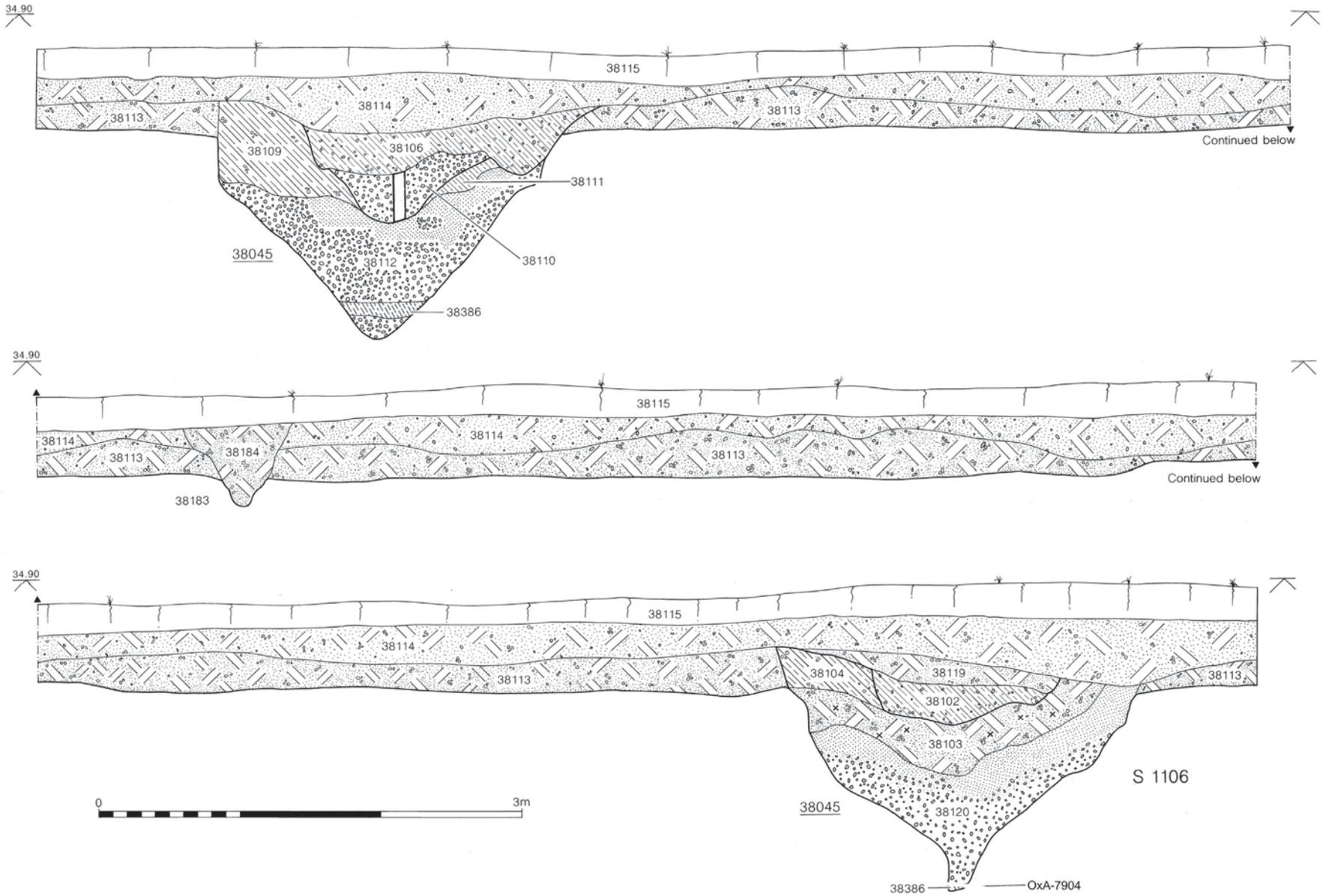
The method of construction is indicated on some plans by dotted lines within the ditch suggesting that the monument was made up of a number of interconnected segments. Five such segments between 6m and 12m long are shown. They were absent on the south-west side of the monument, but this may have resulted from an omission in the record. These plans provide the only evidence for these segments.

Phase 2 Primary silts

The earliest ditch deposit in most segments was a dark-grey silty sand (Figs SS1.67, SS1.69: 38317, 38386, 38387), no more than 0.05m deep. In section 38049 in the north of the circuit a little gravel and sand had entered the ditch before the silt. In the north terminal, in context 38317 (Fig SS1.69: SS1124), there was a charred right-angled roundwood fragment of hazel or alder (sample 33421; Fig SS1.71), dated to 3370–2910 cal BC (4480 ± 70 BP; OxA-3055). Some 7m to the east, in layer 38387, were two more pieces of charred wood: another right-angled hazel roundwood fragment (AOR 55374), dated to 3370–3020 cal BC (4505 ± 45 BP; OxA-7904), and a straight length of roundwood $c 0.50$ m long and 0.05m in diameter (AOR 55373), perhaps pointed (Figs SS1.72).

The initial slight accumulation of silt in the base of the ditch was interpreted at the time of excavation as due to the inwash of water-borne material and, as such, could

Figure SS1.67
Causewayed Ring Ditch. South-north section across monument.



have been deposited with the first rain following the construction of the monument, or even whilst other parts of the ditch were still under construction. The ditch could conceivably have been kept clean of accumulating deposits for some considerable time before context 38386 was allowed to accumulate.

Phase 3 Backfill?

The primary silts, where present, were overlain by sands and gravels which formed the main ditch fill. Their absence from section 38053 appears to be the result of a recording error. These fills were given a single context number and a single description in each section, and were drawn as homogeneous sand and gravel in the north-east of the circuit (Fig SS1.69: S1459: 38311). Elsewhere they were drawn as successive sand and sand-and-gravel layers. The sand underlay the gravel in both butts and in the east of the circuit (Fig SS1.9: 38322, 38316), and



Figure SS1.68 (above)
Causewayed Ring Ditch. South end of S1106 in cutting 38049, showing mollusc-rich layer 38110. (Photo English Heritage)

Figure SS1.69 (below)
Causewayed Ring Ditch. Sections.

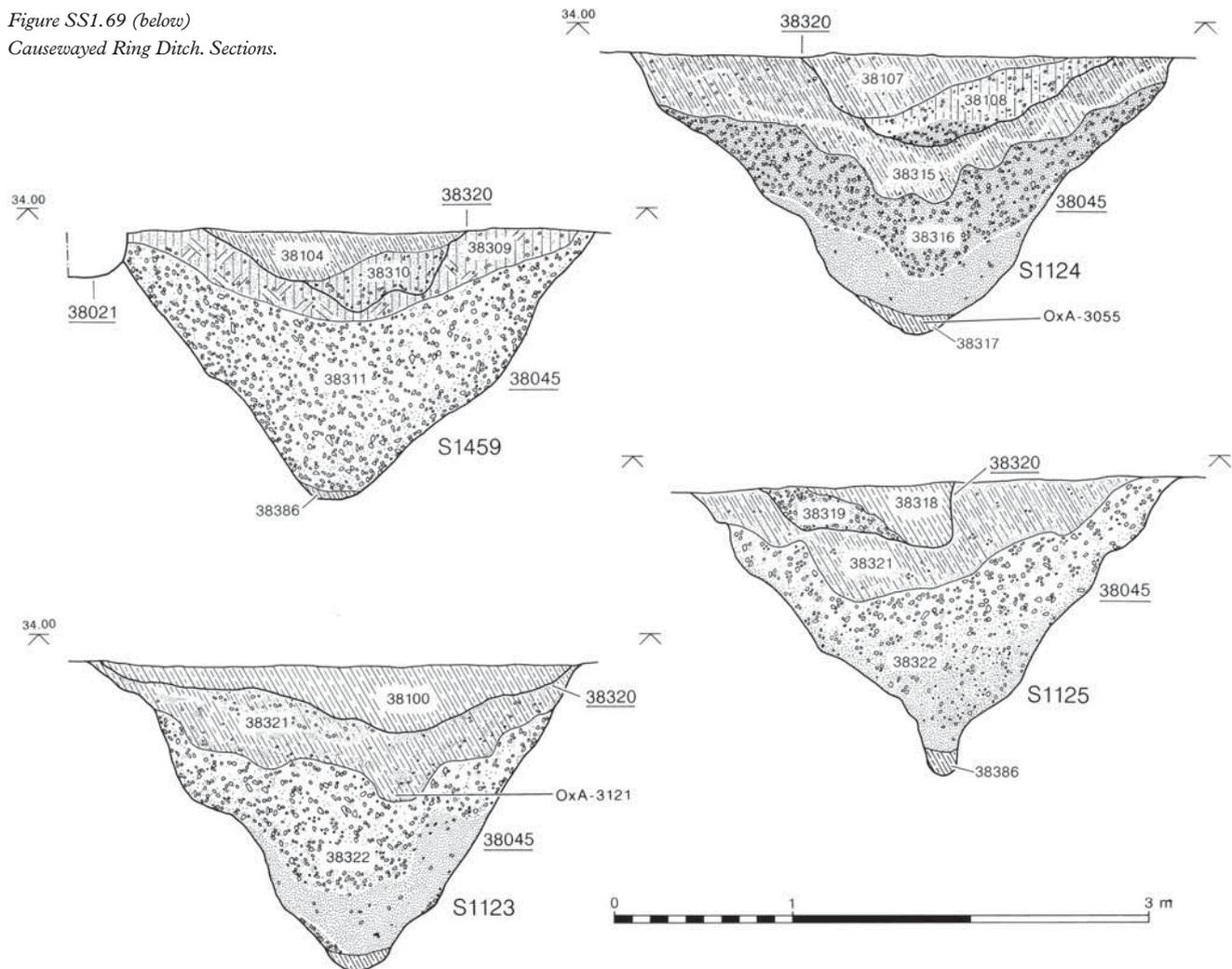


Figure SS1.70
Causewayed Ring Ditch.
North butt and S1124.
(Photo English Heritage)



the gravel underlay the sand rather than vice versa in the north and south (Fig SS1.67: 38112, 38120). The only find was a blade fragment.

Phase 4 Stabilisation

The relatively shallow hollow at the top of the phase 3 fills was filled with fine, dark brown or grey-brown silty loams with few or no coarser inclusions, almost certainly derived from the surrounding topsoil. Artefacts were slightly less infrequent, amounting to a minute sherd in a possibly Neolithic fabric, two flakes and two blades. There was a little charcoal in section 38049. The fills were diversely numbered (Fig SS1.67: 38103, 38104, 38109, 38111; Fig SS1.69: 38309, 38315, 38321).

Phase 5 Recut

What appears to be a recut (F38320) was present around virtually the whole of the ditch circuit. Where sections were drawn, the recut was between 1m and 2.60m wide (typically 1.90m). Depth varied between 0.30m and 0.60m. The profile varied greatly. Where the cut was wide, it possessed a shallow profile of between 15° and 20°, where it was narrow, the profile was generally between 30° and 90° (on average 50°). The location of the recut relative to the original ditch varied with the profile. Where the recut was

wide, it was situated centrally over the original cut, where it was narrow it tended to be situated towards its inner edge. The irregularity of the cut was such that opposing cut edges in the same section could possess widely differing profiles. The base of the cut was undulating and irregular. Although the excavator referred to F38320 only as a possible cut, its position was marked on every drawn section. This may have been because accumulating material in a V-shaped feature such as a ditch would possess a top edge mistakable for the base of a cut.

Phase 6 recut fills

The case for a recut is given added weight by an antler pick (AOR 55371) and another fragmentary antler implement (AOR 55372) placed together on the base of the cut in the southern ditch terminal (Figs SS1.65, SS1.73). Their location would suggest deposition contemporary with monumental refurbishment. A tine from the fragmentary implement was dated to 3490–2880 cal BC (4450±90 BP; OxA-3121).

The silting sequence of the recut was quite straightforward, with lower silts, often containing gravel (Fig SS1.67: 38102, 38110; Fig SS1.69: 38108, 38310, 38319), overlain by less gravelly fills (Fig SS1.67: 38106, 38119; Fig SS1.69: 38100, 38104, 38107, 38318). There was relatively little to differentiate between these two deposits of brown sand or clay loams, other than the gravel content of the lower deposit, which was for the most part lacking in the upper, and sometimes a lighter colour in the upper. The lower fill in section 38105, in the south of the circuit (Fig SS1.67: 38110), was exceptional. It was a very dark greyish brown, almost black, silty loam with many (< 30%) small pebbles, which appear white in a photograph (Fig SS1.68). A column of samples was taken from this section: two from the upper part of 38112, three from 38110, and one from 38106. Only 38110 provided a calcareous environment in which molluscs had survived, which suggests that its gravel content may have been largely of limestone. The molluscs from the three successive samples reflected a progression from open conditions when the silts began to accumulate, through more shaded conditions, perhaps with some ungrazed grassland, to woodland (Campbell, SS4.4).

There was a flint core in 38106, the layer overlying 38110. Finds from elsewhere in the recut included a body sherd in a possibly Neolithic fabric and ten further

pieces of struck flint, including a serrated blade and a possible leaf arrowhead fragment (Table SS1.8). All-in-all the lithics from the site had an earlier Neolithic aspect (Ballin SS3.7.7).

A small Neolithic Bowl rim fragment in posthole F38039, which was cut into the completely silted ditch near the south terminal, may have derived from the recut, as may a minute fragment of fired clay in posthole F38041, cut into the north terminal. There were also six sherds/20g, probably from a Neolithic Bowl, in posthole F38199, just inside the north side of the entrance. These are only three of numerous postholes in the area, within and beyond the monument (Figs SS1.65–66). Some are demonstrably Iron Age, others are undated. The location of these three around the entrance may have been fortuitous.

Phase 7 Later activity

Activity around the monument in the third and/or early second millennium is evidenced by a Beaker sherd (AOR 56007) and a plain early Bronze Age shoulder sherd (AOR 55370) in postholes of two separate Iron Age four-posters a little to the north. Two parallel ditches forming part of the second millennium field system passed within 8m of the south-west side of the monument, where there was an entrance.

Peaks and troughs in the palaeosol (38113), c 4m–5m across peak-to-peak and up to 0.20m deep (Fig SS1.67), are thought to indicate east-west aligned ridge and furrow cultivation. This activity is thought to be the continuation of similarly aligned, but better-documented medieval ploughing over Barrow 5, in B100 to the north. They were filled by a 10YR 4/4 dark yellow-brown sandy clay-loam with under 5% pebbles, up to 0.30m in depth (381144). This deposit covered the monument and is thought to have extended across the whole of the trench. It was overlain by alluvium in the north of the trench, and must have been a relict of the pre-alluvial ploughsoil.

Post-Built Structure 31536

Some 5m to the east of the monument and slightly off its axis, was F31536, an elliptical alignment of post- or stakeholes c 4.20m north-south by c 3.50m east-west (Fig SS1.65). The structure consisted of F37836, F37838, F37852, F37854, F38001, F38003, F38005, F37995 and F37997, which were between 0.18m and 0.54m wide and 0.07m and 0.29m deep. Neighbouring



Figure SS1.71
Causewayed Ring Ditch.
Charred wood 33421 on
ditch base in north butt,
from north.
(Photo English Heritage)

postholes F38223, F37840, F37850 and F37999 may also have been related. All are undated.

3 Discussion of stratigraphy and phasing

Phase 1 The ditch

The radiocarbon determinations cited above form the basis for an estimated construction date of 3340–3020 cal BC at 95% probability (SS6). There is no evidence for the form of any original earthwork. The date and the plan, however, are consistent with the site's having been a hengiform monument (Harding and Lee 1987; Clare 1986). It is difficult to see the slot at the base of the ditch as an accidental result of ditch-digging. Its form suggests that it may have been intended to hold timbers. If so, the V-profile of the whole circuit and the intermittent slot could reflect the digging-out of those timbers with the occasional survival of the slot in which they had been set. Such a history would account for the disparity between the profile of this ditch and those of all the other monuments in the area. The proposed structure might have been a slight, close-set timber circle set in a continuous trench, or perhaps a

Figure SS1.72
Causewayed Ring Ditch.
Charred wood 55373 (left)
and 55374 (right) on
base of section 38049,
from north.
(Photo English Heritage)



Table SS1.8. Causewayed Ring Ditch. Summary of finds

Phase	Context	Animal bone	Pottery	Lithics	Charred material	Environmental evidence	¹⁴ C BP	Cal BC
Lithics are of flint								
Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets								
0	Pre-monument subsoil			2 flakes				
2	Primary silts				Charred fragment of alder or hazel (sample 33421)		4480±70 (OxA-3055) on hazel or alder fragment	3370–2910
					Charred hazel fragment (AOR 55374) and charred pole or stake (AOR 55373)		4505±45 (OxA-7904) on hazel fragment	3370–3020
3	Backfill?			Blade				
4	Stabilisation		1 fragment/2g ?Neolithic (E)	2 flakes, blade	Oak and unidentified charcoal			
6	Recut fill	Antler pick and fragmentary antler implement	1 body sherd/8 g ?Neolithic (E)	Core, non-bulbar fragment, flake, 3 blades, 2 core rejuvenation flakes, ?leaf arrowhead fragment, serrated blade		Molluscs indicate progression from open conditions to woodland during accumulation of lowest 0.30m of fill	4450±90 (OxA-3121) on tine from fragmentary antler implement	3490–2880

revetment of the ditch sides, like those in small hengiform monuments at site 4, City Farm, Hanborough (Case *et al* 1965, 22–32) and Gravelly Guy, Stanton Harcourt (Barclay *et al* 1995, 83–88, fig 45; Lambrick and Allen forthcoming), both in Oxfordshire. If this was the case, the intermittent slot in the base of the Causewayed Ring Ditch would have been all that was left of a narrow, flat-bottomed, very steep-sided ditch, such as survived to almost its full height at the two Oxfordshire sites because the revetment was left in place rather than removed. The three pieces of charred wood on the ditch base might have been remnants of that structure. If they were, and if the structure pre-dated the ditch, the estimated construction date would apply to it rather than to the earthwork. The roundwood stake, on the other hand, recalls the material of the City Farm and Gravelly Guy revetments, which would have been of one build with the ditch.

Phase 3 Backfill?

During the excavation, the phase 3 fills were seen as the result of slumping and weathering of natural material from the sides of the cut. In post-excavation it was concluded that, if 38322 had accumulated gradually over a long period of time, a complex silting pattern would have been expected. Material other than pure sand and gravel would have been present, and one would have expected the formation of minor soil horizons throughout the silting sequence, not only upon its completion. As this was a deep and sometimes homogenous deposit, a very short period of accumulation was thought to have been represented, consistent with rapid, deliberate infilling, perhaps immediately following the digging-out of the wooden structure proposed above. This would be consistent with the sharp, apparently little-weathered, profile of the ditch, the slight accumulation of primary silt, the survival of a slot in its base in parts of the circuit, and a possibly very short interval between construction and recut — since the date of one of the antler implements on the recut base is statistically consistent with those for charred wood on the original ditch floor (Fig SS6.9). The variable sequence of sand and gravel could be attributed to the vagaries of backfilling, whether with unstructured spoil or the substance of an original earthwork. Alternatively, the varying sequences could have resulted from natural, but rapid, silting from diversely banded material in the ditch sides (Fig SS1.79). Deliberate backfilling seems the more likely.



Figure SS1.73
Causewayed Ring Ditch.
Antler implements on base
of recut in south butt.
(Photo English Heritage)

Phase 6 Recut fills

The vegetation change documented in 0.30m of silts in section 38105 confirms the impression of gradual silting given by the stratigraphy. If the recut was synchronous around the circuit, the date of the antler in its base in the south terminal provides a *terminus post quem* for this succession. The origin of the mollusc-rich fill in one part of the ditch remains a mystery. It was exceptionally calcareous by the standards of the area as a whole.

Building 31536

The location of this structure strongly suggests a relation to the monument. It is, however, only one among many small, post-built structures in the immediate area, some of them Iron Age, so that the connection remains speculative. A gap of *c* 2.50m between the structure and the weathered-back ditch edge could have accommodated a bank.

4 Resource estimate

The mean sectional area of 2.49 sq m x the circumference of 71.28m gives a volume of 177.49 cu m. This would have required 261 hours of labour by a team of three or 783 hours in total. The recut, if it extended around the entire circuit, would have required 61 hours of labour by a team of three or 183 hours in total.

SS1.7 The Southern Enclosure

Frances Blore and Frances Healy

Abstract

The Southern Enclosure remains undated, as do all but one of the pits and postholes within it. Its excavated north-western part was parallel-sided, with a convex north-east end with a central entrance. The surrounding ditch was approximately 3m wide and 1.50m deep and enclosed an area 30m wide and at least 50m long. Cultural material was almost absent from the ditch, which silted naturally, the process probably punctuated by recuts. Its topmost clay layers were burnt to a bright oxidised red. The pits and postholes were almost as poor in cultural material as the ditch. A Neolithic or Bronze Age date is arguable but not demonstrable.

1 Location and excavation

The enclosure lay at the extreme south of the Stanwick excavation area, at NGR SP 97054 71457, some 200m from the Avenue and the Segmented Ditch Circle and separated from them by a small stream which is likely to have been flowing in the early Holocene (Robinson, Ch 2). The enclosure ran beyond the area available for excavation into a strip of land *c* 10m wide which separated the area

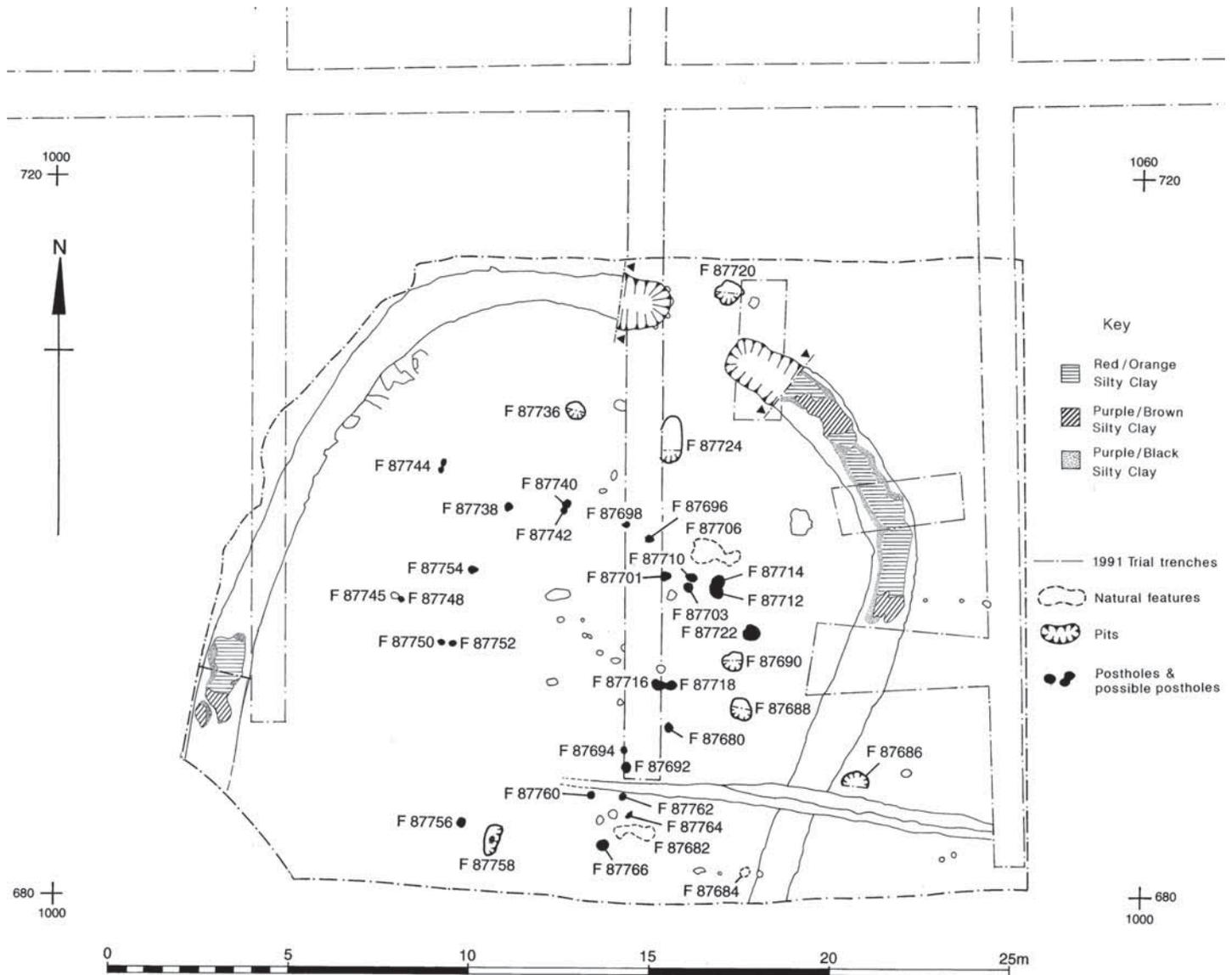


Figure SS1.74
Southern Enclosure. Plan.

about to be quarried in 1992 from another quarried area (information from the Northamptonshire Sites and Monuments Record). South of this strip was a road leading to ARC's plant and south of this again were further quarried areas. If any of the enclosure survives it can do so only in short fragments. Only the excavated part of it was recorded in air photographs.

It was located on the ground in 1991, during trenching by the Mobile Field Team of the Central Archaeology Service of English Heritage, led by Frances Blore, in an attempt to recover further evidence from the Bronze Age field system. Parts of the ditch were exposed in five trenches (Fig SS1.74). In Trenches 12, 13 and 14, all east of what later proved to be an entrance, the

uppermost fills were of bright red and yellow burnt clay (Fig SS1.75). Machine-cut sections were excavated in Trenches 11 and 14 (Blore 1991).

In the following summer the team returned to the enclosure (Blore 1992), with the aims of retrieving datable material and evidence of its function. The eastern half of the enclosure was stripped, exposing an entrance, and the ditch terminal and internal features were excavated. This was followed by the stripping and excavation of the western half of the enclosure in November of the same year. Approximately 5m of each ditch terminal was excavated by hand. The fills proved sterile, prompting the machine excavation of the remaining fill, accompanied by extensive, but fruitless, bulk sampling (Fig SS1.78).



*Figure SS1.75
Southern Enclosure.
The east side of the ditch
exposed in summer 1992.
The lower areas are trial
trenches cut in the
previous year.
(Photo English Heritage)*

The identifications of charred plant remains are taken from an assessment report written soon after the excavation (Campbell 1993).

The excavated evidence

Phase 0 Natural deposits

The natural banded sands and gravels (87498) had a particularly high sand content here. They were overlain by a pre-alluvial subsoil (87554) and soil (87553). Features, including the enclosure ditch, were visible in the subsoil (Fig SS1.75).

Phase 1 Pre-monument activity?

F87682 was probably a treehole, filled with a dark yellowish brown sandy loam with 3% small stones (87683). It contained four broken flakes or blades and a bladelet, all densely corticated. Charred material comprised oak charcoal, a barley grain and some onion couch grass tuber fragments.

F87706 was a second probable treehole, with an uneven base, which continued westward beyond its planned and excavated extent. It was filled by a very dark greyish brown (10 YR 3/2) silty clay loam with charcoal and 1% small stones (87707). In it were charred hazelnut shell fragments, and an homogeneous late Mesolithic lithic assemblage of 95 pieces, largely burnt (Ballin SS3.7.7).

Phase 2 The enclosure ditch (F87584)

The enclosure had parallel sides, aligned NNE-SSW, some 30m apart from inner edge to inner edge, and a rounded north-east terminal, with a central entrance 4m wide. The ditch was approximately 3m wide and 1.50m deep, with shelving sides. The base was flat in the east butt, and had an irregular, stepped V-profile in the west butt (Figs SS1.76–77).

Phase 3 The original ditch fills

The west butt (F87497; Fig SS1.76)

The primary silt (87496) was a clean, loose strong brown (7.5 YR 5/8) sand with varying degrees of orange staining. Higher up the ditch sides, it was overlain by loose brownish yellow (10 YR 6/6) sand with *c* 40% pebbles and stones. (87495 at the inner edge, 87494 at the outer). These silts were overlain by a lens of slightly stony yellowish brown (10 YR 5/4) sand with 5% small stones (87491), a band of dark yellowish-brown (10 YR 4/4) loamy sand with 1% small stones (87493), and yellowish brown (10.5 YR) lens with gravel uppermost and a dirtier and less stony matrix beneath (87490).

The east butt (F87677; Figs SS1.75–76)

The ditch base was covered by primary silt of very pale brown (10 YR 7/4) soft, homogeneous coarse-grained sand (87674). Higher up the ditch sides was hard, com-

Figure SS1.76
 Southern Enclosure.
 Sections through the ditch
 butts. The outline drawing
 beneath each section shows
 definite and possible recuts.

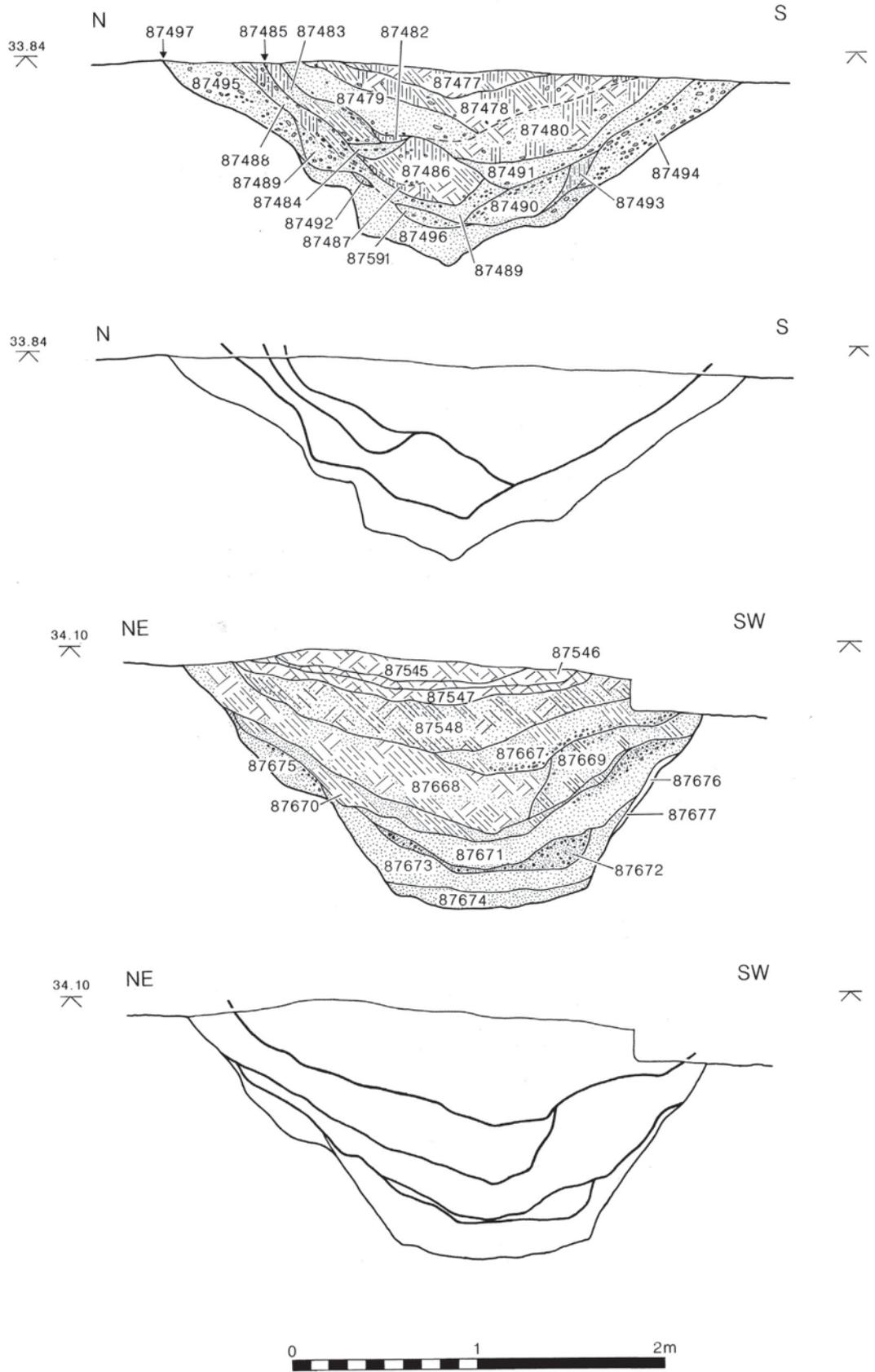




Figure SS1.77
Southern Enclosure.
Section through the east
ditch butt.
(Photo English Heritage)

pacted light yellowish brown sand with pebbles (87676 at the inner edge, 87675 at the outer). These were overlain by pure brownish yellow (10 YR 6/6) sand without inclusions (87673).

Phase 4 Recuts

The phase 3 fills were truncated in both butts by a series of recuts, some more clearly distinguished than others.

The west butt (F87497; Fig SS1.76)

When the butt was completely silted, a substantial recut removed most of the original fills, resulting in a step-like interface between 87495 and 87489. Its bottommost fill at the inner edge was a rather mixed yellowish brown (10 YR 5/6) sand with varying degrees of stoniness (87489), overlain by a yellowish brown (10 YR 5/6) sandy silt loam with over 20% small and medium stones (87488). Above this, along the centre of the ditch was a very dark greyish brown silty clay loam with less than 1% small stones (87486). Its humped profile could reflect either its having been heaped along the centre of the ditch or truncation to either side by successive recuts. The first of these apparent cuts, at the inner edge, was given the number 87485. It had a localised primary fill of friable brown (10 YR 5/3) sandy clay loam densely packed with 25% very small stones (87484) overlain by a dark yellowish brown (10 YR 3/4) sandy silt loam with varying low proportions of stones (87483). This was

succeeded by a recut centred closer to the outer edge, which most noticeably truncated 87489, 87490 and 87493. Its bottommost fill was a sticky sandy clay loam with 1% small stones, yellowish brown (10 YR 3/6) with some darker patches (87481). Very similar dark brown (10YR 3/3) or dark yellowish brown (10 YR 3/4) sandy clay loams with *c* 4% small stones then entered the ditch (87480 from the exterior and 87479 from the interior). The final fills were dark brown (10 YR 3/3 or 3/4) sandy clay loams; the lower one (87478) had *c* 3% small stones, the upper (87477) was almost stone-free.

Although there was no burnt clay over the top of the butt, there was a patch near the southern limit of the excavation which measured *c* 5m x 2 m, and was red to orange at the centre and purple to black at the edges (Fig SS1.74).

The east butt (F87677; Figs SS1.75–76)

At the inner edge, there was a very steep interface, more suggestive of a recut than of natural silting, between phase 3 silt 87673 and a soft, homogeneous olive yellow (2.5 Y6/6) sand with gravel and moderate pebbles (87672). This interface was in turn truncated by a cut which spanned the width of the ditch. Its bottommost fill was a soft homogeneous brownish yellow (10 YR 6/8) sand, with increasingly frequent pebbles and broken stone away from the butt (87671). Above this was a compacted, homogeneous brown (10 YR 5/3) silty sand with occasional

small broken pebbles (87670). At the outer edge this was overlain by a compacted, brownish yellow (87669) layer of sand with some silt, which included frequent weathered limestone pebbles (87669). A further recut may be indicated by the abrupt interface of 87669 with dark greyish brown (2.5 Y 4/2) clayey silty sand with moderate broken pebbles (87668). The truncation of that interface may represent a final recut, filled by a fine-grained dark yellowish brown (10 YR 4/6) silty sand derived from the interior (87677). Above this was a homogeneous clayey sandy silt, dark brown (10 YR 4/3) with iron panning and occasional broken pebbles and stones (87548).

The remaining fills were all burnt. 87548 was overlain by a waxy, homogeneous light brownish grey (2.5 Y) clay (87547). This is diversely recorded as having occasional traces of mineralisation and iron panning and as including very occasional charcoal lumps. It is not clear whether the 'charcoal' was in fact pan, the two observations referring to the same effect. 87547 was overlain successively by a purplish red (10 YR 3/3) clay of similar consistency (87546) and a bright yellowish red (5YR 5/8) clay lighter in colour towards the top (87545). Apart from the dubious 'very occasional' charcoal in 87548, all three were without charcoal, ash or other organic material. The upper layers were sampled by Richard Macphail, who found that magnetic susceptibility enhancement decreased down the profile from 87545 to 87548, extending below the obviously altered layers (Macphail SS4.8.2). This deposit extended along *c* 22m of the ditch, from the east butt to trial trench 14, where it was sectioned in 1991 (Figs SS1.74–75). An attempt at archaeomagnetic dating of these burnt layers was unsuccessful (Gill Campbell pers comm).

The only finds from the ditch were two flint flakes from 87668 and a couple of fragments of charred onion couch grass tuber.

Phase 5 discrete features

Pits and postholes were excavated within and, to a limited extent, beyond the enclosure.

F87680 was a possible posthole, 0.24m across by 0.04m deep, filled with a dark yellowish brown (10 YR 3/4) sandy clay loam less than 1% very small stones (87681), which contained hazelnut shell fragments.

F87686 was a subcircular pit immediately outside the east side of the enclosure, 1.50m across and 0.20m deep. Plans suggest that it was cut by two successive phase 6 ditches. A stony lower fill shown in section is not

described. The upper fill was smooth, plastic brown/dark brown (10YR 4/3) silty clay loam with 1% very small stones (87687). A sample from it contained charred onion couch grass tuber fragments and a single free-threshing wheat rachis fragment.

F87688 was a pit 0.55m across and 0.20m deep, with steep sides and a fairly flat base. An un-numbered lower fill of compact gravel was overlain by a dark brown (10 YR 3/3) smooth, plastic silty clay loam with *c* 8% stones of varying sizes (87689). It contained a decorated neck sherd, probably from a Collared Urn (Tomalin SS3.8.4: P102), and two indeterminate sand-tempered crumbs, two flint flakes, a long bone fragment from a large mammal (Baker SS4.6.4), charcoal, and a wheat grain of free-threshing type.

F87690 was a pit measuring 1.33m x 0.74m x 0.41m deep, with steep sides and a slightly rounded base. Its lower fill was a dark yellowish brown (10 YR 4/4) mixture of sand and gravel with 70% small stones (87708), which underlay a dark brown (10 YR 3/3) smooth, plastic silty clay loam (87691) which contained fired clay, a cattle tooth, and four large mammal long bone fragments (Baker SS4.6.4).

F87692 was a probable posthole 0.64m across and 0.33m deep with steep sides and a slightly rounded base filled with a dark yellowish brown (10 YR 3/4) gritty sandy clay loam with charcoal flecks and 5% small stones (87693).

F87694 was a probable posthole 0.52m across and 0.12m deep shelving sides and a flat base, filled with a dark brown (10 YR 4/3) sandy clay loam with 1% very small stones (87695). It contained two flint flakes and a charred sloe stone.

F87696 was a probable posthole measuring 0.29m x 0.43m x 0.19m deep, filled with a dark brown (10 YR 3/3) sandy clay loam with 1% very small stones (87697 – sandier than the fills of nearby features). It contained charred hazelnut shell fragments.

F87698 was a pit or posthole 0.33m x 0.47m x 0.38m deep, with steep sides and a slightly rounded base. Its bottommost fill was a yellowish brown (10 YR 5/6) loamy sand with 70% small stones (87705), above which was a dark brown (10 YR 3/3) silty clay loam with the odd fleck of charcoal (87700). In the upper part of the feature was a very dark grey (10 YR 3/1) smooth, plastic silty clay loam with 1% very small stones (87699). There was an indeterminate charred cereal grain in 87699, as well as much oak charcoal, some of it concentrated in a black band.

F87701 was a small pit or posthole of bowl-shaped profile, 0.52m x 0.32m x 0.15m deep. It was filled with a dark brown (10 YR 3/3) silt loam with 2% small stones, which became denser towards the base (87702). It was quite rich in charcoal and also contained hazelnut shell fragments.

F87703, immediately adjacent to F87710, was a probable posthole with steep sides and a flat base, measuring 0.35m x 0.69m x 0.44m deep. The lower fill was a yellowish brown (10 YR 5/4) loamy sand with 70% small stones (87709). The upper fill was a dark brown (10 YR 3/3) silty clay loam (87704) with a bowl-profiled charcoal streak. It contained a single charred hazelnut shell fragment.

F87710, immediately adjacent to F87703, was a posthole with shelving sides and an almost flat base, measuring 0.51m x 0.35m x 0.37m deep. Its lower fill was a yellowish brown (10 YR 5/6) loamy sand with 60% stones and flint fragments (87728). The upper fill was a brown/dark brown (10 YR 4/3) silty clay loam with 5% small stones (87711).

F87712 was a small pit or posthole of bowl-shaped profile cut into the south edge of F87714. The lower fill was a yellowish brown (10 YR 5/6) loamy sand with 75% small stones (87726). The upper fill was a dark yellowish brown (10 YR 4/4) silty clay loam with about 2% small stones (87713).

F87714 was a small pit or posthole of bowl-shaped profile, cut by the north edge of F87712. The lower fill was a yellowish brown (10 YR 5/4) loamy sand with *c* 60% small stones and gravel (87727). The upper fill was a dark brown (10 YR 4/3) silty clay loam with charcoal flecks and *c* 5% small stones (87715).

F87716 was a small pit or posthole with steep sides and a flat base, cut by the west of F87718. It was filled by a yellowish brown (10 YR 5/4) sandy clay loam with 60% small stones, concentrated towards the base (87717).

F87718 was a small pit or posthole of irregular U-shaped profile, which cut the east edge of F87716. It was filled by a smooth, plastic brown/dark brown (10 YR 4/3) silty clay loam with 1% small stones (87719), from which a charred barley grain was recovered.

F87720 was a pit in the centre of the entrance and slightly beyond it. It was sub-square in plan, with shelving sides and a flat base and measured 1.47m x 0.73m x 0.35m deep. The bottom fill was a yellowish brown (10 YR 5/4) loamy sand with *c* 10% small

stones (87729). This was overlain by a smooth, plastic, dark brown (10 YR 3/3) silty clay loam (87721), in which were a flint flake, a scalene triangle microlith, and several fragments of charred onion couch grass tuber.

F87722 was a pit 1.02m x 0.43m x 0.31m deep, with steep sides and a sloping base, filled with a yellowish brown (10 YR 5/4) sandy clay with 35% small stones and gravel, concentrated towards the base (87723). It contained a charred wheat grain.

F87724 was a shallow, ovoid pit with shelving sides and a rounded base, filled with a dark yellowish brown (10 YR 4/4) loamy sand with 80% small stones and gravel (87725).

F87736 was a pit 1.09m in diameter and 0.19m deep filled with a dark greyish brown silty clay loam with 1% small pebbles (87735), which contained charred hazelnut shell fragments and a fairly substantial amount of charcoal.

F87738 was a possible posthole with almost vertical sides and a flat base, 0.55m across and 0.55m deep. It was filled with a dark greyish brown silty clay loam (87737).

F87740 and F87742 were a double posthole or two intersecting postholes, respectively 0.36m and 0.16m deep. Both were filled with dark greyish brown silty clay loam (87739, 87741).

F87744 was a double posthole 0.83m long and 0.13m deep, with two saucer-profiled hollows filled with dark greyish brown silty clay loam with 10% small pebbles (87743).

F87746 and F87748 were a double posthole or two intersecting postholes, respectively 0.45m across and 0.12m deep and 0.38m across and 0.16m deep. They were filled with a dark greyish brown silty clay loam with 10% small pebbles (87745, 87747).

F87750 was a probable posthole immediately adjacent to F87752, 0.50m across and 0.27m deep, with steep sides and a flat base. It was filled with light to medium brown sandy silty clay with 5% small to medium stones (87749).

F87752 was a probable posthole immediately adjacent to F87750, 0.50m across and 0.16m deep, with shelving sides and a rounded base. It was filled with light to medium brown sandy silty clay with 5% small to medium stones (87751).

F87754 was a posthole with steep sides and a slightly rounded base, 0.59m across x 0.37m deep. The postpipe was filled with compacted dark greyish brown sandy clay loam with many charcoal fragments and



Figure SS1.78
Southern Enclosure.
Sampling the ditch fills.
(Photo English Heritage)

flecks (87753), which was surrounded by loose, displaced natural sand and gravel.

F87756 was a possible posthole with steep sides and a slightly rounded base, 0.55m across x 0.31m deep. It was filled with a mid to dark brown silty clay loam with charcoal fragments and flecks and 10% medium stones (87755).

F87758 measured 1.80m x 0.80m x 0.28m deep. It had an irregular base, and was thought perhaps to have been a treehole, although its edges were well-defined. It was filled with compact dark brown silty clay with many small charcoal fragments and flecks (87757). In the centre was an area c 0.30m in diameter of bright red burnt clay like that in the top of the enclosure ditch.

F87760 was a posthole 0.42m across x 0.14m deep, with steep sides and a flat base, filled with a greyish brown silty clay loam with charcoal, burnt bone and burnt flint and 10% small pebbles (87759). The bone included a caprine scapula fragment. The flint (missing in 2001) is described as including retouched forms, with scrapers 'Neolithic in style'.

F87762 was a possible posthole with a flat base, 0.46 across x 0.08m deep., filled with a brown silty clay loam with less than 5% small pebbles (87761).

F87764 was a possible posthole with gently sloping sides and a flat base, 0.49m across x 0.11m deep, and filled with a dark greyish brown silty clay loam with an occasional small fleck of charcoal and 30% small pebbles and (87763).

F87766 was a possible posthole with steep sides and a fairly flat base, 0.73m across x 0.25m deep. It was filled by a compact dark greyish brown silty clay loam with occasional small stones and charcoal flecks (87765).

Several posthole-sized features, including a double example, were planned in the east half of the excavated area but were not numbered or otherwise recorded (Fig SS1.74). Some patterns may tentatively be identified. There was a ragged row of postholes running parallel to the east side of the enclosure, from F87714 in the north-west to F87766 in the south-east; double or closely-spaced postholes (F87703+F87710, F87712+F87714, F87716+F87718, F87740+F87742, F87744, F87745+F87748, F87750+F87752 and an un-numbered example) tended to cluster near the centre of the excavated area; and two pairs of these (F87703+F87710 and F87712+F87714) were closely-spaced and parallel to each other (Fig SS1.74). In two cases double postholes were made up of two successive, intersecting sockets (Fig SS1.79: F87712+F87714, F87716+F87718), which suggests that others may represent replacement of a single post with a slight shift of location.

Phase 6 Later activity

Two successive east-west ditches, both unexcavated, cut the east side of the enclosure (Fig SS1.74). Their size and alignment are compatible with those of the second millennium field system recognised elsewhere in the area. Their absence from the plan of the east half of the enclosure may simply reflect stripping to a deeper level in November 1992 than in the summer.

Figure SS1.79
Southern Enclosure. Discrete features.

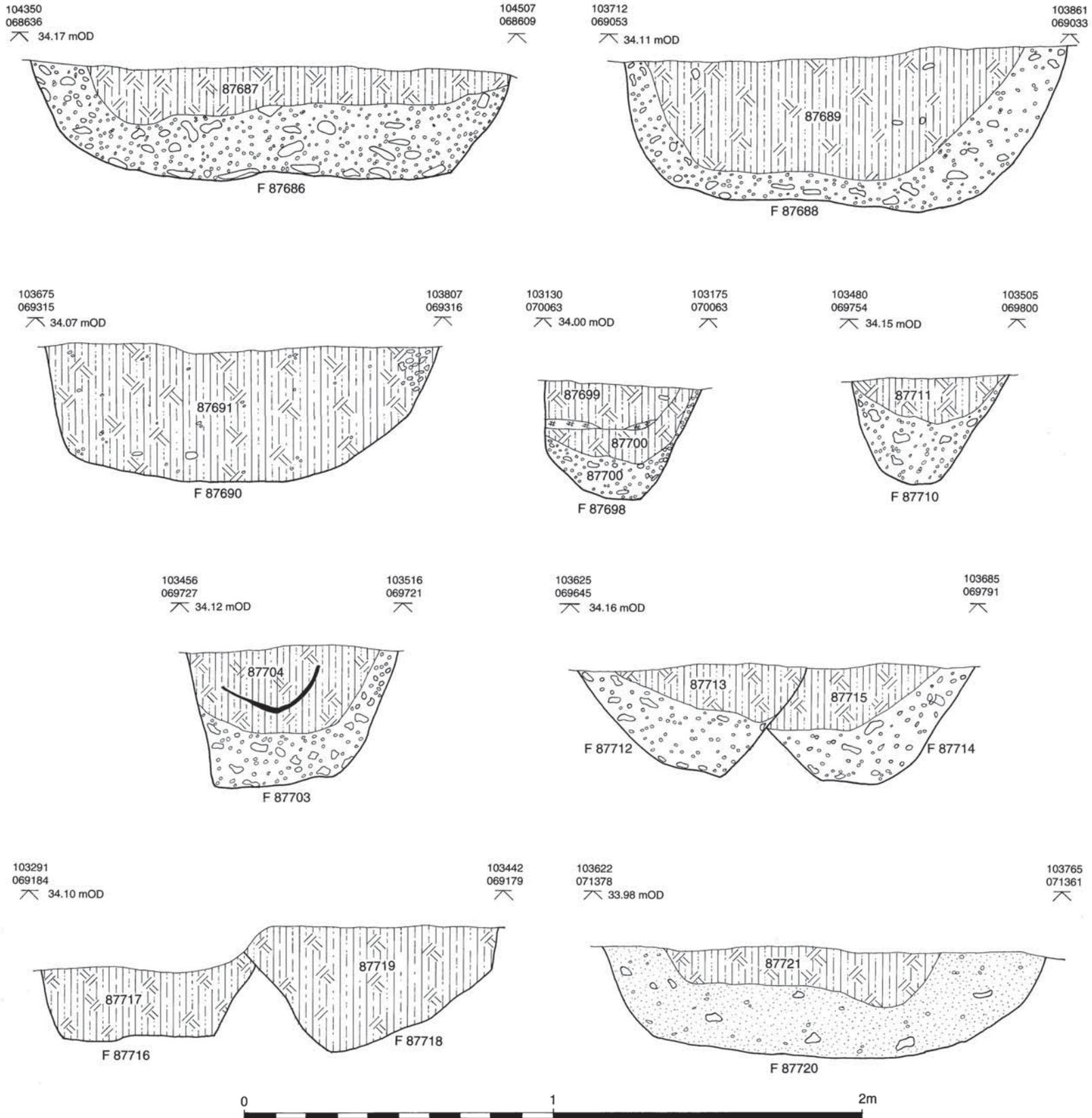


Table SS1.9. Southern Enclosure. Summary of finds

*= recorded, but unidentified or missing

Lithics are of flint

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Feature</i>	<i>Context</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Charred material</i>	<i>Soils</i>
1 Pre-monument activity?	F87682	87683			4 broken flakes/blades, 1 bladelet, all densely corticated	1 barley grain, onion couch grass, charcoal (mainly oak)	
	F87706	87707			Microblade core (burnt), 44 non-bulbar fragments (mainly chips, ?produced by burning), 29 flakes (7 burnt), 19 microblades (16 burnt), microlith (scalene triangle, burnt), microburin	Hazelnut shell, charcoal	
4 Ditch recuts		87668			2 flakes		Burnt clay with enhanced magnetic susceptibility in topmost fills
Ditch, context uncertain						Onion couch grass	
5 Discrete features	F87680	87681				Hazelnut shell	
	F87686	87687				1 free-threshing wheat rachis fragment, onion couch grass	
	F87688	87689	Large mammal long bone fragment	Neck sherd with incised lattice, probably from a Collared Urn, P102 (G) Also 2 sand-tempered crumbs	Non-bulbar fragment, flake, 1 misc. retouched	1 grain free-threshing type wheat, charcoal	
	F87690	87691	4 large mammal long bone fragments, cattle tooth	* 'Fired clay'			
	F87692	87693				Charcoal	
	F87694	87695			3 flakes	Sloe stone	
	F87696	87697				Hazelnut shell	
	F87698	87699			3 flakes	1 indet. cereal grain, oak charcoal	
	F87701	87702				Hazelnut shell, charcoal (most of it not oak)	
	F87703	87704				Hazelnut shell, charcoal	
F87720	87721				Flake, microlith (scalene triangle)	Onion couch grass	

F87736	87735	*	7 flakes (3 burnt), 3 non-bulbar fragments (all burnt), scraper	Hazelnut shell, charcoal
F87754	87753			Charcoal
F87756	87755			Charcoal
F87758	87757			Charcoal, area of red burnt clay
F87760	87759	Caprine scapula fragment, indet. medium-sized mammal bone fragment. At least some bone burnt.	* '... burnt flint which includes worked tool types ... Flint scrapers look Neolithic in style.'	Charcoal
F87764	87763			Charcoal
F87766	87765			Charcoal
F87684	87685			Charcoal
6 Later activity				
U/S	87424	c 6 sherds and crumbs, probably from EBA urn (G)	Flake, saw	

F87684 was a treehole apparently post-dating the enclosure ditch. It was filled with a dark yellowish-brown (10 YR 4/4) sandy loam with charcoal flecks and 2% small stones (87685)

The area of the enclosure was covered by the late Saxon alluvium which blanketed most of the valley bottom. A palaeosol survived beneath it. The extreme shallowness of many of the pits and postholes listed above may reflect not only the machining-off of up to 0.50m of pre-alluvial soil and sub-soil but also truncation by ploughing prior to alluviation.

3 Discussion of stratigraphy and phasing

Phase 1. Pre-monument activity?

The fact that much of the late Mesolithic assemblage in treehole F87706 was burnt probably relates it to the burning-out of the tree which had grown in the hollow. The smaller group from treehole F87682 was in similar densely corticated condition, and its technology would be compatible with a late Mesolithic date, contemporary with the F87706 assemblage and a scalene triangle microlith from pit F87720.

Phases 2–4. The enclosure

The complete form of the enclosure and its date are both unknown. The almost parallel sides suggest that it was subrectangular rather than ovoid. A substantial amount of spoil would have been cast up from the ditch, and a slight preponderance of sand and gravel in the fills derived from the inner edge suggests an internal bank. If the pits and postholes inside the enclosure were contemporary with it, then the minimum gap of *c* 3m between the inner ditch edge and any cut feature may reflect the former presence of such a bank. If F87688, the only feature dated to the early Bronze Age, is disregarded, this gap widens to more than 5m.

The almost total lack of artefacts and organic material and the total lack of food remains in the ditches strongly suggest that the enclosure was not occupied. The ditch fills reflect natural silting periodically interrupted by recuts. The dearth of cultural material, the size, and the plan (as far as it is known), are all echoed in linear monuments such as cursūs and shorter subrectangular enclosures like the 'long mortuary enclosure' at Brampton, Cambridgeshire (Malim 1999, 80–83) or the long enclosure (site VIII) cut

by the cursus at Dorchester-on-Thames, Oxfordshire (Whittle *et al* 1992, 148–52), as well as the Long Enclosure a kilometre or so to the north (SS1.5). Successive recuts find an echo, although by no means an exclusive one, in the reworking of causewayed enclosure segments, as at Briar Hill or Etton (Bamford 1985, 7–32; Pryor 1998, 17). The possibility of a Neolithic or Bronze Age date is heightened by the alignment of the entrance on the south-west end of the Avenue and the superimposed Segmented Ditch Circle (Fig 3.64). If at least the earlier of the phase 6 ditches cutting the east side of the enclosure belonged to the second millennium field system identified elsewhere in the area, then the enclosure was indeed Neolithic or Bronze Age.

The burnt clay in the ditch tops was burnt *in situ*, on the evidence of its continuous, plate-like form and, especially, of maximum enhanced magnetic susceptibility at the surface, decreasing down the profile and persisting into the apparently unburnt fill. The layers distinguished in the top of the east butt (Fig SS1.76: 87545–8) are likely to reflect decreasing exposure to heat of the same clayey material, rather than distinct deposits. The progression from bright yellowish red at the top, down through purplish red, then grey, to dark brown could reflect decreasing availability of oxygen and lower temperatures in more deeply buried parts of the fill. Its original extent may have been greater. Surviving patches in the top of the west ditch and perhaps of F87758 suggest that it may have been continuous across the enclosure, over an area of at least 50 sq m. Discontinuity and uneven distribution were not products of deeper machining over the east side of the enclosure than over the west, although comparison of the two ditch sections shows that this occurred, since no burning was seen in either of the two trial trenches across the east ditch. If, like the rest of the area, the site of the enclosure was cultivated in the first millennia BC and AD, a more extensive deposit not protected by the hollows of the ditch tops and of F87758 could have been broken up, dispersed, and ultimately incorporated into the soil. Whatever the extent of the deposit, its genesis is problematic. One possible mechanism would be a vegetation fire so hot as to scorch the subsoil. Whatever the process, it would have taken place at or after the end of the use-life of the enclosure. If any of the burnt deposit survives, in the ground or out of it, thermoluminescence dating would be worthwhile.

Phase 5. Discrete Features

All but one of the features are undated and none can demonstrably be related to the enclosure. It may, however, be relevant that hollow F87758, with its patch of *in situ* burnt clay, was aligned with and lay on the central axis of the enclosure (Fig SS1.74). It also contained many charcoal fragments and flecks. Among the other features, a post seems to have burnt in F87754 and there were conspicuous amounts of charcoal in the topmost fill of F87698, as well as in F87701, F87703, F87736 and F87760, in the last case associated with burnt bone and burnt flint. Burnt clay fragments, as distinct from *in situ* burnt clay, were confined to F87690 and perhaps F87698. Two small, eroded, sand-tempered fragments from the latter were recorded as ‘spalls from a thicker sherd?’. If they were in fact fragments of the same burnt clay deposit which survived over the ditches, then the event which generated it may have predated the pit, which contained a decorated early Bronze Age sherd, probably from a Collared Urn (Tomalin SS3.8.4: P102).

The only features apart from F87758 to bear any spatial relation to the enclosure was Pit F87720, which was central to the entrance, and a possible row of postholes parallel to the east side of the enclosure (Fig SS1.74).

The contents of pits and postholes were non-existent or minimal (Table SS1.9). The repertoire of stuck flint, animal bone, hazelnut shell, a sloe stone, onion couch grass tubers and three cereal grains would be compatible with a Neolithic or Bronze Age, especially Neolithic, date (Moffett *et al* 1989). Onion couch grass tubers occurred in many Neolithic and Bronze Age contexts in the project area (Campbell SS4.5.3–4) and were rare in Iron Age and Roman ones, although present in Saxon ones (Gill Campbell pers comm), almost certainly a reflection of the variety’s thriving in undisturbed, little-grazed grassland (Robinson Ch 2). In the particular circumstances of this site, the burnt tubers may have been tangible remnants of the vegetation fire proposed above. The treeholes attributed to phase 1 may instead have been burnt out during the same event.

4 Resource estimate

No resource estimate has been attempted because the southward extent of the enclosure is unknown.

SS1.8 The Riverside Structure¹

Andy Chapman, Tony Baker,
Dave Windell, Jo Woodiwiss

Abstract

Deposits of brushwood and alder trunks which lay at the southern edge of the earliest of a long sequence of palaeochannels have been interpreted as a constructed platform. Radiocarbon measurements on three samples has provided an estimated construction date of 2760–2470 *cal BC* at 82% probability.

The brushwood platform, which extended several metres into the river channel, was formed of smaller wood and some trunk timbers, apparently derived largely from the clearance of the tree cover along the adjacent riverside. Dumps of gravel, clay and further brushwood were used to retain and consolidate the platform, which was overlain towards its outer edge by larger trunks. No artefacts were recovered from these deposits but direct evidence of human activity was provided by axe marks, split trunks and the trimmed ends of some trunks.

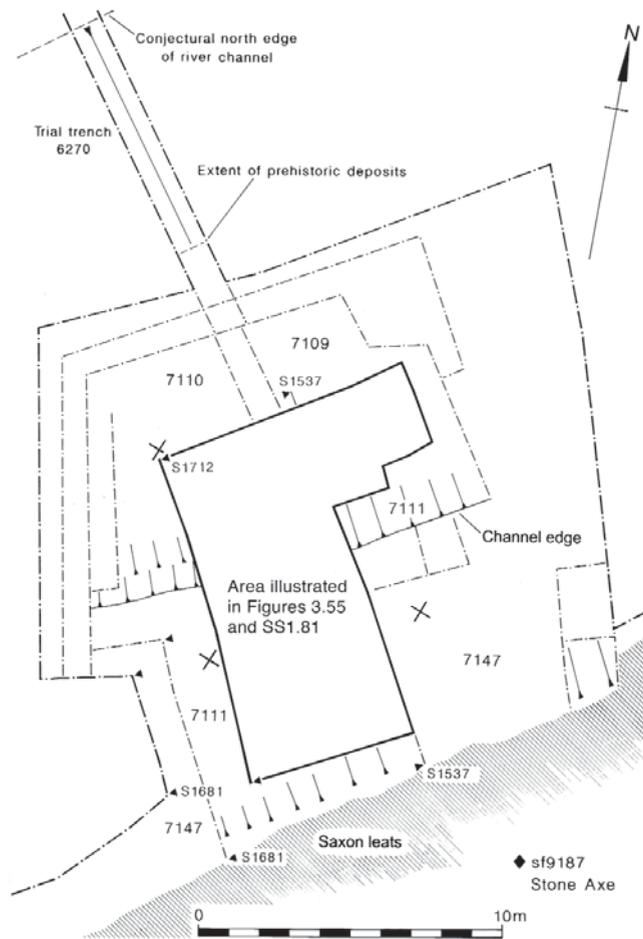
The final form of the platform is unknown. The consolidated platform would have lain below water level and probably provided a shallow water shelf adjacent to the riverside. At the outer edge the larger trunks probably acted as a revetment for the main platform. However, it is possible that these larger trunks had also supported further timbers which may have formed a raised platform standing above water-level. In this form the effect might have been of an 'island' set several metres from the riverside. The excavated area lay at the eastern end of the structure and its extent to the west is unknown.

The wood and associated waterlogged deposits have produced a wealth of environmental evidence. Deposits of animal and human bone lay within the gravels and silts forming and overlying the platform.

A direct association with the adjacent monuments is suspected, the platform having a ritual function. Most speculatively, it can be suggested that the intention was to create a ritual island, the bone deposits being the results of the dumping of feasting debris.

1 Location and Excavation

In 1987 a trial trench was cut by machine across the known location of a palaeochannel of the Nene lying to the immediate north of West Cotton. This trench, measuring 32m by



a bottom width of *c* 1m, was cut to provide a stratigraphic sequence through the palaeochannels for environmental sampling of riverine deposits (Fig SS1.80).

At the outset, two substantial timbers were exposed at SP 97558 27261, lying horizontally and nearly parallel, both to each other and the river course. What were subsequently identified as the two main alder trunks (Fig SS1.81: contexts 7118 and 7119) lay across the sloping southern bank of the channel at depths of 2.75m and 3m below modern ground level. Although there was no indication of the date of these timbers, it was assumed that they were most likely to be part of a riverside revetment, or even a landing stage or wharf of late Saxon or medieval date.

In 1988 the site was extended northwards by some 30m by means of a cutting 11m wide at its northern end. The intention was to provide a stratigraphic link between the dry-land excavation and the palaeochannel system. The location of a leat system and water mill complex of late Saxon to 12th century date in this area and lying to the south of the exposed wood initially strengthened the view

Figure SS1.80
Riverside Structure.
Excavated area, location
of sections and location
of stone axe.

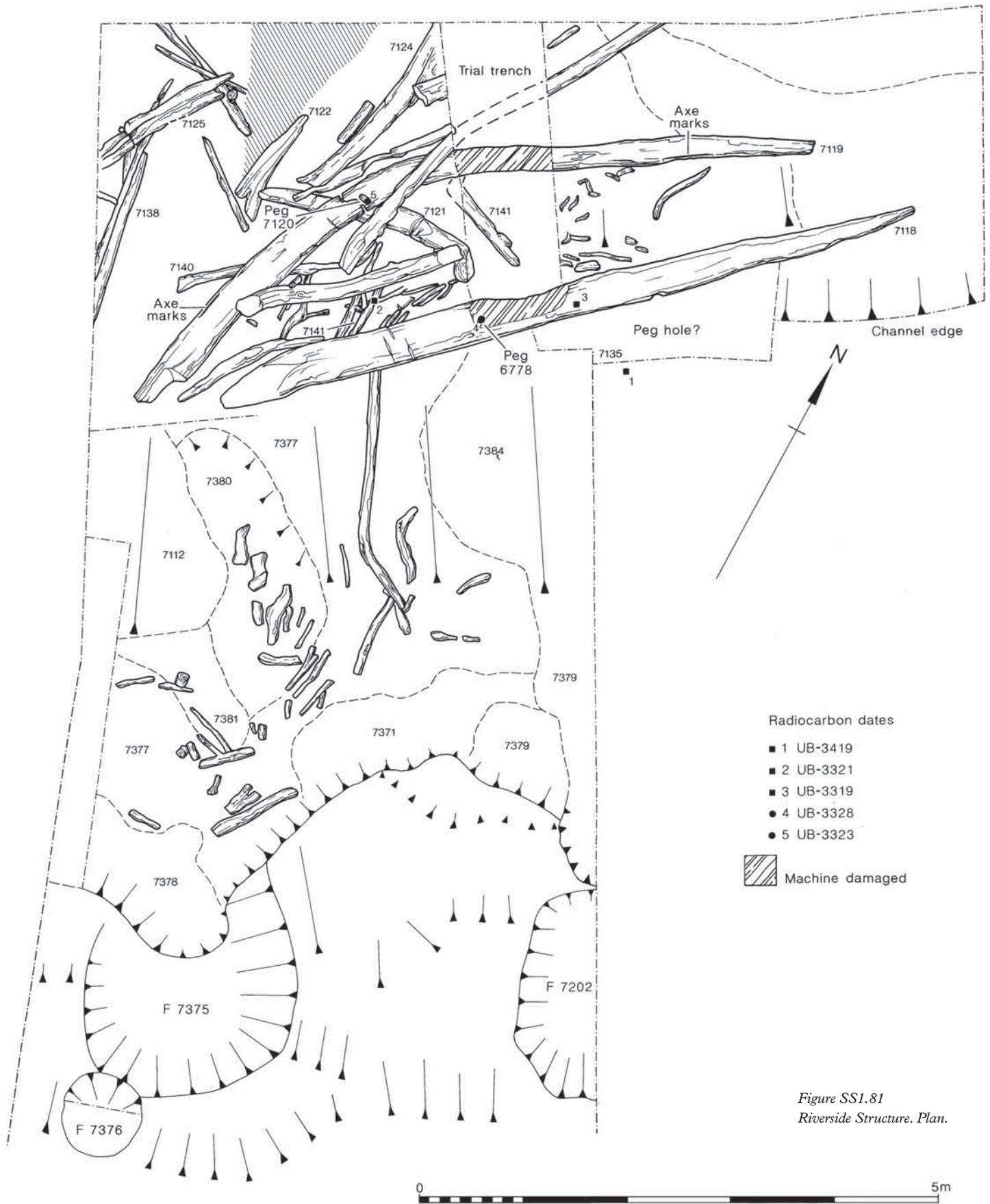
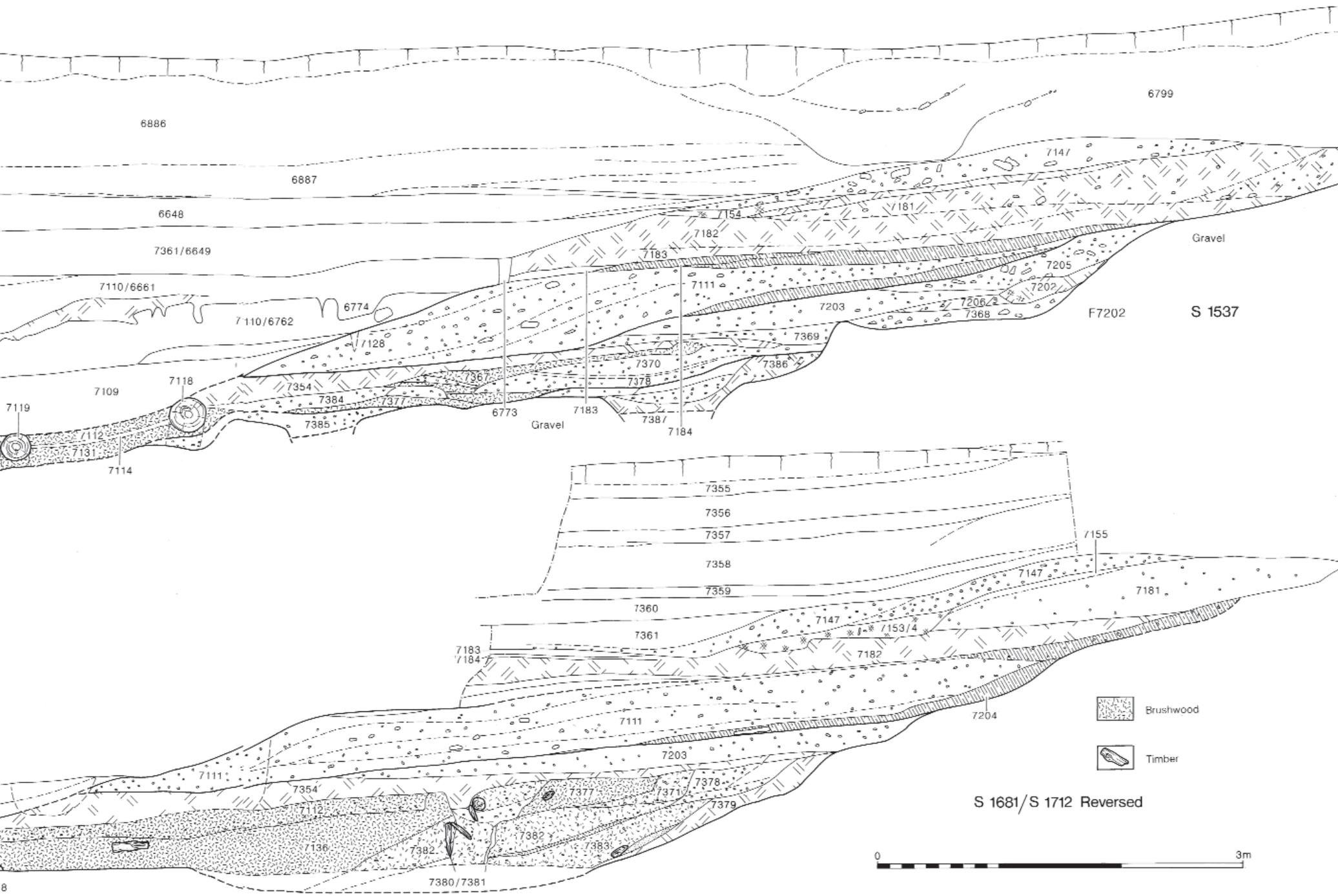


Figure SS1.81
Riverside Structure. Plan.



that the timbers were likely to be of a comparable date.

A small area within the palæochannel was excavated by hand. A trench measuring 6m by up to 4m was opened, but levels contemporary with the timbers were only reached within a smaller area of 3m by 1m. A 2.50m length of the inner alder trunk (contexts 6765/7118) was exposed and a complete cross-section taken as a sample. An oak peg driven into the trunk (6778) was also taken as a sample. The trunk section was submitted to Sheffield University as a potential dendrochronology sample. It was identified by thin-sectioning as alder (*Alnus glutinosa* Gaertn) and was not suitable for tree-ring dating, although the rings were measured for future reference (Groves 1988).

This trench, however, had provided a clearer understanding of the stratigraphic sequence of the riverside deposits (Fig SS1.82). It was seen in section that the exposed trunk and the associated layer of brushwood (7112/7136), were sealed by redeposited gravels within a later river channel (7111). These gravels pre-dated further layers of clays and gravels which were broadly contemporary with the water mill complex. It was apparent at this stage that the timbers pre-dated the late Saxon occupation. A prehistoric date was considered as a possibility, but the occurrence of small quantities of residual Roman finds in and around the adjacent mill area appeared to favour a Roman date.

Given the remaining uncertainties as to the date and the function of these timbers, as well as the high environmental potential of these waterlogged deposits, it was decided that further investigation of this area was necessary, leading to the 1989 extensions to the north and west provided an area measuring *c* 18m east to west at ground level. The sides were stepped in to form a safe working area at the level of the timbers, some 3m below modern ground level (Fig SS1.81). The riverine deposits were removed by machine down to *c* 0.30m above the known timbers.

Initially, a rectangular area of 8.50m by up to 4m, centred over the two known timbers, was excavated by hand (Fig SS1.83). During excavation continuous pumping was necessary to keep the water level below the timbers. Even so, the continuous flow of water from the trench sides made the working conditions difficult. It was necessary to cut arbitrary channels into the deposits to allow water to flow into the original trial trench and on to a sump located at the eastern end of the inner alder trunk. Once substantial areas of larger timbers and brushwood had been exposed it became difficult to carry out further excavation without causing damage. Whenever possible work was carried out from within the trial trench, where these deposits had already been removed, or from lengths of plank placed in the most disturbed areas or in those containing the least wood. However, despite attempts to limit damage



Figure SS1.83
Riverside Structure.
Work in progress.
(Photo Northamptonshire
County Council)

to the exposed wood, it was inevitable that some areas of smaller brushwood were disturbed, as it was not possible to provide access raised above the wood.

With the full exposure of the two main alder trunks and the surrounding brushwood, the preliminary conclusion was that these deposits were more likely to be prehistoric than Roman in date. A single Roman sherd had been recovered from river silts post-dating the timbers, and the general appearance of the structure, with an absence of heavily worked timbers, and the absence of artefacts contributed to this tentative conclusion. In addition, an on-site assessment of the environmental evidence by Dr Mark Robinson also indicated a prehistoric and probably Neolithic date.

The area to the west of the trial trench was as fully excavated as was possible in the circumstances. The brushwood and all the larger timbers, with the exception of the two main alder trunks and the brushwood and lengths of larger timbers sealed beneath them, were removed and the area was taken down to the general level of the natural gravel of the river bed. To the east of the trial trench the brushwood became steadily thinner. The brushwood was fully removed, but only a small area between the two main trunks was taken down to the gravel. Further east, the tops of the two main trunks overlay clays and these deposits were not excavated.

Following the excavation of the area centred over the two main alder trunks, it was apparent that they lay towards the bottom of a river edge that was still largely sealed beneath a sequence of later deposits. A trench from 5m to 6m wide was cut back into these deposits, the upper levels being removed by machine. This established the position of the contemporary river bank and led to the recovery of a substantial bone assemblage associated with the brushwood platform. The excavation of this area was, if anything, more difficult than the excavation of the main timbers. A continuous sheet of water ran down the sloping surfaces of the river edge deposits, making it difficult to expose and record individual timbers or to disentangle the stratigraphic sequence. The shallower eastern side of this area was taken down to the sloping surface of the underlying natural gravel. Across the deeper central and western sides it was not possible to fully remove the brushwood and early silts, although a narrow trench, 0.50m wide, was cut beside the western section and bottomed along part of its length.

The definition of individual layers was extremely difficult, given the technical problems of excavating deposits that were always, despite continuous pumping, partially obscured by continuous water flow. These technical problems were compounded by the inherent complexity of deposits lying in or at the margins of what had been an active river channel. In the description of the excavated evidence an attempt has been made to resolve these problems and to provide an account of the major stages in the sequence of deposition as understood from the available sections and from the area excavated in plan.

Context numbers are used in this description, but during excavation these were often more loosely defined. Although generally applicable to a single or part of a single deposit they often incorporated parts of other deposits not at the time recognised as separate.

All major timbers were planned *in situ*, and in the protected area between the two main trunks it was possible to excavate the brushwood more carefully than was generally the case, but only the larger lengths of brushwood wood were individually recorded. The apparent concentration in Figure SS1.81 of smaller wood in this area, in comparison to the area to the west of the outer alder trunk, is purely, therefore, a result of the method of excavation and recording. Similar smaller timbers were observed here, but no attempt was made to expose them for individual recording. The sparse wood scatter to the east of the trial trench does reflect a genuine decrease in the occurrence of larger pieces of brushwood, and the same was true of the area between the inner trunk and the riverside.

Figure SS1.81 is a composite, compiled from the site drawings which, necessarily, represented arbitrary spits. All major timbers are shown, and those smaller branches which were individually recorded. Between the inner main alder trunk and the river edge the level shown represents the surface of the upper brushwood partially sealed by gravel spreads. Figure SS1.80 shows this same area in its context.

The section of the Neolithic levels on the eastern side of the excavated area (Fig SS1.81: S1537) also includes the upper levels as recorded in the sections further to the east, in the stepped side of the cutting (Fig SS1.80). Similarly, the section on the western side (Fig SS1.82: S1681/S1712) incorporates upper levels recorded in the stepped edge of excavation to the west.

Sample cross-sections of all the larger, individually numbered, timbers were taken

for species identification and as possible ^{14}C dating material. For the brushwood layers and other layers containing wood several pieces were retained from each numbered context. For the brushwood layers samples were chosen to represent the full size range down to *c* 20mm diameter. As it was evident on site that the bulk of the wood was from a single species, already identified as alder, there was a bias towards sampling wood probably of other species.

Bulk samples were taken of most layers for flotation, and these have produced a wealth of environmental material. Other environmental sampling was carried out on site by Dr Mark Robinson and Gill Campbell.

2 The Excavated Evidence

The river channel and primary river silts

The uppermost part of the prehistoric river edge, to a depth of at least 1.30m, had been removed by a later channel edge sloping less steeply. The surviving lower edge descended in a series of irregular steps, the average slope being 20° to 25° . At *c* 4m out from the surviving edge, perhaps 5m to 6m from the original edge at ground level, there was a sudden break onto a gravel surface with a very shallow slope (*c* 5°). This ran for *c* 6m, to beyond the outer main alder trunk, before becoming a relatively level river bed (Fig SS1.82).

In the trial trench section, this was seen to continue northwards for a further *c* 7m before there was a slight rise in the gravel. At its deepest point, towards the northern side of the channel, the river bed lay at *c* 30.50m OD, 3.60m below modern ground level. A contemporary river edge to the north was not located, due to removal by later river channels. However, if the slight rise in the gravel to the north is the bottom of the northern edge it would indicate that the river bed was *c* 7m wide and that the channel may have had a width of *c* 25m to *c* 30m at ground level.

Although the general trend at the river edge showed a shallowly sloping gravel surface, this surface was extremely complex. On the eastern side of the area, between the inner main alder trunk and the riverside, the gravel bed was exposed and seen to be disturbed by a complex of sinuous channels (Fig SS1.82: 7387). These were only partially excavated and were not bottomed. They were filled with mixed deposits of grey clay, dirty grey gravel and sometimes clean yellow sand and gravel. Short lengths of wood,

30mm to 40mm in diameter, were found scattered through these fills. Whilst in places these channels appeared to cut the natural gravel, in other places good edges against gravel could not be defined. One deposit in particular (Fig SS1.82: 7386) appeared to consist of natural sand and gravel, but contained wood fragments. The most likely explanation of these deposits is that they were laid down within the sequence of gravel deposition and pre-date the prehistoric river channel under consideration.

A further deposit of similar character was located in the side of the sump that was cut down into these natural gravels. A layer of grey clay and sand contained tightly packed wood debris (7135), occurring as a 0.15m thick lens lying within an otherwise apparently continuous sequence of clean natural gravels. The wood lens was sealed by up to 0.20m of clean gravel. A sample of hazel or alder from this layer provided a radiocarbon date of 2920–2870 cal BC (4268 ± 32 BP; UB-3419).

Within the prehistoric river channel the earliest layers consisted of mixed silts deposited against the river edge and over the sloping river bed. Across the gently sloping river bed the brushwood overlay mixed deposits of yellow gritty sand with grey clay (7385), typically 0.05m to 0.10m thick. Around the eastern ends of the two main alder trunks the primary silts were not fully excavated, but were thicker, perhaps 0.10m to 0.20m, the upper layer being grey clay.

Whilst a series of numbers were allocated to the deposits at the river edge there was no single, simple and continuous sequence of deposition. Silts had been deposited in a complex of interleaved layers (7378, 7379 and 7383). The materials present ranged from water-deposited grey gritty sands, silts and grey clays to clean yellow sand and gravel probably derived from natural gravels exposed in the river bank. All of these deposits, apart from the clean sands and gravels, contained some wood debris, occasional lenses of peaty clay, and a few animal bones. These primary silts pre-dated the brushwood layer and may be regarded as a natural accumulation of river silts and eroded gravel, surviving to a depth of *c* 35 m.

Against the river bank it was not possible to excavate the primary silts fully, but they appeared to have been interrupted by a ridge of very mixed material (Fig SS1.82: 7380/7381). The western side of the ridge (7381) consisted of dirty yellow sand and gravel mixed with grey to grey-green clay

and contained lengths of twisted and contorted alder wood up to 50mm in diameter. To the east the clays surrounded a dense mass of intertwining lengths of alder wood between 20mm to 120mm in diameter (SS1.81: 7380), which has been identified as an intact rootball, which covered an area measuring *c* 3.5m north-west/south-east by *c* 1.6m north-east/south-west. The root mass was most dense at the north-western end of the ridge, contiguous to the bottom ends of the two main alder trunks. Metacarpal and tibia fragments, perhaps of a red deer, came from 7380.

Beyond the south-western end of this mass the river edge was disturbed by two irregular, shallow channels filled with clean sands and gravels containing some wood debris, which lay within a large sub-square pit cut into the upper part of the river bank (Fig SS1.81: F7375). The pit was 2m square and up to 0.60m deep, with steep sides and a flat bottom. In excavation it was difficult to define good sides to the cut and the bottom was partially overcut due to the surrounding gravel being much looser than normal. The pit sides were not easy to define and its outline is unlikely to have been as regular as shown in Fig SS1.81.

The fill of this pit comprised yellow-brown to grey-brown silty sand and gravel, with orange-brown tenacious clay streaked with light grey clay towards the sides. These materials were mixed and contorted, appearing to be reworked and redeposited sands, gravels, clays and silts. The clay deposits were similar to those associated with the rootball (7380/7381). A shallow hollow filled with silty sand (Fig SS1.81: F7376) found at the southern edge of this pit was probably a related feature.

Although clear relationships linking the pit (F7375) to the root-mass (7380/7381) were not obtained, the occurrence of this band of distinctive features and deposits does suggest that they may well have been interrelated. It has been suggested that 7380/7381 was an intact rootball with the tree-bole itself probably lying at the north-west end. However, two interpretations may be offered. The rootball may have been *in situ*, indicating the presence of a standing tree within the river channel itself on the lower slope of the river edge. Alternatively, although the rootball was intact it may have been redeposited in this position from an original location higher up the river bank and above water level. The large pit (F7375) could be interpreted as the tree-hole from which the rootball had been

removed, either as a natural tree fall or, perhaps, having been deliberately dug out, then dragged into the river.

It is likely that the greater depth of silt that accumulated on the western or upstream side of the rootball was a result of the barrier to water flow created by the rootball. This would apply to at least the uppermost silt layer (Fig SS1.82: 7382), which was mixed with peaty loam containing wood debris.

Most of the insects, plant remains and molluscs from sediments predating the structure are aquatic. The terrestrial component, together with the waterlogged wood, indicates a catchment which may have been a mosaic of clear and wooded areas, with as much as 60% tree cover, some of it established woodland, the open areas being both grazed and disturbed, perhaps by cultivation (Robinson and Campbell SS. 4.3.2; Robinson SS4.3.3).

The brushwood layer

In different areas this was recorded under several context numbers, including 7131, 7136 and 7377 (Fig SS1.82). The larger timbers within this deposit were individually numbered.

The brushwood overlay the primary silts at the river edge and on the sloping surface of the river bed. It partially sealed the ridged root mass, although not the higher north-western end. In general, the layer comprised a tightly compressed mass of wood debris ranging from twigs a few mm in diameter to branches up to *c* 40mm in diameter. Lengths of branch approaching 1m in length and up to 150mm in diameter were not uncommon. A few larger branches and some lengths of trunk were also present, which were individually numbered. The bulk of the wood was alder, but small quantities of other species, including ash, were also present. Whilst largely wood and wood debris, the layer contained frequent lenses of grey clay and sandy silts, particularly towards the river edge, where the wood density was lower.

The eastern limit of the brushwood lay towards the eastern ends of the two main alder trunks. This layer became progressively thicker towards the west typically reaching 0.25m to 0.30m. Against the silts at the river edge, where the river bed was slightly deeper, it was up to 0.50m thick. The recorded extent of the layer was 7m north-west/south-east along the river edge, but clearly it must have continued for some considerable distance to the west. The excavated area could represent only the eastern half of

the brushwood, and possibly less. North to south the layer extended for at least *c* 6m, running from the base of the steeper river edge and out onto the flat river bed beyond the two main alder trunks.

In general the brushwood consisted of a disordered mass of wood debris, like that between the main trunks in Figure SS1.84, although there are some indications of a more ordered deposition of wood at the base of the layer. The only area that could be carefully exposed at this level lay between the western ends of the main alder trunks. Here the primary silts were directly overlain by several *c* 1m lengths of straight ash poles without bark and some lengths of alder branch (Fig SS1.81: 7141). They were typically 60mm to 80mm in diameter and lay roughly parallel to each other, but not quite at right-angles to the line of the river. One of the ash poles from this layer was dated to 2830–2340 cal BC (4062±54 BP; UB-3321).

The basal wood level to the south of the inner main alder trunk was not fully excavated, but it was noted that much of the wood debris, including some of the smaller branches, down to *c* 30mm diameter, also lay at right-angles to the river and following the slope of the river bed. This included a single slender alder trunk at least 2.40m long and 100mm in diameter. Despite a tendency for some larger lengths of wood at the base of the brushwood to lie perpendicular to the river, it is uncertain whether this resulted from deliberate deposition or was merely a rough ordering of the wood orientation caused by natural processes.

Only a few major lengths of trunk were associated with the brushwood. A substantial alder branch or slender trunk (Fig SS1.81: 7140) lay at the base of the brushwood, partly beneath one of the main alder trunks (7119). A larger alder trunk (Fig SS1.81: 7121), 2.25m long and up to 0.25m in diameter, lay within the brushwood, although the central section, lying beneath one of the main alder trunks, had been pushed down and become deeply embedded in the underlying gravel. The upper end of this trunk was tapered to a blunt, rounded point. Although the surfaces were smoothed, the shape itself, as well as indications of faceting, suggested that it had been cut to this shape. Another substantial length of alder trunk lying at the base of the brushwood (Fig SS1.81: 7122) may similarly have been cut to produce a tapering, blunt point (Fig SS1.85: foreground).

To the west of the outer main alder trunk there was a length of a further alder trunk at



least 1.80m long at the base of the brushwood (Fig SS1.81: 7138), retaining bark on one side only. The other side was badly decayed, but showed a flat surface, indicating that this was a split trunk. This and the trimmed alder trunks were the clearest indications that the brushwood layer was a deliberate creation. A further length of alder trunk (Fig SS1.81: 7142) also lay within the brushwood, and had become embedded in the underlying gravel beneath one of the main alder trunks.

Beyond the two main alder trunks lay two further lengths of partly bark-covered and probably split trunks. One of these (Fig SS1.81: 7125) was of alder and was at least 1.60m long, lying on the surface of the brushwood. The other (Fig SS1.81: 7124), which remains unidentified, measured at least 2m, and had probably also lain on the surface of the brushwood, but this area was badly disturbed. These lesser trunks were probably deposited here at the same time as the two main alder trunks. Together they

*Figure SS1.84
Riverside Structure.
Brushwood layer in
between two main trunks;
Saxon oak peg 7120 in
alder trunk 7119.
(Photo Northamptonshire
County Council)*



*Figure SS1.85
Riverside Structure.
Main alder trunks and
some of lower brushwood
layer from the north-west.
(Photo Northamptonshire
County Council)*

formed the final stage in the creation of the primary brushwood platform. Notably, all the larger trunk timbers both within and directly sealing the primary brushwood lay towards the outer edge of the platform. The possible significance of this will be considered later.

There were two fragments of bone, including a cattle metatarsal, in 7377. Bone fragments were also recorded from 6474 and 7112. The abundant insects, molluscs and plant remains from the brushwood layer reflected broadly the same environment as those from underlying deposits. 7131, however, was sampled at two successive levels, beneath the timbers and between them. This registered a fall in insects favouring flowing water and a corresponding increase in those favouring still or slow-moving water, suggesting that the construction of the platform may have affected the flow of the river (Robinson SS4.3.3).

The main alder trunks

The two main alder trunks (Figs SS1.81–82: 7118 and 7119) were by far the largest timbers recovered (Figs SS1.84–85). They were partly embedded in the surface of the brushwood layer, and their positioning, nearly parallel to each other and to the river, would appear to have been deliberate and controlled.

The inner trunk (7118) was 6.95m long and up to 0.40m in diameter. It lay on a nearly horizontal surface, the western end being higher by virtue of its greater diameter. The tree-ring analysis of a section of this trunk indicated that it was a parent alder trunk (*Alnus glutinosa* Gaertn), 72 years old when felled (Groves 1988). The curving outer trunk (7119) was 7.20m in length by up to 0.35m in diameter. This was also an alder, and whilst not submitted for tree-ring

analysis, it was clearly of a comparable age to the inner trunk. Its western end lay close to and at the same level as the inner trunk. For the majority of its length it lay further into the channel and *c* 0.30m below the level of the inner trunk.

Although the top ends of both trunks had partially decayed, the complete absence of any side branches suggests that they had been stripped off. The underside of the inner trunk was still bark-covered, and loose pieces of bark beside the trunk indicate that the bark on the upper side had fallen away after deposition. The outer trunk, however, was completely free of bark. At around 1.20m from the base of this trunk (context 7119), there were two groups of probable axe marks: two crescentic to semi-circular cuts. At around 1.20m from the top were several cut marks along a 0.60m length. These were either lens-shaped incisions, caused by almost vertical blows, or shallow semi-circular to subcircular incisions, caused by oblique blows. The broadest cut was 110mm wide, apparently caused by two successive, overlapping blows. The cut marks would be consistent with the use of an implement with a convex profile and cutting edge and a width of *c* 70mm to *c* 80mm, such as a flint or stone axe (Figs SS1.86).

The bottom end of the inner trunk ended in a flat diagonal facet, whilst the outer trunk had a stepped facet. In both instances the surfaces were heavily eroded, leaving it ambiguous as to whether the trunks had been cut, or had merely broken away from the tree bole.

Each trunk had an oak stake driven into it: 6778 in 7118; 7120 in 7119 (Fig SS1.84). During excavation, it was assumed that these were contemporary with the trunks themselves, but both have proved to be of Saxon date and contemporary with the exposure of the timbers in the much later river edge, when the pegs may have been driven in to secure bundles of retting flax (Table SS1.10). A complete cross-section of the inner alder trunk (7118/6765) has been dated to 2560–2140 cal BC (3990±54 BP; UB-3319).

Given the absence of side branches and the axe-cuts on the outer trunk, it would appear that both trunks had been deliberately stripped of their branches and one of its bark prior to their being laid on the brushwood. As the bulk of the brushwood was smaller alder wood, it seems most likely that the material removed from the trunks provided much of the wood present in the brushwood layer. The two main trunks

Figure SS1.86
Riverside Structure.
Axe marks on the outer
main alder trunk.
(Photo Northamptonshire
County Council)



probably lay almost as they had fallen, as the bottom ends of both were closely adjacent to each other and to the probable rootball (7380/7381), which was also likely to be from this tree.

The gravel spreads

In the area between the main alder trunks the primary brushwood layer was sealed by up to 50mm of compact, gritty, grey sand (7114), which contained a fragment of bone. Between the inner alder trunk and the riverside the primary brushwood layer was partially overlain by spreads of gravel and sand interleaved with grey clay containing wood debris. Two separate spreads were present, lying to the south-west (7112) and north-east (7370/7384). No gravel was present across the centre of this area. To the south-west the layer was only 20mm to 30mm thick, running back from the inner main trunk for *c* 2m. The grey gravel was partially iron-panned, but also merged into the overlying layer of wood debris mixed with gravel (also context 7112). To the north-east the gravel was much thicker, from 0.1m close to the inner trunk (7384), to 0.25m towards the river edge (7370/7378). The gravel ran from the inner main trunk to the river edge, comprising grey gravels adjacent to the inner trunk and clean orange gravels and sand towards the river edge. These deposits were also partially iron-panned.

Whilst surviving patchily, these spreads of sand and gravel were probably originally more extensive, perhaps forming a continuous layer covering all the brushwood. The gravel only abutted the two main alder trunks, however, which would still have been standing proud. The preferred interpretation is that these gravels were deliberately dumped to seal and protect the brushwood layer from water erosion.

The upper brushwood

Between and abutting the main alder trunks the upper brushwood formed an almost solid mass of wood debris in a grey silty matrix (7112). This debris was mainly alder, from twigs up to short lengths of branch *c* 100mm in diameter. The layer reached 0.30m in thickness to the west but was thinner towards the east. Two substantial timbers were directly associated with the layer in this area: a Pomoideae branch 1.55m long (7116), and a 2.30m length of alder trunk (7115). Both lay in the upper part of the layer.

From the inner main alder trunk to the river edge and also around the western side

of the outer trunk, lay a very mixed and disturbed layer (contexts 7112 and 7367) up to 0.15m thick. This contained much wood debris, of variable density, in a matrix of coarse grey gritty sand and gravel. An extensive scatter of animal bone lay between the inner trunk and the river-edge, in the upper part of the layer.

The sand and gravel component could, in part, have derived from disturbance of the underlying gravel spreads, or from further gravel dumping and/or natural silting. The variable wood density is likely to have resulted, at least partly, from later disturbance.

The exact nature of this layer is uncertain, although it probably represented dumping of brushwood consolidated with sand and gravel, but disturbed by later water action. This could then be seen as a continuation of the dumping of material to protect the underlying brushwood from erosion, and perhaps also to raise the level as the underlying brushwood compacted. This phase of dumping may have occurred at a later date, following the partial removal of the initial gravel dumps through water erosion.

An extensive scatter of bone (over 100 fragments) lay in the upper part of the layer and it was therefore deposited either during the last stages of dumping or subsequently, whilst the layer was subject to water action disturbance. The condition of the bone is relevant here. Weathering, battering, rounding of the edges and fine superficial scratch marks, probably from abrasion against grit, stones or branches, are all common. Furthermore, while all areas of the skeleton are represented, the most frequent bones are robust, and small bones are absent (Baker SS4.6.4). The assemblage either underwent extreme attrition *in situ* or was transported by the river before it reached its final location. Its restriction to the upper part of a single layer suggests that its deposition was a single event. It includes two human femur shafts, left and right, one of them with signs of carnivore gnawing (Mays SS4.7.2), but is dominated by domestic cattle, most of them immature. Also present are pig, caprine, equid, red deer and duck, and perhaps aurochs (Baker SS4.6.4).

Silting around the platform

Beyond the outer main alder trunk there had been considerable disturbance to the top of the primary brushwood and the overlying stratigraphy. This partly resulted from exposure in a later river edge, but also partly from contemporary disturbance. The primary

Table SS1.10. Riverside Structure. Summary of finds

* = recorded, but unidentified or missing

<i>Element</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Lithics</i>	<i>Waterlogged wood</i>	<i>Other waterlogged plant remains</i>	<i>Charred material</i>	<i>Waterlogged insect remains</i>	<i>Molluscs</i>	<i>¹⁴C BP</i>	<i>Cal BC/AC</i>	<i>OSL dates (Reece-Jones 1995)</i>
River channel and deposits below structure		? red deer metacarpal and tibia shaft fragments in 7380		Alder and alder or hazel fragments; alder rootball in 7380	Plants of aquatic, wetland, woodland, scrub or underwood and open environments	Charcoal	Aquatic, woodland and grassland species	Largely freshwater, with some woodland species	4268±32 (UB-3419)	2920–2870 BC	
Lower brushwood		2 fragments, inc cattle metatarsal in 7377		Mainly alder, with Pomoideae, hazel, alder or hazel, oak, ash	Plants of aquatic, wetland, woodland, scrub or underwood and open environments	Charcoal	Aquatic, woodland and grassland species. Some indication of slower stream flow	Largely freshwater, with some woodland species	4062±54 (UB-3321)	2830–2340 BC	
Main alder trunks				Alder					3990±54 (UB-3319)	2560–2140 BC	2850±240 BC, calculated as 3300–2370 BC, for sediment next to platform
Gravel spreads		*									
Upper brushwood	L and R adult femur shafts	95 fragments, mainly longbones of immature cattle, inc 1 ?aurochs tibia. Also equid, ?red deer, pig, duck		Alder, Pomoideae							
Upper alder trunk				Alder							
Clay layer				Ash	Plants of grazed grassland, disturbed ground, aquatic and wetland environments. Few woodland species		Aquatic species suggesting slow-flowing channel, grassland and dung beetles, almost no woodland species				1680±210 BC, calculated as 2100–1260 BC
Pit F7202		18 fragments, mainly cattle, some red deer and sheep or goat									
Layer 7369, sealing F7202		2 fragments, inc ?aurochs femur									
Upper silts	R adult femur shaft in 7203										
Possibly related			Micaceous sandstone axe (sf 9187)								

Later activity	Beaver femur in 7109	2900±60	1300– (OxA-4740) 910 BC
	Oak stake driven into alder trunk 7118		1267±49 AD 650 (UB-3328) 890
	Oak stake driven into alder trunk 7119		1264±52 AD 650 (UB-3323) 900–

brushwood was disturbed and infiltrated by clays and silts whilst above this was a layer of grey clay with some silty sand, containing much wood debris to the west (7133), and only a little wood debris further east (7132). This layer abutted the outer main alder trunk, and overlay the eastern ends of both the main alder trunks. A clear relationship to the upper brushwood was not obtained.

Most probably this layer represented prolonged disturbance by water action around the outer margins of the platform, and up to the barrier created by the outer main alder trunk. During this process brushwood was disturbed, then incorporated into water deposited clays and silts that accumulated over the outer part of the primary brushwood layer.

The upper alder trunk

It has already been noted that a substantial length of alder trunk (7115) lay between the two main trunks, and near the surface of the upper brushwood. A further major alder trunk (7117) was 0.20m in diameter by over 3.85m in length, its central section having been removed by the trial trench. It overlay the upper brushwood, the outer main alder trunk and the clays accumulated against the outer edge of the platform, and had clearly been displaced from its original location. In all probability, this trunk had lain between the main alder trunks along with the shorter trunk (7115).

This timber is of some interest, as it had been more extensively worked than the others. No bark was present and although it was partially decayed it appeared to be a quartered log. If so, it would originally have been of comparable diameter to the two main trunks. Between 0.40m and 0.95m above the lower, western, end lay a series of four or five parallel grooves of semi-circular profile, each *c* 60mm wide. A similar series of grooves had almost certainly been present on the opposite face, but subsequent erosion and decay had left only faint indications.

On the basis of the surviving evidence, it may be suggested that the displaced trunk (7117) could have been the only survivor of an upper level consisting of several major alder trunks which could have formed a continuous platform above the two main alder trunks. This may have included further quartered trunks, and the grooving on the surviving example may indicate that they had been bound together with ropes. If such a superstructure were present, it was unlikely to continue across the area between the inner

trunk and the river edge. This area showed a continuous sequence of dumping and silt deposition and since it was not subsequently exposed in a later river edge, any such timbers would be likely to have survived *in situ*. The intention, therefore, would have been to create a raised area set several metres out from the river edge.

An OSL date of 2850 ± 240 BC, calculated as 3300–2370 BC was obtained for sediment next to the platform (IRSL-792c; Rees-Jones 1995, 82–85)

The clay layer

The uppermost wood layers were sealed by up to 0.25m of homogenous grey clay (7130/7354) which was slightly silty and almost free of inclusions, barring a small amount of wood debris. The layer ran from the river edge, to the inner main alder trunk. Beyond this it had been truncated or completely removed when the area was exposed in a later channel edge making the original extent of the layer uncertain. To the west of the main trunks it extended to a point level with the outer main trunk and sealed *c* 1m of the lower, western, ends of both major trunks. The absence of the clay layer over the area lying between the two trunks could support the suggestion of a raised timber platform here, although the clay may have been removed by later disturbance.

The plant and insect remains from this layer reflect slow-flowing water and a landscape consisting mainly of grazed grassland with some disturbed ground (Robinson and Campbell SS4.3.2; Robinson SS4.3.3). This would be compatible with what is known of the Bronze Age ecology of the area, and with an OSL date for the sediment of 1680 ± 210 BC, calculated as 2100–1260 BC (IRSL-792d; Rees-Jones 1995, 82–85).

Pit F7202

A pit was cut into the upper slope of the river edge (Fig SS1.82: S1537). It measured *c* 2.20m north-south by at least 0.8m wide, lying partly beyond the excavated area, and up to 0.50m deep. It was a steep-sided flat-bottomed cut, probably with a subsquare or subrectangular plan. The base of the pit was sealed by a deep spread of grey sandy silt 10mm deep, above which was a layer of orange sand with inclusions of angular sandstone chips and containing a small quantity of animal bones (7368). The 18 fragments of bone were in comparable condition to those from the upper brushwood (Baker SS4.6.4, Tables SS4.38–44), and were mainly of cattle,

with red deer and caprine. This fill was similar to a localised spread of sand and sandstone chips (7369) which lay on the riverward side of the pit and sealed the clay layer, suggesting that the pit was being filled subsequent to the deposition of the clay layer (7354). The upper fill was light grey-brown sticky clay containing angular sandstone chips (7206). Towards the river edge, the final fill was medium grey-brown silty clay containing scattered charcoal flecks with a particular concentration towards the base of the layer (7202). The upper fills had been partly truncated by later activity. 7369 contained two bone fragments, one of them a femur of aurochs-like proportions (Baker, SS4.6.4).

The upper silts

The clay layer (7130/7354) and pit (F7202) were sealed by a layer of gravel in light grey silt (Fig SS1.82: 7203). It survived to a thickness of 0.20m near the river edge, but to the north it had been truncated and removed by a later channel edge. The layer probably largely resulted from natural silting. It contained a third adult human femur shaft (Mays SS4.7.2).

The uppermost layer only survived close to the river edge. It consists of gravel in orange-brown sand (7205), probably derived from erosion of the river bank.

All the surviving layers above this level were substantially later in date, being deposited over the truncated surfaces of the Neolithic levels.

Later activity

The subsequent development of the palaeo-channel sequence is fully described in the report on the late Saxon and medieval occupation (Chapman forthcoming). Here a brief outline is provided to explain the effects of later activity on the Neolithic levels.

The layers sealing the wood deposits had survived only between the inner main alder trunk and the contemporary river edge, having been truncated by a later channel edge. The date of this is unknown, although it was certainly pre-Roman. The cutting back of the river edge into the deposits described above was followed by a period of silt (7204) and gravel (7111) deposition, also pre-Roman in date. This had resealed the earlier deposits at least as far out as the inner main alder trunk and probably further (Fig SS1.82). In this initial phase of disturbance it is probable that only the upper layers above the main trunks and the brushwood were truncated or removed.

A further cutting back of the river edge exposed the deposits over and beyond the inner main alder trunk. This deeper disturbance was probably responsible for the displacement of the uppermost alder trunk (7117), and perhaps the removal of others. The layers sealing the main alder trunks and the brushwood were also largely removed. Whilst possibly Roman in date, this new channel edge was certainly open in the late seventh to the ninth centuries AD. It was at this time that the two main alder trunks were partially exposed in the sloping river edge and each had an oak stake driven into it (Fig SS1.84; Table SS1.11).

Following this phase of exposure and disturbance, the timbers were resealed by gravel and silt deposits (Fig SS1.82: 7113 and 7109). A redeposited beaver femur from 7109 is dated to 1300–910 cal BC (2900±60 BP; OxA-4740). The subsequent history of the channel was one of at least near-continuous silt accumulation. This led to the channel becoming redundant by the late medieval period.

3 Discussion

Introduction

It was not considered appropriate to suggest a system of phasing for this monument, as the structure appears to have been a single-episode construction. The upper brushwood could be seen rather as the result of ‘essential repairs’ during a period of use which did not involve any structural alteration. A general interpretation of the form and function of the brushwood and alder trunk structure faces several difficulties. A major question is the extent to which the structure was a deliberate creation, rather than a natural occurrence with some human involvement and utilisation.

Evidence of human involvement in the creation of the primary brushwood layer was sparse. The tendency for the larger branch lengths at the base of the layer to lie perpendicular to the river was not certainly a result of their being deliberately laid so. The best evidence is provided by the possible split alder trunk and the two other alder trunks which had apparently been trimmed to blunt points. In addition, the predominance of alder wood might itself be indicative of deliberate dumping rather than a natural accumulation of wood debris.

The trunk timbers overlying the brushwood provide further evidence. This was

seen most strikingly in the axe cuts on the outer main alder trunk. In addition, the complete absence of any side branches on the two main alder trunks, and also on the smaller alder trunks, both within and above the brushwood, was a strong indication that they had been deliberately stripped prior to deposition. This evidence is supported by the presence of a further two split trunks amongst the timbers overlying the brushwood.

Form

The brushwood layer mainly consisted of smaller wood, down to twigs, derived from side branches. In the area excavated this was primarily alder wood, but included some ash, oak, hazel and Pomoideae. Although some trunk timbers were present in the brushwood, it is clear that the side branches were being used for the primary brushwood layer although most of the trunks were reserved for later use.

Given the occurrence of some alder trunks within the brushwood, the presence of the overlying major alder trunks, the intact but possibly displaced alder rootball and the pit at the river edge, which may have been a tree-hole, a more detailed description of the process may be provided for at least a single alder tree. It can be suggested that the pit at the river edge was the tree-hole from which the alder rootball and its tree were removed. Whilst it may have fallen naturally, the complete removal of the rootball can be seen as an indication that it was dug out and dragged down the river bank to lie within the river itself. This would have served to both provide the material for the brushwood platform and to clear the adjacent river bank of undergrowth. The removal of the rootball would have prevented regeneration of this undergrowth.

This alder would have possessed at least two major trunks, whilst the large displaced trunk may have been a third of comparable size. There would also have been several further, smaller trunks. The tree would have consisted, therefore, of perhaps eight trunks of varying dimensions all growing from the rootball at about ground level. As the bottom ends of the two main trunks lay immediately beside the displaced rootball, it would appear that these were felled after the tree had been uprooted and after the removal of their side branches.

Similarly, the three split trunks may also have come from a single tree, and in this instance perhaps from a single trunk. They

all lay to the west and may have represented the next major alder tree to the west.

Whilst the contemporary water level within the river is unknown, the fine preservation of the wooden remains leaves no doubt that they have been below water at least almost continuously since they were deposited. They could hardly have failed to be below water level, given that the highest points on the two main alder trunks lay only *c.* 0.90m above the deepest part of the river bed. The accumulation of water-deposited silts above the wood layers suggests a depth of water of at least 1.60m, although this may have represented seasonal high points or a later rise in the water level in the channel. It must be suspected, however, that the brushwood and timber layers were laid when the water was at its lowest, probably in late autumn. The large quantities of hazelnuts within the primary brushwood may support this suggestion.

As the brushwood would have lain within the river channel, it would, if left exposed, have been at least partially washed away. It is possible that the gravel spreads directly overlying the brushwood were the remnants of a dumped gravel layer. This was probably deposited immediately after the brushwood and the two main alder trunks, in order to prevent the brushwood from being washed away. The mixed and disturbed layer of brushwood, silt and gravel above this was probably a later dumping to provide further protection from erosion. This was probably dumped after much of the initial gravel had been lost, and possibly also served to raise the height of the platform, following consolidation and compaction of the primary brushwood. It is still almost certain, however, that the platform lay below water level. It was at this stage that animal and human bone was deposited across the platform.

The clay layer which sealed the brushwood levels after the bone had suffered attrition and perhaps selective destruction post-dated the platform by an unknown period, during which the surrounding area had become far more open and more extensively grazed. Subsequently, further animal bones were deposited across this area, in silts probably derived from natural silting in the shallow water over the platform. The partially excavated pit at the river edge, which also contained some animal bone indicates that there was activity nearby.

The interpretation offered so far suggests that the platform was deliberately constructed and that it was maintained over an unknown, but probably extended, time scale. However, it

has also been suggested that this platform must have lain below water level and would have formed, at least for most of the year, a shallow water shelf. The effort involved in its creation and maintenance would seem out of proportion to what was apparently being created.

A solution to this problem has already been approached in the description of the uppermost surviving alder trunk. It has been suggested that the two main alder trunks, whilst probably partly serving as a revetment to the outer edge of the platform, were the base for a raised timber superstructure. This may have consisted of small alder trunks and some quartered alder trunks, the latter possibly being lashed together with ropes. The survival of only a single displaced trunk makes this interpretation speculative, but it does suggest an overall logic for the creation of the platform.

The shallow water area of the main platform would have been flanked on its outer edge, some 5m from the river bank, by a timber platform perhaps raised above water level. The shallow water area could, therefore, have provided access to what would have been an artificial island apparently lying well within the river channel.

Interpretation

The available evidence indicates that the riverside structure was a brushwood platform revetted at its outer edge by larger trunks and consolidated and maintained by successive dumped layers which included brushwood, silts and gravels. This platform must generally have lain below water level.

This evidence pertains, however, to the form of the structure and provides no direct clues as to the function of such a shallow water shelf. Its function could have been no more than a shallow water area providing access to the river for purely utilitarian activities such as fishing or as a shallow water landing stage for boats. However, given the presence of the nearby monument complex, a ritual function is clearly a strong possibility. With an estimated construction date of 2870–2800 *cal BC* at 13% probability or 2760–2470 *cal BC* at 82% probability (Fig SS6.10), the platform was built during an apparent lull in monument construction (Fig SS6.14). It may have been coeval with the Cotton Henge upstream, but in the valley bottom it is potentially contemporary only with a single pit containing Grooved Ware and a similar, rather later, pit under the south end of the Turf Mound. The level of tree cover inferred from the waterlogged plant and insect remains is echoed in a section

across channel C, less than 200m to the north, where pollen associated with a date of 3370–2470 cal BC (4300±150 BP; HAR-9241) was dominated by alder with oak, hazel, and a relatively low level of herbs (Brown and Keough 1992a, fig 18.3)

Evidence to support a ritual function is sparse. No artefacts were recovered from the platform area. However, a small blunt-edged axehead of micaceous sandstone (sf 9187), recovered as a residual find in the late Saxon mill leats to the south, may have come from activity on the river bank associated with the use of the platform. This axe would appear to have been symbolic rather than functional: it was small, the smoothed and rounded cutting edge was clearly of no use for a practical tool, and sandstone is more suited to grinding than to cutting. It bears no relation to the axe-marks on the trunks of the structure, both because of its rounded edge and its narrowness (40mm at the cutting edge).

The only evidence derived from the platform which does not relate directly to its construction and maintenance is the animal and human bone. Three groups of bone were recovered. The largest group lay in the upper brushwood, sealed by the clay layer, whilst a further deposit lay within the silts directly above this clay layer and a third small group was recovered from a pit at the river edge. These deposits at least open the possibility of a ritual use of the platform which included the deliberate dumping of human and animal bone. The condition of the bone suggests that it suffered severe attrition from the river, perhaps with the selective removal of smaller bones which would have been less readily held in the brushwood. Alternatively, the bone and its mixed, disturbed matrix may have been deposited by a surge of water, having been torn from its original location or locations.

Finally, we must consider the speculative interpretation that the two main alder trunks both revetted the outer edge of the platform and provided a base for a superstructure which may have stood above water level. With this interpretation the main platform area can be seen as a shallow water area which provided access to what would have appeared to be an isolated island set several metres into the river channel. Even in this form the structure could still be seen as purely utilitarian, with the ‘island’ perhaps just forming part of the revetment protecting the main platform area. Alternatively, it can be suggested that the whole purpose of the platform may have been the creation of such an island. This island could have been the

focal point for ritual activities, with access to it perhaps being limited. The recovered bone deposits may represent a small fraction of the actual activity, with further bone and other materials being deposited directly into deeper water from the island.

In this context, the location of the platform to the immediate west of the confluence of a probable prehistoric stream channel and the river itself may also be of significance.

It must also be remembered that these possibilities and speculations are all based on the excavated part of the platform. This represented only the eastern end of a structure which continued for an unknown distance to the west. The excavated area may be typical of the whole structure, but it is equally possible that it was marginal to something of a different and perhaps even more elaborate form.

Ultimately, given the limitations of the evidence, it can only be stated with confidence that the structure was an artificial construction apparently designed to provide a shallow water shelf at the river edge and giving access to the deeper water towards the middle of the channel.

1 Animal bone attributed in this section to context 7369 (a spread overlying the clay layer which overlay the platform) was in fact from context 7379 (a silt layer underlying the platform)

SS1.9 The Ditched Enclosure

*Andy Chapman, Tony Baker,
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Abstract

The estimated centre of the Ditched Enclosure lay at SP 97625 72548, immediately to the east of Barrow 6. It has been shown by magnetometer survey that a probable single-ditched round barrow, Ring Ditch 1, lay immediately to the east. Only the western side of the enclosure ditch was excavated, but the enclosure appeared to measure 32.5m by *c* 27m, with an ovoid plan on a north-east/south-west alignment similar to those of the Long Enclosure and Turf Mound. No internal features were located in the small area of the interior available, but it is believed that there was an internal bank.

Unfortunately, since only a limited area of the Ditched Enclosure was available for excavation and there were few finds (apart from a Grooved Ware sherd), the phasing should be regarded as tentative.

1 Location and excavation

The ditch was located following the removal by hand of the soil horizon which sealed Barrow 6. Both monuments were excavated together, although a lower percentage of the available ditch was uncovered. This ditch clearly formed the western side of an enclosure lying largely beyond the excavated area. A magnetometer survey by the AML in 1991, however, did locate part of the eastern side of the Ditched Enclosure, together with a probable ring-ditch to the east. This evidence is considered in the discussion of the plan and also within the account of the geophysical survey (Payne SS5).

Along the southern half of the excavated ditch the surviving ground surface was the upper natural of sandy clay with gravel. To the north the ditch had been disturbed by late Saxon ditches and across the northern half of the enclosure later disturbances had lowered the surface of the clean natural gravels. The northern length of ditch (F3186) has as a result been severely truncated by up to *c* 0.40m. The plan of the Ditched Enclosure appears with the Barrow 6 illustrations (Fig SS1.153).

2 The excavated evidence

The plan

As excavated, the Ditched Enclosure was defined by an arc of ditch 33.5m in length, which appeared to be continuous, although cut in two places by the outer ditch of Barrow 6. The three separate lengths of ditch were given individual feature numbers: F3186 – northern section, F3213 – central length, F3212 – southern stretch. At the southern end a further 1.30m length of ditch was located in a trial trench. Of the length available, 22.80m were fully excavated (68%), with baulks from 1.20m to 2.60m wide, set at regular intervals (Fig SS1.153).

For most of its recorded length the ditch curved consistently and quite gently, but both to the north and south it curved more sharply towards the east. The excavated part would appear to represent slightly under half of an enclosure that was probably of ovoid plan, measuring 32.50m north-east/south-west and well in excess of the recorded 13m north-west/south-east.

Although the actual plan is unknown, it is possible, by making certain assumptions, to suggest a possible reconstruction. The enclosure lay to the north-east of the Long

Enclosure (Fig 3.64). If the two shared the same longitudinal axis, and if the Ditched Enclosure was symmetrical about this axial line, then a reflection of the excavated part about the axis could be used to define a possible plan. This process produced an ovoid plan with a rounded end to the south-west and a broad, flattened, north-eastern end. The monument would have measured 32.5m north-east/south-west by *c* 28m north-west/south-east.

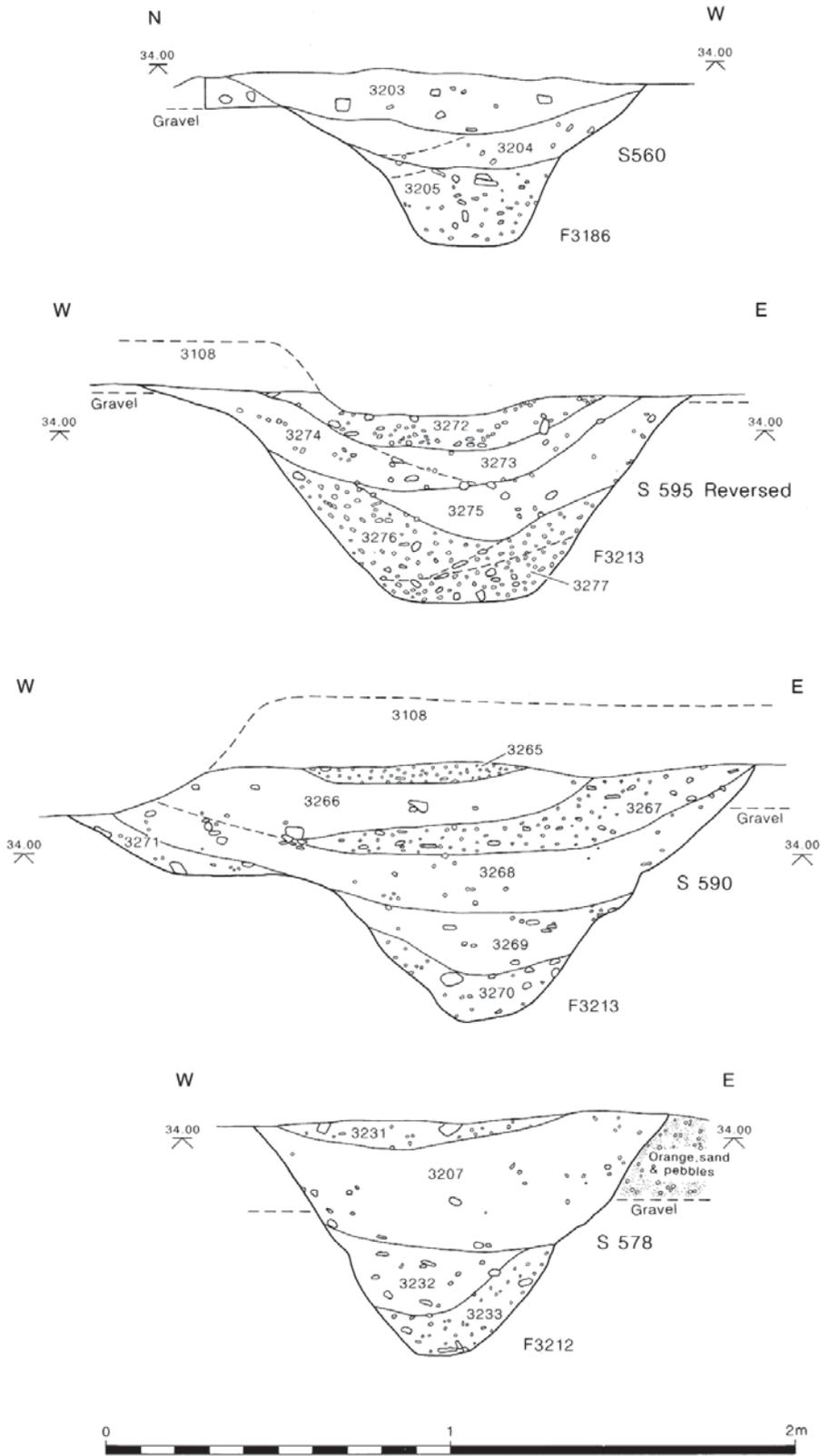
A magnetometer survey conducted in 1991 (Payne SS5) did not clearly locate the eastern side of this enclosure, the line of which was obscured by a later structure. There was a faint indication of a ditch which could have formed part of the eastern side of the ditch circuit. However, the survey did locate a ring ditch to the east (Ring Ditch 1), which would appear to have set a limit to the possible eastern extent of the Ditched Enclosure. This survey evidence suggests that the enclosure measured *c* 26m north-west/south-east, with its eastern side coming to within a few metres of Ring Ditch 1. The survey evidence is therefore in good agreement with the suggested plan reconstruction, and there seems little doubt that the enclosure possessed some form of north-east to south-west alignment. It was certainly unlikely to form the western end of another monument like the Long Enclosure.

Phase 1 construction

Phase 1 comprised the excavation of a continuous ditched ovoid enclosure (F3186/F3212/F3213). The spoil derived from the ditch appears to have been mounded internally, possibly in the form of a bank, on the evidence of the silting pattern in the ditch and of breaks in the outer ditch of Barrow 6. The lack of struck flints in the fills of the Ditched Enclosure suggests that the flint-rich horizon in this area had been stripped previously, and mounded, conceivably in order to form the earliest turf mound to Barrow 6.

The ditch profile was quite variable along the excavated length; from a narrow-bottomed V-profile to a more broad bottomed U-profile (Fig SS1.87). In general it was a steep-sided cut with the northern and southern ends showing relatively little erosion of the upper edges. The broader central length had more heavily eroded upper edges, particularly along the western side, which in part formed a distinct, stepped, ledge. The width of the ditch, as excavated, varied from 1.07m to 1.96m, although only 0.70m at the heavily truncated northern end. Allowing for later

Figure SS1.87
Ditched Enclosure.
Ditch sections.



disturbance, the ditch was typically *c* 1.40m wide at the northern and southern ends, reaching 1.96m along 10m of the central section where the ditch was nearest to the Middle Ditch of Barrow 6.

The depth of the ditch as excavated varied from 0.51m to 0.77m, with an extreme value of only 0.21m at the northern end. However, later activity in the latter area had lowered the ground level by up to *c* 0.40m. Assuming an original ground surface at *c* 34.25m OD (the maximum surviving level), the ditch would typically have been 0.75m to 0.90m deep. At the northern end it was shallower at *c* 0.65m deep, also to the south within the trial trench (*c* 0.70 m). In general the excavated part of this enclosure ditch may be characterised as a steep-sided, V-shaped cut typically *c* 1.4m wide by *c* 0.70m deep; deeper and broader than average along its western side, whilst shallower and narrower than average at its northern and southern ends.

Breaks in the outer ditch of Barrow 6 just inside the two points at which it cut through the Ditched Enclosure indicate that the enclosure had an internal bank *c* 1.80m wide with a slight berm (Fig SS1.153).

Phase 2 the infilling of the ditch

Phase 2.1 primary ditch fills

Most of the silting in this phase (consisting of sand and gravel) occurred toward the inner edge of the ditch, suggesting the erosion of an internal bank, which was followed by silting from the outer edge, consistent with the inference made from the two breaks in the outer ditch of Barrow 6. No finds were discovered which belonged to this period. The primary fill was of gravel in yellow brown to red brown sandy silts. A majority of the sections indicated that rather more of this silting was derived from the inner side of the ditch (eg Fig SS1.87: S578). However, there was no indication in the ditch profiles of differential erosion of the lower cut sides. This pattern of primary silting may, therefore, have partly derived from erosion of an internal bank set close to the ditch edge.

Some sections along the western side showed a more complex pattern of primary silting; with initial silting largely from the inner edge being followed by a second stage of silting derived largely from the outer, western, side. This occurred along the length of ditch where the upper edge of the western side had been eroded back to a shallow angle (eg Fig SS1.87: S595). No finds were recovered from the primary fills.

Phase 2.2 Secondary ditch fills

The secondary fills were red-brown sandy loams with moderate or few gravel inclusions. The upper level of the secondary filling was generally a darker loam with fewer pebbles. In some sections a well developed pebble trail suggested a period of stabilisation between two phases of secondary filling. The accumulation of these secondary fills would have left the ditch as a shallow hollow up to *c* 0.30m deep. It was at this stage that it was cut through by the two arms of the main circuit of the outer barrow ditch. The final phase of the ditch filling was therefore closely related to the final phase of Barrow 6.

Along a *c* 9m length of the ditch lying between the arms of the main outer barrow ditch (S590 to S594), the secondary fill was sealed by a layer of gravel in a medium brown sand (Fig SS1.87: 3272 in S595, 3267 in S590). This layer appeared to have been derived from the eastern, inner, side of the ditch. It may, therefore, have come from a deliberate levelling of an adjacent length of bank. Stratigraphically, this could have occurred at the same time as the creation of the outer barrow ditch and the final phase of barrow mound construction. However, the barrow ditch seems to have been cut while the bank was still standing (phase 1) and the asymmetric form of the final barrow mound suggests that it ran close to, but not over the Ditched Enclosure ditch, as it could easily have done if this ditch had been backfilled. A slightly later date for this act is, therefore, the preferred option.

It is tempting to link it with a similar gravel and loam layer within the upper fills of the detached arm of the outer barrow ditch (Fig SS1.168: F3177), and also with the gravel and loam deposits within the secondary fills at the terminals of the main outer barrow ditch (Fig SS1.168: F3217 and F3196). All of these deposits could be interpreted as resulting from a single action; in which the length of the putative internal bank lying between the arms of the outer ditch was levelled into the adjacent ditches. This occurred after the insertion of two cremation deposits into the secondary fills of the detached arm of the outer barrow ditch.

The secondary ditch fills produced few finds. There were no struck flints. A small Grooved Ware rim sherd (sf 3856; Tomalin SS3.4.8: P56) and a fragment of fired clay came from the secondary fills at the southern end of the excavated length. Three pieces of animal bone were recovered from the upper secondary fill, but from areas disturbed by

Table SS1.11. Ditched Enclosure. Summary of finds

* = recorded, but unidentified or missing

Lithics are of flint

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Context</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Other artefacts</i>
2.2	3207		Grooved Ware rim sherd, P56 (E)		
		*			1 fragment/9g fired clay Not ascribed to a layer, but from a similar level to the Grooved Ware sherd
3		*	Iron Age handled jar fragment (MT) Not ascribed to a layer, but from close to the surface	Flake Not ascribed to a layer, but from close to the surface	

later ditches so that they could be a result of contamination.

Phase 3 Final fills

The final ditch fill was a red-brown to medium brown sandy loam with few inclusions. For a length of at least 4.6m, where the ditch lay closest to the outer edge of the final mound of Barrow 6, these loams were sealed by a layer of gravel and red-brown sand (Fig SS1.87: 3265 in S590). The layer may mark the onset of ploughing over the mound of Barrow 6, with gravel being brought down into the shallow subsidence hollow. The final fills also produced few finds. There were a flint flake, an Iron Age sherd and a single piece of animal bone.

The interior

The small part of the internal area of the enclosure that lay within the excavations measured 29m north-east/south-west by up to 6.50m north-west/south-east. This probably represents about 25% of the total area enclosed. However, it may represent a much smaller proportion of the original usable area. It has been suggested from the evidence of the ditch fills that there was probably an internal bank. This would have occupied at least one third of the area available, although no surface indications of the former presence of a bank had survived. The detached arm of the outer barrow ditch occupied much of the remaining area.

In addition, the northern half of the area had been disturbed by later activity; the upper natural of sandy clay with gravel having been completely removed to expose the underlying clean gravels. This would certainly have removed any features less than 0.25m deep. The only feature of prehistoric date in this area was an urned cremation burial (Figs

SS1.169–70: F3178). This burial lay within the area enclosed by both the Ditched Enclosure and the outer barrow ditch and is considered to relate to the Barrow 6 sequence. It can be noted, however, that it may have been inserted on a narrow berm between the putative internal bank and the detached arm of the outer barrow ditch.

There are therefore no internal features which can be related to activity occurring purely within the Ditched Enclosure. However, given the small area available for excavation this is not a surprise.

3 Discussion of stratigraphy and phasing

Due to the limited area of the Ditched Enclosure available for excavation, and a general paucity of finds, the sequence should be regarded as tentative. A small amount of Grooved Ware pottery, however, was found within the ditch fills.

Whilst there was a clear relationship between the Ditched Enclosure ditch and the final, outer ditch of Barrow 6, the relative dating of the creation of the Ditched Enclosure with respect to the earlier phases of Barrow 6 remains unknown. What is certain is that the Ditched Enclosure ditch had largely silted prior to the cutting of the outer ditch of Barrow 6. It has also been postulated that the length of the ditch lying between the arms of the outer barrow ditch was deliberately backfilled probably with gravel derived from an adjacent length of internal bank.

It may be noted, however, that the secondary fills of the Ditched Enclosure ditch were almost devoid of finds, and in particular the only struck flint recovered (one flake), was from the final fill (Table SS1.12).

The turf forming the primary mound of Barrow 6 (as well as the make-up of the Long Mound and Turf Mound) did, however, contain substantial quantities of residual flintwork. If this turf were derived from the immediate vicinity of Barrow 6, then it should be expected that there would have been quantities of struck flint within the soils around the Ditched Enclosure. In this case it would be surprising that none had appeared in the ditch fills.

A possible explanation would be that the area had been stripped prior to the construction of the primary mound of Barrow 6. This would make the Ditched Enclosure later than or broadly contemporary with the construction of the primary barrow mound. Alternatively, the first mound of Barrow 6 may have been built not of freshly cut and dug turf and topsoil but of material taken from the Long Mound, in which case the cleanliness of the Ditched Enclosure ditch has no chronological implications.

No function can be ascribed to this enclosure. If there were any internal features they must have lain within the unexcavated area. The magnetometer survey has shown, however, that this enclosure probably lay between two round barrows, with the excavations indicating a close interconnection between the Ditched Enclosure and the final phase of Barrow 6. The location of the enclosure between these round barrows might suggest that it pre-dated them, with the barrows being set to either side of an existing enclosure.

Without further dating evidence for the Ditched Enclosure, the construction sequence must remain a matter of speculation. The best interpretation that can be offered at present is that the Ditched Enclosure probably either pre-dated or was closely contemporary with the appearance of the adjacent barrows. If not actually still in use at the time, its presence was respected when the final ditch and mound enlargement of Barrow 6 was created.

4 Resource estimate

The mean sectional area of the Ditched Enclosure ditch is 0.61 sq m which, multiplied by an estimated circumference of 120m, gives a volume of 73.5 cu m, which, according to the calculations, would have taken 108 hours for a team of three to complete, or 324 hours in total. It appears that, as in the case of the Long Enclosure, the spoil was mounded directly into an internal bank.

SS1.10 The Cotton 'Henge'

Aidan Allan, Stéphane Rault and Jon Humble

Abstract

The monument consisted of two irregular and approximately concentric ditches, and lay on a south-facing slope within an extensive flint scatter, largely of later Neolithic and early Bronze Age date. It was first identified by aerial photography, and its plan was subsequently clarified by geophysical survey. Evaluation in 1993 defined the scale of the ditches and pointed to a history of recutting and backfilling. Artefacts and food remains were scarce and the date, form and function of the monument remain uncertain.

1 Location and excavation

The monument is sited on Northampton Sand with Ironstone on a south-west facing slope on the side of the Cotton Brook, at NGR SP 9830 7260, roughly 600m upstream from the complex of monuments at West Cotton at an altitude of 47–51m OD (Fig 1.4). It was originally identified through aerial photography (Northamptonshire SMR ref 1725/1/1), which showed it to consist of two almost concentric irregular ditches. The slightly elliptical outer ditch measures *c* 75m from north-west to south-east by *c* 70m from north-east to south-west; the inner ditch is *c* 21m in diameter. In the 1980s the monument and the surrounding area were fieldwalked as part of the Raunds Area Project. The site proved to lie within a 17ha concentration of lithics which ran along the side of the tributary valley for about 1km, on the light soils formed on the Northampton Sand and the Great Oolite. The lithics were of predominantly late Neolithic or early Bronze Age character, with some earlier and later material (Humble 2006). The plan of the monument was confirmed by a magnetometer survey carried out in 1989, also as part of the Survey.

During 1993 a programme of evaluation by topographical and geophysical survey and excavation was carried out between January and June, to assess the archaeological potential and condition of the monument, especially the extent of plough damage (Humble 1994; 1995; CAS site 483). This entailed a second magnetometer survey, and a closer sample interval than the first and covering a wider area. The second survey confirmed that

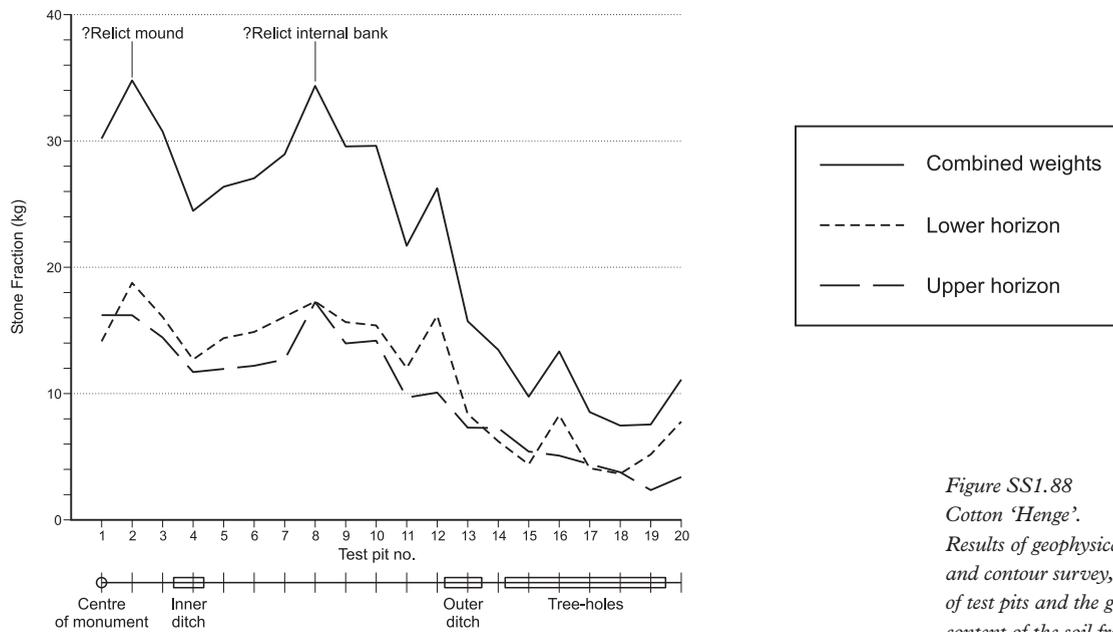
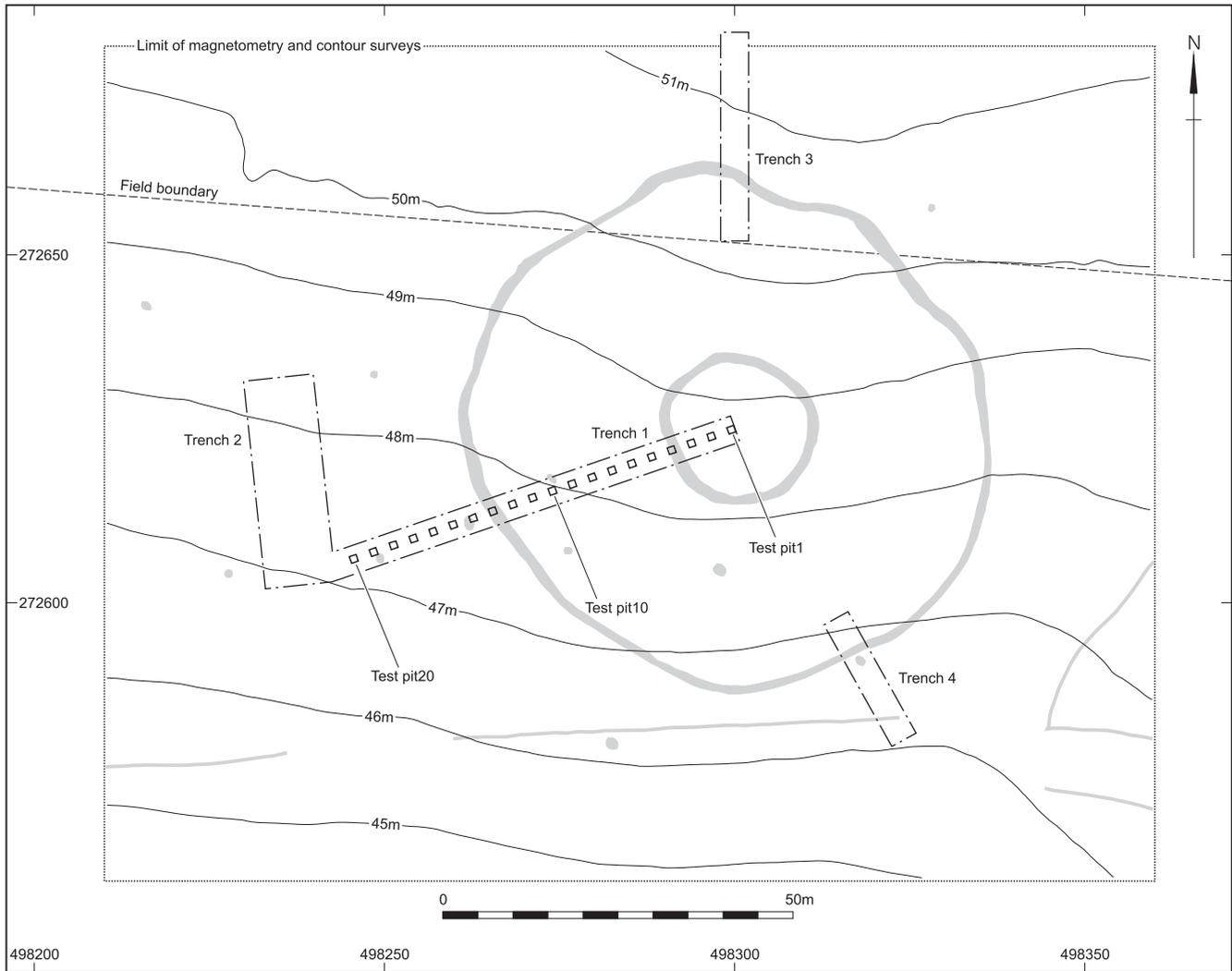


Figure SS1.88
 Cotton 'Henge'.
 Results of geophysical survey
 and contour survey, location
 of test pits and the gravel
 content of the soil from them.

there was unlikely to be an entrance in either ditch (two breaks in the north of the outer ditch were due to a field boundary), and identified a number of discrete features (probably pits), relict ridge-and-furrow, and linear features probably post-dating the monument (Payne D5). The quality of the results prompted a magnetic susceptibility survey which yielded generally low readings inside the monument and considerably higher readings outside it, suggesting that the interior had not been occupied and that the area within the inner ditch, where readings were particularly low, could have been covered by a mound (Payne D5).

Five trenches were excavated, located on the basis of the geophysical plots so as to optimise potential information (Fig SS1.88). Trench 1, measuring 60m by 4m, ran from the centre of the monument through both the inner and outer ditches. Trench 2, measuring 30m x 10m was sited outside the outer ditch to determine what features there might be beyond the monument, and in particular whether there was any trace of an avenue between the monument and the Long Mound, which seemed to form an alignment with it. Trench 3, measuring 30m by 4m, was sited across the northern part of the outer ditch, in a different field and hence a different cultivation regime from the rest. Trench 4, measuring 20m by 4m, sectioned the southern part of the outer ditch. Trench 5, measuring 5m by 5m, was located adjacent to the Cotton Brook, c 200m to the south of the monument, in an attempt to gain further information on the extent of colluviation after a large build-up of ploughsoil had been encountered at the south end of Trench 4. All artefacts were recorded individually by context and/or sample number. Whenever possible, finds were recorded to the nearest centimetre in three dimensions.

Before the topsoil was machined off, 1m-square pits (Test Pits 1–20) were hand-excavated at 3m intervals along the centre of Trench 1. Two 50l samples were taken from each soil horizon in each pit to assess the kind and quantity of finds present in the topsoil and to see if variations in the gravel fraction would provide any indication of the former presence of ploughed-out earthworks.

Analysis of the finds did not proceed beyond assessment. In this respect the present account is based on the contributions of Gill Campbell, Varian Denham, Jon Humble and Sarah Jennings to the assessment report (Humble 1995).

2 The excavated evidence

It must be borne in mind that, in view of the near-absence of diagnostic finds, and total absence of samples suitable for radiocarbon dating, the phasing which follows is highly tentative.

Phase 0 Natural stratigraphy

The site was taken down to natural in all trenches. The natural deposits are described variously as ‘manganese-stained deposits’ (contexts 1031/1083), ‘natural sands and limestone’ (2006), and ‘compacted ironstone/sand’ (1003/1006/1016/1059/3009). The natural horizon in Trench 4 (context 4030) is not described.

Phase 1 Pre-monument activity

A possible pit (F4013=F4015) and a treethrow hole (F4021) were cut by the outer ditch in Trench 4 (Fig SS1.89). F4021 contained charred plant remains, including onion couch grass tubers and an oat grain (Table SS1.13).

Phase 2 The Monument

Phase 2.1 Construction of the inner circuit

The inner ditch (F1036) defined an ovoid enclosure, measuring c 21m south-east/north-west by c 20m south-west/north-east, formed of five regular arcs (Fig SS1.88). The excavated portion of the ditch, in its south-western arc, had a flat-bottomed profile with gently sloping sides, which survived to a width of 1.60m and depth of 0.45m. No evidence for an internal earthwork was observed during excavation, either in the form of a rise in the natural or in the character of the ditch fills. A peak in gravel frequency in Test Pit 2, however, suggests that a mound or bank was originally present (Fig SS1.88; Humble 1994, fig 1).

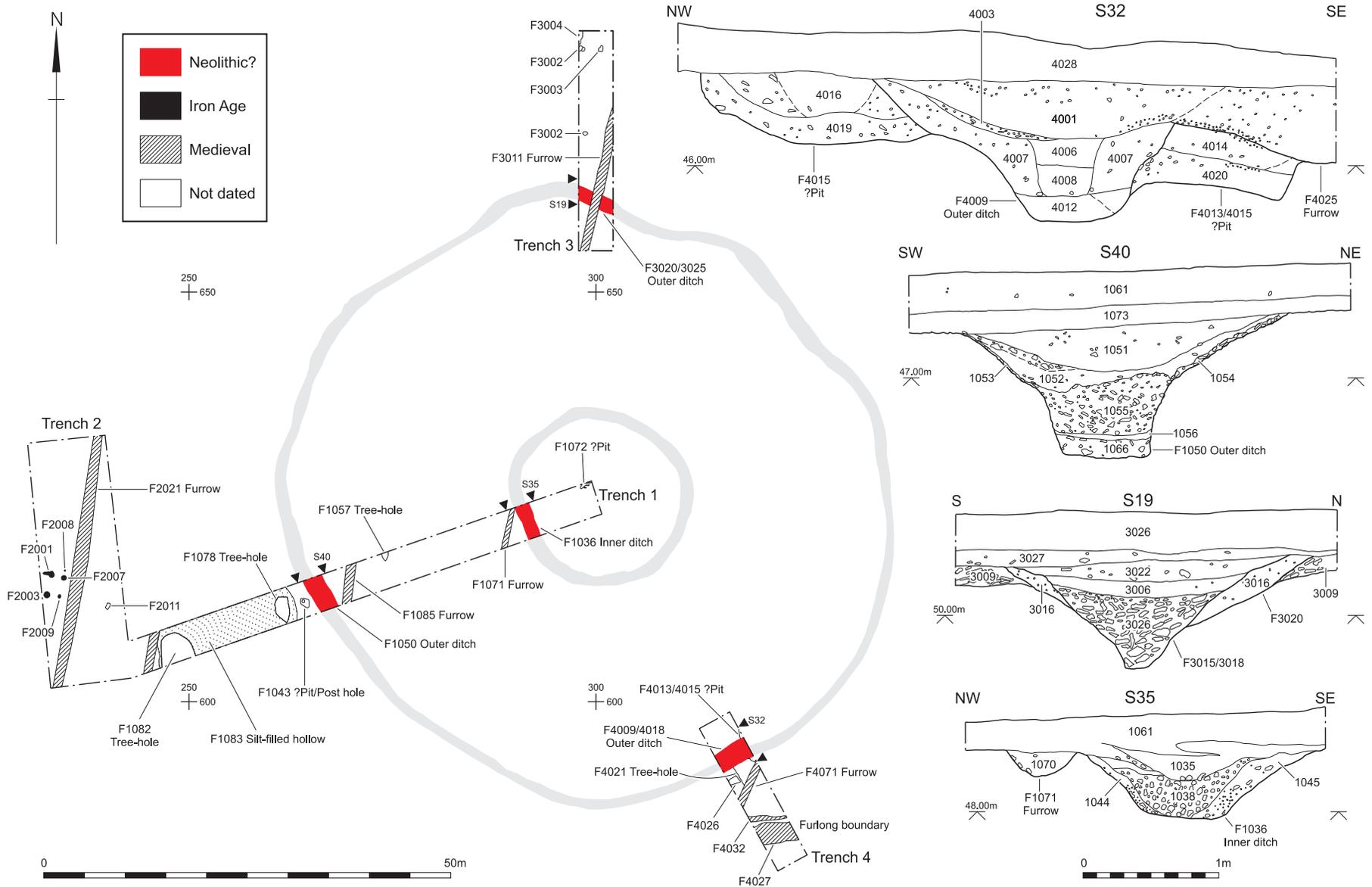
Phase 2.2 The inner ditch silts

The primary fills appear to have resulted from a combination of natural silting and periodic cleaning out along the base of the cut. The remaining fills appear to have resulted from natural processes, with no evidence for deliberate backfill (Fig SS1.89: section 35). The only finds from the section were a core fragment, a flake, and a crumb of possibly Neolithic or Bronze Age pottery from the upper fill.

Phase 2.3 Construction of the outer circuit

The outer ditch was approximately concentric

Figure SS1.89
 Cotton 'Henge'. Trench plans and sections.



with the inner, but was much more irregular in plan, particularly in the north-east. The ditch measured *c* 75m south-east/north-west by *c* 70m north-east/south-west, and survived to a maximum depth of 0.91m. Its profile varied widely. In Trench 1, the ditch (F1050) was almost straight-sided, with a flat bottom (Fig SS1.89: section 40). In Trench 4, the ditch (F4009) was also flat-bottomed, but the sides sloped more gently at *c* 45° (Fig SS1.89: section 32). In Trench 3, where the plan of the ditch (F3020) was more irregular, the profile was markedly different, being V-shaped (Fig SS1.89: section 19). It is possible that this section was dug out as part of a discrete episode, rather than the entire ditch having been of one construction. The anomalously sinuous plan of this part of the ditch, coupled with its distinctive profile and the fact that (as described below) it was deliberately backfilled, suggest that it may have had a different history from the rest of the circuit.

The test-pit results suggest that there was once a bank or banks, of which there was no longer any visible trace, since there was a peak in gravel frequency in Test Pit 12, just inside the outer ditch, and a smaller peak outside it in Test Pit 16 (Fig SS1.88; Humble 1994, fig 1).

Phase 2.4 The outer ditch silts

The primary fills of the outer ditch in Trenches 1 and 4 (Fig SS1.89: section 40 context 1033/1066, section 32, 4012) consisted of clayey sand/silt which had washed in naturally. In Trench 1 no secondary filling appears to have formed before deliberate infill. In Trench 3, there was no surviving primary fill, with the pre-backfill deposit (3016) extending up to the top of the cut, suggesting that it had been truncated by an episode of local redefinition prior to deliberate infill.

Phase 2.5 Localised recutting of the outer ditch

In Trench 3, cut 3015/3018 marked the interface between the remains of the natural infill, which survived in patches along the edges as context 3016/3019, and the phase 2.6 deliberate backfill (Fig SS1.89: section 19). There may also have been a recut in Trench 4 (see below).

Phase 2.6 Backfilling

In Trench 3, a single context 3008/3014 (a dark yellowish-brown sand with frequent ironstone inclusions) was dumped into the recut, which it did not quite fill. This event

appears to have occurred soon after the recut, as there was no evidence for a build-up of silt between the episodes (Fig SS1.89: section 19). In Trench 4 there was a more complex pattern of dumped silty and sandy deposits (contexts 4006–4008, and the lowest context 4010, an extremely compacted redeposited stony natural). 4006 and 4008 could alternatively be seen as the fills of a steep cut, since their interface with 4007 is very abrupt.

Phase 2.7 Final silts

The backfilled stretches of the outer ditch silted up naturally, with 3022/3005 overlying 3006/3012 in Trench 3, and 4001/4002 overlying 4003 and 4005 in Trench 4 (Fig SS1.89). In the latter area, context 4026 (not shown on the published section) formed the basal fill belonging to this phase, and was composed of part of the contents of the phase 1 tree-hole F4021 which had slumped into the abandoned ditch.

Artefacts from all levels in the outer ditch amounted to a core, a non-bulbar fragment, sixteen flakes and a blade. Charcoal and possibly free-threshing wheat occurred in samples from contexts 4001 and 4006 in Trench 4 (Table SS1.12).

Phase 3 Later Activity

In Trench 2, some 30m to the east of the outer ditch, there was an Iron Age four-poster, made up of postholes F2001, F2003, F2008 and F2009. Finds included four sherds of Iron Age pottery and daub fragments, as well as charred grain and charcoal (Table SS1.12). Two other possible features in the same area were unexcavated (F2007, F2011). A ditch cutting across the south end of Trench 4 was thought to have been a medieval or later boundary forming part of the ridge-and-furrow system (Fig SS1.89: F4027). Up to 1m of ploughsoil had accumulated over it, suggesting that colluviation might have a considerable effect on the visibility and preservation of archaeological features downslope. Furrows were excavated in all four trenches (Fig SS1.89: F1071, F1085, F2021, F3011, F4025).

Undated features

In Trench 1, near the centre of the monument, was F1072, a very irregular pit *c* 1m long and filled with brown silts (1068 and 1069). It extended beyond the excavated area, was heavily disturbed by modern ploughing and was not excavated. Outside the outer ditch was a probable pit or post-

Table SS1.12. Cotton 'Henge'. Summary of finds

* = recorded, but unidentified or missing

Lithics are of flint

<i>Phase</i>	<i>Context</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Other artefacts</i>	<i>Charred material</i>
1 Pre-monument activity	Treehole 4021					Grain, including 1 oat grain Onion couch grass
2.2 Inner ditch silts			1 crumb ?Neolithic or Bronze Age	Core, flake		
2.4-7 Outer ditch silts				Core, non-bulbar fragment, 16 flakes, blade		Grain, including ?free-threshing wheat Charcoal
3 Later activity	4-poster		4 sherds Iron Age		13 fragments daub, 1 fragment ?fired clay	Grain Charcoal
Undated features	Posthole F3001					Grain and seeds, including free-threshing wheat uncharred grape pip
	Posthole F3002					Charcoal
	Posthole F3003					Grain Charcoal
	Treehole F3004					Grain and chaff, including barley and free-threshing hexaploid wheat
	Treehole(s) unspecified			2 flakes, blade		
	Posthole(s) unspecified			6 flakes		
	Misc features			Core, 2 flakes		
U/S and misc		*	10 sherds Iron Age or possibly Iron Age 3 sherds Roman 74 sherds medieval and postmedieval	21 cores, 5 non-bulbar fragments, 79 flakes, 4 blades, scraper, 3 piercers, knife, flaked axe	13 fragments glass, 7 iron objects. 2 copper alloy fragments	

hole (F1042). There were also three tree-holes in the same trench (F1079, F1082, F1057). Outside the outer ditch in Trench 3 were five pits or postholes (F3001, F3002, F3003, F3004, F3011). Charred plant remains from them included free-threshing wheat, suggesting a Saxon or later date, and an uncharred grape pip.

Trench 5

In this area there was a considerable (>0.70m) accumulation of colluvium and alluvium, the latter closely comparable to the sequences observed in the valley bottom. A relict stream bed may represent a migration of the course of Cotton Brook, or demonstrate that the bed for Cotton Brook was at one time much wider. No archaeological deposits were encountered.

3 Discussion of stratigraphy and phasing

Very little is known about the monument. Its date remains uncertain, as do the contemporaneity or otherwise of the two circuits and of the episodes of recutting and backfilling detected in different sections. The proximity of F1072 to the centre of the monument suggests a relation between the two. The results of the magnetic susceptibility survey combine with the very low yield of charred plant remains and artefacts from the excavation to suggest that the enclosure was not inhabited, and that the overlying and surrounding flint scatter reflects other activities than the use of the monument. The former presence of earthworks is indicated by the varying frequencies of gravel in the overlying topsoil (Fig SS1.88; Humble 1994, fig 1), and low magnetic susceptibility in the interior would be compatible with its having been covered by a mound. It can only be said that these characteristics are compatible with a ceremonial function, and that its apparent history of recutting and backfilling echoes that of some Neolithic monuments. In its original form it may have consisted of a ditched round mound within a subcircular enclosure.

4 Resource estimate

In view of the uncertainty regarding the contemporaneity between the different structural elements and the form of any original earthworks it is very difficult to estimate how much labour was expended during any given structural episode. If each circuit was dug as a whole, then the inner ditch, with an

estimated volume of 25 cu m, could have been excavated in 110 worker-hours, and the outer ditch, with an estimated volume of 267.5 cu m could have been excavated in 1180.

SS1.11 The Segmented Ditch Circle

Aidan Allan, Stéphane Rault and Jon Humble

Abstract

The Segmented Ditch Circle lay at the southern end of the Stanwick excavations, in a low-lying gravel area east of the river Nene. The monument was totally excavated in 1992 by the Mobile Field Team of the Central Archaeology Service of English Heritage. The Segmented Ditch Circle was a circular enclosure, c 10m in external diameter, made up of ten interconnecting segments. The monument lies on the exact axis of an alignment between the Long Barrow at South Stanwick and the Cotton Henge, and was cut precisely over the south-west terminal of the earlier Avenue.

1 Location and excavation

The Segmented Ditch Circle lay at SP 97168 71628, cut into the south-east end of the Avenue (SS1.2; Fig SS1.22). It was discovered in 1992 during topsoil stripping in advance of fieldwork designed to recover additional evidence of the Bronze Age field system, and was excavated by Frances Blore, in consultation with Jon Humble, for five weeks in the summer of 1992 (Blore 1992).

The majority of the features were half-sectioned, or else a segment of a feature was excavated and recorded. The sampling strategy involved on-site floatation and sieving (and where possible organic residue sorting), so that the strategy could be continually modified as more information became available. Except in F87549 (Fig SS1.94), the fills of each segment were given a single context number, although lenses and patches of diverse composition were recorded in the section drawings.

2 The excavated evidence

Phase 0 Natural Stratigraphy

Natural stratigraphy consisted of two deposits. The earlier was 87428, a deposit of banded sands and gravel. This was overlain by 87429, a 10YR 4/4 yellow-brown loamy sand

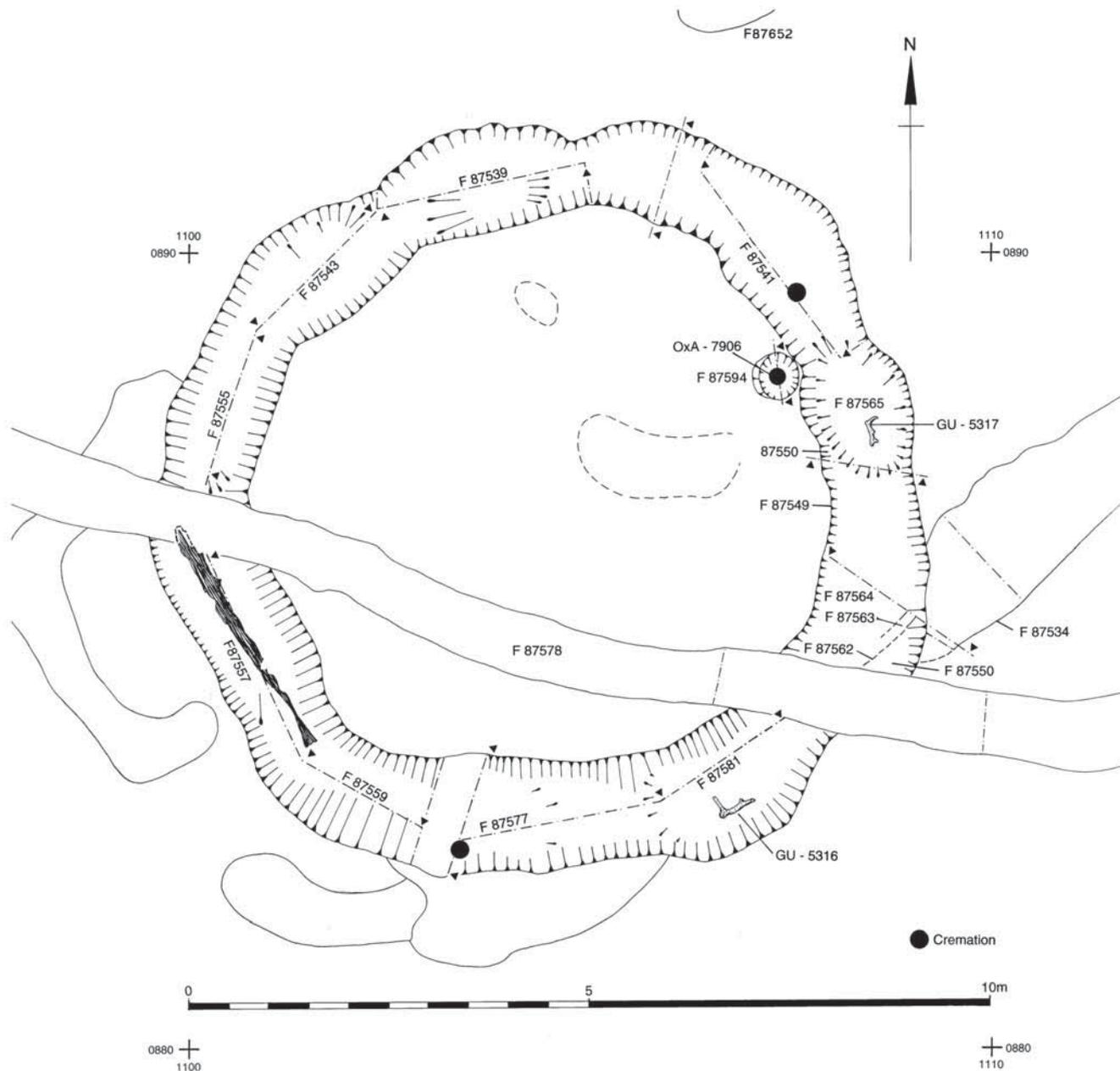


Figure SS1.90
Segmented Ditch Circle.
Plan, with later Field
System ditch shown
in outline.

or silty loam *c* 0.20m deep, which extended over much of the site

Phase 1 Pre-monument activity

This period comprises the construction, use and abandonment of the Avenue (SS1.2).

Phase 2 Construction of the Segmented Ditch Circle

A circular enclosure, *c* 8.50m in diameter (Figs SS1.90–91), was built over the silted south-west end of the Avenue. The Segmented Ditch Circle was dug in eleven interconnect-

ing segments, suggesting that the mode of construction may have involved individuals digging each pit independently. Each segment was allocated a separate context number and they are described below, clockwise from the north:

F87539. Pit, 3.30m long by 1.40m wide by 0.49m deep, intersecting with F87543 to the west and F87541 to the east. The sides were angled quite steeply, leading to a gentle concave base, deepest near the centre.

Northern pit. An un-numbered subcircular cut between segments F87539 and

Figure SS1.91
Segmented Ditch Circle.
After excavation,
looking north-east along
the Avenue.
(Photo English Heritage)



F87541 was *c* 1.80m in diameter and 0.75m deep, with steep sides and a slightly rounded base (Fig SS1.96). It was deeper than the adjoining segments, but apparently infilled with them, since a lens of sandy loam at its south side extended over its primary fill into both adjoining segments.

F87541. Pit, 3m long by 1.40m wide by up to 0.50m deep, intersecting with F87539 to the north-west and F87641 to the south-east. The sides were angled quite steeply, leading to a gently undulating base.

F87641. Ovoid pit, 1.80m long by 1.40m wide by 0.62m deep, intersecting with F87541 to the north and F87549 to the south. The sides were almost vertical, leading to a gently concave, almost flat base, 0.20m deeper than the immediately adjoining parts of the neighbouring segments.

F87549. Pit, 2.80m long by 1.40m wide by 0.67m deep, intersecting with F87641 to the north and presumably with F87581 to the south, although this latter relationship was obscured by the presence of Bronze Age ditch F87524. This U-shaped cut had almost vertical sides breaking quite sharply to a flat base, which was deepest to the south. F87549 was the only segment to be re-cut (phase 5; Fig SS1.94: F87562).

F87581. Pit, 2.70m long by 1.20 m–1.60m wide by 0.64m deep, intersecting with F87577 to the south-west and presumably with F87549 to the north-east, although

this latter relationship was obscured by the presence of Bronze Age ditch F87524. The cut displayed a U-shaped profile with steep sides breaking sharply to a flat base, deepest at the west end.

F87577. Pit, 1m long by 1.25m wide by 0.64m deep, intersecting with F87559 to the west and F87581 to the east. The sides were gently sloping, bearing through a 100° curve to a flattish, slightly humped base. On plan the base of the cut appears relatively short due to the presence of deeper cuts to either side. The context record reads ‘South edge (upper 15–20 cms) truncates darker material, interface OK but not initially obvious’. These words and a corresponding un-numbered sketch section of ‘pit, south of henge, E-facing’ combine with irregularities in the plan (Fig SS1.90) to indicate that this segment cut the Avenue.

F87559. Pit, 3.70m long by 1.30m wide by 0.78m deep, intersecting with F87557 to the west and F87577 to the east. The cut displayed a U-shaped profile with steep sides breaking sharply to a flat base.

F87557. Pit, 3m long by 1.30m wide by 0.81m deep, intersecting with F87555 to the north-west and F87559 to the south-east; the base was undulating and deepest to the south; the form of the sides was not recorded. The junction of this segment and F87555 to the north was truncated by Bronze Age ditch F87524.

F87555. Pit, 2.20m long by 1.20m wide by 0.49m deep, intersecting with F87543 to the north-east and F87557 to the south. The cut displayed a U-shaped, slightly concave profile, with steep sides breaking sharply to a slightly undulating base. This segment cut the Avenue ditch. The context record reads ‘NB Along the northern edge of the cut is another apparent cut which dissects the hard compacted gravel denoting the true edge of 87555. It does not appear to be cut from the same level as the pit, but from deeper down. It is probably cut by the pit’.

F87543. Pit, 2.00m long by 1.40m wide by 0.46m deep, intersecting with F87539 to the north-east and F87555 to the south-west. The cut displayed a steep sided, slightly concave profile, breaking to a flat base, the north-east end shelving upwards to a hump between this segment and F87539.

Phase 3. Primary silts

On the bases of F87539 and the west end of F87577 was loose, mixed sand and gravel which may have been trample associated with this initial period of construction. In F87541, F87559, F87557 and F87555 there were thin lenses of sand and/or gravel, in the south end of F87549 and in the pit between F87539 and F87541 there was silty loam. All of these deposits were slight, and in F87543 and the west end of F87577 there was no primary silt at all.

In F87581, an antler pick (AOR 91805) lay on the surface of *c* 0.10m of sandy primary silt, covered by phase 4 backfill (Fig SS1.92). It is dated to 2140–1690 cal BC (3570±70; GU-5316). In F87641, a second antler pick (AOR 91806) was found in the bottom of the fill (Fig SS1.93) and is dated to 2140–1690 cal BC (3560±70 BP; GU-5317). The two measurements provide an estimated construction date for the monument of 2020–1680 cal BC at 95% probability (Fig SS6.6).

Phase 4 Ditch backfill and cremations

Backfill

Above the primary silts, where they were present, each segment except for F87549 had a single fill (Fig SS1.94). There was no sign of gradual silting and the fills were mottled, jumbled and interleaved. All their features were consistent with deliberate backfill, probably soon after the initial construction. The principal matrix in each was a sandy loam or silt loam, within which patches of gravel were generally present, especially towards the top. There was some diversity



Figure SS1.92
Segmented Ditch Circle.
Antler pick on surface of
primary silt in F87581.
(Photo English Heritage)



Figure SS1.93
Segmented Ditch Circle.
Antler pick near base
of F87641.
(Photo English Heritage)

around the circuit. Blackened fills, charcoal and charred plant material were particularly prominent in the south-west and south of the circuit, where the circle cut the south side of the Avenue, although present to some extent throughout. Charcoal from F87559 (sample 99191) was analysed and contained largely fast-grown oak, with some slow-grown fragments; no other taxa were present. Charcoal from other segments also appeared to be all of oak, and was not analysed in detail (Campbell SS4.5.3). A bulk sample from F87541 included a seed of vetch or tare, three onion couch grass tubers, two grains of indeterminate cereal and root fragments (Campbell SS4.5.3). A single charred onion couch grass tuber from F87559 is dated to 4460–4050 cal BC (5455±70 BP; OxA-7958); a further charred onion couch grass tuber from F87555 is dated to 4770–4460 cal BC (5750±45 BP; OxA-7906). Both are far older than the two antler picks apparently used to build the monument, and were

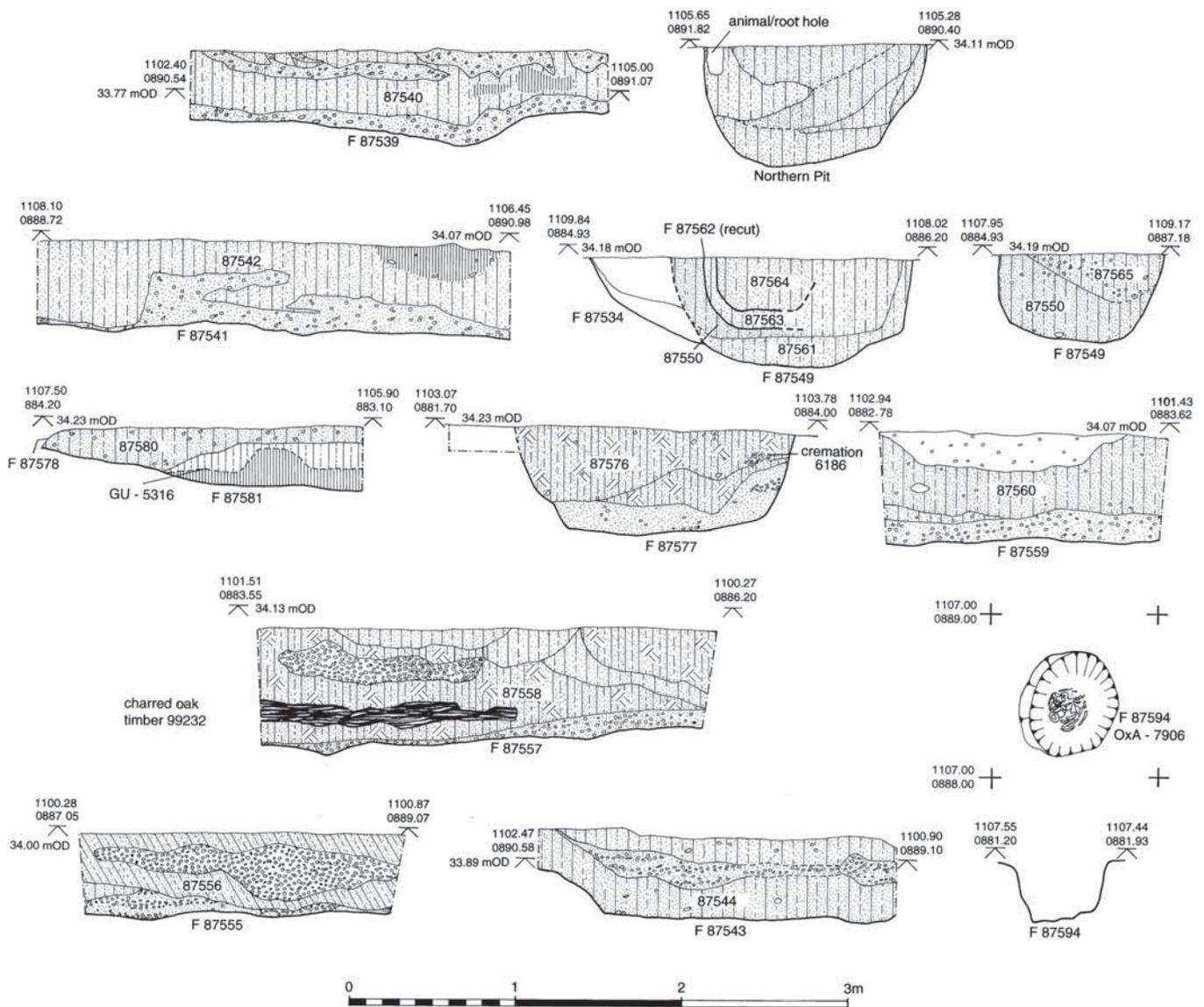


Figure SS1.94
Segmented Ditch Circle.
Sections.

almost certainly derived from the Avenue, through which the monument was cut, and which is likely to have been the source of most of the burnt material in the circle, especially as burnt material in the south of the circle was concentrated towards the outer edge.

In F87581 burnt material was concentrated on the bottom of the pit. F87539 was exceptional in that fragments of sandstone, fragments of burnt limestone and patches of red burnt material occurred in the main fill (Fig SS1.94). The fill of F87557 had a higher clay content than those of the other segments and contained a charred oak timber (sample 99232) which seemed to be a log, 3.15m long by 0.03–0.20m wide, which lay horizontally along the axis of the pit,

some 0.10m above the surface of the primary silt (Figs SS1.90, SS1.94–95).

The backfill contained a few fragments of bone, with what appeared to be fish scale and bone in F87555. The only artefacts were three flint flakes (Table SS1.13). The flakes from F87541 and F87577 were not associated with the cremations.

Cremations

At the west end of F87577, the primary silt was overlain by one of several large patches of blackened material. On the surface of one, derived from the interior, was the cremation of a 10–15-year-old child (6186; Mays SS4.7.5). The cremation was in a compact heap, giving the appearance of having been

immediately covered by the main silty clay loam backfill of the segment (Figs SS1.94, SS1.97), which included reddish brown burnt patches as well as patches of black material.

Near the top of the backfill of the south end of F87541 was the cremation of a woman of over 50 years old (6185). The surrounding upper fill (87542) was an homogeneous very dark greyish brown sandy loam with small charcoal flecks. A patch of dark brown sandy clay loam on the section, at a location close to that of the cremation (Fig SS1.94), suggests that it may have been cut in, although this was not noted in the field.

Phase 5 Recut and further cremation

Close to cremation 6185 was pit F87594, which lay just inside the circle, perhaps cutting the inner edge of F87541 (Fig SS1.90). It measured *c* 0.70m by *c* 0.50m and was filled by context 87595, a 10YR 4/3 dark brown sandy loam including 5% small stones, which contained the cremation of a male, probably of 20–40 years (6184; Mays SS4.7.5). The bone was in a compact heap in the centre of the pit and below its surviving surface, so that it was found only after half-sectioning of the sandy loam fill had started (Fig SS1.98). The cremation had thus not been truncated after deposition. The only charred or burnt material consisted of two hazelnut shell fragments (Campbell, SS4.5.4), one of which was dated to 8160–7590 cal BC (8715±60 BP; OxA-7906). They were almost certainly redeposited.

The only part of the monument in which there was definite evidence for a recut was the south end of F87549, near its intersection with the Avenue. The recut, F87562, was made when the segment was already full



Figure SS1.95
Segmented Ditch Circle.
Charred oak timber in
main fill of F87557.
(Photo English Heritage)

to the top with a blackened phase 4 fill (Fig SS1.94: 87550). F87562 was 0.45m deep, and displayed a U-shaped profile with vertical sides breaking gently to a flat base. The cut was clearly visible in the section at the southern end of the segment, and may be present in a far shallower, less distinct form in the northern section, filled by 87565, which there overlay the main phase 4 fill 87550 (Fig SS1.94).

At the south end the recut had two fills; both unblackened and containing far less burnt material than the phase 4 fill. The



Figure SS1.96
Segmented Ditch Circle.
Pit between F87541 and
F87539, looking east,
showing difference in
depth between base of
F87539 and pit.
(Photo English Heritage)

Figure SS1.97
Segmented Ditch Circle.
West face of F87577, with
cremation 6186 in upper
fill on right.
(Photo English Heritage)



primary fill was context 87563, a 10YR 4/4 dark yellow-brown sandy silt loam with 2% small stones and <1% charcoal flecks. This was overlain by 87564, a 10YR 3/3 dark brown silty clay loam with 1% small stones and <1% charcoal flecks. The abrupt interface of the two suggests a further recut (Fig SS1.94). 87565, the possible recut fill at the north end, was a 10YR 3/3 dark yellowish brown silty clay loam, quite plastic, with 1% very small stones, similar to 87564, but without blackening or visible charcoal flecks.

Two other features in the interior of the monument were sectioned. There is no

record of the smaller, un-numbered, one. The larger, F87590, was very shallow and without definite shape. It appeared to be a natural hollow.

Phase 6 Later activity

There was considerable later activity in the area of the Segmented Ditch Circle. A Bronze Age droveway is described in detail in Field Systems and Related Structures (SS1.23), and Iron Age and Romano-British features are to be published in the report on these aspects of the project. No alluvium survived, either because it had never been present or

Figure SS1.98
Segmented Ditch Circle.
Cremation 6184 in F87594.
(Photo English Heritage)



because it had become incorporated into the topsoil by cultivation.

3. Discussion of stratigraphy and phasing

Phase 2 Construction

The exact location of the Segmented Ditch Circle over the south-west terminal of the Avenue suggests that the latter was still visible. Difficulty experienced in defining the intersection of the monument and the Avenue reflects the blurred character of the edges of the Avenue features elsewhere. The location was also exactly on the alignment between the Long Barrow at Stanwick and the Cotton Henge.

Phase 4 Backfill and cremations

The jumbled character of the main fills of the segments and the absence of any trace of natural silting above the thin primary silts are strongly suggestive of deliberate backfilling, an impression heightened by the steep sides of the segments, which can have had little time to weather back. The cremations in F87577 and F87541 seem to have been incorporated during this process, as does the substantial charred timber in F87557, where the higher clay content of the fill may perhaps reflect the former presence of other, uncharred, organic material.

Backfilling in a single operation, soon after construction, or at least soon after the ditch had ceased to be cleaned out, means that the fill patterns can offer little hint as to the form or location of any original earthwork. The transverse sections of F87577 and the pit between F87539 and F87541 suggest that they were filled largely from the interior; and the north section of F8749 would also be consistent with this (Fig SS1.94), so that there may well have been an internal earthwork. On the assumption that most of the backfill would have been the original upcast, the quantities of burnt material in the ditch are likely to have resulted from its excavation through the Avenue ditch, a conclusion confirmed by the fifth millennium dates of two charred plant samples from the backfill, which were clearly redeposited in contexts stratigraphically later than the two second millennium antler picks (Fig D6.6)

Phase 5 Recut and further cremation

The third cremation, in pit F87594 just inside the circle, may have been a later insertion, the ninth millennium date of a charred

Table SS1.13. Segmented Ditch Circle. Summary of finds

Lithics are of flint		Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets						
Phase	Segment or pit	Context	Human remains	Animal bone	Lithics	Charred material	Environmental evidence	<i>Cal BC</i>
3	F87581	87580		Red deer antler pick			3560±70 (GU-5317) on antler pick	2140–1690
	F87641	87640		Red deer antler			3570±70 (GU-5316) on antler pick	2140–1690
4	F87539	87540			Flake			
	F87543	87544		Bone fragment				
	F87549	87550		Bone on base (drawn on section of N end)				
	F87559	87560		2 bone fragments, 1 burnt		Onion couch grass tuber	5455±70 (OxA-7958) on onion couch grass tuber	4460–4050
	F87555	87556		Fish scale and bone		Oak charcoal	5750±45 (OxA-7907) on onion couch grass tuber	4770–4460
	F87557	87558				Charred log		
	F87541	87542	Cremation of female 50+ yr		Flake (not associated with cremation)	Vetch or tare, onion couch grass tubers, indeterminate cereals, root fragments (not associated with cremation)		
	F87577	87576	Cremation of child of 10–15 yr		Flake (not associated with cremation)			
5	F87594	87595	Cremation of male, probably 20–40 yr			2 hazelnut shell fragments	8715±60 (OxA-7906) on 1 hazelnut shell fragment	8160–7590

hazelnut shell fragment from it reflecting Mesolithic activity in the area.

The recut seems to have been confined to F87549, since it is only here that there were clearly defined fills above the phase 4 backfill. The possibility of a more extensive recut, completely removing the earlier ditch, is reduced by the lower levels of burnt material in the fills of the identified recut than in the phase 4 fills. The steep sides of the recut (Fig SS1.94: F87562) and of the interface between its two fills, suggest that it may have been cut and quickly filled on two successive occasions, since the faces of the fills through which it was cut are unlikely to have remained near-vertical if left exposed for any length of time.

4 Resource estimate

The total volume excavated from the ditch segments can be estimated as 11.80 cu m, which would have made 17.35 hours of work for a team of three or 52 hours in total.

SS1.12 Barrow 1

Aidan Allan, Stéphane Rault and Jon Humble

Abstract

The earliest structural element was a timber mortuary structure within a pit, which covered a richly furnished Beaker burial. The structure was subsequently covered by a cairn of limestone slabs and the skulls of over 180 domestic cattle, with far smaller quantities of bones from other parts of the cattle skeleton and from other species. This was followed by the construction of a small barrow. The collapse of the mortuary structure left the central part of the bone and stone cairn collapsed on top of the burial. The barrow was enlarged on two occasions.

Secondary burials consisted of a further inhumation and at least one cremation, and peripheral cremations were inserted in the middle Bronze Age.

1 Location and excavation

The monument was first recorded by David Hall (Hall and Hutchings 1972, 2, 14, fig 2) and was subject to two seasons of investigation; the first in 1985 when Paul Garwood directed the excavation of an evaluation trench through the outer and middle ditches, and a contour survey of the monument

(Garwood 1985), the second in 1986 when Claire Halpin directed the area excavation of the barrow in advance of gravel extraction. The barrow was an eroded yet upstanding earthwork *c* 0.20m to *c* 0.30m high (Fig SS1.99), and lay towards the south end of Irthlingborough island (NGR SP 96213 71256) on a slightly raised gravel knoll on the valley bottom. This text reports on the 1986 excavation, since processing of material from the 1985 season remained at site archive level.

Trench B1, measuring *c* 54m south-west/north-east by *c* 50m north-west/south-east was laid out around the monument and the excavation was carried out under controlled conditions. All orientations in the text are to true north (1°07'08" west of OS grid north, and 13°00'41" west of site grid north).

Plough and animal disturbance affected the upper mound, removing some stratigraphic relationships and obscuring others. This, coupled with the shallow stratigraphy of the site, resulted in many contexts being impossible to ascribe to a particular phase.

The monument was stripped by machine and excavated in plan with a single standing baulk (Fig SS1.100–1). The mound was hoed and machine-graded down, and ditches were excavated in a series of segments, some of which were not bottomed. A suspected modern anthrax pit (F30095) was discovered near to the centre of the barrow. Finds from the mound were recorded individually, finds from the ditches were recorded by context or individually recorded if they occurred in concentrations. Systematic sampling and sieving were undertaken, and an EDM was used to survey the bone cairn.

2 The excavated evidence

Phases 0–1 Natural deposits and pre-monument activity

The lowest excavated natural deposit, 30482, was sand and gravel. This was overlain by the lower, light-coloured, relatively sandy part of the pre-mound soil profile (approximately equivalent to 30416), which graded upwards into a moderately humic dark reddish-brown clay loam (approximately equivalent to 30428 and 30431). Within the profile was a discontinuous stone line (30429) some 130mm below the old ground surface, made up of generally quite small gravel *c* 5–15mm across, with a scattering of larger 20–25mm angular stones (Figs SS1.102, SS1.113–16).

The soil contained much fine charcoal, as well as fragments of burnt argillic soil, per-

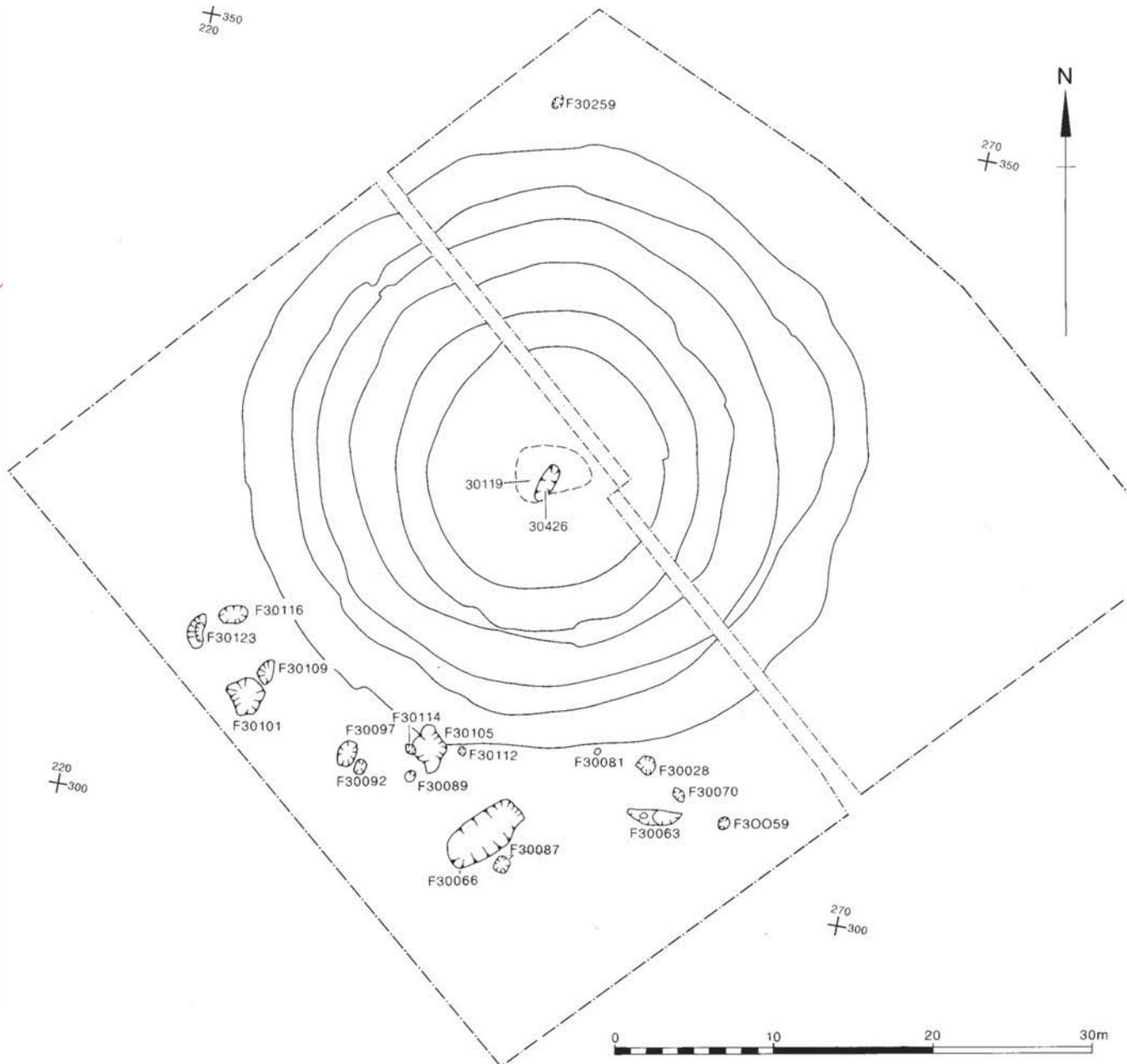


Figure SS1.99
Barrow 1.
Contour survey, undated
peripheral features, cairn
(30119), primary burial
(30426), schematic lines
of inner, outer and
middle ditches.

haps the result of earlier clearance or occupation. This burning was reflected in high magnetic susceptibility values. Textural features and high phosphate levels are interpreted as mainly resulting from trampling (Macphail SS4.8.2). There was also a small amount of struck flint (Table SS1.14).

Most of the cut features beneath the barrow were undoubtedly natural, such as tree holes, animal burrows, or natural hollows, and were generally recognised only in the surface of the natural gravel. F30419+F30420 made up a linear feature cut by the inner and middle

ditches (Fig SS1.100). Within and cut by the inner ditch was a large, irregular feature (F30434). Also within the inner ditch were a number of small, discrete features (F30435, F30436, F30442, F30444, F30446, F30451, F30453). Perhaps more significantly, a large treehole, F30479, lay at the centre of the inner ditch and the phase 2 cairn and was cut by the primary burial, F30426 (Fig SS1.100). This is very reminiscent of the central tree-hole in Barrow 6, which is argued possibly to have been the focal point for that monument. Two small features between the inner and middle

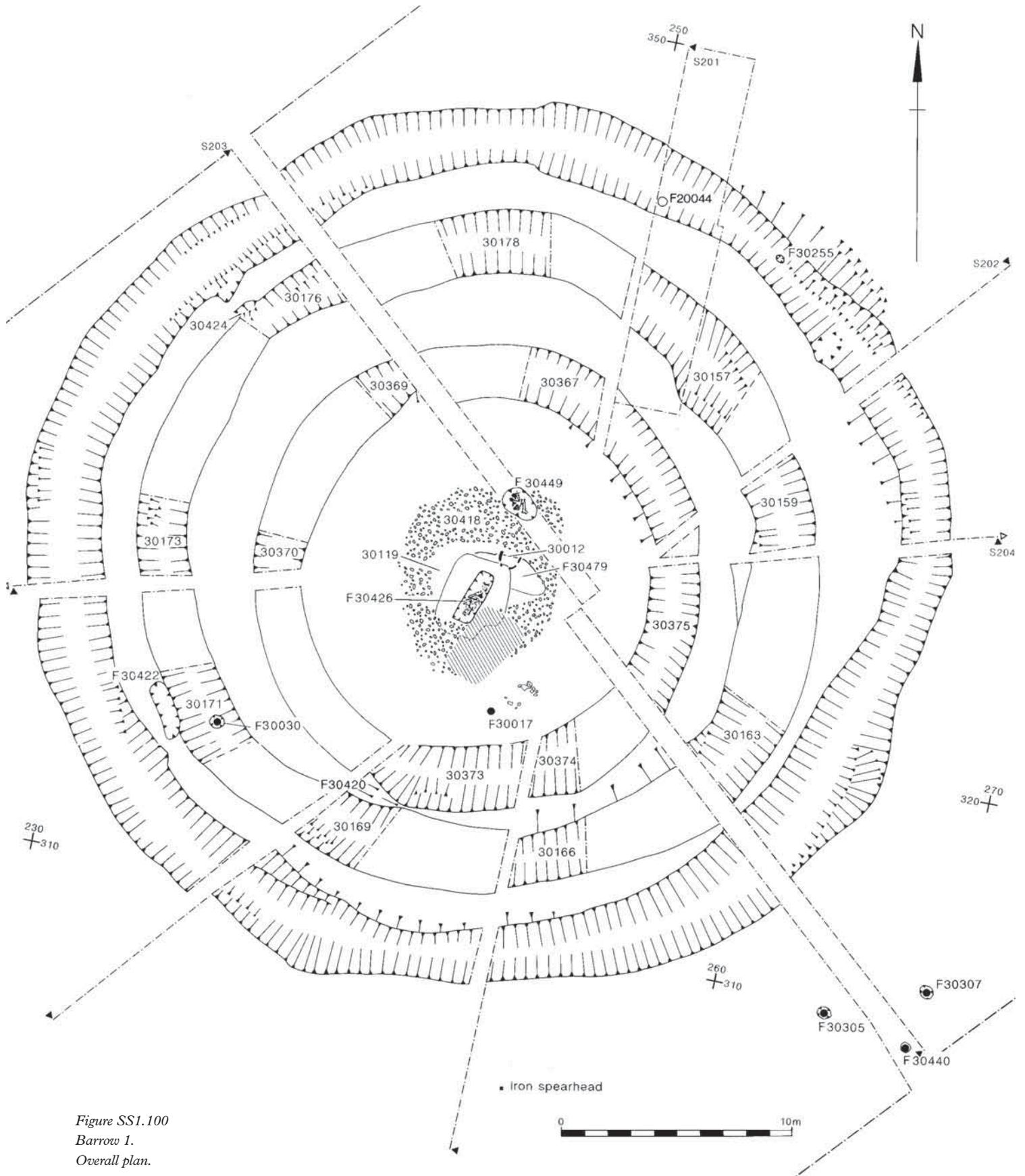




Figure SS1.101
Barrow 1.
Excavation in progress.
(Photo English Heritage)

ditches, F30422 and F30424, both cut by the middle ditch, each contained some charcoal.

Phase 2 The primary burial

Phase 2.1 The grave

Pit F30426 cut the pre-mound soil 30428 and the phase 1 treehole F30479. The grave pit measured 2.85m x 2.30m x 0.90m deep, with its top at 34.50m OD, and its long axis aligned NNE-SSW. The break in profile from the top to the sides was angled at between 70° and vertical. The change in profile to the base was sharper than that of the top to the sides, approaching 90° in some places. The base was flat (Fig SS1.102).

The sides of F30426 were filled by 30467, a 5YR 3/3 dark brown sandy loam/gravel (70% to 30% ratio). This was continuous with 30418, a 7.5YR 3/4 dark brown sandy loam/gravel (40%/60%) which surrounded the top of the cut in an area 1.50–2.50m and up to 0.05m deep (Fig SS1.116). There was an almost vertical interface between 30467 and the deposits in the centre of the cut, which filled an area 2.05 x 1.20 m, of similar orientation to the cut and reaching to its full height. In this area, near the base of F30426, were intermittent patches of decayed timber, which had been partly charred, perhaps deliberately in an attempt to preserve them (Figs SS1.103–4). There was a clear longitudinal grain and thickness was fairly constant, indicating that the structure had been built of

planks. A sample identified for radiocarbon dating was of oak sapwood (Table SS6.1). It is not possible to say whether there was originally further uncharred wood, as this would not have survived. Similar timber fragments were present on the vertical interface between the central deposits and 30467, but here olive-green clay (30468) was also present. The timber overlying the inhumation suggests that the central area originally took the form of a wooden-roofed void with revetted sides, forming a mortuary structure.

The timbers in the base of the central area overlay the skeleton of an adult male, 90% complete but with the bones slightly displaced from articulation, crouched and lying on the left side (Figs SS1.105–6). The burial was aligned SSW-NNE, along the main axis of the central feature. The stature of skeleton 6410 was calculated as 1.77m (c 5ft 9in). Pathological change to certain teeth was indicative of gum disease and evidence for joint disease was also present (Henderson SS4.7.1). The timber overlying the inhumation suggests that the central area originally took the form of a wooden-roofed void with revetted sides, forming a mortuary structure. Given the completeness of the remains, partial disarticulation is likely to have been the result of the collapse of the overlying chamber and cairn.

At the feet of the skeleton was a stylistically late Beaker (Tomalin SS3.8.4: P85), beside a compact pile of other grave goods

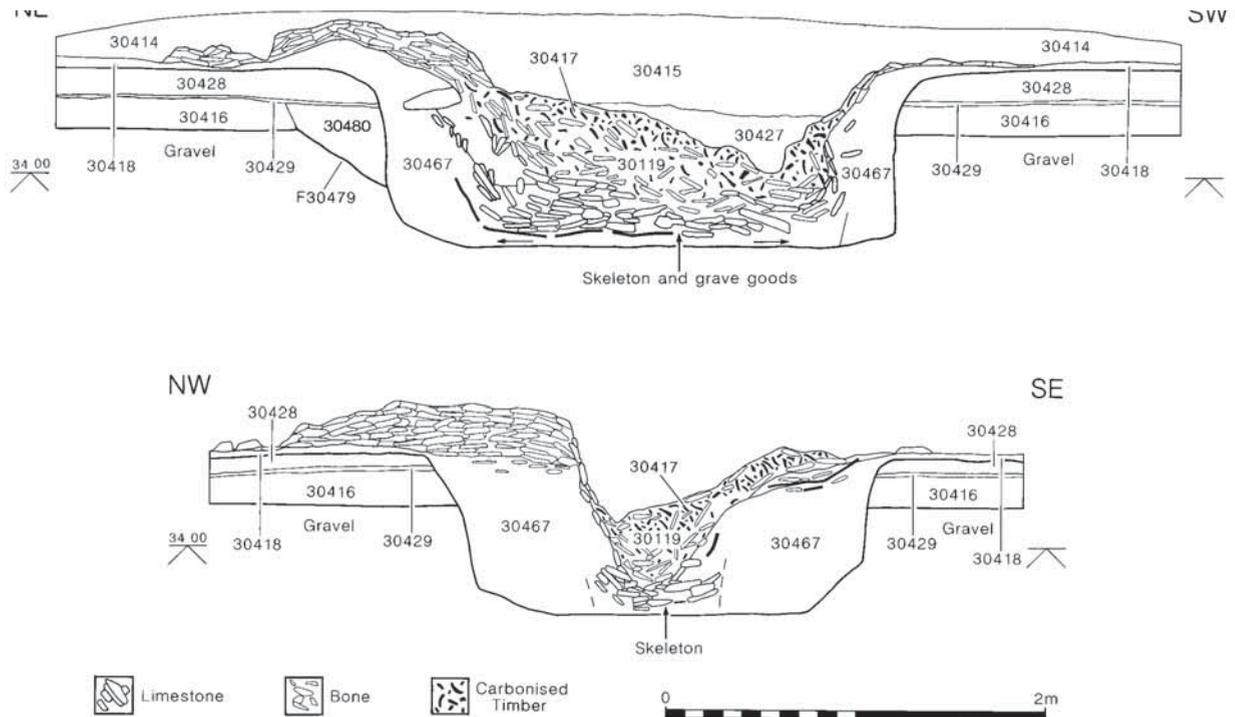


Figure SS1.102
Barrow 1.
Sections through
primary burial.

(Figs SS1.107–8). These comprised three split and ground cattle ribs (Foxon SS3.5.1), a boar tusk, one large and four small conical, V-perforated buttons of Whitby jet, all carefully finished (Shepherd SS3.4.1; Davis SS3.4.2), an amber ring (Shepherd SS3.4.1), a slate ‘sponge finger’ and an elongated chalk object which may have mimicked a ‘sponge finger’, a flint fabricator, or a bone or antler spatula (Humble *et al* SS3.7.1), a wristguard of Great Langdale tuff (Humble *et al* SS3.7.1), a finely flaked flint dagger, a triangular arrowhead, three scrapers, three retouched flakes and five other flakes (Ballin SS3.7.6).

The grave goods had been used to varying extents. The Beaker shows internal spalling and pitting which may represent thermal or bacterial attack from liquid contents (Tomalin SS3.8.4), although residue analysis succeeded only in identifying degraded animal fat (Copley *et al* SS3.8.2). Use traces on the buttons indicate that they had been attached to a garment or garments but had undergone little wear. On one small button (AOR 34863) the bevel at the junction of base and upper surface was unworn and may have been cut after manufacture of the button, prompting the inferences that buttons from diverse sources (mourners?) were standardised prior to deposition (Shepherd SS3.4.1). The slate ‘sponge finger’ has slight facets and fine striations on both tips (Humble *et al* SS3.7.1), while the

chalk object can never have been functional. One end of the wristguard is missing, together with its perforations, and that edge is heavily worn and rounded, with striations like those on the ‘sponge finger’ (Humble *et al* SS3.7.1). The arrowhead and the three smallest flakes show no signs of use; wear traces on the dagger reflect only its having been sheathed and hilted; two scrapers and a retouched flake had been used to scrape wood, in one case possibly antler as well; another scraper was used to scrape hide; a flake had been used for butchery; and a flake and two retouched flakes were used to cut indeterminate materials of varying hardnesses (Grace SS3.7.4).

The skeleton is dated to 2200–1920 cal BC (3681±47 BP; UB-3148), and oak sapwood from the structure is dated to 2400–2460 cal BC (3775±BP; OxA-7902). These two measurements are statistically consistent and, together with others from overlying layers, allow the construction date to be estimated as 2140–1800 cal BC at 95 % probability (SS6). The boar tusk heaped with the other grave goods, however, is dated to 2890–2460 cal BC (4100±80 BP; OxA-4067). It thus pre-dates the burial (Fig SS6.11) and is estimated as having been between 990 and 420 years old at 95% probability when buried (SS6). The condition of the wristguard and the fact that such artefacts are usually associated with Beakers of

Clarke's Wessex/Middle Rhine group rather than his Southern tradition, as here (Clarke 1970, 448), suggests that it too may have been old when buried.

Animal bone found in the grave away from the pile of grave goods is more difficult to interpret, since it may have originated in the cairn and reached its final location when the structure and cairn collapsed. This is particularly likely to be true of left and right cattle maxillae (perhaps the most durable

parts of a whole skull) lying on top of each other near the knees of the skeleton (Fig SS1.105: AORs 35141–2), at a point where no overlying cover of carbonised wood was recorded (Fig SS1.103). Also in the grave were two cattle molars (AOR 35101) near the south-west corner and the unfused epiphysis of a pig femur (AOR 35102), the location of which was not recorded.

Cattle bone recorded as from the backfill of the grave, around the outside of the burial

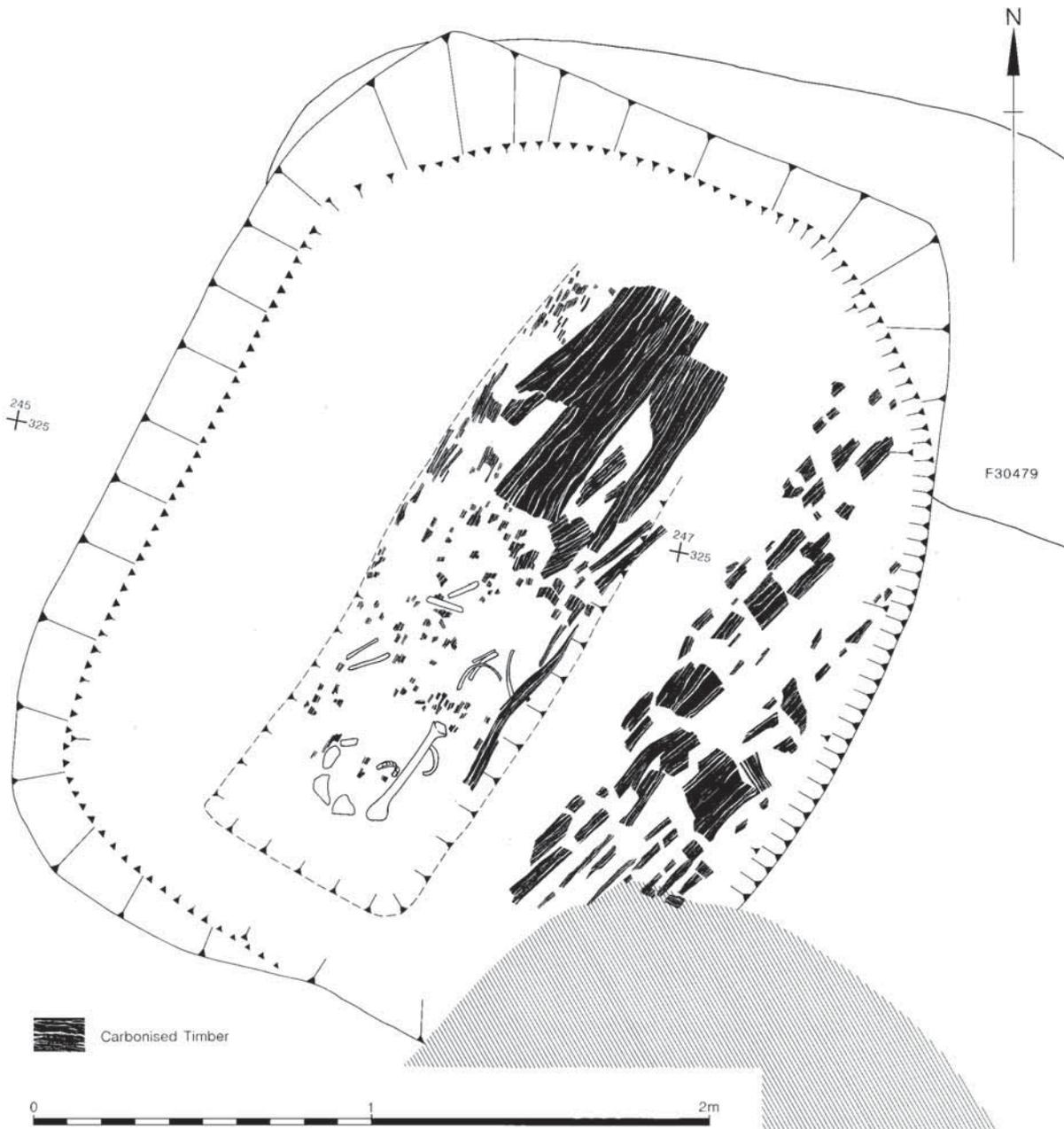


Figure SS1.103

Barrow 1. Charred oak planks over the burial in F30426.

Figure SS1.104
Barrow 1.
Charred oak planks over
burial in F30426.
(Photo English Heritage)



(context 30467, Table SS1.14), is probably also derived from the cairn, since it was either close to the surface, and hence perhaps pressed into it, or very close to the blurred interface of grave and backfill.

Phase 2.2 The cairn

In the central area of F30426 was a deposit of flat, rounded slabs of local Jurassic limestone from the top of the valley side (context 30119). Around the top of the cut, this context took the form of a spread covering an area 4.30m north-east/south-west by up to 2.70m north-west/south-east, excluding thinly distributed outlying stones (Figs SS1.110). The deposit was eccentric to the grave (Fig SS1.110), and was deeper to the north and west (0.10–0.20 m), decreasing slightly in depth to the south and east (Fig SS1.102). Its surface was between 34.50m and 34.70m OD. Beyond the limits of the grave, the stones were flat or slightly tilted; within it most were steeply pitched (Figs SS1.102, SS1.112). Although they were on average 0.10 m–0.20m across, examples as small as 0.05m and as large as 0.40m occurred. One piece was burnt and two pieces of ironstone and one of a limestone known as ‘local marble’ were also present.

The cairn was overlain by a deposit of bone, some of which was intermingled with its upper part (Fig SS1.102). The bone

deposit was numbered 30417, although in the on-site drawings both bone and stone layers were numbered 30119. Preservation was poor, tooth rows often remaining where maxillae or mandibles had decayed. Some very fragile complete skulls had survived to the time of excavation but then fragmented. The surviving total of nearly 2500 teeth and bones must originally have been higher, before decay, ploughing and the digging of the recent pit reduced it. The deposit consisted almost entirely of the bones and teeth of subadult and young adult domestic cattle, of which there were 185 skulls, with far smaller quantities of other bones, mainly mandibles, scapulae and pelves. The anatomical imbalance, especially a disproportionately low number of mandibles in relation to skulls, combines with cut-marks on the bones to show that the bone was already defleshed when deposited. A shortfall of incisors and premolars suggests that any remaining flesh on the skulls and mandibles had decayed for a while, leading to the loss of these less firmly-rooted teeth before deposition (Davis SS4.6.1; Davis and Payne 1993). Also present were bones of aurochs (five upper or ?upper molars, a horncore fragment, possibly two scapulae – AORs 34258, 34282, 34814, 34872, 34873, 34977), dog (a parietal fragment and palate – AOR 34834), and pig (13 upper molars, most of them in fragmentary upper rows – AORs 34372, 34168, 34564, 34607, 34952). The aurochs molars were not in tooth rows, but in finds which included loose domestic cattle teeth and other bones. In two cases there was a left and a right molar in the same find (AORs 34814, 34873). Small quantities of horse and caprine bone originally attributed to the cairn (Davis and Payne 1993, 17) are in fact from later contexts (Table SS1.14; Davis SS4.6.1).

Two upper molars of domestic cattle, both found in tooth rows and hence deposited as parts of skulls rather than as loose teeth, are dated to 2290–1680 cal BC (3610±110 BP; OxA-2086) and 2470–1980 cal BC (3810±80 BP; OxA-2087). An aurochs molar has precisely the same date as the second of these, 2470–1980 cal BC (3810±BP; OxA-2086). These are all consistent with each other and with the dates for the underlying burial. A second aurochs molar from the same find as the first is, however, much older, at 2880–2340 cal BC (4040±80 BP; OxA-2085). It is estimated that the second tooth was 960–330 years old at 95% probability when deposited (SS6). Like the boar tusk in the grave, it had been kept for generations.

Phase 3 Initial construction of barrow

Phase 3.1 the inner ditch

F30366 was an ovoid ditch, slightly longer on its north-south axis than its east-west one, measuring 17.90m NNE-SSW x 16.90m

ENE-WSW (ditch centre to ditch centre). The area defined by the ditch measured 15.80m NNE-SSW x 14.80m ENE-WSW, enclosing 181.90 sq m and shared the same NNE-SSW alignment as grave F30426, which was situated approximately centrally within

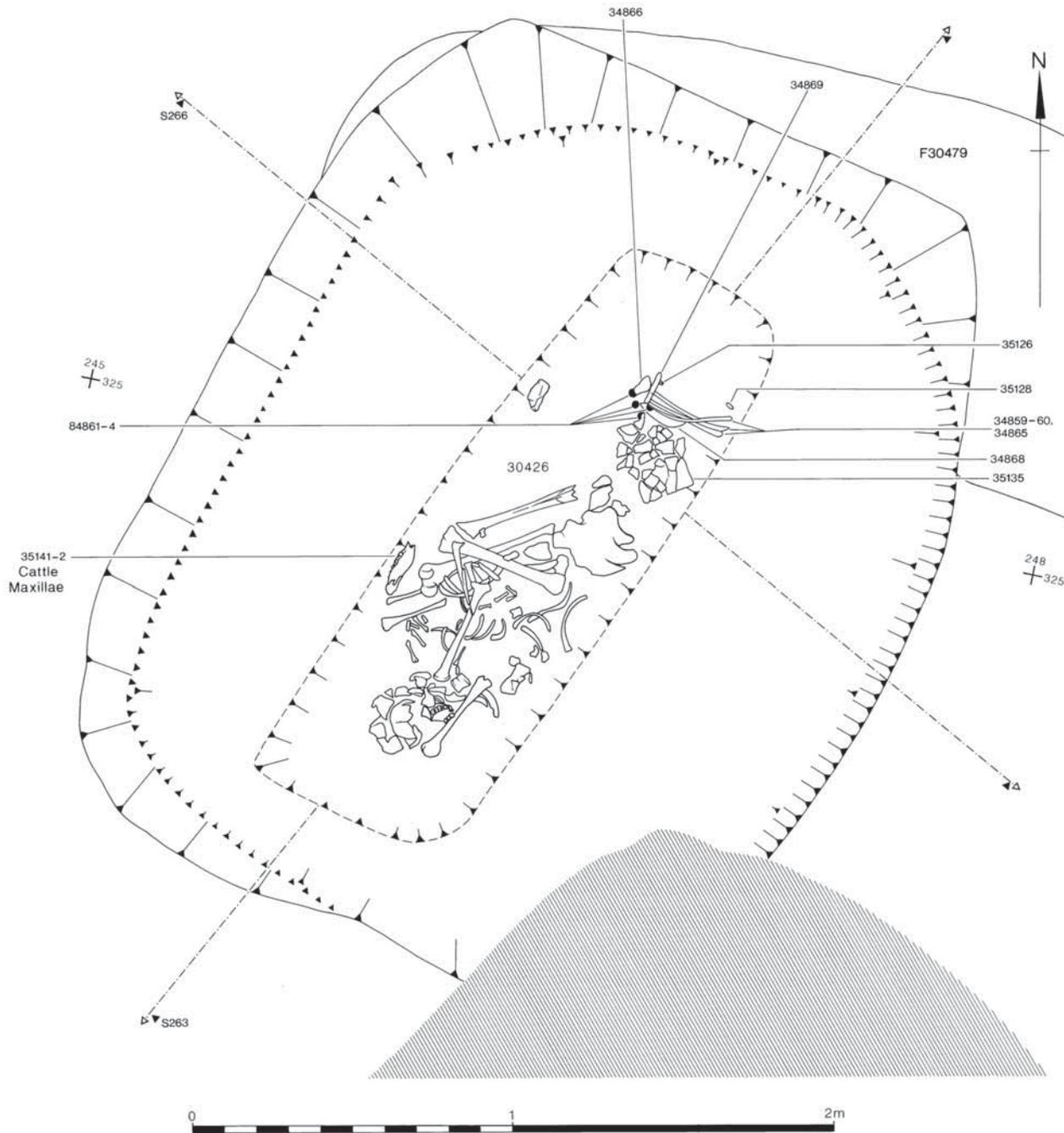


Figure SS1.105

Barrow 1. Primary burial. Not all finds are shown. Those labelled are, clockwise from the bottom left, L and R cattle maxillae, possibly introduced into grave when chamber and overlying cairn collapsed (35141-2), four out of five buttons (34861-4), flint knife (34866), elongated chalk object (34869), boar tusk (35126), flint flake (35128), three cattle rib spatulae (34859-60, 34865), flint dagger (34868), Beaker (35135).

Figure SS1.106
Barrow 1.
The primary grave within
the larger grave pit F30426.
(Photo English Heritage)



it (Fig SS1.100). F30366 cut the phase 1 feature (F30419/30420). The ditch was 2.20 m–2.80m wide and 0.60m–1.00m deep (on average 0.80m). The top generally broke gently to the sides, which varied from 30° to 70° (on average *c* 45°), and where one side of the cut was steeper than the other it was in all cases the outer edge. The base varied from rounded and almost imperceptible to flat with a definite step from the side. None of the above characteristics displayed any distinctive patterning (Figs SS1.113–16).

During fieldwork F30366 was excavated as a number of separate sections, each given a subdivided number ranging from 30367–30377. This system appears to have been abandoned as not all sections appear on plan, and where they do they do not follow any systematic prearranged pattern, as might be expected for such a number block allocation. However, since there is little doubt that the ditch was anything other than a simple, single-phase entity, the generic number is considered a sufficient point of reference.

Phase 3.2 The first mound

A low mound was deposited over the cairn and central feature. It consisted of a 5YR 4/4 moderately humic and weakly acid reddish brown clay loam soil (Macphail SS4.8.2), with a 1% gravel content (Figs SS1.113–16: 30414). In the base of the subsidence hollow over the grave a dark yellow-brown sandy clay

loam (context 30427), thought also to be mound material, underlay 30415 which was identical to and continuous with the *in situ* mound material (Fig SS1.102). Although truncated by ploughing, the mound survived to a height of 0.20–0.30 m, extending over an area 12m north-south x 13m east-west.

A berm separated the inner ditch from the mound. Around the north of the monument it was between 1.00m and 1.50m wide, reaching 2.50m to the south. The virtually gravel-free nature of the core of the mound led the excavator to suggest that the original barrow probably consisted of an earthen mound of topsoil and possibly turves overlain by a gravel capping, or with gravel around the perimeter. A gravel layer around the sides of the mound (Figs SS1.113–16: 30364) above loam 30414 is thought to indicate that the mound material was obtained from the ditch and redeposited in reverse stratigraphic order, the gravel being derived from the lowest levels of ditch digging. 30364 is included in phase 4 as it later subsided into the inner ditch, and in redeposited form no longer belongs to the construction phase.

It is also possible that the original mound was ditchless, its source material consisting of topsoil and turves collected from the vicinity, with the deposition of added topsoil and gravel cap taking place at a later date with the excavation of the ditch. It should be noted that three of the mound layers (30414, 30415 and 30427) were recorded as sandy loams,

and one (30468) as clay, with none of the layers containing more than 1–2% gravel.

Within the mound material were two sherds of Beaker (including P79 – Tomalin SS3.8.4) and a small amount of struck flint. In the subsidence hollow over the grave was a fine barbed and tanged arrowhead of Green Low type (AOR 34098 – Ballin SS3.7.6, Fig SS3.53:137), the burnt condition of which suggests that it had formed part of a cremation deposit.

Phase 3.3 Secondary burials

Context 30012 was a large tripartite Collared Urn (AOR 18177; Tomalin SS3.8.4: P92) found inverted on the top of the cairn towards its northern edge (Figs SS1.100, SS.111). It was surrounded by disturbed mound material (30004/30040; see phase 5 below). The urn itself was much damaged, both by animal burrowing and by ploughing; and was truncated just below the base of the collar, with sherds scattered in its vicinity.



Figure SS1.107
Barrow 1.
Detail of grave goods at
feet of primary burial
in F30426.
(Photo English Heritage)



Figure SS1.108
Barrow 1.
Detail of grave goods at
feet of primary burial
in F30426.
(Photo English Heritage)



Figure SS1.109
Barrow 1.
Grave goods from
primary burial.
(Photo English Heritage)

It is impossible to tell if it was placed on top of the cairn before the mound was built or cut into the mound at a later date. The vessel may have functioned as a cremation urn, although no cremation survived. A soil sample was taken from the fill of the pot, but no bone was present. Two flint flakes were recovered, however, at the time of excavation. The calcined barbed and tanged arrowhead mentioned above was only *c* 0.60m away and, although it was not securely associated with the urn, its location and condition suggest that it may have formed a part of the burial.

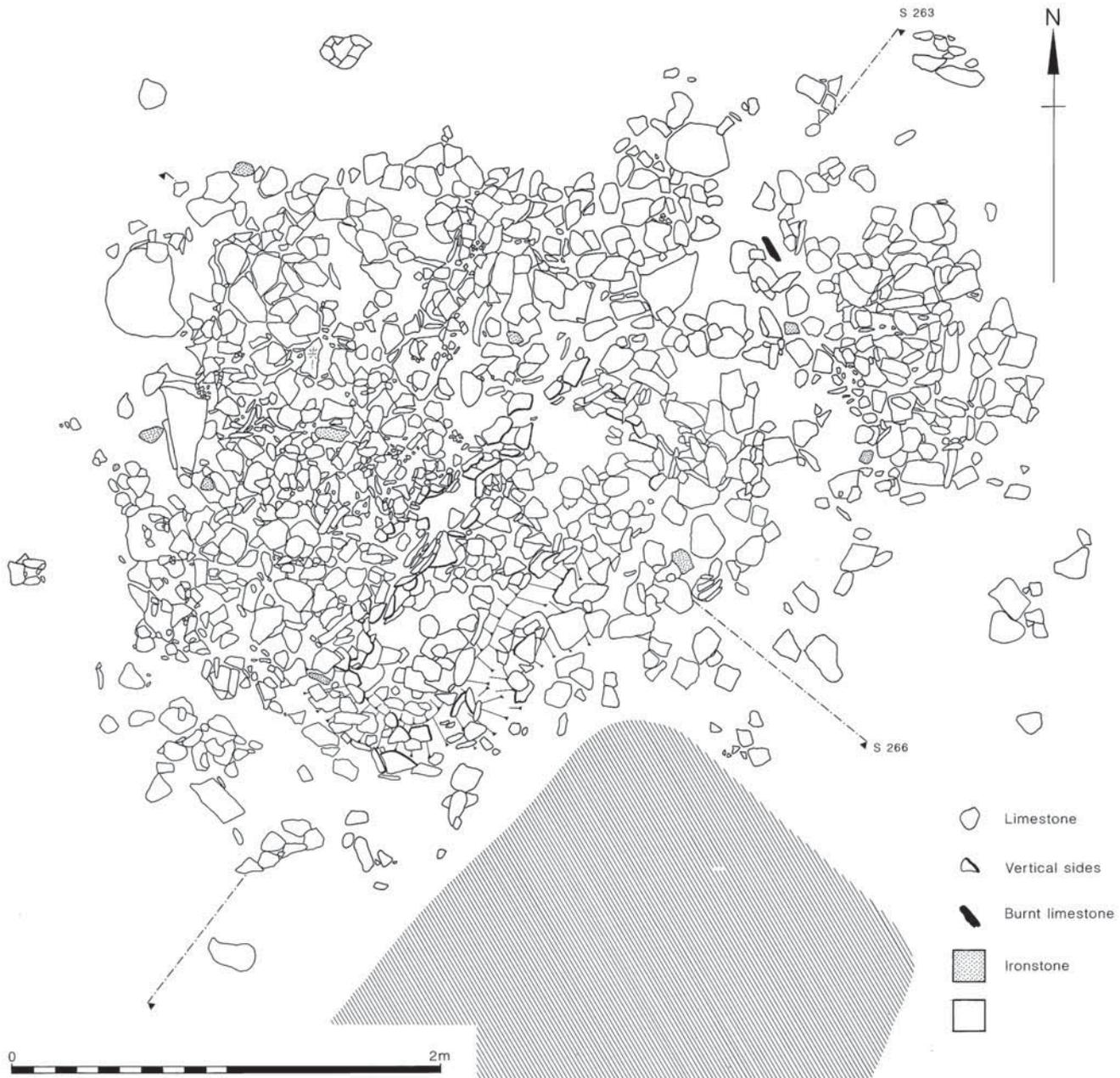
F30017 also lay within disturbed mound material 30004/30040, but clear of the cairn, towards the southern edge of the area surrounded by the inner ditch (Figs SS1.100, SS1.118). There was heavy plough and animal disturbance and no cut could be defined. The burial was contained in what had probably been a large tripartite Collared Urn (AOR 15618; Tomalin, SS3.8.4: P91), which is likely to have stood upright, since its upper part was truncated by the plough. When found it lay on its side, with its top tilted towards the centre of the barrow. Residue analysis detected high concentrations of caprine adipose fat. Inside the urn was a cremation (6400) which consisted of the remains of an adult ?male of 20–40 years and a child of *c* 13–14 years (Mays SS4.7.4). Charcoal was recorded, but has not been identified. With the cremation was an unburnt flat bronze dagger with square rivets and with traces of a horn hilt (AOR 15280), which Needham sees as transitional between flat riveted daggers and Armorico-British forms (SS3.3.1). Also present was an antler pommel, burnt, unlike the dagger, and so

small as to suggest that it came from a different implement (AOR 57001; Needham SS3.3.1), and a burnt bone pin with a perforated head (AOR 57002; Foxon SS3.5.1). A sample of cremated bone has been dated to 1950–1730 cal BC (3520±40 BP; GrA-22378). The cremation was lifted in a block and excavated in the Ancient Monuments Laboratory. Two sherds/15g of Roman pottery (AORs 18091, 18096) were recorded as coming from 30018, the fill of F30017, but the co-ordinates do not tally. Given that the top of the urn was ploughed-off, they may have been introduced into the cremation, or may have been found elsewhere.

F30449 was a suboval cut 1.65m x 1.15m x 0.85m deep, with almost vertical sides, orientated north-west/south-east (Figs SS1.100, SS1.119–20). It was found during the mechanical removal of a baulk towards the end of excavation and was not recognised until the lower horizon of the buried soil (30416) had been removed from the surface of the underlying gravel. Its estimated date of 1920–1730 cal BC at 93% probability (SS6) is later than that of the primary burial (Fig SS6.11), and, since it was within the area of the first mound, it is likely to have been cut into that mound, although it is impossible to tell from what level.

The skeleton was well-preserved and fully articulated. It lay in a crouched position on its left side with the legs pulled up against the stomach and the hands placed behind the head. It was that of a male of *c* 20–30 years, whose stature was estimated at 1.72m (*c* 5ft 7in). Pathological change was evident in the form of a slight polishing of the occlusal surfaces of the teeth and in the form of degenerative change to the bones of the right ankle joint and foot (Henderson SS4.7.1). The only grave good was a perforated bone pin located above the head, which suggests that it may have been used to fasten the hair (Foxon SS3.5.1).

The almost vertical sides of F30449 (Fig SS1.120) suggest that it was backfilled rapidly, before any weathering had taken place. There were three fills. The lowest (30470), was a highly sandy clay with a gravel content of up to 70%, present as a layer *c* 0.10m thick. This fill included several small patches of clayey material (contexts 30471–30475). Sample 11509 was taken from a similar (un-numbered) deposit from behind the skull which may have acted as a pillow. Middle fill 30466 was a gritty sandy clay with a 15% gravel content, up to 0.40m thick. Upper fill 30450 was a *c* 0.30m thick



brown sandy clay loam with a 40% gravel content and was truncated by the mechanical removal of the baulk.

Phase 4 Inner ditch fills

The inner ditch silted up progressively, with three documented fills. In each case the generic fill number was subdivided into a number of segments, each excavated separately. Thus the lowest fill, a sand and gravel deposit (30402), was divided into 30403–30413; the middle fill, a dark brown silt deposit (30390), was divided into

30391–30401; and the upper fill, composed of gravel and silt lenses (30378), was divided into 30379–30389.

On the main section drawings, the majority of the ditch silts have been described, but not contexted. While marked patterns are not identifiable, some general trends are present. The primary deposit in the south-west quadrant (the south or south-west parts of Figs SS1.113–15), consisted of yellow-brown sand and gravel, which extended across the entire width of the cut to a depth of *c* 0.10 m. Above this were various deposits of dark

Figure SS1.110
Barrow 1.
The central cairn (30119)
after the removal of
the bone.

Figure SS1.111
Barrow 1.
Excavation of the cairn,
with Collared Urn context
30012 in background.
(Photo English Heritage)



brown sandy loam or sandy clay loam 0.10–0.25m deep, the sandy loam possessing a gravel content of between 20–50%.

In all other quadrants only one primary deposit is shown in sections: a brown to dark brown silty clay with sand and gravel lenses towards the base. This deposit was up to 0.20m deep and was present across the entire width of the cut. The ditch appeared to have

silted naturally from both sides, after which a gravelly layer slumped into the ditch from the interior. The gravel lenses near the base seem sometimes to have formed a distinct layer, since, in the east of the circuit, 30411 (a subdivision of 30402) was described as a ‘lower gravel fill’, on the surface of which was a cluster of 14 pieces of knapping debris (AOR 34099), among which two pairs of flakes and

Figure SS1.112
Barrow 1.
Cairn collapsed into
central grave.
(Photo English Heritage)



one sequence of six flakes refitted. In the north-west of the circuit, section 203 shows what may have been a posthole cutting the primary silts and sealed by the subsequent ones, suggesting that a post stood in the ditch for a while and was then removed (Fig SS1.115). The deposits described so far are thought to represent the initial weathered material. The later slumped gravel is represented by 30364, a red gravel 0.10m–0.15m deep which had originally functioned as the gravel cap of the mound. It overlay mound material (context 30414) in phase 3 and (in redeposited form) the inner edge of the inner ditch (Figs SS1.114–16). It survived as a ring of material 15m in diameter.

Phase 4 closed with the accumulation of context 30363, a virtually gravel-free 7.5 YR 3/2 brown sandy loam, present in the top of the heavily silted inner ditch to a depth of 0.10m–0.15m (Figs SS1.113–15). It was interpreted as a buried soil, and, as it divided the inner ditch silts from the middle ditch upcast during phase 5, it indicated a long period of time between the two events.

Finds were few. Five bone or tooth fragments included a cattle metacarpal. Struck flint other than from the knapping cluster mentioned above included a chisel arrowhead, and was less infrequent in 30363 than in the underlying silts.

Phase 5

Phase 5.1 The middle ditch

The middle ditch (F30156), divided into sections 30157–30179, was cut after the inner ditch had almost completely silted and a soil formed over its top. F30156 consisted of a roughly circular cut 26.65m north-south x 26.50m east-west (ditch centre to ditch centre). It is sometimes referred to as the inner ditch in the original records, since only the two outer ditches were initially recognised, the inner ditch becoming apparent only when mound material began to be removed. The enclosure defined by the ditch measured 24.05m north-south x 24.15m east-west, an area of 462.60 sq m. It was slightly eccentric to the inner ditch, with a gap of 3.10m between the two to the north and almost no gap to the south (Fig SS1.100). F30156 cut phase 0/1 features F30419/30420 and F30422.

The ditch was between 2.00m and 3.00m wide (on average 2.50m) x 0.80m–1.20m deep (on average 1.00m). The top generally broke gently to the sides, which varied between 30° and 50°. The base varied from rounded and almost indistinguishable from the sides, to roughly flat. The flat base, with a

90° stepped break from the sides seen in sections S201 and S203 in the south-east quadrant, was reminiscent of some of the inner ditch profiles, but may be the result of over-cutting during fieldwork (Figs SS1.113–16).

Phase 5.2 Second mound

The spoil derived from the second ditch was mounded internally, enlarging the pre-existing mound. A berm of 0.50 m–1m separated the mound from the ditch on the south and east sides of the monument, increasing to 2 m–2.50m on the north and west. Two distinct mound deposits were discernible:

30362 was the lowest deposit in the sequence, a barrow-wide layer of dark brown sandy or silty loam with a gravel content varying between 5% and 20%. It appeared as a ring of material up to 4.80m wide, by up to 0.20m deep (although thinning to *c* 0.03m towards its outer edge), by *c* 20m across, and followed the course of the silted inner ditch (Figs SS1.113–14). 30362 is thought to have been comprised mainly redeposited turf and topsoil from the upper part of the middle ditch.

Context 30362 was overlain by 30361, a 7.5YR 4/4 dark yellow-brown sandy loam with 60–70% gravel, again present as a ring of material up to a maximum 3m wide by 0.30m deep (thinning to its outer edge). It was *c* 20–22m in diameter and overlay over the outer edge of the silted inner ditch (Figs SS1.113–15). This material is thought to represent the spoil from the lower levels of ditch digging.

It is possible that 30362 and 30361 were deposited only on the periphery of the monument, but it appears more likely that they originally covered the whole of the pre-existing mound and were subsequently ploughed away. The shallowness of the deposits at their outer edge suggests that they were mounded thickly in the centre of the monument thinning towards its outer edge. Whilst the intact outer edges of both deposits (sealed by 30227) allow their original diameters to be calculated, their considerable disturbance in the centre of the barrow prevents the reconstruction of their original height.

Both contained struck flint (Table SS1.14).

Phase 6 middle ditch fills

The excavation of the middle ditch was followed by a period of silting. Three fills are documented in the verbal context record. The lowest fill (30336) described simply as ‘silty’ was divided into 30337–30354 and 30356–30360. This fill was overlain by 30312,

which is undescribed, and which was divided into 30313–30335. The topmost fill, 30227 divided into 30180–30203, is described below in phase 7.2.

The scarcity of fill descriptions in the verbal record and of context numbers on the sections (Figs SS1.113–6) makes it difficult to relate the two. The section drawings show some general trends. Around virtually the whole ditch circuit the lowest fills consisted of dark yellow sand and gravel. This deposit was 0.30m deep, and is considered too deep to be trample associated with the construction phase of the ditch. It is instead interpreted as material which accumulated over a considerable period of time. Above this was a deposit of dark yellow-brown silty clay loam 0.20–0.40m deep, which seemed to be present in all areas except the south and SSW. Around the eastern side of the ditch this was overlain by a dark brown sandy loam, with a sand and gravel deposit, 0.20 m–0.40m deep, above; around the western side, only the sand and gravel were present (Figs SS1.113–6).

From this stage onwards the so far symmetrical, bilateral silting pattern becomes markedly asymmetric, reflecting the input of material, predominantly gravel, which was almost certainly excavated from the outer ditch. This is described in phase 7.2 below. Since 30227, which overlay this material, was recorded as a fill of the middle ditch, these gravels were probably included in the subdivisions of 30312.

Finds were scarce (Table SS1.14).

Phase 7 Bank or third mound and outer ditch

Phase 7.1 The outer ditch

An enlargement of the barrow was accompanied by the excavation of the outer ditch. This consisted of cut F30124, a roughly circular feature 35.41m north-south x 36.15m east-west (ditch centre to ditch centre). The enclosure defined by the ditch measured 33.72m north-south x 33.23m east-west, an area of 834.75 sq m. F30124 was slightly eccentric to the middle ditch, with a gap of between 1m and 2m between the two to the south and west, widening to between 2m and 4m to the north and east (Fig SS1.100). The ditch was on average between 2.50m and 3m wide x 0.80m–1.00m deep, although subsequent disturbance may have reduced these figures slightly. The top generally broke gently to the sides, which varied between 30° and 40°. Around the north side of the circuit the base was very rounded and almost imperceptible from the sides, whereas around the

south the base was roughly flat and the break from the sides to the base more pronounced (Figs SS1.113–16). F30124 displayed no signs of having been recut. It was excavated in 23 sections (30125–30147), the location of which is not completely clear. Eleven of them were hand-excavated (30125, 30127, 30128, 30129, 30131, 30134, 30137, 30139, 30141, 30144 and 30146); nine were machine-excavated (30126, 30135, 30136, 30138, 30140, 30142, 30143, 30145 and 30147); and three were machine-excavated after the upper fill had been removed by hand (30130, 30132 and 30133).

Phase 7.2 the bank and/or third mound

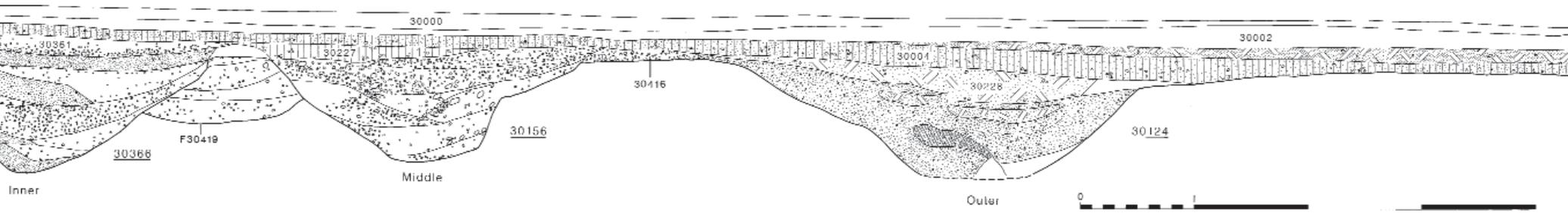
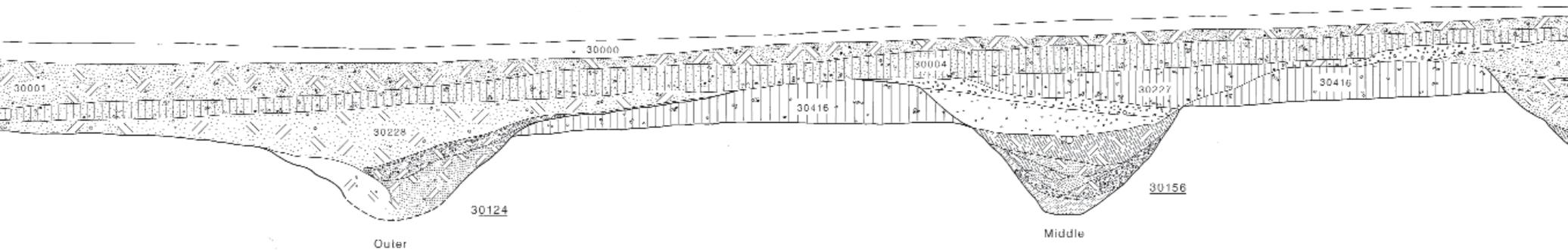
An influx of gravel into the upper part of the middle ditch from its outer edge in all sections (Figs SS1.113–6) was almost certainly the upcast from the outer ditch. The profiles of these deposits suggest a bank, which might have been built either on the berm and over the outer edge of the partly silted middle ditch, or on the berm close to the edge of the middle ditch into which it weathered more rapidly than into the outer ditch from which it was farther removed. In Figures SS1.113 and SS1.115 gravels actually survived continuously across the palaeosol (30416) between the middle and outer ditches. Unfortunately, as plough disturbance to the monument was worse on the lower slopes than towards the centre, it is particularly difficult to judge the form of the earthworks of this phase.

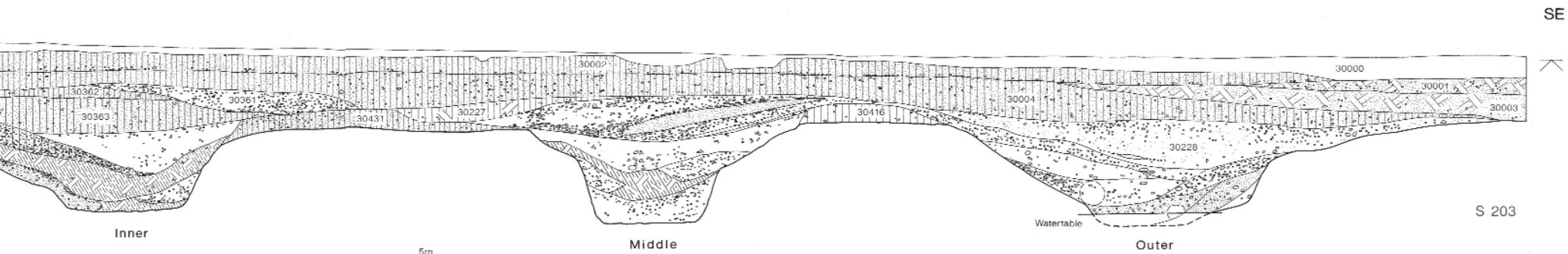
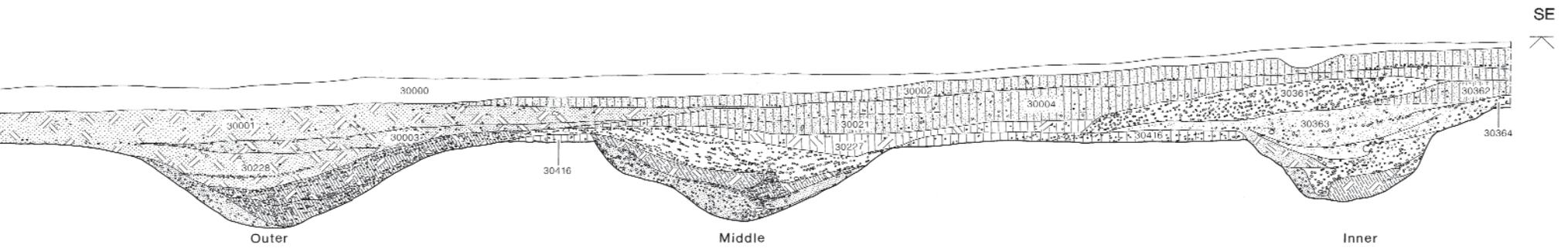
The bank formed by the gravels which entered the middle ditch from the exterior may conceivably have contained an extended earthen mound the remnant of which was context 30227 (divided into 30180–30203). This survived over the inner edge of the silted middle ditch as a dark brown sandy loam 0.20 m–0.40m deep, with a gravel content of between 1%–5% and with some clay content in places. It was stratigraphically later than both the gravels which had entered the middle ditch from the exterior and the tail of the second, phase 5, mound (Figs SS1.113–6). 30227 is more likely, however, to have been eroded and redeposited, and perhaps to have seen soil formation. Its surviving extent had a diameter of *c* 28 m.

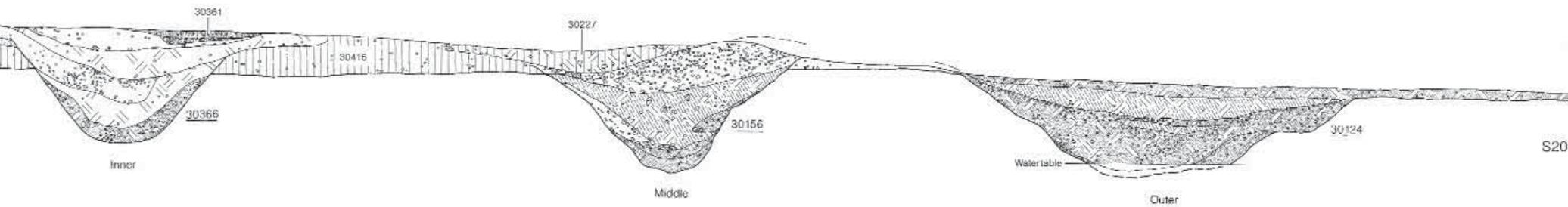
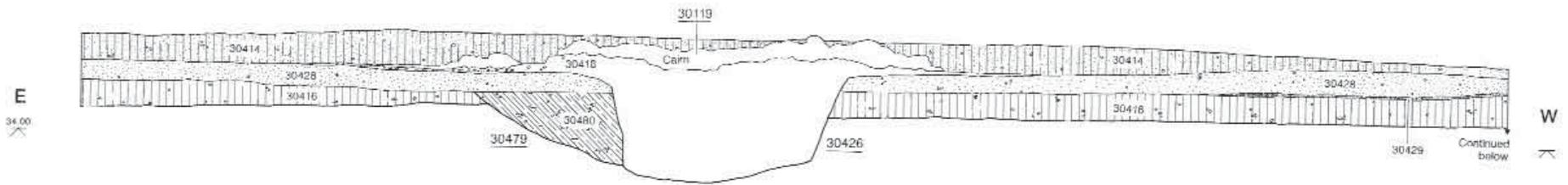
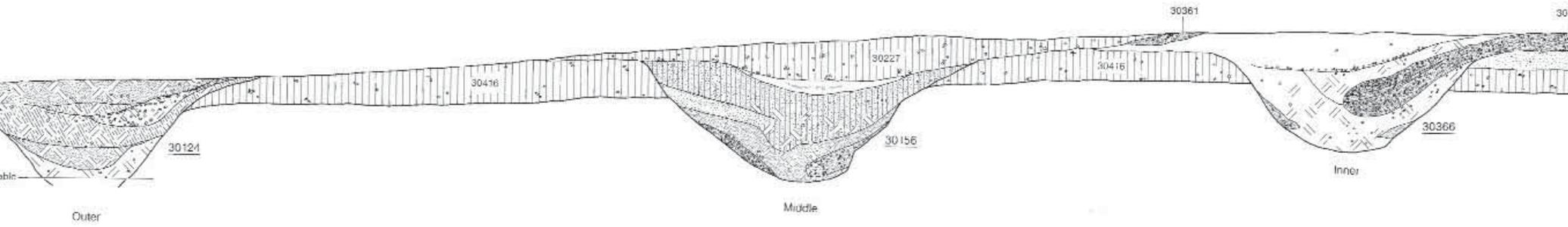
Phase 8 Flint scatter, outer ditch fills, and peripheral cremations

Phase 8.1 Knapping clusters

In the north-west, exposure of the surface of 30227 revealed a dense flint scatter (context 30036), measuring *c* 6m east-west by *c* 5m









*Figure SS1.117
Barrow 1.
Detail of truncated
Collared Urn context
30012 in situ on cairn.
(Photo English Heritage)*

north-south, overlying the silted middle ditch, and cut by the north-west end of section 203 (Figs SS1.115, SS1.121). It was trowelled in six 20mm spits, and the matrix was dry-sieved through a 1/8 inch mesh. Struck flint was concentrated towards the inner edge of the ditch and became sparser in the lower spits. The scatter was confined to 30227 and appears to have derived from flintworking on the mound sometime after the final (phase 7.2)

modification of the monument. The assemblage, consisting of over 1500 pieces, is overwhelmingly of debitage and reflects the production of broad, thick hard-hammer flakes and occasional retouched pieces, including notches, denticulates and scrapers. Disturbance is evidenced by two iron objects and Iron Age, Roman and medieval pottery within the scatter (Table SS1.14). A smaller, similar cluster overlay the outer ditch in the



*Figure SS1.118
Barrow 1.
F30017 with uppermost
sherds removed, showing
dagger and cremation.
(Photo English Heritage)*

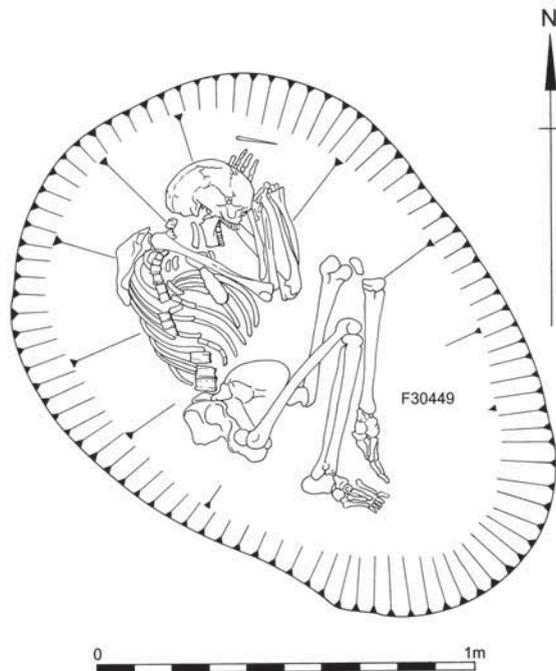


Figure SS1.119
Barrow 1.
Secondary burial F30449.

south-east (Fig SS1.121). The composition of the clusters leaves no doubt that the flint-knapping was carried out in the immediate area (Ballin SS3.7.6).

Phase 8.2 Outer ditch fills

The excavation of the outer ditch was followed by a period of silting. Three fills are documented. In each case the generic fill number was subdivided, which points to the ditch being divided into a number of segments, each excavated separately. Thus the

Figure SS1.120
Barrow 1.
Secondary burial F30449.
(Photo English Heritage)



lowest fill, undescribed deposit 30262, was divided into 30263–30285; the middle fill (context 30231), also undescribed, was divided into 30232–30254; and the upper fill (30228), a dark yellow-brown sandy clay loam, with between 5–10% gravel, was divided into 30204–30226. Only one clearly demonstrable ditch-wide silting episode was present and, although its subdivisions were not used, context 30228 was almost exclusively the upper ditch fill shown on all section drawings (Figs SS1.113–16). Struck flint was concentrated in the upper fills and almost certainly related to the phase 8.1 knapping deposit.

While the section drawings show no ditch-wide silting episodes at the lower levels, (in such a case a context number would presumably have been issued), some general trends are discernible. Around the south and south-west of the ditch circuit (but also on one northern section), a primary deposit of sand and gravel up to 0.25m deep was present. Above this there was a trend for a dark yellow-brown sandy or silty clay with a gravel content of up to 30%. This was present as a deposit of between 0.40 m–0.60m deep, sealed by 30228. As stated above, this was a ditch-wide deposit of dark yellow-brown sandy clay loam with a gravel content of between 5%–10%, between 0.20m–0.60m deep. Context 30228 was truncated by later ploughing.

The primary silting at the lowest level of the outer ditch could date from one of two periods: it may have accumulated very soon after the construction, possibly as inwash from the first major rainfall; alternatively the ditch may have been periodically cleaned. The subsequent c 0.50m deposit of sandy or silty clay, followed by the slightly gravelly clay loam (context 30228) contrast with the silts of the inner and middle ditches in their lack of a substantial gravel content. It is possible that the mound associated with the ditch in this phase possessed no such cap, or that it subsided at such a slow rate that it became intermingled with other naturally accumulating deposits and did not survive substantially intact in redeposited form, but had that been the case, a higher general proportion of gravel would have been expected in the underlying deposits.

While there was some struck flint throughout the ditch, it was particularly abundant in the upper fills, from which more than 700 artefacts were recovered. This must be considerably less than the total, given the extent of machine-excitation (phase 7.1 above). It includes a transverse arrowhead fragment and

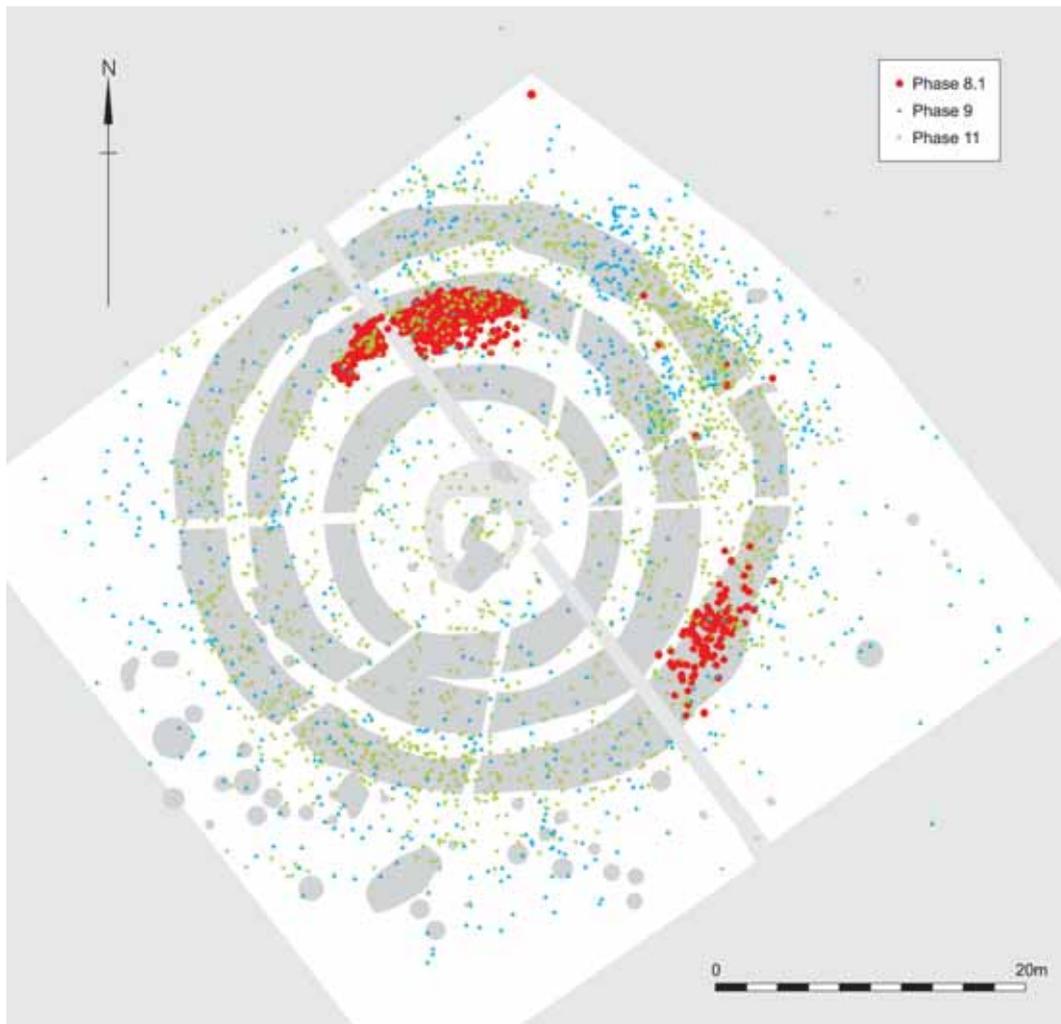


Figure SS1.121
Barrow 1. Distribution of struck flint in post-mound knapping clusters (phase 8.1, red circles), against a thinner, more even scatter in the disturbed, eroded mound top (phase 9, blue triangles) and disturbed alluvium and later deposits (phase 11, green inverted triangles). The collection of more than 700 artefacts from the outer ditch fills (phase 8.2) is not plotted because very few were measured-in.

two barbed and tanged arrowheads, but is predominantly of the same full Bronze Age character as the knapping clusters over the barrow (phase 8.2 above; Ballin SS3.3.6). There was a small amount of Roman pottery form the topmost fill (Table SS1.14)

F20044, recorded during the 1985 evaluation, was a possible posthole, cutting through the primary silts and into the underlying natural deposits in the north of the circuit at the inner edge of the ditch (Figs SS1.100, SS1.113). It was *c* 0.40m in diameter and *c* 0.25m deep, with a tapering profile. There was no postpipe, and it was filled with, from the bottom up, loose silty sands with gravel (20045, 20043), silty clay (20042) and further loose silty sand with gravel (20029).

F30255 was a small pit *c* 0.25m in diameter and 0.16m deep and with indistinct edges, roughly circular in plan, with almost vertical sides and a slightly rounded base. It was cut into 30124, a subdivision of 30228

in the north-west quadrant (Fig SS1.100). Its lower fill was a dark greyish brown sandy clay loam with large amounts of charcoal (30357). This was overlain by a dark brown sandy clay loam with few pebbles (30356), described as containing a 'bone fragment with some flint flakes'. A 100% sample of the lower fill contained charred remains of lesser celandine, blinks, onion couch grass, and an indeterminate tuber (Campbell SS4.5.4). While undated, the feature resembles the peripheral cremations described below in its size, form and fills.

Phase 8.3 Peripheral cremations

F30030 was a roughly circular cut 0.50m in diameter and 0.20m deep, first observed upon the removal of spit 30111 of phase 9 layer 30004. It was recorded as cut into the gravel berm between the middle and outer ditches. As excavation proceeded, however, it became clear that it was cut into the phase

7.2 sand and gravel upcast from the outer ditch into the inner. The lower fill, 30037, was a grey-brown sandy loam with 90% gravel and small quantities of charcoal and charred plant remains, including onion couch grass and other tubers and indeterminate grasses, with small quantities of plantain, cereal and an indeterminate legume (Campbell SS4.5.4). The upper fill, 30031, contained a considerable amount of cremated bone and charcoal, which were visible as soon as the surface of the feature was exposed. The cremation (6401) was of a child of perhaps about 2–6 years (Mays SS4.7.4). The charcoal was of oak, ash, rose and maple, with charred plant remains dominated by onion couch grass and other tubers, with some medicago (Campbell SS4.5.4). Onion couch grass tubers from the upper fill are dated to *1390–1140 cal BC at 95% probability* (2950±50 BP; OxA-3089). Also in the upper fills were a crumb of Roman pottery (AOR 18995) and an iron hobnail (AOR 91957), the latter found during the analysis of the cremation (Mays SS4.7.4), both of which reflect the level of disturbance and truncation.

Three further cremations lay in a cluster to the south-east of the barrow, *c* 7m beyond the outer ditch.

F30305 was 0.40m in diameter and survived to 0.18m deep. It had sloping sides and was filled with a dark yellowish-brown (10 YR 4/4) plastic clay with 30% gravel (30306), the upper 0.05m being slightly loamier than the rest. Sparse charcoal and cremated bone occurred throughout, cremated bone being concentrated in the lower fill. The cremation (6402) was of a child of perhaps 2–10 years (Mays SS4.7.4). An ‘unidentified material (decayed pot?)’ in the middle and lower fills is noted in the context record, where it is given the AOR number 33957. Three sherds recorded as from 30306 (AORs 33692, 33863 and 33892) are likely to have come instead from flint scatter 30036, since 33692 and 33863 are recorded as from ‘Flint scatter. Over outer ditch’ and the co-ordinates from 33863 and 33892 would place them in the flint scatter.

F30307 was 0.55m in diameter and survived to 0.20m deep. It had a rounded base, with a vertical edge to the east and a shelving edge to the west. The lower fill was a dark brown (10 YR 3/3) plastic silty clay loam (30309), with occasional flint pebbles, cremated bone fragments and large charcoal fragments. The upper fill (30308) was a very dark greyish-brown (10 YR 3/2) plastic silty

clay loam with a few flint pebbles and much more charcoal – which was abundant – and less cremated bone than in the lower fill. The cremation (6403) was of a child of perhaps 2–5 years (Mays SS4.7.4). In the lower fill, charred plant remains were mainly of tubers and grasses, with some blinks and plantain, and charcoal was of oak, hazel, alder or hazel, and ash. In the upper fill, charred plant remains were again mainly of tubers (including three fragments probably of onion couch grass) and grasses, this time with knotgrass, black bindweed and dock, as well as blinks and plantain. Indeterminate tubers from the lower fill are dated to *1390–1160 cal BC at 95% probability* (3005±35 BP; OxA-7948).

F30440 was 0.40m in diameter and survived to 0.16m deep. It was filled with a dark grey (10YR 4/1) plastic clayey loam (30440) with cremated bone (6404), 5% pebbles, 2% charcoal and 1% burnt stone. A 100% sample was taken, but was lost at the time of excavation (J Humble pers comm).

Phase 9 Disturbed and eroded mound

Context 30004/30040

Context 30004 (numbered 30040 over the centre of the barrow) consisted of a dark brown sandy loam with a 10%–15% gravel content. It was dug in spits, with each spit assigned a separate number. 30004 was thus divided into 30005, 30011 and 30021; and 30040 divided into 30038 and 30041. Furthermore, a number of finds were allocated context numbers and were recorded as subdivisions of 30004. These were bone deposits 30007 (one animal longbone – AOR 14889) and 30008 (two animal longbones – AORs 14890, 14915), and stone clusters 30009, 30010, 30013, 30014 and 30020.

At the centre of the barrow, 30004/30040 directly overlay the truncated first mound. It also extended outwards over the truncated mound enlargements and all three ditches, petering out just beyond the outer ditch. The upper spits were badly animal-disturbed, the lower ones less so, and the contained artefacts were multi-period, including a small amount of Iron Age pottery, over 4 kg of Roman sherds, just 7g of Saxon pottery and over 1 kg of medieval ones, fired clay slingshots, and iron objects (Table SS1.14). Two Collared Urns, had, however, survived *in situ*, although not intact, within it (phase 3.3), so that it must have consisted of mound material, however much disturbed and spread. The truncation of the stratigraphy beneath it (Figs SS1.113–16) indicates that it was spread by the plough as the top of the

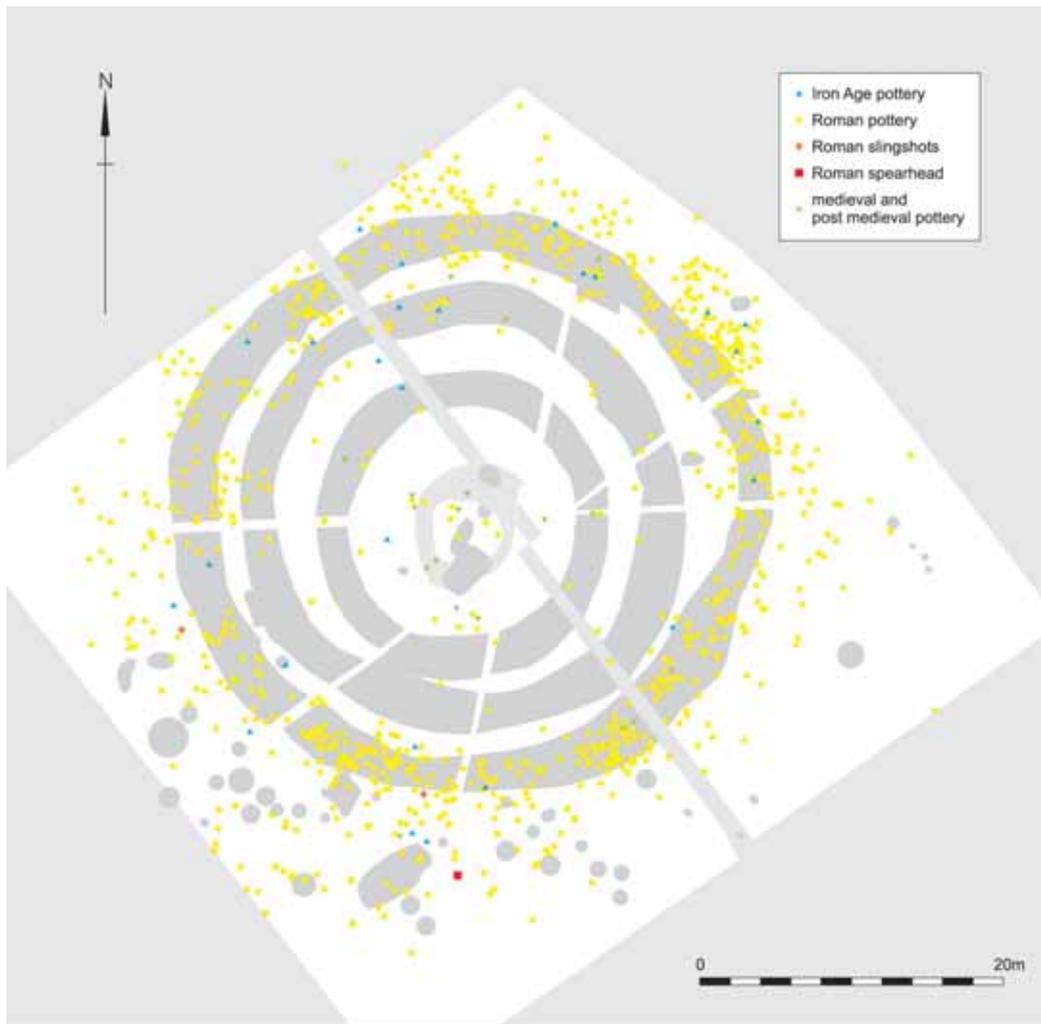


Figure SS1.122

Barrow 1.

Distribution of Iron Age pottery (blue triangles), Roman pottery (yellow circles), Roman slingshots (brown lozenges), Roman spearhead (red square) and medieval and postmedieval pottery (green inverted triangles).

monument was reduced. Some of the animal bone in this horizon may have derived from the cairn, although this is unlikely to be true of species not represented there (Table SS1.14). Apart from the later finds, there were over 1500 pieces of struck flint (Table SS1.14; Ballin SS3.7.6), suggesting that the knapping which generated the scatter in the top of the middle ditch had indeed taken place on the mound. Of four unspecialised barbed and tanged arrowheads, one (AOR 18399) was near the centre, the others at various locations over the outer ditch (AORs 14683, 14700, 15167; Ballin SS3.7.6 Figs SS3.54–55: 153–4, 157); all but one were broken, and they could conceivably have derived from vanished burials, as might two plano-convex knives (AORs 14380, 15240).

Stone clusters

Two of the stone clusters, 30009 and 30014, proved to be parts of the top of the cairn.

The other three, however, were beyond its southern limit, close to cremation F30017. The largest, 30013, occupied an area *c* 1m x 0.50m and consisted of limestone slabs with a maximum dimension of up to 0.30m piled up to three high and grouped with three fragments of animal bone. 30010 consisted of three small slabs of burnt limestone possibly associated with a tooth fragment. 30020 was made up of three slabs and a smaller fragment probably associated with fragments of animal bone. These clusters may have been rearrangements, deliberate or fortuitous, of parts of the cairn.

Phase 10 Undated and natural features beyond the barrow

Numerous features were found in the area around the barrow, especially to the south where a larger margin had been stripped (Fig SS1.99). Most were undoubtedly natural, and many seem to have been treeholes. They

Table SS1.14. Barrow 1. Summary of finds

* = recorded, but unidentified or missing

Lithics are of flint

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Context</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Other artefacts</i>	<i>Charred material</i>	<i>Soils</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
0 Pre-barrow soil	30428		*	Burnt or hardened soil	Core, core rejuvenation flake, 3 blades, 7 flakes, 1 misc. retouched		Hazelnut shell, indet. tuber	Clay loam soils, with features suggesting burning, trampling and dunging		
2.1	30476	Adult male skeleton	Pig: unfused L distal femur epiphysis Cattle: L and R maxillae, 2 loose upper molars	Style 3 Beaker (E; P85)	Core rejuvenation flake, 5 flakes, triangular arrowhead, 2 knives, 2 scrapers, dagger, 1 misc retouched. Slate 'sponge finger' Elongated chalk object Langdale tuff wristguard	Amber ring, 5 V-perforated jet buttons, 3 split and ground cattle ribs, boar tusk	Oak plank chamber, partly charred	Burial	3681±47 (UB-3148) on skeleton 3775±45 (OxA-7902) on oak sapwood from chamber 4100±80 (OxA-4067) on boar tusk with burial	2200–1920 2400–2030 2890–2460
Upcast from grave	30418		*							
Backfill of grave	30467		Cattle: 2 premaxillae, scapula, 3 vertebrae, petrosal, tooth							
2.2 Cairn			Domestic cattle: c 185 skulls, much smaller number of mandibles, scapulae and pelves Aurochs: horn core, 5 teeth, ? 2 scapula Pig: a few upper tooth rows Dog: parietal fragment and palate						4040±80 (OxA-2085) on aurochs tooth 3810±80 (OxA-2086) on aurochs tooth 3610±110 (OxA-2084) on domestic cattle tooth 3810±80 (OxA-2087) on domestic cattle tooth	2880–2340 2470–1980 2290–1680 2470–1980

3.2 First mound		Domestic cattle: 39 upper teeth, 8 lower teeth, horncore, 13 petrosals	2 sherds/2.5g Beaker, inc P79 (E, MT)	Core, core rejuvenation flake, 19 flakes, blade, barbed and tanged arrowhead (34098)			
3.3 Secondary burials	30012?	Cremation ploughed away, if ever present	Truncated mouth and neck of large tripartite Collared Urn, P92 (G)	2 flakes			
	F30017	Cremation of an adult, possibly male, and a child of 13–14 yr	Truncated body and collar spall, probably from large tripartite Collared Urn, P91 (G) 2 sherds/15 g R-B recorded as from 30018 (fill of 30017), but co-ordinates do not tally. May have been intrusive in cremation, or may have come from elsewhere	Bronze dagger * Antler pommel Perforated bone pin	3520±40 (GrA-22378) on cremated bone	1950–1730	
	F30449	Male skeleton, c 20–30 yr *		2 flakes, 1 misc. retouched in 30550 (topmost fill)	Perforated bone pin	3504±38 (UB-3147) on skeleton	1940–1690
4 Inner ditch fills		Cattle: 2 teeth, metacarpal *		Interface of 30411 and 30399: cluster of core, 12 flakes, blade, some refitting. Elsewhere: 6 cores, non-bulbar fragment, 17 flakes, 1 blades, serrated blade, chisel arrowhead, notch, scraper, 1 misc retouched	Iron object in topmost fill		
5.2 Second mound		*	*	8 cores, 3 non-bulbar fragments, 6 core rejuvenation flakes, 49 flakes, 3 blades, knife, 2 scrapers, 1 misc. retouched			
6 Middle ditch fills			*	4 cores, 2 non-bulbar fragments, 16 flakes, 1 blade, 1 misc retouched			

Phase	Context	Human remains	Animal bone	Pottery	Lithics	Other artefacts	Charred material	Soils	¹⁴ C BP	Cal BC
7.2 Bank and/or third mound (all from 30227 and its sub-divisions, ie from possible third mound)				2 sherds/12g Roman *	22 cores, 24 non-bulbar fragments, 5 core rejuvenation flakes, 151 flakes, 13 blades, denticulate, 4 misc retouched					
8.1 Flint scatter			Cattle: tooth	13g Iron Age 179g Roman 32g medieval	62 cores, 259 non-bulbar fragments, 14 core rejuvenation flakes, 1312 flakes, 70 blades, 3 denticulates, 3 notches, 2 borers, 8 scrapers, 57 misc retouched	2 Iron objects, 'stone' Fired clay				
8.2 Outer ditch fills			Cattle: tooth	45g Roman in topmost fill	141 cores, 57 non-bulbar fragments, 10 core rejuvenation flakes, 440 flakes, 28 blades, transverse arrowhead fragment, 2 barbed and tanged arrowheads, 15 scrapers, 2 knives, 8 notches, 6 borers, 3 denticulates, 47 misc retouched					
	F30255		'bone fragment'			Fired clay fragment	Lesser celandine, blinks, onion couch grass, indeterminate tuber			
8.3 Peripheral cremations	F30030	Cremation of younger child, perhaps c 2-6 yr		1 sherd/2g Roman	Burnt flint	Iron hobnail	Medicago, indet legume, plantain, onion couch grass, indet tubers, indet grass, wheat, cereal Charcoal: rose, maple, ash		2950±50 (OxA-3089)	1370-1000 on onion couch grass tubers
	F30305	Cremation of younger child, perhaps c 2-10 yr				'Unidentified material (decayed pot?) in middle to lower fill'	*			
	F30307	Cremation of younger child, perhaps c 2-5 yr					Blinks, indet legume, knotgrass, black bindweed, dock, plantain, onion couch grass, indet grass, indet tubers Charcoal: hazel, hazel or alder, oak, ash		3005±35 (OxA-7948)	1390-1120 on charred tubers
	F30440	Cremation lost								
9 Disturbed/eroded mound			Cattle: ?tibia shaft fragment, 20 teeth, 2 pelvis fragments,	2 sherds ?Neolithic or early Bronze Age 70g Iron Age	166 cores, 28 core rejuvenation flakes, 176 non-bulbar fragments, 1527 flakes, 90 blades, burin, 2 microliths, 4 barbed and	24 iron objects, inc 5-6 horseshoes, 8 nails, R-B padlock 2 R-B fired clay				

petrosal, Horse: 3 teeth, metacarpal shaft Caprine: 3 teeth, humerus shaft fragment	4.127kg Roman 7g Saxon 1.076kg medieval	tanged arrowheads, serrated blade, slingshots 17 scrapers, 2 plano-convex knives, 11 notches, 7 borers, , 3 denticulates fabricator flake from ground axehead, 54 misc retouched	Black bindweed, dead nettle, onion couch grass, keel-fruited cornsalad, brome grass, oat, wheat, indet. cereal, indet tubers
10 Undated and natural features beyond barrow		2 cores, 3 non-bulbar fragments, 2 blades, 9 flakes	
11. Later 30001, activity 30003, etc	Cattle: 12 teeth, humerus fragment, pelvis fragment Horse: 3 teeth Caprine: 5 teeth, radius fragment, astragalus	36g Iron Age 2.159kg Roman 4g Saxon 76g medieval 16g postmedieval	13 iron objects, inc washer, 3 nails, 4 horseshoes, knife, 1st or 2nd century AD spearhead 3 Cu alloy objects, inc brooch and C19 coin Silver coin or token Slag fragment 5 clay pipe fragments Tile fragment
Unstrat- ified and miscell- aneous	*	2 cores, 7 non-bulbar fragments, 31 flakes, 2 blades	

could date from any period up to the onset of alluviation. Among the probable treeholes and other natural hollows, small quantities of struck flint were found in F30063, F30066, F30070, F30087, F30089, F30092 and F30105. Samples from F30028, F30101, F30105, F30116 and F30123 contained charred remains of black bindweed, dead nettle, onion couch grass and other tubers, keel-fruited cornsalad, brome grass, oat, wheat, and indeterminate cereal. Charcoal flecks were noted in F30109 and F30123.

F30059, F30081, F30112 and F30114 to the south of the barrow and F30259 to the north may perhaps have been postholes. There was a broken flake in F30259 and a sample from F30114 contained two charred tuber fragments, one of onion couch grass, the other unidentified (Campbell SS4.5.2). F30097, also to the south, may have been a pit.

Phase 11 Later activity

Romano-British pottery in 30004 and later contexts was predominantly of first century date and was confined to the area over and outside the outer ditch.

Alluvium universally took the form of 30001, a yellow-brown sandy clay with 20% gravel, sometimes underlain by 30003, a yellow-brown sandy clay with up to 30%–40% gravel. At the time of excavation it extended at most to the surface of the middle ditch, and did not cover the mound (Figs SS1.113–6). It is impossible to tell if a more extensive original covering was subsequently ploughed off. 30002, a brown sandy loam with up to 10% gravel, extended over the area of the mound, overlapping the inner edges of the alluvium, and seems to have been a combination of mound material and alluvium, displaced by cultivation. There were 4g of Saxon pottery. Here and in phase 9, medieval pottery (mainly thirteenth to fourteenth century), which was probably introduced by manuring at the time of this cultivation, extended all over the mound, while Roman pottery was concentrated around the edges (Fig SS1.122). These layers were associated with a number of small cut features in addition to F30255, for the most part of an amorphous and anonymous nature. The contrast between the elongated form of the mound recorded by contour survey (Fig SS1.99) and the almost circular monument subsequently excavated is likely to be an effect of cultivation.

Other finds included animal bone, struck flint, a quartzite pebble-hammer, and iron and copper alloy objects (Table SS1.14).

Noteworthy among these was the iron head of a Roman throwing spear or lance (AOR 13316), probably of the first or second century AD and surviving to over 0.30m long (Wardle SS3.3.3). It was found *c* 5m outside the south side of the outer ditch (Fig SS1.122), 'standing upright cutting through silt layer [30001] into the natural gravel'. It may thus have been in place, perhaps thrust into the ground with its shaft extant, before the Saxon alluvium was deposited around it.

3. Discussion of stratigraphy and phasing

Phase 2

The grave pit may have been deliberately situated at the point where there had previously been a large tree, following a pattern found in Barrow 6. It is not possible to be certain regarding the time lapse between the tree hole and the pit, although the difficulty in cutting a pit through a still-fresh root system might argue for its having already considerably decayed. The most plausible explanation for the presence of fragmentary timbers on the sides of the central area of the pit is that 30467 was backfilled around a plank-built wall. Contexts 30467 and 30418 are both thought to represent the material excavated to form the burial pit, 30467 having been backfilled around the wooden structure, 30418 having been left around the periphery of the cut, later to be sealed by the cairn.

Of major importance in any discussion of phase 2 is the question of time lapse between the construction of each of its constituent parts. The disarticulated, yet substantially complete, skeleton might suggest that the cairn was constructed after the mortuary structure, during which time the burial suffered animal disturbance. It could even be argued that the accessibility of the skeletal material could have been deliberate, allowing for its periodic removal. More economically, displacement is likely to have resulted from the collapse of the timber structure, after tendons and ligaments had already decayed.

The cairn, whenever its construction began relative to the construction of the pit and mortuary structure, may even itself not have been of a single constructional phase. Its two deposits, one of bone and one of stone, could represent two phases of activity, or the material may have been brought to the

site in stages, perhaps over a long period. Already old material was placed in both the grave and cairn, in the form of a boar tusk and an aurochs tooth both hundreds of years older than the burial (SS6). A single-phase mound derived from the excavation of the inner ditch is considered the most convincing. This is not contradicted by the constructional sequence of the mound.

Phases 3–7

The fact that the cairn is central to the inner ditch implies possible continuity between phases 2 and 3.

It may be significant that the middle ditch was slightly eccentric to the north-west from the inner ditch, whereas the outer ditch bulges out somewhat to the east, a sequence of eccentricities also observed between the ditches of Barrow 6. The plan of the middle ditch strongly resembles that of the inner ditch of Barrow 6, albeit rotated clockwise by *c* 235°. In view of these and other similarities between the two monuments, the possibility that there was some common purpose or design strategy cannot be disregarded.

The timespan between the cutting of the inner and middle ditches cannot be ascertained with any accuracy. It must have been of considerable duration, as not only had the inner ditch completely silted by the time the expanded mound was built over it, but a soil had also formed in its top. The asymmetrical upper gravel fills of the middle ditch almost certainly derived from a bank built of upcast from the outer ditch.

The initial construction of the monument is dated to 2140–1800 *cal BC* at 95% probability, and two of the peripheral cremations to 1390–1140 *cal BC* at 95% probability and 1390–1160 *cal BC* at 95% probability (SS6). One of these, F30030, can be related to the successive enlargements and modifications of the monument, and seems to have post-dated them all, since it was cut into the upper gravel fills of the inner ditch which almost certainly consisted of upcast from the outer ditch. The interval between this event and the final expansion of the barrow is unknown.

In the early Roman period, the combination of a spearhead inserted into the ground, two clay slingshots, and contemporary pottery strongly suggests ritual rather than or as well as simply agricultural activity. The location of the spearhead echoes that of an iron sword of comparable date found outside the south-east side of the outer ditch of Barrow 3, where contemporary pottery was also present (SS1.14).

4 Resource estimate

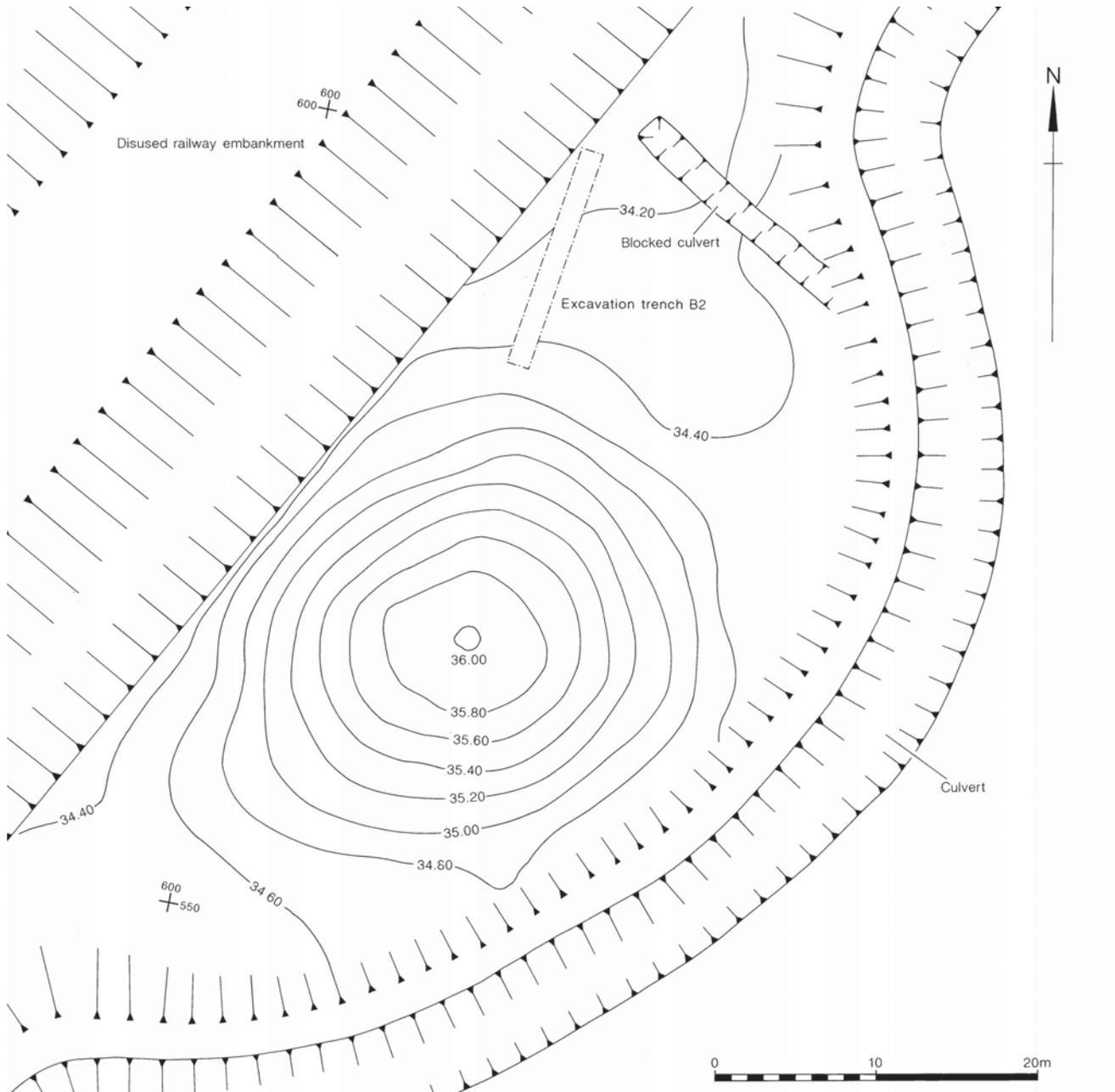
Phase 2 Grave Pit and Cairn

As stated above, there is some uncertainty regarding the time lapse between the constituent parts, and even the cairn may not all have been of one construction, perhaps having been added to over a long period. In view of the considerable doubt regarding which parts of the cairn were constructed at any given stage, labour or time estimates may be misleading.

Phase 3 Construction of the mound and inner ditch

The primary mound over the cairn and central feature extended *c* 12m north-south by 13m east-west and survived to a maximum height of 0.30 m. It is possible that this phase was actually split into two, with an initial mound of topsoil and turf, which was later enlarged, upon the cutting of the ditch, by material from the latter. The estimated capacity of the inner ditch of 91.65 cu m would have required 134.78 hours of labour

Figure SS1.123
Barrow 2.
Contour survey and
location of 1985
evaluation trench.



by a team of three or 404.34 hours in total. The spoil was mounded within the enclosure so no extra time for its removal need be considered. Labour estimates for the mound would naturally depend on whether all the material came from the ditch, or whether extra turf had to be imported, and from where.

Phase 5 Barrow enlargement and middle ditch

The estimated capacity of the middle ditch of 135.52 cu m would have required 199.29 hours of labour by a team of three or 597.87 hours in total. The spoil was mounded within the enclosure so no extra time for its removal need be considered. It appears that the spoil may have been concentrated mainly in the central part of the mound, but due to disturbance neither this, nor the full height of the original mound, can now be reconstructed.

Phase 7 Barrow enlargement and outer ditch

The final enlargement seems to have taken the form of a bank. The estimated capacity of the outer ditch of 207.6 cu m would have required 305.29 hours of labour by a team of three or 915.87 hours in total. The spoil would appear to have been heaped near the inner edge of the ditch, so did not require extra time for its removal.

SS1.13 Barrow 2

Aidan Allan, Stéphane Rault and Jon Humble

Abstract

Barrow 2 was located on Irthlingborough Island, immediately to the west of the ARC plant compound, against the disused railway embankment. It is recorded only in a contour survey and a geophysical survey. A trial trench was dug to the north of the barrow, but only through the topsoil. It was decided to preserve the barrow with no further excavation.

1 Location and excavation

Barrow 2 (NGR SP 96624 71418) had been recorded by David Hall (Hall and Hutchings 1972, 2, 14, fig 2). During the 1985 evaluation season of fieldwork, a trial trench measuring 14m NNE-SSW by 1.5m WNW-ESE was cut adjacent to the northern edge of the barrow, but only through the topsoil, with no disturbance of the archaeological

levels (Garwood 1985). Since the barrow was not at risk from quarrying, it was scheduled (SAM 13667) and not excavated. Four flint flakes, a borer, two miscellaneous retouched pieces and 40g of first to early third century Roman pottery were recovered.

2 The recorded evidence

The barrow was contour-surveyed, and proved to possess the tallest remaining mound at Irthlingborough (surviving to approximately 1.20m, Fig SS1.123). In its present, unexcavated form, the monument measures *c* 33m by *c* 28m, although of course this figure may be an inaccurate reflection of the original extent of the mound, due to slumping. It survived as the tallest of the Irthlingborough barrows, and appears possibly to have been slightly wider than Barrow 3 in diameter, although *c* 15% smaller than Barrow 1.

Geophysical survey in 1995 recorded a surrounding ditch approximately 25m in diameter, a possible inner ditch, possible gravel capping and an irregular central anomaly which may have been a grave or an undocumented excavation (Payne SS5).

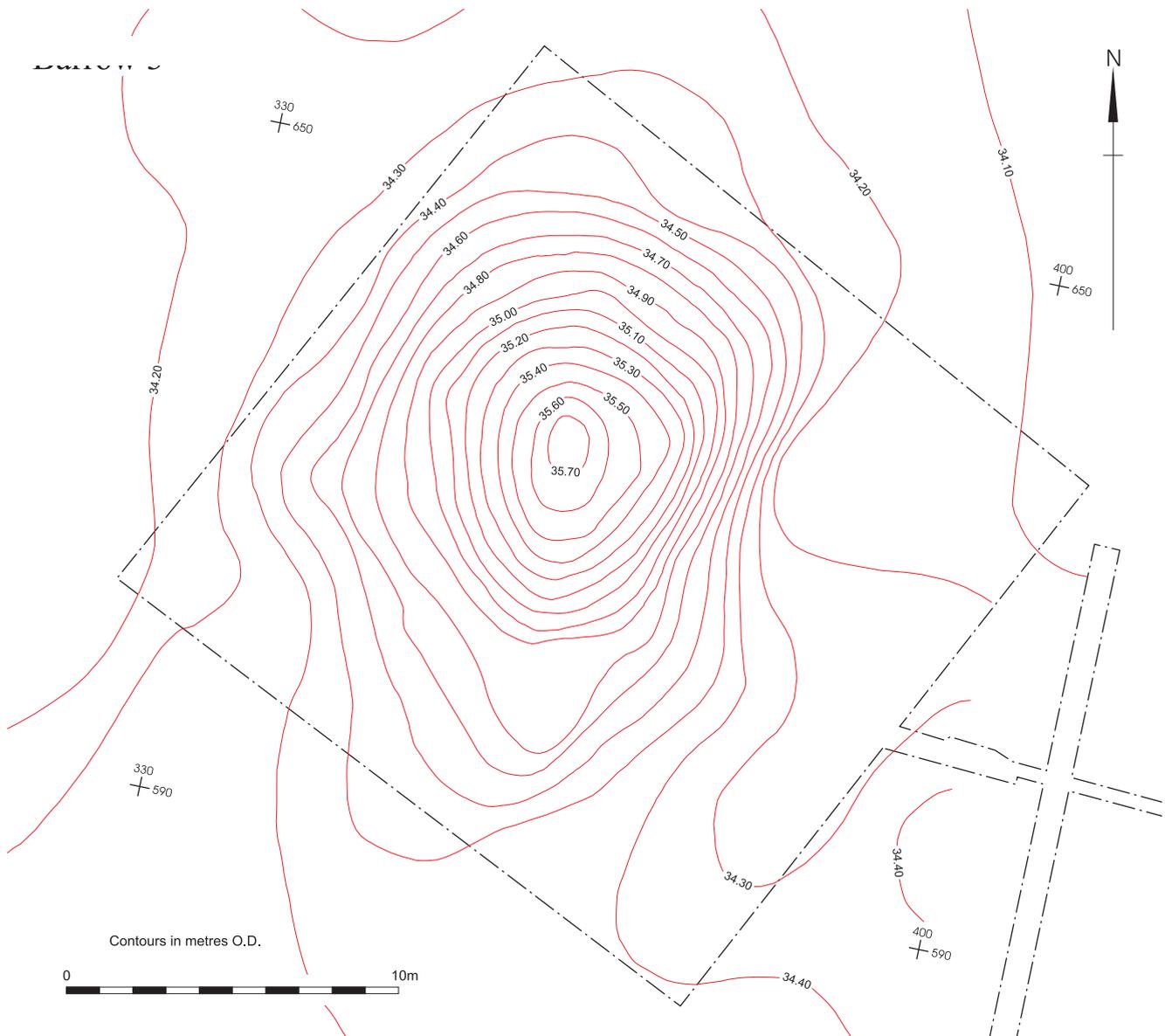
SS1.14 Barrow 3

Aidan Allan, Stéphane Rault and Jon Humble

Abstract

The most unusual feature of this monument was the post settings beneath it. These resolved themselves into three eccentric pairs of concentric circles, a further circle within the enclosed area, and perhaps the remains of two further rings inside. The innermost circle enclosed an area 4.18m in diameter, and the outermost an area 18.56m in diameter. There was strong evidence that the centres of the circles were deliberately sited in relation to one another, at set distances and along known bearings. A few postpipes and post-holes extended into the body of the mound.

The initial construction of Barrow 3 consisted of a circular ditch 28–29m in diameter, enclosing the earlier post rings, which may not all have existed simultaneously. The ditch was 1.40 to 2.40m wide, and at least 0.30m–0.40m deep, truncated by a later recut. The ditch was discontinuous, with a causeway to the north-west. The spoil was deposited in the centre of the enclosure, forming a mound, which was later enlarged



with the spoil from a recutting and enlargement of the ditch which extended around only part of the circumference. Two unaccompanied cremations were inserted at different stages in the mound's construction, during the most recent of which limestone fragments were incorporated in the central area, many of them grouped in clusters, one of which included human bone.

1 Location and excavation

Barrow 3, which was first recorded by David Hall (Hall and Hutchings 1972, 2, 14, fig 2), was centred at SP 96388 71516, near the centre of Irthlingborough island. It was the subject of three seasons of excavation by the

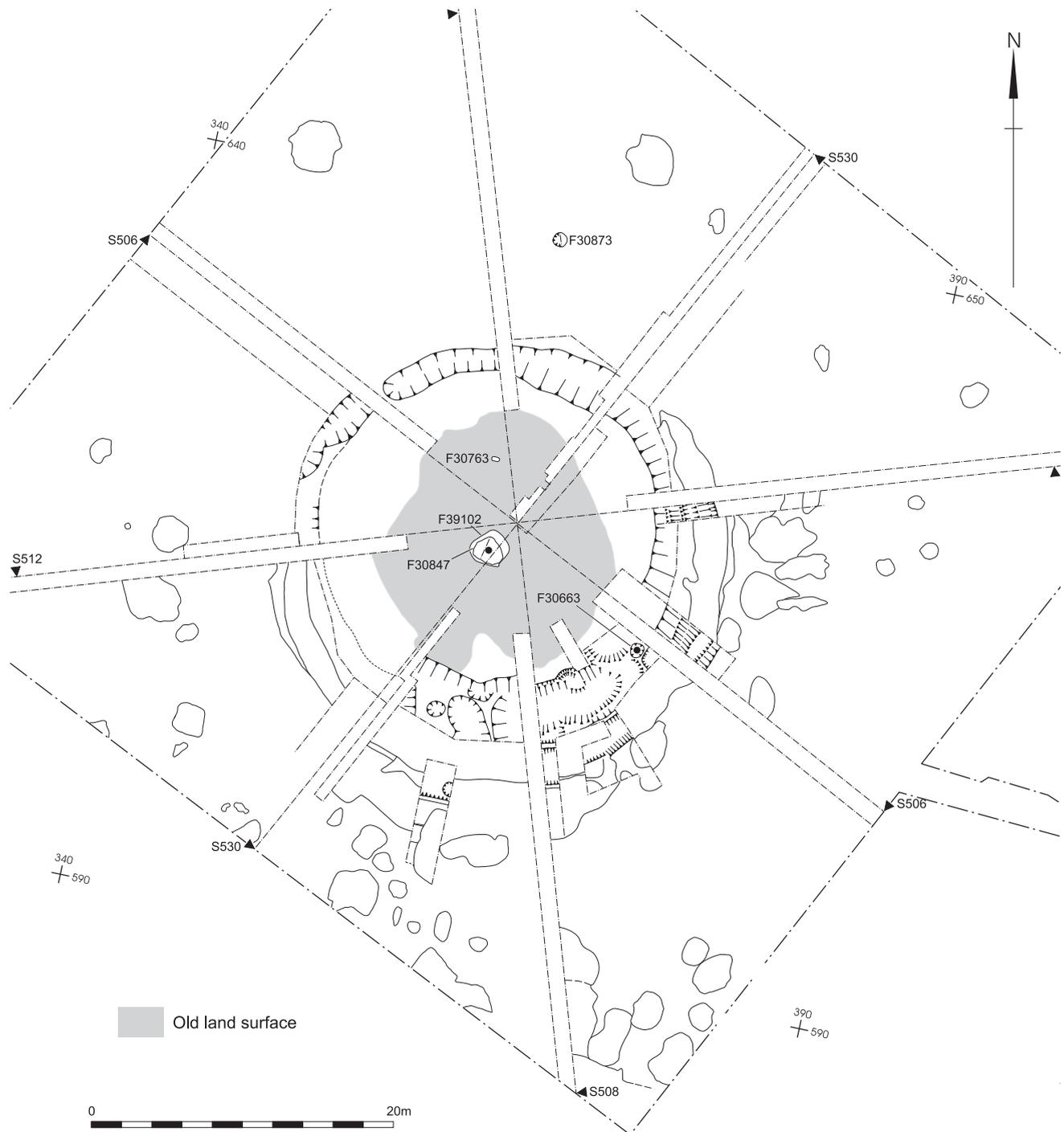
Central Excavation Unit of English Heritage as part of the Raunds Area Project. The first was in 1985 when Paul Garwood evaluated this barrow and other monuments on the island (Garwood 1985, 15). The main excavation was in 1987 when Claire Halpin directed the area excavation of the barrow in advance of gravel extraction (Halpin 1989, 7). An area measuring *c* 53m north-south by *c* 51m east-west was totally excavated, except for radial baulks which were left to provide sections, and for environmental purposes (Fig SS1.125). Finds were generally recorded in three dimensions. The area remained largely intact until the following year, which allowed further work to be carried out on the sections.

SS1.124
Barrow 3.
Contour survey and extent
of excavated area.

Excavation was made difficult by the relatively high degree of animal disturbance, severe in the upper mound and extending to the old land surface beneath. Recent burrows, identifiable at the time of excavation, are shown on the sections, but persistent difficulties in interpreting the stratigraphy, both in the field and during analysis, are probably

due in large part to the activities of past generations of rabbits whose burrows were no longer distinguishable. Rabbit burrows were concentrated in two hedgerows flanking a track which crossed the mound. The track itself had caused erosion and probably contributed to the ovoid form recorded by the contour survey (Fig SS1.124). Some of

SS1.125
Barrow 3.
Overall plan.





SS1.126
Barrow 3.
Mound under excavation,
June 1987.
(Photo English Heritage)

the numerous hollows beneath and beyond the mound appeared to be parts of the barrow ditches and figure as such in the context record. Topsoil was removed by machine. Four baulks were laid out, crossing the entire area and intersecting at the centre to provide eight radial baulks (Fig SS1.125). Sample transects 1m or more wide (30601–30607) were cut by hand along each radial baulk to record the density of finds and assess the disturbance and/or preservation of the stratigraphy. In four of the transects a 1 m-square sample from each layer was sieved. The top-most mound material (30639) was excavated in four spits (30631, 30637, 30651, 30658) within the transects. Once this was done, 30639 was removed from the areas between the transects by machine. Once the surface of the underlying layers was cleaned and planned most of the radial baulks were cut back from the centre. Excavation of the central area then proceeded by hand. The transects extended into the pre-mound soil, removing some of many postholes in it, which were recognised only when the mound was removed. Many contexts were recognised only when sections were drawn and were not numbered in the field. Context numbers starting with '5' were allotted during post-excavation.

2 The excavated evidence

Phase 0. Natural stratigraphy

The soil sealed by the mound consisted of a red-brown sandy loam with up to 1% pebble content and was generally between 0.20m

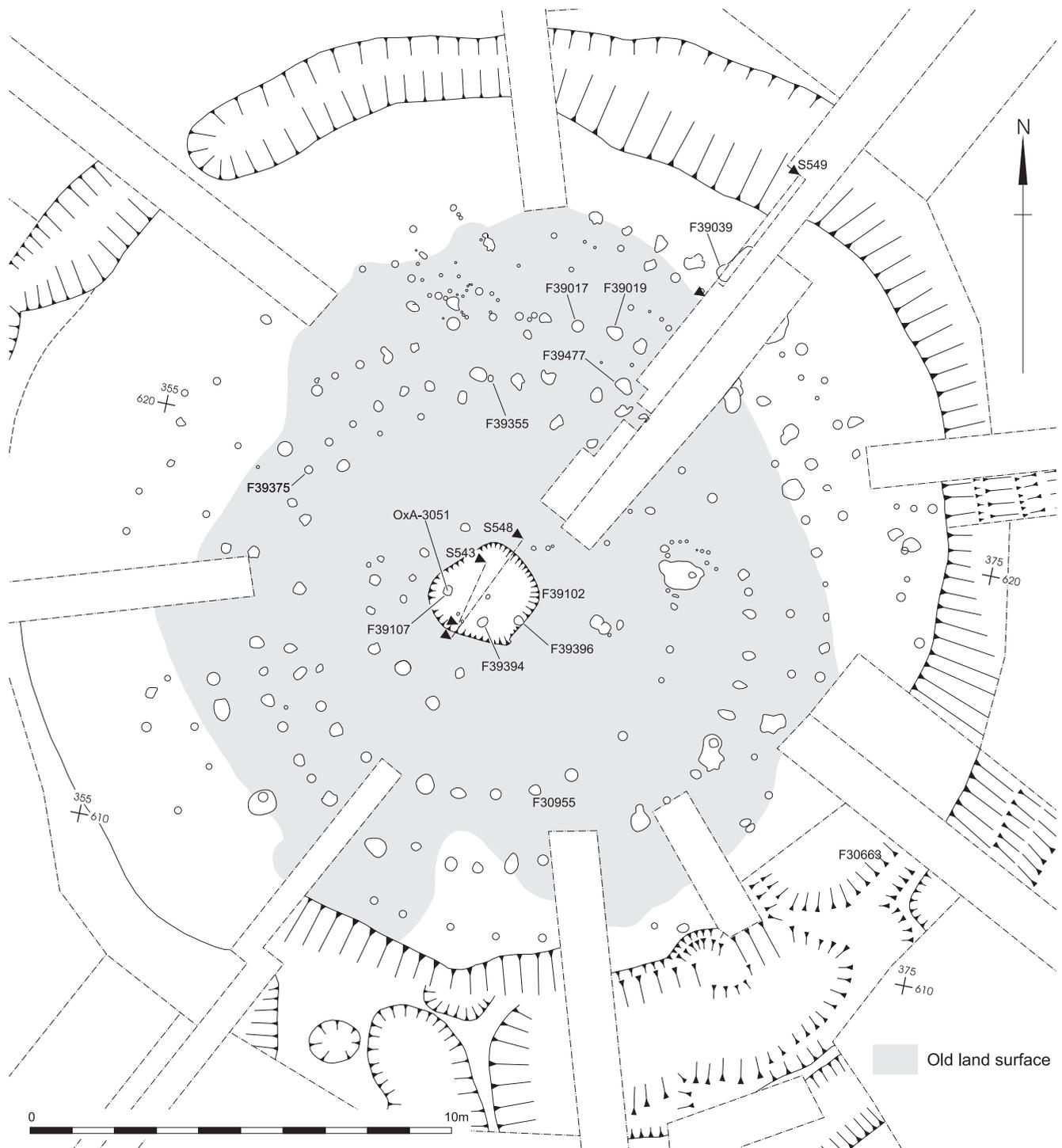
and 0.30m deep. It was variously numbered: 30887, 58117, 58118, 58119, 58120, 58121, 58122, 58187 and 58204 and overlay the natural sands and gravels (30888). A subsoil was present both inside and outside the area of the later mound (outside this area it was, of course, not associated with a buried horizon). Associated features were also present and are thought to be natural, either geological in origin, or treeholes, or having occurred as a result of animal activity. There were also numerous probably natural features of unknown date outside the mound. One complex of hollows, probably treethrow holes, at the south-east side of the barrow may have been cut by the outer ditch (Fig SS1.138). A very small quantity of struck flint was found in the pre-mound soil (Table SS1.15).

The pre-mound soil was gleyed and marked by successive iron pans which incorporated grass phytoliths and were interleaved with loamy sand soils rich in phosphate. The soils were disturbed and mixed, and had been dunged and trampled (Macphail SS4.8.2).

Phase 1. Pre-barrow activity

Central feature

There is confusion as to the stratigraphic position of F39102, described in the context record as 'large roughly circular cut in centre top of mound', which reads as if it was cut through the already complete mound. The same context record, however, describes it as cutting only the underlying old land surface, and describes its upper and main fill as underlying 30799, the lowest layer of the mound. Section S530 (Fig SS1.135) shows



SS1.127
Barrow 3.
Postholes and other features
beneath the mound.

no cut or break here in the upper part of the mound, although the lower part was obscured by a baulk which was removed only later (Figs SS1.125, SS1.127). Furthermore F39102 was planned with the features underlying the mound, and was not shown in plans drawn at higher levels. The record suggests that F39102 was cut before the

mound was built, a conclusion which Claire Halpin confirms (pers comm).

The feature itself was *c* 2.50m in diameter and up to 0.58m deep, steep-sided to the south-east and shelving elsewhere, with an irregular base in which there were several sub-circular hollows. The base was lined with iron pan and the lower fills were dark

reddish brown sandy loams mottled with iron panning, the main, upper fill a mottled dark brown silty loam with further iron panning. It may conceivably have been a treethrow hole.

Three postholes were cut into the fills (F39107, F39394 and F39396). The red-brown sandy loam fill of F39107 contained oak charcoal dated to 2140–1740 cal BC (3590±70 BP; OxA-3051). These were the most central of many postholes beneath the mound.

Posthole rings

When the mound of Barrow 3 was removed, a minimum of 246 post- or stakeholes were planned and recorded as cutting the pre-barrow land surface. 33 postpipes could be added to this number, and several of the larger pits, such as F39013 or F39006, may have originally held more than one post, to judge from their morphology. A number of clear circular arrangements could be observed, varying between *c* 9m and *c* 19m in diameter. There were other posthole groups, at least some of which appeared to have been related to the rings. The plan is incomplete because parts of some baulks remained in position and because some postholes were removed during the hand-excavation of transects at an earlier stage in the excavation.

There was a small number of postholes not directly related to the rings, including a

cluster of small stakeholes in the northern part of the group.

It is difficult to reconstruct how many posts deviated from the vertical, due to the small number of sections. Several postholes were described as angled in the context records. For example, F39002, F39004, F39013, F39041 and F39196 were described as being angled away from the centre of the monument, the small stakehole F39066 was listed as sloping to the north (at right-angles to the centre), and two other small stakes close together, but not forming part of any of the circles (F39068 and F39069), were described as pointing towards the middle of the monument. The context records were not always borne out, however, where sections were available. F39075, for example, was not shown angled in S547; and F39027, described in the context records as ‘heavily angled to the north’ because ‘the lower part was removed in half-sectioning’, was shown in S573 as nearly vertical, and extending almost to the bottom of the posthole. In view of these contradictions in the few cases where cross-referencing of records is possible, and the absence of discernible pattern amongst ‘angled’ posts when plotted, little can be inferred from the locations of non-vertical postpipes.

There was no clear distinction in the size of postholes and postpipes between alignments. The postholes were between 0.04m and 1m in diameter, clustering between



SS1.128
Barrow 3.
Postholes and other features
beneath the mound.
(Photo English Heritage)

SS1.129

Barrow 3.

Central feature F39102.

(Photo English Heritage)



0.15m and 0.60m, and between 0.02m and 0.52m deep, clustering between 0.08m and 0.35m. The postpipes were between 0.05 and 0.20m in diameter, clustering between 0.05 and 0.15m, and 0.05 to 0.80m deep, clustering between 0.12m and 0.40m. Where their profiles were recorded they were generally pointed, although some were rounded or squared.

No post- or stakeholes or pipes were identified in the body of the mound while it was being excavated, and most of those that fell on sections through the mound were indeed sealed by it, like those at the base of section S508 (Fig SS1.138). The mound sections do, however, show at least one postpipe approximately 0.12m in diameter extending through the lower part of the mound (un-numbered in the central part of S530, Fig SS1.135). Postpipe 30941, 0.12m in diameter and attributed to the outermost ring of posts (F2 in the sequence described below), is described as running through lower mound material 30799, which sealed posthole F39039 in which it was set. The section, however, could be read as showing the posthole also extending through the lower mound (Figs SS1.131, SS1.137). This is unambiguously the case with posthole F39477, the postpipe in which was approximately 0.17m in diameter (Figs SS1.135–36). A feature filled by 58015 at the south end of section S508 also cut the first mound and may have been a posthole (Fig SS1.138). If one or two stakes or posts extended through the mound, and one or two postholes were cut through the mound, then comparable occurrences away from sections may have gone unnoticed, especially as the dark yellowish brown sandy loam fills of

the postholes were very similar to the matrix of the lower mound. F39039 and F39477 may provide evidence for ring F2 having been one of the latest, although it must be noted that the postpipe of F39039 lay 93mm outside the line of the ring to the north-east, although the posthole lay on it. Alternatively, a handful of posts may have been inserted into the edge of the mound at a later date, with no relation to the former settings beneath.

The geometry of the post rings Stéphane Rault

The rings for which the geometry could be reconstructed with precision were circular, based around six centre-points (Fig SS1.130). Seven definite rings were discernible (C, D1, D2, E1, E2, F1 and F2), between *c* 9.30m and 18.60m wide, based around four central points, of which the exact north-west/south-east orientation between C and D1/D2 suggested that these may have been set out contemporaneously. It is possible that ten further postholes in ring C could have resolved themselves into two further circles (A and B), *c* 4.20m and *c* 6.00m wide. A maximum deviation of 10mm from the imaginary line of the circle to the posthole was decided upon for attribution to a particular ring. Distances and bearings used in the text have been taken from the main AutoCad plot drawn out by E Lyons, with additions by S Rault.

Ring A was a circle, *c* 4.18m wide, based around point A in the central part of the monument. This point lay on an exact north-west/south-east line between C and D, and was precisely equidistant between them (0.364m from each). Its constituent postholes were (clockwise from the north):

F39501; F39449; F39519; F39435 and F39431. The imaginary line of the ring passed directly through the surviving postpipes (F39449 and F39443 in F39435).

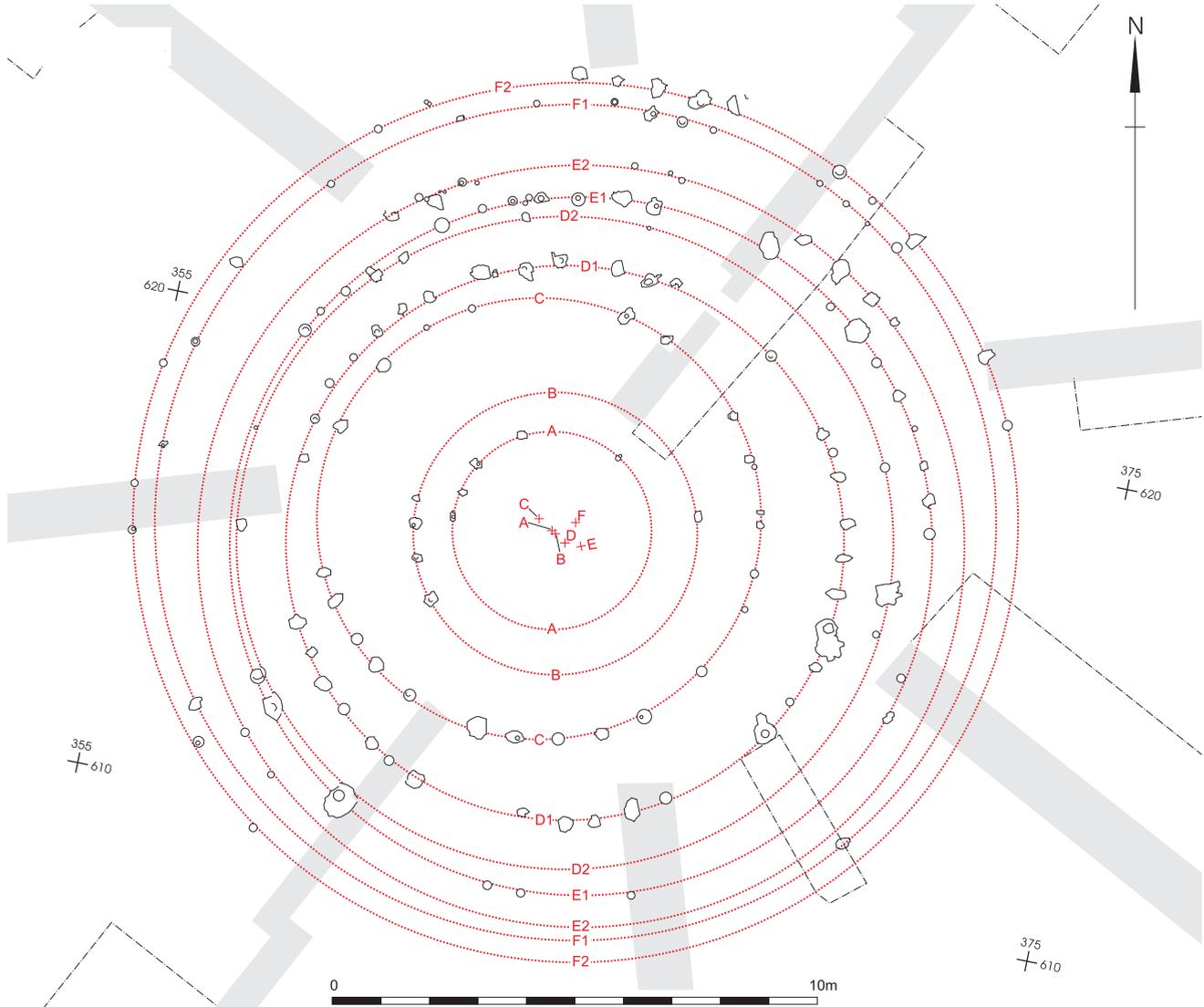
Ring B was *c* 5.97m wide, centred on B. B lay directly south-east of A, at a distance of 95mm. The postholes encompassed by this ring were F39077, F39284, F39446, F39442 and F39437. Again, the imaginary line of the circle passed through the centre of the surviving postpipes: F39282, F39444 and F39440.

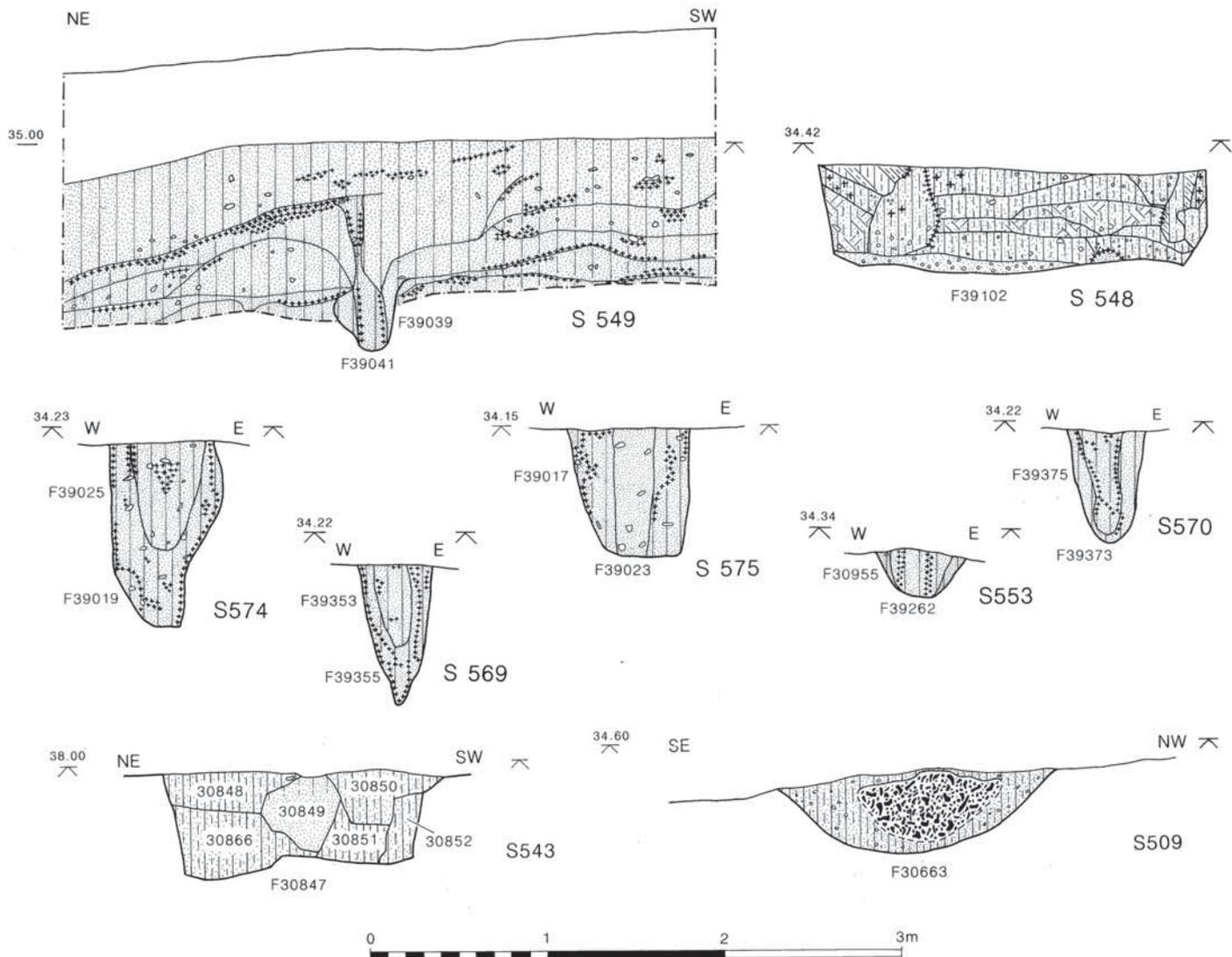
Ring C was the narrowest of the rings for which the geometry could be reconstructed with precision, due to the large number of posts involved along its perimeter, and greater width. It measured 9.33m wide, based around point C, which was at the north-west point of the imaginary line, 0.727m long, running through A and B, and

ending at D. Ring C included 24 surviving postholes, F39190, F39471, F39090, F39092, F39094, F39064, F39062, F39045, F39029, F39031, F390953, F390955, F39085, F39087, F39089, F39093, F39115, F39139, F39137, [an un-numbered posthole], F39377, F39388, F39421, and F39452. A distinct arrangement was present between postholes F39092 and F39062, where the gap was flanked, at its edges, by two much smaller holes (F39094 and F39064 *c* 0.10m wide). Between these latter, a large pit (F39071), *c* 1.50m long by 0.67m wide, contained a smaller pit/posthole (un-numbered), *c* 0.17m in diameter. A group of postholes, including two rows of three, surrounded this pit – these are described later in detail.

Ring D1, together with D2, formed the innermost of the surviving twin-circles, and

SS1.130
Barrow 3.
Reconstructed geometry of the post rings.





SS1.131
Barrow 3. Sections of
F39102, F30847,
F30663, F39039.

was centred on D which was located *c* 0.727m south-east of C, on the same line as A and B. The ring measured *c* 11.72m in diameter. Holes straddling the line were as follows F39355, F39208, F39204, F39188, F39456, [un-numbered cut], F30967, F39080, F30982, F39079, F30943, F39004, F39006, F39047, F39051, F39013, F39057, F39060, F39081, F39063, F39065, F39098, F39100, F39105, F39117, F39131, F39135, F39141, F39375, F39390, F39415, F39419, F39422, F39429 and F39351.

Ring D2, 13.81m wide, was concentric with D1, but consisted of far fewer surviving holes, possibly partly due to disturbance during a ?later refashioning involving the erection of ring E1, the perimeter of which it almost overlapped in the western quadrant of the circle, resulting in four post locations

being shared by the two rings, although three centred on E1, and one was probably a double posthole.

The postholes which survived as exclusively belonging to this ring were F39198, F39182, F39097, F39000, F39367, F39383 and F39427. F39425, in the northern part of the ring, appeared from its plan to have been a double cut, the eastern part of which centred around D2. F39002 lay 0.31m inside the perimeter line, and F39129 straddled both D2 and E1 although just favouring the latter. F39288 and F39127 extended across both D2 and E, but centred around the latter. Postpipe F39286, within pit F39288 exclusively belonged to E1.

Ring E1 consisted of a circle, 14.73m in diameter. Its centre-point, E, lay just north of ESE, when viewed from D, at a distance of

c 0.352m. As described for ring D2, several posts along the western quarter of the latter ring overlapped with the line of this circle. 27 postholes lay directly and exclusively on this circle (within the 10mm tolerance), to which should probably be added three of the holes overlapping with D2, as discussed above. Posthole F39507, lying 70mm to the south of the perimeter, may also have formed part of the ring. The holes directly on the line were as follows: F39200, F39212, F39194, F39017, F39019, F39021, F30918, F30914, F30975, F30935, F30936, F30984, F30986, F30949, F30988, F39011, F39509, F39511, F39513, F39515, F39411 and F39228.

The northern part of this circle marked the inner boundary for a discrete group of small stakeholes, mostly varying between 35mm and 0.10m. This group, described in detail further on, was sharply defined on its northern border by the inner edge of ring F1.

Ring E2, 16.08m in diameter, was more conjectural than the others, due to the small number of surviving postholes relative to the length of its perimeter. However, those which survive were distributed in clusters around the ring, suggesting that there may originally have been more, as in the case of D2.

E2, together with E1, was centred on E. Fifteen cuts were located along the perimeter, which ran through the northern stakehole group mentioned under ring E1. The constituent holes were F39168, F39164, F39162, F30925, F30916, F30910, F30912,

F39121, F39123, F39349, F58220, F39240, F39238, F39308, F39306, F39224 and F39218. 'Near misses' were F39166 (0.10m), F30933 (83mm), F39033 (72mm), F39359 (94mm), F39384 (43mm).

Ring F1 was centred, with F2, on F, which was located 0.51m from A, on a precise ENE bearing when viewed from the latter. This was almost identical to the distance (0.50m) from D, from which it was orientated just north of NNE. Seventeen postholes survived in ring F1, with a further three within 20mm of the circle, which measured 17.61m in diameter. The holes were F39178, F39174, F39156, F39045, F39043, F39160, F30899, F30902, F30979, F30906, F39035, F39520, F58225, F39400, F39401, F39341 and the northern cut of composite posthole F39242. F39172, F30908, F58223 and F39335 were the 'near misses'. It must be noted, however, that F39401, although it touched the line of the circle, had its centre 0.15m outside F1, which compared with the 0.20m from the centre of postpipe F58224 in hole F58223, and 0.17m from the centre of F30908 in the east of the monument. This suggests that the three latter may have contained posts bridging the gap between F1 and F2.

Ring F2 was the outermost of the surviving rings, measuring 18.56m in diameter, and based, like F1, around F. There were fifteen surviving postholes, with a northern outlier (F39170) missing the line by 23mm. If

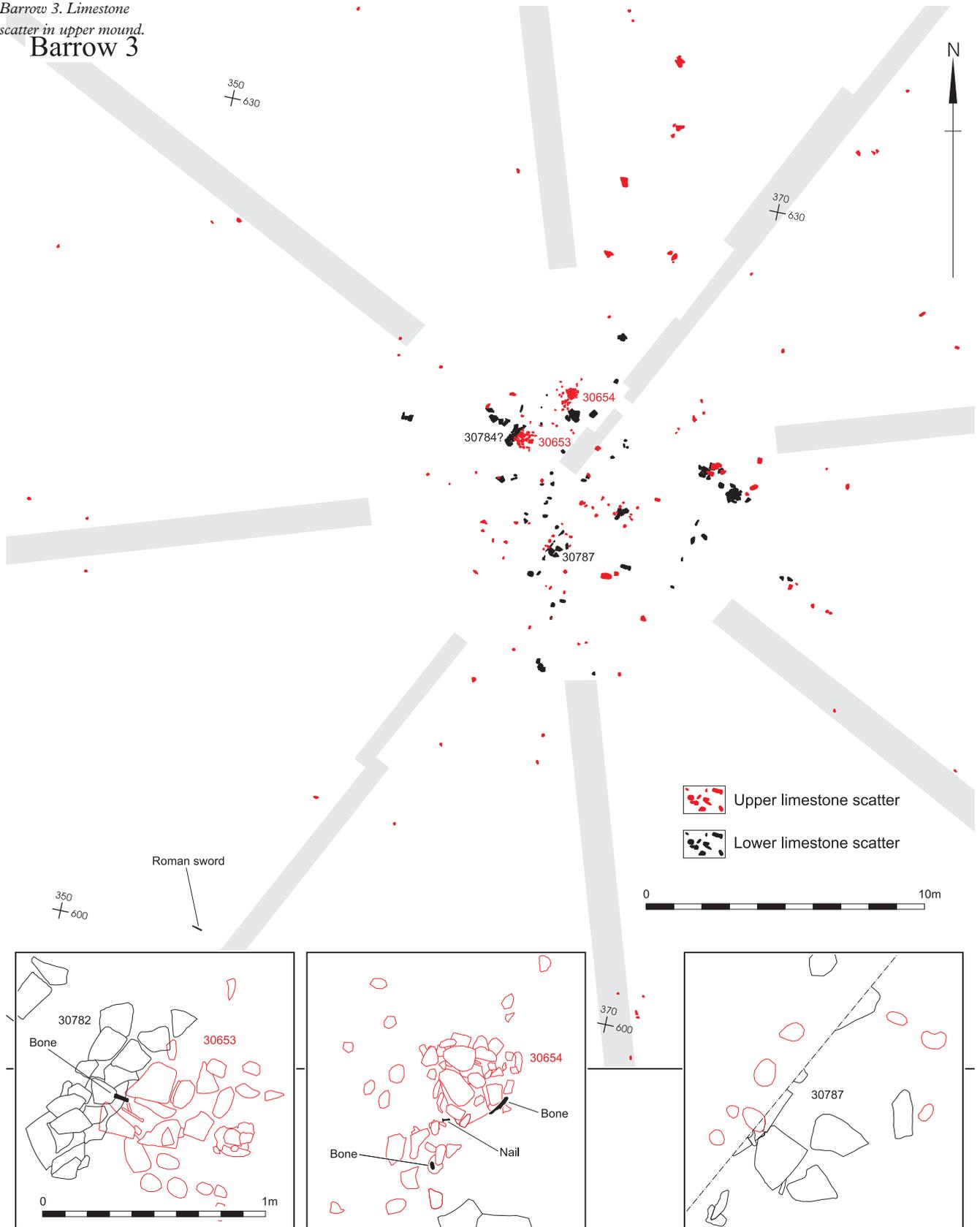
SS1.132

Barrow 3. F30663,
cremation 6411.

(Photo English Heritage)



SS1.133
Barrow 3. Limestone
scatter in upper mound.
Barrow 3





SS1.134
Barrow 3.
Cluster 30782 within
limestone scatter 30775.
(Photo English Heritage)

F39039 and F39477 were indeed part of this ring they indicate that it was inserted after the first mound was built, as discussed above (Figs SS1.131, SS1.135–7). At the eastern end of this circle, there was a group of postholes reminiscent of that at the eastern end of ring C, which is described in greater detail below.

The postholes lying directly along the line of the circle were the following: F39154, F39049, F39037, F39039, F39477, F39090, F39093, F39027, F39092, F39119, F39125, F39363, F39364, F39392, F39333 and F39327.

Pit/posthole clusters not directly associated with rings

These fell into three main groups: 28 post- or stakeholes between rings E1 and F1, of which seven are interpreted as belonging to ring E2 (see above); and two groups of posts at the eastern ends of rings C and F2.

The northern group of postholes between rings E1 and F1 comprised 28 post- or stakeholes, of which six (F58220, F39240, F39238, F39308, F39306 and F39224) were interpreted as belonging to ring E2. The group was confined within two almost parallel lines of posts running north-west/south-east, the south-west line surviving to 2.26m, and the north-east one to 2.32m. The span between the outside of the posts forming the rows was *c* 0.65m at the north-west, widening to 0.93m at the south-east. The presence of posthole F39222 at a right-angle from the

south-east post of the north-east line may indicate that there were formerly stakes at the south-west of the grouping, closing the gap at this point. If this was the case, then it may suggest that ring E1 post-dated the stake cluster, but it could equally be that rings E1/E2 and F1 co-existed, and that the cluster formed some kind of structure spanning the gap between them.

The north-east part of the group was marked by postholes F39339 and F39318, plus a very small (40mm) stakehole, F39355. The two former postholes were inset 0.13m and 0.12m respectively from the perimeter line of F1 (with their postpipes F39337 and F39320 centred 0.22m from the line of the ring). The inset of F39246 and postpipe F39244, *c* 1.40m to the east, may also have been related. This may provide evidence for a deliberate recessing of ring F1 in the northern part of its perimeter, incorporating the northernmost elements of the northern post cluster, which may provide a context for its construction. The postholes which formed part of the cluster (including those attributed to ring E2) were as follows: F39339, F39322, F39345, F58221, F58220, F39240, F39238, F39232, F39230, F39234, F39355, F39343, F39314, F39316, F39312, F39310, F39302, F39300, F39248, F39308, F39304, F39224, F39306, F39218, F39216, F39222, with F39236 to the south-west of the group.

Posts outside the eastern portion of ring C consisted of two rows of three postholes at

the northern end of the group (F30996, F30997, F30998 and F39050, F39052, F39054), a pit measuring 1.10m by 0.50m (F39071) containing an un-numbered post-hole, two postholes to the east of the group (F39056 and F39058), and two stakeholes at the southern limit of the group (F39066 and F39060).

The southern edges of the more northerly three-post row lay along an imaginary line, which included the southern extremities of postholes F39435, F39503, F39501, and F39069. Posthole F39437 straddled the line, and an un-numbered hole between rings D2 and E1 lay 45mm to the north.

Pit F39072 was flanked by two small postholes, F30994 and F39064, *c* 0.10m in diameter, which were themselves flanked by larger posts, F30992 and F39062, *c* 0.15m wide. This arrangement was unique in ring C, and only had one parallel amongst the circles, at the eastern end of ring F2 as described below.

Posts outside the eastern portion of ring F2. Immediately east of the F2 circle, between postholes F30927 and F30892, were two smaller posts (un-numbered, and F30894) *c* 0.17m and 0.13m in diameter, with their centres set 0.45m inwards from the F2 posts along the perimeter, but projecting 0.18m and 0.19m outwards from the circle. Another posthole, measuring 0.46m by 0.34m, labelled F30895 on P472, intersected the un-numbered posthole at its northern end and was centred at *c* 0.20m to the NNE. The context record for F30895 contradicted the plan in its measurements, with dimensions more in keeping with the un-numbered posthole. There was no independent evidence for which negative feature cut the other.

C 0.50m to the north of the eastern corner of F30927, and set *c* 0.13m to the east of the F2 perimeter, there lay a three-post linear arrangement of holes increasing in size to the east, similar to that at the north-east post arrangement outside ring C, and on similar alignment just south of east from the ring. The posts were larger, however (0.12m–0.22m, as against 43mm–86mm), forming a line 1.02m long, as opposed to 0.38m. Finally, an apparently isolated posthole (F30889), 0.24m in diameter, lay 0.93m to the south-south-east of posthole F30894.

There was also a small number of apparently isolated postholes, such as F39359 and F39384, which could not be resolved into the surviving circles. It is possible that they represented the remains of almost com-

pletely destroyed rings, or that they were extra props for support.

Phase 2. The first mound and ditch

Phase 2.1 The first ditch

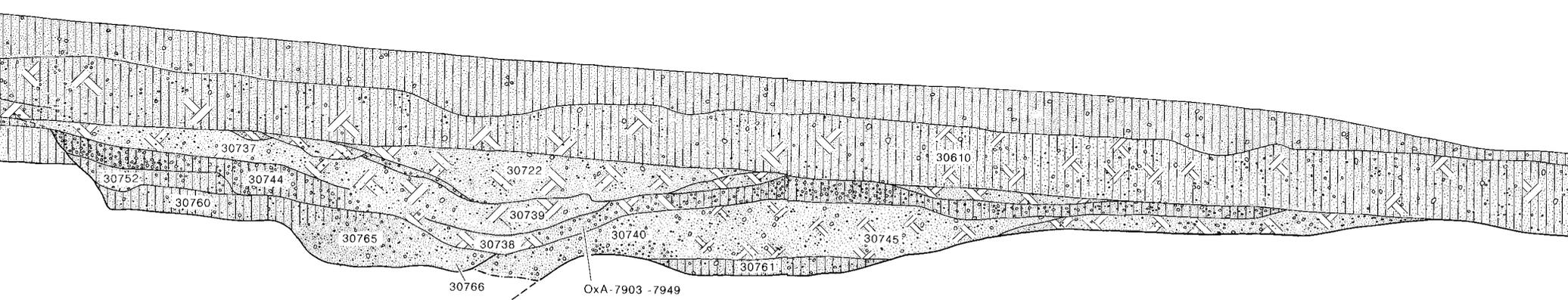
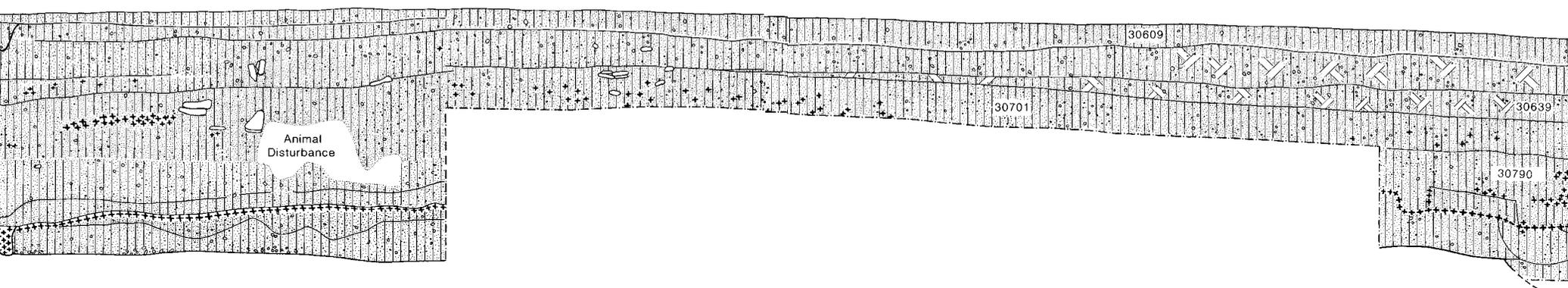
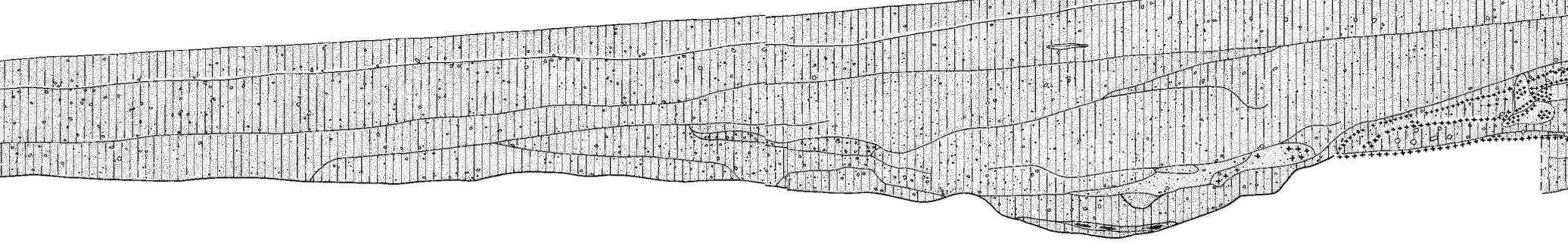
Evidence for the ditch survived in only some sections. It was intact in the north-west; elsewhere parts of it sometimes remained where the rest had been cut away. In the north-west there was a causeway, the south side of which was obscured by the baulk of S506. The causeway must have been between 0.30m and 1.50m wide (Fig. SS1.127).

In S508N the ditch was 1.40m wide by up to 0.30m deep. The inner edge of the cut was angled at 80°, the outer at 40°, and the base displayed an undulating profile. It was filled by contexts 30859, 30861 and 30858 during phase 3. In S530NE it was 2.40m wide and 0.40m deep, with a smooth, rounded profile. In S512E a fragment of ditch may have survived beneath the outer edge of the recut. In S506SE it seems to have been completely removed. The same is probably the case in section S508S, where a feature filled with dark brown sand with 10% pebbles (58016) appears to be natural (Fig. SS1.138). In S530SW the original ditch survived beneath layer 30738, which seems to fill a cut truncating layers 30765 and 30766 (Fig. SS1.135). Between S530SW and S512W the ditch was planned but incompletely excavated. In S512W the ditch was 1.80m wide and 0.30m deep. In S506NW, close to the terminal, the ditch was barely perceptible and must have been exiguous

Phase 2.2 The first mound

A 'phase 1 mound' was identified in the field and in the early stage of post-excavation. Its precise limits are sometimes difficult to define, and there are a number of stratigraphic uncertainties.

Its salient features are, however, clear. It directly overlay the old land surface; its upper surface was marked by a skin of iron pan, suggesting a period of consolidation, and it was cut by a number of features, (described in Phase 4), which were sealed by the enlarged mound. Its main components were contexts 30799, a friable dark yellowish-brown sandy loam with patches of blue-grey silty clay and very little gravel, 30790, a mottled brown-yellowish-red sandy loam with much iron pan, and very mixed and disturbed by burrows, especially in the eastern half, and 30854, a redder, sandier variant of the same deposit in the northern part of the mound (Figs SS1.135, SS1.138).



5m



It survived to a maximum height of 0.60m and extended, at least in its weathered form, across the entire area surrounded by the first ditch. 30799 was dug in spits (30885, 30886), as was 30790 (30791, 30792, 30853)

The material of which the first mound was built consisted of sandy loam, with very little gravel, no larger stones and no use of turves.

Three sherds were present: 2 g of early Roman pottery (AOR 37388) in 30790, 1g of Iron Age pottery (AOR 37348) in 30791, and a recorded but untraced sherd (AOR 37363) in 30792. Both the identified sherds are so small that they could easily have been intrusive. Close to and slightly north of the centre of the mound in 30790 was part of a badly-preserved adult horse mandible (AOR 37455). A second, joining fragment of the same mandible (AOR 37387) was simply ascribed to the layer, but is likely to have been with the first fragment in the ground. The find is described by Davis (SS4.6.2). An attempt to obtain a radiocarbon date for it failed because of insufficient collagen. Further, unidentifiable, bone fragments (AOR 37327) were found in 30791, also near the centre of the barrow (Baker SS4.6.4). A small amount of struck flint was present (Table SS1.15).

Phase 3. Inner ditch silts

The initial construction of the monument was followed by a period of apparent disuse evidenced by ditch silting and mound denudation.

In S508N the primary fill consisted of loam 30859, clay loam 30861 and sand or gravel 30858. The boundaries between them were almost vertical and the three can reasonably be viewed as being part of the same stratigraphic phase, forming a deposit 1.40m wide by up to 0.30m deep. The upper fills were context 58014, a 5YR 3/3 dark red-brown sandy clay loam *c* 0.20m deep, and context 58012, a 7.5YR 4/6 brown sandy clay *c* 0.30m deep. Both overflowed the already largely silted ditch and extended beyond it to the north. Between S508N and S530NE the main dark brown sandy loam fill (30862) contained at least five concentrations of charcoal fragments, among which *Prunus* sp and *Pomoideae* were identified (Campbell SS4.5.4). These continued into S530NE, where a lens of sandy loam just above the ditch base contained charcoal flecks. A possible surviving fragment of ditch in S512W was filled with yellowish-red (5YR 4/6) sand

with 10% gravel. In S530SW lower sand and sandy clay fills (30765, 30766) were overlain by sandy loams (30752, 30760) at the inner edge. It is difficult to tell whether 30740, 30745 and 30761 were natural deposits or ditch fills. In S512W a lower 7.5YR 4/4 brown sandy clay loam fill with less than 10% pebbles was overlain by a strong brown (7.5YR 6/6) sand with 15% pebbles, both layers being un-numbered.

A very few pieces of struck flint and sherds of Iron Age and Roman pottery were present (Table SS1.15). The stratigraphic pattern of ditch fill was consistent with natural silting.

Phase 4. Monument redefinition

4.1 Features cut into the first mound *Central cremation*

Cut into 30790 at the centre of the mound was F30847, a pit measuring 1.80m x 1.60m and 0.50m deep, with steep, almost vertical sides and what was probably a flat base before it was disturbed by rabbit burrows. Its lower fill consisted of up to 0.40m of variegated and mottled dark reddish brown to yellow sandy loam with some iron pan (contexts 30851=30866, 30852). The upper fill was of similar material (contexts 30848=30850). Loosely packed within it, and in a rabbit burrow (30849) which ran through it, was a small amount of cremated bone, with an estimated weight of only 155.9 g, from a single adult (Mays SS4.7.4; cremation 6412, sample 33024). The cremation record notes small, disjointed patches of burnt earth around the cremation, but, since iron pan was also noted, some doubt hangs over this identification.

Peripheral postholes

During the excavation, posthole F39477 was recorded in section S530NE, cut through the periphery of the first mound into the underlying surface. Both posthole and postpipe were clearly preserved, indicating that the feature had indeed been cut from the surface of the mound (Fig SS1.135). In the light of this, the more ambiguous evidence of F39041 in a similar location a little further west may be interpreted in the same way. In the early stages of analysis a number of generally deep, rectangular-shaped cuts, most of them without postpipes, were identified in similar locations and at the same or a later stratigraphic horizon. Going clockwise from the north, they were as follows:

F58002 (S508N) was an extension of the mound material down into the pre-barrow surface, with a shallow V-profile. It coinci-

SS1.136
Barrow 3.
Posthole F39477 in the
first mound.
(Photo English Heritage)



dence with a break in the iron pan covering the first mound and the jumbled fragments of iron pan within it may suggest the digging-out of a post.

F58182 (S506SE) was a V-shaped cut, 0.45m wide at the top, with a rounded break to sides angled at 60°, leading to a blunted-point base. What may have been the base of a pointed postpipe was marked by iron pan. It was stratigraphically earlier than phase 4.5 mound material 30701 and stratigraphically later than the phase 2.2. mound deposit 58161=58181.

F58015 (S508S) was a V-profiled cut 0.30m in diameter at the top and 0.30 deep, perhaps the base of a stakehole. It was stratigraphically later than the first mound deposit 30799 and stratigraphically later than the overlying enlarged mound deposit.

In S530SW there was an un-numbered straight-sided cut 0.14m in diameter and 0.50m deep. It was stratigraphically later than the first mound deposit 30790 and stratigraphically later than the overlying enlarged mound deposit.

F58073 (S512W) was identified only as a break in the surface of the first mound, perhaps 1.00m deep by at least 0.80m wide, although only its outer edge and base were recorded. Animal or other disturbance cannot be ruled out. F58073, if it was indeed a feature, was stratigraphically later than the first mound and earlier than phase 5.4 mound material 30700.

F58142 (S506NW). The top of this cut was uncertain, although a 'beehive-shaped' profile – 0.48m deep by 0.40m wide at the top and 0.36m wide at its flat base, widening to 0.50m in the centre – could be conjured from irregularities in the section.

Some of these features may have been animal burrows or rootholes. Some, however, are likely to have been genuine and, in the light of F39477 and F39041, it is possible that the circumference of the first mound was redefined by a circle of stakes or posts. It is conceivable that post circle F2, identified beneath the mound, on the line of which F39041 lay, may have been the product of this event. An alternative interpretation, that the features represented a continuous gully cut through the first mound into the old ground surface, is unlikely because such a gully would have been observed and recorded during the investigation of the post circles below the mound.

Phase 4.2 The recut

The recut ditch extended around only the east, south and west of the circumference. It partly or wholly removed the first ditch in the south-west and lay outside it in the south-east.

In S512E the recut was 3.20m wide by up to 1.00m deep. On the inner edge the break from both the top to the side and from the side to the base was rounded; the side profile was 65°. On the outer edge, the break from the top was very gentle with the side

angled at 30°; the break from the side to the base was imperceptible.

In S506SE the recut was 4.60m wide by up to 0.70m deep. On the inner edge the break from both the top to the side and from the side to the base was rounded; the side profile was 65°. On the outer edge, the break from the top was very gentle with the side angled at 30°; the break from the side to the base was imperceptible.

In S508S the recut measured 4.12m wide by 0.70m deep, with shelving sides and a rounded profile and a flattish base.

In S530SW the recut measured 5.40m wide by 0.75m deep (if 30738 indeed filed its base) and had gently shelving sides.

Phase 4.3 The enlarged mound

Material from the second ditch and perhaps from elsewhere was used to build the mound up to at least the 1.00m–1.20m to which it survived at the time of excavation.

The central cremation was sealed by an almost stone-free sandy loam, brown and with some iron pan, which was up to 0.35m deep, with the overall context number 30701. It was excavated in spits (30759, 30772, 30779, 30780). In 30779, near the centre of the mound, was the second lower deciduous premolar of a young horse (AOR 36892; Baker SS4.6.4). A crumb of Neolithic or Bronze Age pottery was present, as were a few Iron Age and Roman sherds and a small amount of struck flint (Table SS1.15).

Thin layers with a higher sand and/or gravel content which formed the surface of the lowest slopes of the mound in several sections (eg 30755, 30770 and an unnumbered gravel layer on Fig SS1.138) are likely to have consisted of material from the base of the ditch.

Phase 4.3.1. Limestone settings

Within the upper spits of 30701 was a scatter of limestone blocks (context 30755), covering an area of about 14m x 10m (Fig SS1.133). The blocks were generally *c* 0.05m thick and reached maximum dimensions of up to 0.30 or 0.40m. Within the scatter were several distinct clusters (30782, 30785, 30787, 30794, 30795, 30796, 30797, 30798). 30787 was V-shaped in section and incorporated a right adult tibia and calcaneum (Mays SS4.7.2; AORs 37312, 37311) as well as a third, indeterminate bone fragment (AOR 37314). In 30782, which was V-shaped in plan, two courses of stone were piled one on the other (Fig SS1.134). Further limestone in the overlying disturbed and displaced mound material (Phase 5.4) almost certainly derived from these settings and indicates that they were originally more substantial.

Phase 5. Later activity

Phase 5.1. The recut fills

The second ditch silted naturally, with mound material grading into ditch fills around the periphery (Figs SS1.135, SS1.138).



SS1.137
Barrow 3.
Posthole F39039 in the
first mound.
(Photo English Heritage)

In S512E there were successive layers of sandy clay and sandy loam (including 30757 and 30746), with some gravel towards the top

In S506SE dark yellowish brown sand with 20% gravel (39524) was overlain by sandy loam fills (30776).

In S508S sandy loam with fairly abundant pebbles was succeeded by sandy clay loam.

Between S512E and S506SE, in context 30749 there were a flint blade and a Conygar Hill type barbed and tanged arrowhead. The arrowhead is of a type usually associated with early Bronze Age urn styles (Green 1980, 247–50) and may perhaps have derived from an eroded burial. A small amount of struck flint was present in the ditch fills as a whole (Table SS.1.15).

In S530SW there was a spread of charcoal in the sandy clay primary silt (Fig SS1.135: 30738), which consisted of scrub species (Campbell SS4.5.4). A sample of *Prunus* sp was dated to 2130–1820 cal BC (3610±40 BP; OxA-7949) and one of *Rhamnus catharticus* to 2140–1880 cal BC (3650±BP; OxA-7903). This was succeeded by gravelly sandy loam derived from the interior (30744) and by sandy clays (30739, 30737, 30722).

Phase 5.2 Features cut into the enlarged mound

Cremation F30663 was cut into 30666, a sandy layer on the surface of the enlarged mound at the east side of the barrow (Figs SS1.125, SS1.131–32). A bowl-shaped pit 0.75m in diameter and 0.23m deep contained a densely-packed mass of cremated bone with only a few flecks of charcoal, surrounded by sandy loam with a small amount of gravel (30665). The bone was that of a 16–25 year old female, with at least one fragment from another individual (Mays SS4.7.4, cremation 6411, samples 33001–33007). This contrasts with the central cremation in the much smaller size of the pit, the compactness of the bone deposit, and its completeness, the estimated weight here being 1797.4 g.

Pit F30763 was cut into 30701 in the north of the mound. It was ovoid, measuring c 0.40m x 0.30m and surviving to a depth of only 0.04m. In its dark brown silt loam fill (30764) were ‘several large sherds of pottery’ (context 30762), a fragmentary barbed and tanged arrowhead (AOR 37397; Ballin SS3.7.6, Fig SS3.56: 169) and a flint flake (AOR 30396). The sherds have yet (2003) to be located and identified.

F58044 (S512E) was a possible stakehole cutting the gravel capping of the enlarged mound close to the ditch edge. It measured

0.22m wide by 0.52m deep, narrowing to a pointed base; the inclination of its axis was away from the centre of the barrow.

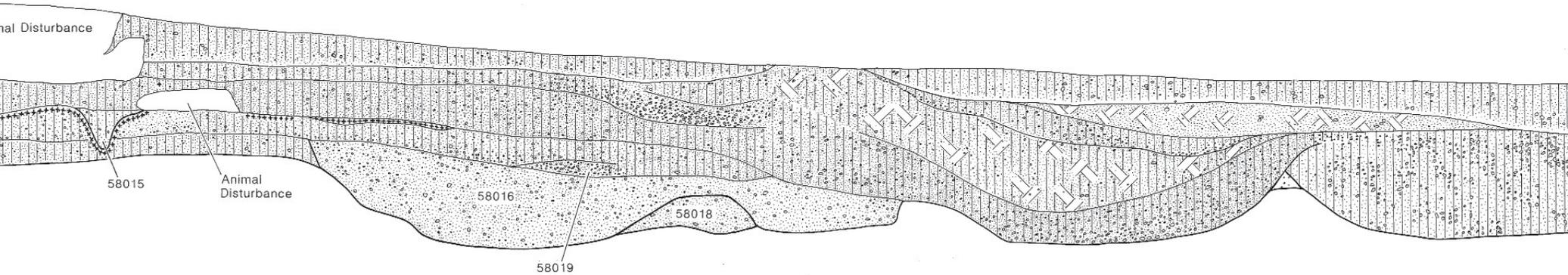
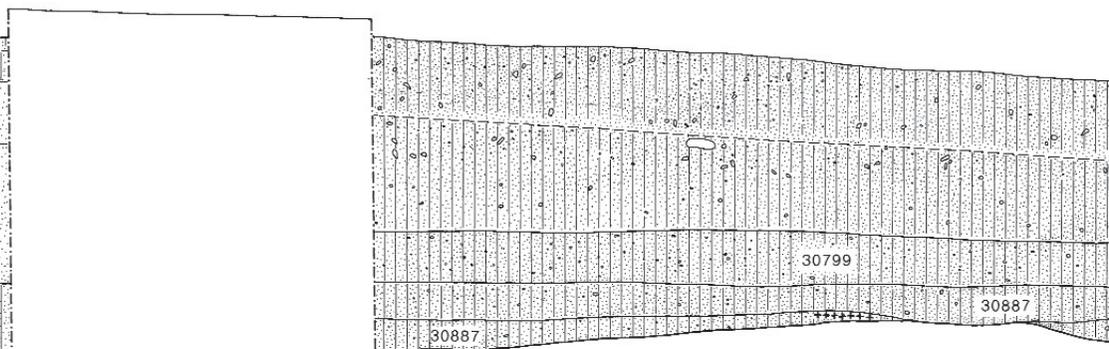
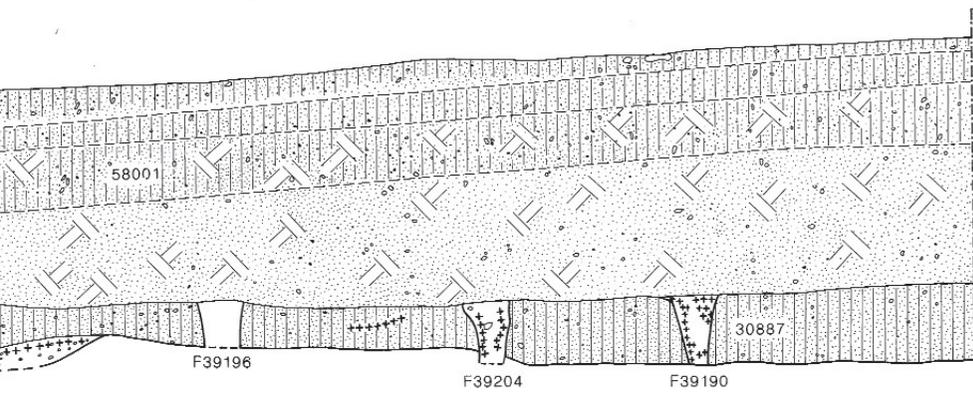
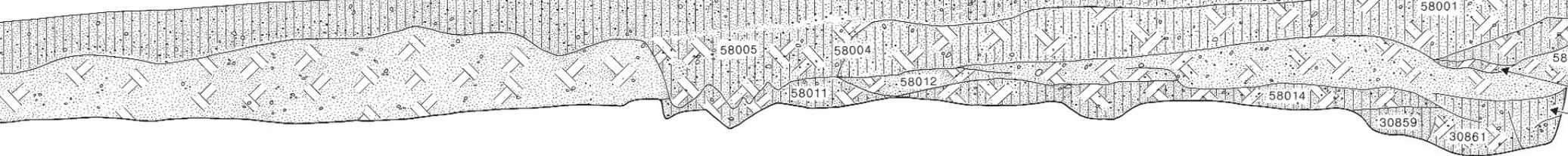
Phase 5.3 Flint scatter

Outside the ditch to the north-east, under denuded mound material, was a concentration of struck flint (30697) on an old land surface (30784). The scatter was excavated in spits (30685, 30696, 30727, 30741, 30750). Within it were c 20 sherds of pottery, most of which were Iron Age or Roman, including the base of a late third or early fourth century Lower Nene Valley Colour-coated beaker. The scatter consisted of nearly 800 pieces, very similar in character to the larger post-mound scatter from Barrow 1, a largely hard-hammer-struck flake industry with a few simple retouched forms including scrapers, a denticulate and a fabricator. A finely-worked edge-retouched plano-convex knife (AOR 50168; Ballin SS3.7.6, Fig SS3.56: 171) stands out from the rest of the assemblage (Ballin SS3.7.6). There were a further two Roman sherds and a small amount of struck flint in the underlying soil, which incorporated a small stone cluster (30818).

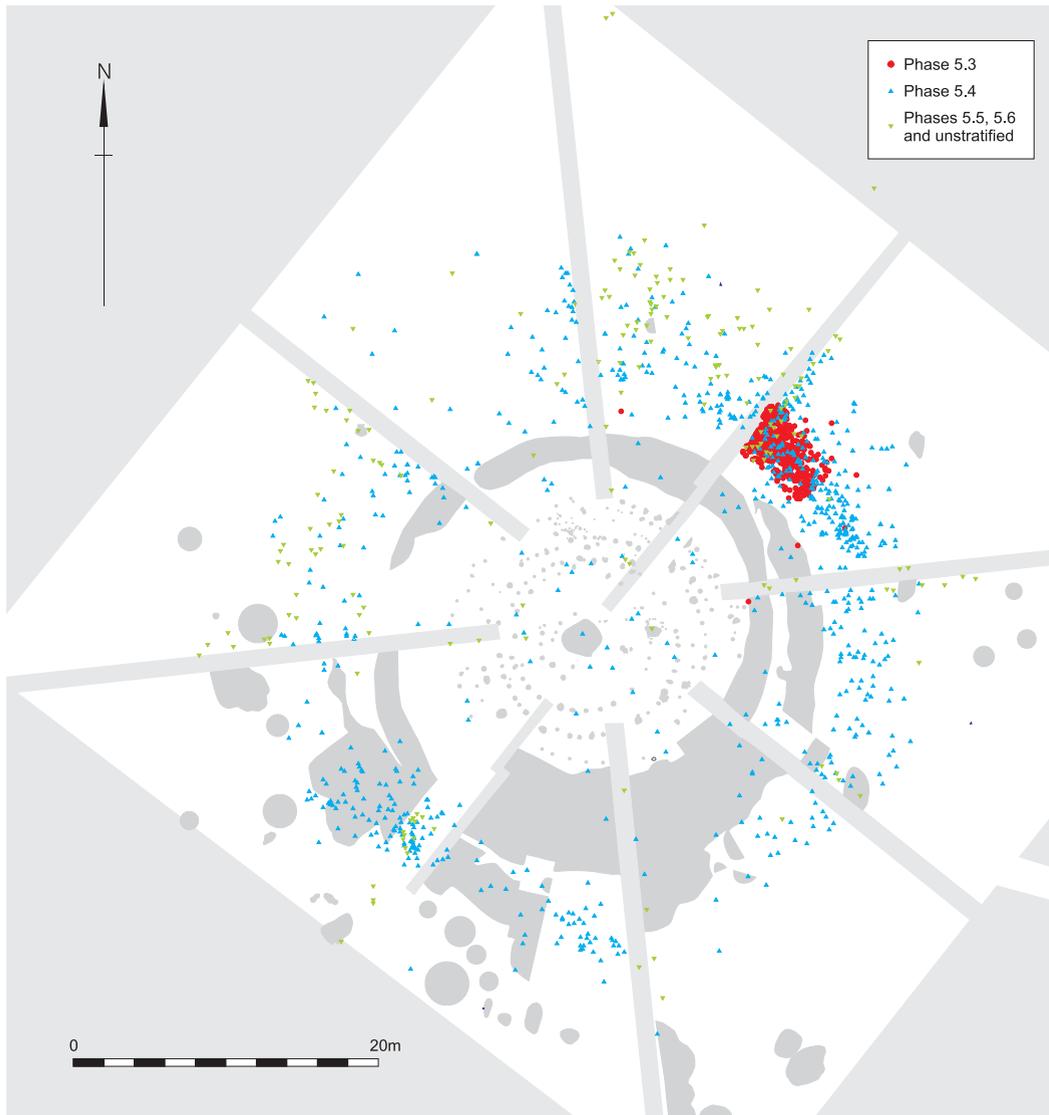
Phase 5.4 Disturbance and erosion of the mound surface

The layer immediately below the topsoil (30639 with numerous subdivisions) extended over and beyond the ditches and was a combination of mound material disturbed *in situ* and mound material eroded down the sides of the monument. It was even more heavily burrowed than the lower levels of the mound.

30639 contained an eclectic mixture of material, including, Iron Age and Roman pottery (the latter mainly first and second century), glass, and iron, as well as far more struck flint than was recovered from any earlier contexts (Table SS1.15). The flint is largely early Bronze Age in character with a small amount of Mesolithic and Neolithic material (Ballin SS3.7.6). While Roman pottery is the most abundant, Iron Age pottery is more frequent than at any of the other barrows. Both were concentrated around the edge of the mound rather than over its centre (Fig SS1.141). Two large iron sword fragments (AORs 36305–6) were found together just outside the ditch to the south-west of the barrow, the lower part overlying the upper and slightly oblique to it (Figs SS1.140–41). Both form part of the same gladius, probably of the first or second century AD (Wardle



5m



SS1.139
Barrow 3.
Distribution of struck flint in post-mound knapping cluster (phase 5.3, red circles), against thinner, more even scatter in the disturbed, eroded mound top (phase 5.4, blue triangles) and in superficial contexts (phases 5.5, 5.6 and unstratified, green inverted triangles).

SS3.3.3). A more extensive limestone scatter than the underlying one, and probably dispersed from it, occupied the centre of the mound. One cluster within it (30654) was made up of both limestone and ironstone and included an unidentified bone fragment and an iron nail (Fig SS1.133). While the nail may have been intrusive, its coincidence with ironstone, which was absent from the underlying scatter and generally absent from prehistoric contexts in the area, may suggest a relatively recent date at least for this particular cluster. Finds from clearance during and after the machining of 30639 included two barbed and tanged arrowheads (AORs 36810, 36906; Ballin SS3.7.6, Fig SS3.56: 172, 177) from peripheral locations. An unstratified Collared Urn sherd (Tomalin SS3.8.4: P93) may have come from a disturbed cremation.



SS1.140
Barrow 3. Roman sword.
(Photo English Heritage)

Figure SS1.141
Barrow 3.
Distribution of Iron Age pottery (blue triangles), Roman pottery (green circles) and Roman sword (red squares).



Two further unstratified sherds (AOR 36224), destroyed in the course of fabric and residue analysis, were submitted for analysis as ‘Collared Urn’. Some confusion arose between them and AOR 55254 from Barrow 5 (SS1.16). Sherds attributed to both numbers contained traces of degraded animal fats (Copley *et al* SS3.8.2). Post-mound activity is evidenced by a group of bones, thought at the time of excavation perhaps to be from a single animal, found at the interface of eroded mound material and topsoil at the edge of the barrow in the south-west (context 30642, AORs 35931–2, 35934–6, 36311–13). This material is in very bad condition. Insofar as it can be identified, it is all cattle bone and includes an ulna, a radius, a metatarsal, a tibia and possibly a further radius (Polydora Baker pers comm).

Phase 5.5 Undated features beyond the barrow

There were numerous treeholes and other hollows around the barrow, especially to the south, where they formed an almost continuous band (Fig SS1.25) which was initially taken for an outer ditch. They remain undated, except for one which may have been cut by the second ditch (Fig SS1.138). Struck flint and scant, small sherds of Roman pottery were recovered from some (Table SS1.15). A pit outside the mound to the north (Fig SS1.125: F30873) contained some charcoal.

Phase 5.6 Alluviation

Alluvium (30610) survived only around the base of the mound and contained Roman pottery, struck flint and slag (Table SS1.15).

3 Discussion of stratigraphy and phasing

Phase 1 – post rings

Stéphane Rault

The most unusual feature of this monument was the series of between seven and nine rings, which appeared to be based around six central points, four of which lay on a common north-west/south-east line. The certainty with which the circles could be reconstructed was variable, due to the small diameter of the two inner rings, and small number of surviving postholes for ring E2.

A chronology for the elements of phase 1 is difficult to establish. The only available radiocarbon date, of 2140–1740 cal BC (3590±70 BP; OxA-3051), is on oak charcoal from posthole F39107, secondary to the large feature F39102, and can provide only a *terminus post quem* for that posthole and for the mound. Only a handful of postpipes and postholes extended up into the mound, as described above.

The range of posthole sizes varies between the rings, the inner circles having generally smaller postpipes, for example F39440 in ring B was typical at 80mm in diameter as against 0.17m for the un-numbered postpipe set into F39013 in ring D1. There were, however, also smaller posts associated with the outer rings (for example postpipe F39361 in F39363 in ring F2; F39174 in ring F1, or postpipe F39027 in F39021 in ring E1). The presence or otherwise of settings for the posts seems to have been generally related to size, and both rammed-in and packed posts was found in all the circles, so no chronological or typological differentiation could be inferred from this variable.

The only chronology is that suggested from the reconstructed patterning. The distance between individual posts (in areas where they survived in sufficient numbers to reconstruct) was relatively uniform at *c* 0.80m (centre to centre), with a slightly wider average gap in the inner circles (A through D2) than in the outer (E1 through F2) rings.

The small size of the posts, particularly in relation to the diameter of the outer circles, made it virtually impossible for them to have supported roofing, suggesting that the rings were freestanding. There were also no drip gullies, or evidence for roofing, making it unlikely, on surviving evidence, that one or more of the rings supported a covered structure.

The gaps between the uprights would have been appropriate for the insertion of wattle or trellis panels. No evidence survived for this, however, or lintels surmounting the posts, as suggested in the reconstruction of the Sarn-y-Bryn-Caled complex (Gibson 1994, 212).

Interpretation of which postholes existed in conjunction with one another therefore had to rest on a combination of attempting to reconstruct the original geometry, and comparison with other monuments.

On initial observation, it may appear very difficult to have scribed the two E circles around E, had the inner rings been earlier and still standing, which might suggest that either the outer rings were constructed earlier, or the inner circles had collapsed or been removed. Whilst this may indeed have been the case, it is worth noting that lines projected from point E to the centres of the surviving postholes (or, where they survived, postpipes) almost all avoid the intervening holes. This shows that it would have been perfectly possible to set out E1 and E2 from point E at ground level by simply passing a rope of requisite length through the gaps between standing posts (so long as any panels were removed), and digging the required posthole at the point where the rope went taut.

It may be also of note that the same avoidance of intervening features along the axes between centre-point and posts occurred for the D1/D2 and F1/F2 ring-pairs. A number of the imaginary lines thus produced, however, skirted the outer edges of several intervening postpipes, which may provide circumstantial support for their having been set out subsequently to, and in the presence of the latter. It must be emphasised, though, that so many of the postholes appear not to have survived that what can now be observed as avoidances may not have been so originally.

This apparent absence of so many postholes may be the result of post-depositional factors, but equally, some or all of these may not have existed in the first place. Some of the settings may have rather been a series of arcs than circles. Rings C, D1 and E1 appear to have formed complete circles, with surviving holes distributed relatively evenly across the perimeter. Ring D2, however, survived as a smattering of postholes in the northerly half of its perimeter, ending at a WNW–ESE line from the centre, and it shared some postholes with E1 in the west, although the shared holes centred better on the latter circle, as was clear from their postpipes. E2 was even more restricted in the surviving

Table SS1.15. Barrow 3. Summary of finds

* = recorded, but unidentified or missing

Lithics are of flint unless otherwise stated

Sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Context</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Other artefacts</i>	<i>Charred material</i>	<i>Environmental evidence</i>	<i>BP</i>	<i>Cal BC</i>
0 pre-mound soil					Core, 6 flakes, scraper, 2 misc retouched			Pre-barrow soil, disturbed and mixed, as if much trampled. Iron-panned		
1 pre-mound features	central pit F39102						*?			
	posthole F39107						<i>Quercus</i> sp charcoal		3590±70 (OxA-3051) on <i>Quercus</i> charcoal	2140–1740
	cutting									
	central pit									
2.2 1st mound			Two joining fragments of a horse mandible, 6 indeterminate bone fragments	1 sherd/1g IA, 1 sherd/ 2g Roman (C1), *	2 cores, non-bulbar fragment, 2 core rejuvenation flakes, 8 flakes, 2 edge-retouched blades					
3 fills of 1st ditch				7 g Iron Age, 6 g Roman, *	2 cores, non-bulbar fragment, 14 flakes, 2 blades, 1 misc retouched	Fired clay	<i>Prunus</i> sp, Pomoideae.*			
4.1 central cremation F30847		small amount of cremated bone from an adult								
4.3 enlarged mound			deciduous horse tooth (36892), near centre of mound	1g Neolithic or Bronze Age, 9g Iron Age, 1g Roman	Non-bulbar fragment, 4 flakes, scraper, borer					
4.3.1 limestone within 30701	30787	R adult tibia (37312) and calcaneum (37311)	indeterminate bone fragment							
5.1 fills of recut ditch					5 flakes, blade, Conygar Hill barbed and tanged arrowhead		<i>Rhamnus catharticus</i> , <i>Prunus</i> sp, cf <i>Corylus</i> sp		3610±40 (OxA-7949) on <i>Prunus</i> sp charcoal	2130–1820
									3650±45 (OxA-7903) on <i>Rhamnus catharticus</i> charcoal	2140–1880

5.2 features cut into enlarged mound	Cremation F30633	Cremated bone of 16–25 year old female, at least one fragment from another individual			*
	Pit F30763		Context no 3 0762 given to 'several large sherds of pottery'. Missing	Flake, fragmentary barbed and tanged arrowhead (37397)	*
5.3 flint scatter 30697			25 g Iron Age including base of C3–C4 Lower Nene valley colour-coated beaker (50120)	47 cores, 82 non-bulbar fragments, 496 flakes, 16 core rejuvenation flakes, 19 blades, serrated blade, 5 scrapers, edge-retouched plano-convex knife, denticulate, fabricator, 10 misc retouched	
5.3 surface below flint scatter	30784		2g Roman	Core, 3 flakes, scraper	
5.4 disturbed & eroded mound 0631 30639		cattle teeth, *	33g IA, 389g Roman, * flakes, 120 flakes,	17 cores, 17 non-bulbar fragments, 3 core rejuvenation 6 blades, microlith, serrated blade, 2 scrapers, knife, 2 notches, 8 misc retouched	1st or 2nd century AD iron sword in 2 fragments, 2 iron nails, 3 other iron objects, Glass bottle (36159)
Clearance within &/or at base of 30639 30786, 30839	30619, 30664	Cattle metatarsal and tooth, *	193g Iron Age 287g Roman	72 cores, 70 non-bulbar fragments, 19 core rejuvenation flakes, 427 flakes, 21 blades, 2 burins, leaf arrowhead, 2 barbed and tanged arrowheads, knife, 5 notches, 2 borers, 6 scrapers, 2 denticulates, chisel, 27 misc retouched	Tile, iron object
5.4.1 limestone within 30639		*			Iron nail
Bone group 30642 at interface of topsoil and disturbed/eroded mound		Cattle ulna, radius, metatarsal, tibia, possible further radius, *			
5.5 Pit F30873 outside mound					*
5.5 Treeholes etc outside barrow			10g Roman, *	9 cores, 2 non-bulbar fragments, 3 core rejuvenation flakes, 24 flakes, blade, laurel leaf, 2 scrapers, notch	

Phase	Context	Human remains	Animal bone	Pottery	Lithics	Other artefacts	Charred material	Environmental evidence	BP	Cal BC
5.5 Misc contexts outside mound		*		31g Roman	5 cores, non-bulbar fragment, Fired clay core rejuvenation flake, 8 flakes, 3 blades, 1 misc retouched					
5.6 Alluvium around base of barrow			Very weathered bone, including 2 cattle teeth	251g Roman	8 cores, non-bulbar fragment, slag core rejuvenation flake, 15 flakes, blade, notch, scraper, 2 misc retouched					
Topsoil		*		6g Iron Age 15g Roman	13 cores, 13 non-bulbar fragments, 4 core rejuvenation other iron object, flakes, 82 flakes, 8 blades, burin, truncated blade, truncated flake, 3 scrapers, 2 notches, 4 misc retouched	Iron horseshoe, other iron object, 3 finds of slag				
U/S and misc				Collared Urn rim fragment, P93 (G), 2 sherds ?Collared Urn (G; now missing) 31 g Roman	Core, non-bulbar fragment, 10 flakes, blade, 2 misc retouched	Coin of Gratian, metal object				

distribution of its postholes, which apart from two outliers to the WSW, formed a cluster in the NNW–ENE quadrant (these were not artificial boundaries created by the baulks, since there were no baulks in the areas where the posts ceased, and one baulk orientated north-east from the centre actually cut through the centre of the concentration, suggesting that it may have continued underneath). Surviving F1 and F2 holes similarly avoided for the most part the southern part of the monument approximately from a WSW–ENE cut off, but the baulks in the south-east quadrant may have accounted at least partly for the lack of recorded holes.

There may have been some link between the centre points of rings A to D. These lay on a precise north-west/south-east line, *c* 0.73m long, bounded by C at the north-west, and D at the south-east. Point A bisected this line, with B a little to the south-east of A.

Rings A through C appear to have been set out singly. Their small diameter and few surviving holes make their original existence as complete circles conjectural, but the fact that the reconstructed perimeters accurately bisected the postpipes, and also cut through most of the holes associated with pre-mound activity in the area they enclosed, suggested that they may have been points on a line scribed around the suggested centre points. It is also possible that the settings were originally in the form of broken arcs, as also may have been the case for some of the outer circles with incomplete distribution, such as E2.

The group of post- and stakeholes at the eastern end of C, delimited by the insertion of two small posts immediately within the gap formed by two larger members, was the most unusual feature of ring C. The close grouping between the three- and two-post groups around the area bounded by the gap between the perimeter posts and the pit suggested that this was the location of a small enclosed structure, measuring *c* 1.40m by 1.30m.

There are no direct parallels for this type of feature from other timber circles in Britain, although there are many parallels for pre-barrow stake built circles, including one from Barrow 5. Examples of multiple circles exist elsewhere, such as those discussed by Ashbee (1957) and Gibson (1994). Gibson points out (*ibid* 201) that almost all multiple circles, like that at Barrow 3, were based on circles, rather than ellipses. The nearest comparison is possibly Poole, Dorset (*ibid* fig 33), where a single circular ring of approximately the same diameter had two outlying posts flanked by others belonging to the

perimeter; there were also two three-post settings, although these were on either side of the gap. There was no pit, however, and a ditch enclosed the ring, except for a causeway marked by the aforementioned settings. At Poole, at least, the post group appeared to have formed an entrance-way for the monument, albeit a rather narrow one. The likeliest explanation for the eastern complex in ring C may be that it also served as an entrance. At Poole, as at Barrow 3, gaps between posts along the ring's perimeter were no wider at the location of the supposed 'entrance'.

In view of these similarities, and the fact that ring C was the outermost 'single ring', with all the outer rings apparently being set out using a different system employing double concentric circles, it appears possible that C was at one time the outermost, or even the sole timber structure in the monument, making it a ring with an entrance to the east marked out with linear arrangements of small stakes, so as to form a small enclosure.

The presence of pit F39072 in ring C was enigmatic, in the absence of stratigraphic relationships with either the ring or the outlying posts. It was straight-sided with an irregular bottom, and 0.20m deep. It is possible, in view of the high degree of subsequent disturbance throughout the monument, that it was natural in origin, perhaps a burrow or tree-hole on account of the irregular bottom. It appears more likely, however, because of the straight sides and the fact that its outer edge followed closely the line of the surrounding posts, that it was a man-made feature which was either dug with reference to existing posts, or around which these posts were deployed. The un-numbered posthole cut into its eastern part had no written description, and was shown only in plan, making it impossible to ascertain whether it coexisted with the pit, was cut through it, or was truncated by it. It is also possible, in view of the context description, that it was not a posthole at all, but simply a deeper part of the pit's irregular floor. In any event, it seems highly unlikely that a steep-sided pit would have been cut into a functional entrance-way. It is possible that the feature marked a decommissioning action, or related to activity within the small enclosed area, which may perhaps have acted as a shrine or sanctuary. All that can be said with any degree of confidence is that the identity of location and morphology suggested that the two elements co-existed for at least part of their existence.

With the D1 and D2 rings, there is a shift in the centre-point towards the south-east.

This complex was also the innermost to consist of a twin ring of concentric circles. As stated earlier, the inner ring of this pair was relatively well represented throughout its perimeter, whereas D2 was only represented by a smattering of holes, with its western quarter almost overlapping with E1, to the extent of sharing common postholes. Unlike C, there was no clear cut evidence for an entrance-way, unless postholes F37371 and F39367 projecting outwards at right-angles from the western part of the perimeter of D1, and F39381 with the same relation to D1 posthole F39375, performed a similar function for the inner of the D rings.

As regards the internal distribution of the two E circles, very much the same situation occurred as for the D rings. Most of the northern postholes of ring E2 were within the area of the northern stakehole cluster which extended to the inner edge of ring F1. The pattern of the holes was different, however, between the stakes to the north and to the south of E2, with those outside the ring distributed throughout the area enclosed by the north-west/south-east outer rows, whereas stakes to the south of this divide avoided the interior, and were located along the latter lines. This appears to provide circumstantial support for the deliberate laying out of E2.

The nature and purpose of the stake cluster remains uncertain, but its relation to both the E and F rings appears secure, implying that both sets coexisted for at least part of their life. There was no obvious break in E1 at the junction with the cluster – indeed F39220 bisected the arc of interference, making it extremely unlikely that this area was meant as an entrance-way, unless the latter posthole and internal stakeholes between E2 and F1 were the result of subsequent decommissioning.

The F rings, presuming that they were originally complete, had the most biased survival pattern, being almost absent in the southern south-west/east arc of the monument. As discussed earlier, there appears to be the remains of an exterior cluster of postholes at the eastern side, like that of ring C.

It may be of importance that, if the line running through A – D is extended for 0.31m to the exact south-east, a point would be reached, from which all the centre-points would be located precisely at true bearings of north (F at 0.67m), north-east (points A through D), and north-west (E at 0.18m). This vanishing point did not in itself appear to have been the centre of any ring, but it is possible that this was the location from which the centres of the circles were set,

which might imply, if not contemporaneity between the rings, at least that a particular, and exact point was of significance to the different sets of builders.

If postholes falling along the perimeters of the rings are removed from the distribution plot, a different patterning becomes apparent. There then appears a line orientated just anticlockwise of north-west/south-east, measuring *c* 7m (postholes F39359, F39371, F39278, F39291 and F39091), the south-east terminal of which intersects with a line projecting almost to the north-east (F39091, F39325, F39069, F39068, F39071) for *c* 8.4m, although the line is somewhat irregular. It is just possible that these 'rows' were connected with a *c* north-east/south-west line running through, or just missing postholes F39331, F39329, F39327 (although this is attributed to F2), F39242 (including the postpipe which was not part of F1), F39180, F31986, F39184 and F39471, possibly curving through an un-numbered feature attributed to D1, towards F39071.

It is perhaps more plausible that the more northerly holes from this latter were associated with the northern stakehole cluster. This could then be seen as having been wider, with F39180 forming the eastern corner of what would now be a lozenge-shaped concentration. The associations with the E and F rings would not be affected.

This putative north-east line of the possible larger structure is particularly conjectural, since there were considerable gaps between many of the postholes, some of which were very small. It is worth noting the possibility, however slight, of such an interconnected three-lined group, as this would provide the only evidence for the former existence of a rectangular timbered structure, around eight and a half metres wide, of which the south-eastern terminal would have been preserved.

It is equally possible, however, as already discussed for some of the holes involved, that they actually related to external features associated with the rings themselves, or were the result of many different and unconnected stages of activity. In the absence of firmer evidence, the strongest possibility of patterning amongst holes not directly associated with the rings relates to the first two 'rows' discussed, and that in itself is far from conclusive.

In conclusion, the evidence offered by the postholes points to three pairs of rings, and one single circle, with two possible rings further inwards. There was circumstantial evidence, from the eastern posthole group outside ring C and its comparison with that

outside ring F2, that the former ring may have formed the extent of the monument during one sub-phase. The fact that the ring-pairs were eccentric one to another would, *prima facie*, suggest that they were set up at different times, but there was no stratigraphic or other evidence to support this, and the apparent inter-relationship between the centres would argue that, in either scenario, the rings were set out relative to an independent common-point.

In view of these considerations it appears unsafe to attempt to separate phase 1 into subphases, as there are so many possible combinations of rings and other features which may have coexisted, and no independent means of ascertaining which belonged with which other, except in the case of the concentric pairs of circles, D to F.

Phases 2–4 – Barrow construction and use

While it is possible to distinguish constructional episodes, these need not have been separated by long intervals. The construction date is estimated at *2180–1930 cal BC at 95% probability* (SS6). If the recutting of the ditch was contemporary with the enlargement of the mound, then the dates for the charcoal spread within its silts at the south side of the mound would place this event at the turn of the third and second millennia cal BC, shortly after construction (Fig SS6.11).

The limestone scatter which formed part of the second enlargement was characterised by compact clusters of stone (Figs SS1.133–34). This is not what one would expect if a cairn had been dispersed by agencies such as cultivation or animal burrowing. It seems likely either that the clusters were original or that any more coherent structure was purposefully dismantled. The incorporation of a human tibia and calcaneum into one cluster may similarly have been an original deposit or have resulted from the disruption and rearrangement of an earlier burial. The unknown character of later activity on the mound, which included the deposition of a Roman sword in two fragments, leaves many options open.

Phase 5 – later activity

While the numerous undated features beyond the mound are difficult to characterise, the conclusion of the resource assessment (below) that neither stage of the mound could have been entirely built of the spoil from its surrounding ditch suggests that some of the hollow surrounding the mound may have been quarries for its construction.

The flint scatter to the north of the mound is of typical Bronze Age workmanship and

reflects a knapping episode, probably after the last modification of the barrow. Iron Age and Roman sherds in and under the scatter point to substantial disturbance. Most of the substantial amount of struck flint from disturbed and superficial contexts is likely to be contemporary. A source in the mound is ruled out for most of it because there were so few artefacts in relatively undisturbed mound and pre-mound contexts.

A total of 265 g of Iron Age pottery and 1.033 kg of Roman pottery (mainly of the first and second centuries) from disturbed and superficial contexts would seem at first sight to have had its origin in manuring. Two halves of a contemporary sword outside the ditch to the south-west of the barrow (Figs SS1.140–41), however, strongly suggests a ritual component, as does an early Roman spearhead in a comparable position at Barrow 1 (SS1.12).

4 Resource estimates

Posthole rings

A minimum of seven posthole rings appear to have been erected around four centre points. Other phase 1 posthole groups, some of which appear to have been related to the rings, bring the total number of posts to at least 246. It is possible that some, or all of these rings, may have had fencing inserted between the constituent posts, and may also have supported lintels. Their diameter makes it almost impossible, however, for the rings to have been roofed. Estimating labour or time would risk being counter-productive for two main reasons: firstly, in the absence of stratigraphic relationships between the holes, it is impossible to know which of the rings were constructed at the same time (although possible suggestions are made above); secondly, in the absence of evidence either way, regarding fence panels or lintels, the possible range of time-scales for each ring would be so wide as to be almost meaningless.

The barrow

The incomplete survival of the first ditch and the variable profile of the second make estimates particularly tentative.

Initial mound and ditch

The volume of material excavated from the first ditch can be estimated very approximately as 25 cu m, which would make three and a half days of work for a team of three. This does

not, however, approach the approximate volume of this mound, which would have been in the region of 70 cu m. The excavation of a further 45 cu m of soil would make a further ten and a half days of work for a team of three, with a total of fourteen team days.

Recutting of ditch and mound enlargement

The volume of the incomplete recut can be estimated even more approximately as 97 cu m, which would make fourteen days of work for a team of three. Here there is even more of a shortfall between the volume of the upcast and the approximate volume of 225 cu m for the additional mound material. The excavation of an additional 130 cu m of soil would make a further nineteen days of work, with a total of thirty-three days.

A substantial topsoil component would account for the low proportion of gravel in the mound. The source for some or all of the c 175 cu m of soil not derived from the ditches may have been the various hollows around the mound.

SS1.15 Barrow 4

Aidan Allan, Stéphane Rault and Jon Humble

Abstract

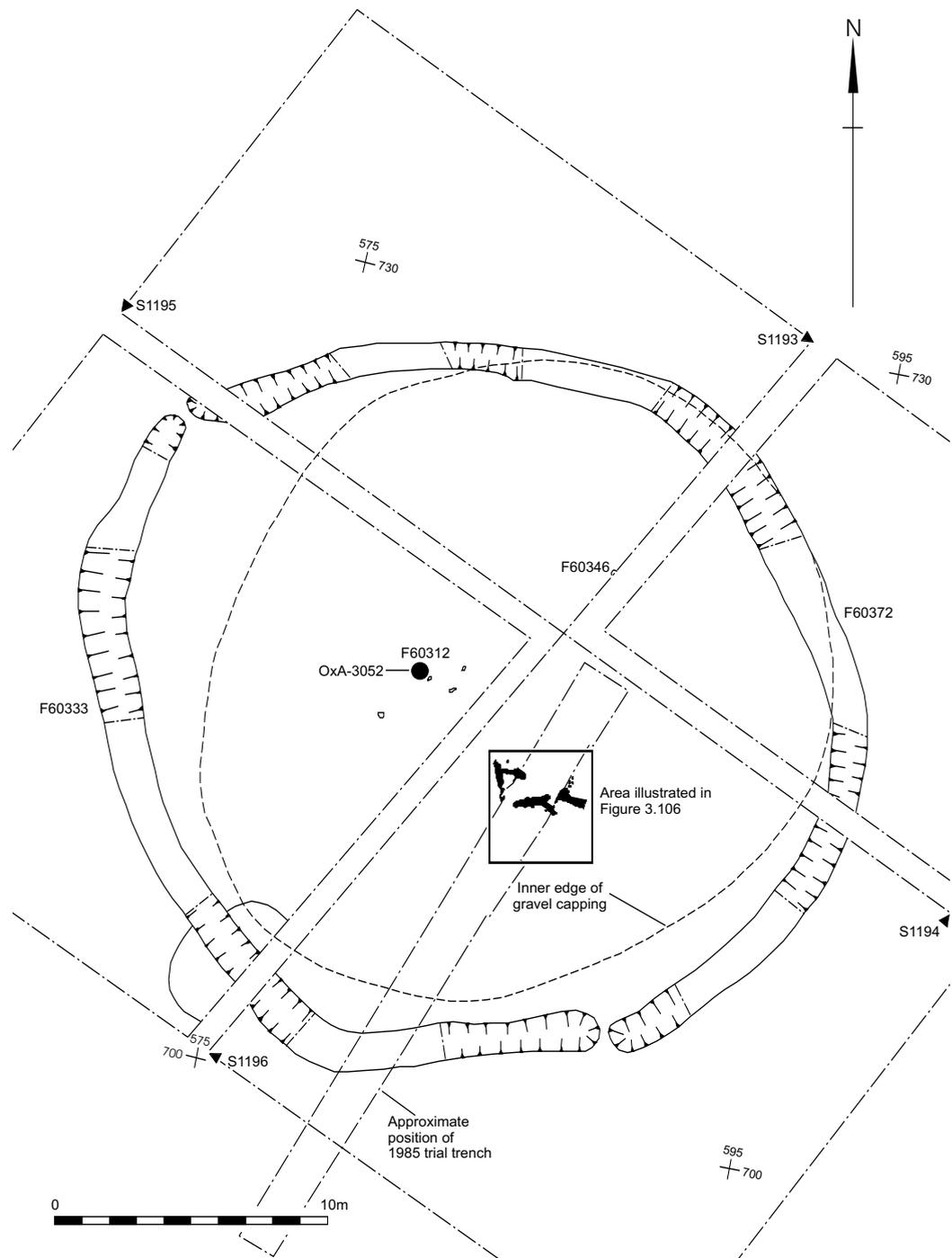
The monument was surrounded by two opposed C-shaped lengths of ditch, separated by causeways to the north-west and south-east. Inside the ditch was a low mound, surviving to a maximum height of 0.45m, formed of a sandy clay beneath a gravel capping. A berm separated the ditch from the mound.

Substantial fragments of carbonised oak, possibly planks, were found in the base of the mound. One timber has been radiocarbon dated to 2110–1680 cal BC (3530±70 BP; OxA-3053). An early Bronze Age cremation was either inserted into or incorporated in the edge of the mound.

1 Location and Excavation

Barrow 4 was situated on the Irthlingborough island to the north-east of Barrow 3 and south-west of the Stanwick Roman Villa, at approximately NGR SP 96620 71565 (Fig 1.4). The original plans show two overlapping locations for the monument, varying by about 12m centre-to-centre, and two slightly different orientations, varying by about 5°.

Figure SS1.142
Barrow 4.
Overall plan.



The drawings published here represent a best fit, with no guarantee of accuracy.

The monument was suspected from crop-mark evidence and from a slight rise in the meadow recorded by David Hall (Hall and Hutchings 1972, 2, 14, fig 2). It was confirmed to be of archaeological importance during the 1985 evaluation season, when a trial trench (B40) was positioned in order to section the mound and any other related features. The ditch, the eroded mound, and

carbonised wood just above the pre-mound land-surface were identified at this time. The area was extended in 1987, when the barrow was totally excavated by the Central Excavation Unit of English Heritage under the direction of Claire Halpin.

Subsequent work in the 1988 season involved the intensive trenching of the Irthlingborough island. The evidence from neighbouring trenches, cut then and during the 1985 evaluation, suggests that there was

little human activity around Barrow 4. The only features of note in the surrounding area were two treeholes showing evidence of burning some 30m to the north-west in B283, and four more 100m to the north-west in Trench B275.

A 1985 evaluation trench west of the disused railway embankment and south-west of the future location of B255 was given the same number as the barrow excavation (B4). The purpose of this trench was to excavate a suspected ring ditch, although only geological features were encountered. The majority of the B4 database records relate to Barrow 4.

Only one number (F60333) was allocated on site for the segmented ditch of the barrow. For the purposes of the publication drawings, the western arm has retained the original number, whereas the eastern was allocated a new number (F60372). This latter number appears only on the publication drawings; the site archive, database records, and archive report have not been amended.

An area measuring *c* 40m x *c* 34m was totally excavated in 1987, with two baulks left for environmental purposes and to expose continuous sections at right-angles through the barrow (Fig SS1.142). This new trench (B4) exposed the whole monument in plan, extending *c* 1.75m – *c* 12.50m beyond it, and completely removed most of evaluation trench B40. The alluvium was removed by machine, following which the mound surface was hoed (finds being attributed to context 60301), and sample transects (60303–6) were set out along the baulks, 2m wide except for 60306, which was only 1m wide in order not to impinge on the 1985 evaluation

trench. The transects were dug in spits 0.07–0.10m deep. When the base of the second spit was reached, the quadrants between the transects were machined to this level, the mound was hoed again (finds being attributed to context 60311), and the remaining mound material was cleaned off the surface of the pre-barrow soil (finds being attributed to context 60317). The water table was high at the time of excavation, and the deposits were sometimes gleyed (Fig SS1.143).

2 The excavated evidence

Phases 0–1 Natural stratigraphy and pre-barrow features

During the excavation a sandy clay layer (60316) was interpreted as a buried soil horizon, but other natural features were not described.

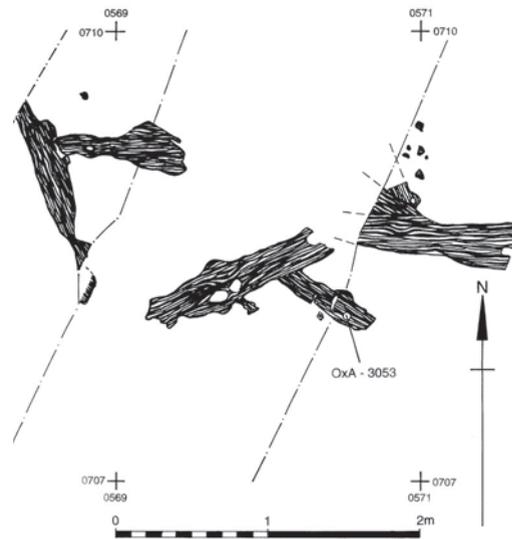
A combination of information from the two seasons of work suggested a sequence consisting of sand and gravel in B40, with its upper limit at *c* 33.30m above OD (but not recorded in B4), which underlay several sub-soil horizons in B40; and also 60329, 60330, 60331, 60341 and 60352 in B4, which in turn underlay the pre-mound soil 60316, over which there was a discontinuous upper horizon of dark greyish brown sandy clay with frequent iron pan staining flecks recorded in S1196 (Fig SS1.146: 60344).

The soil sealed by the mound was a dark sandy loam mottled with iron and manganese pan, especially in the lower part of the profile. Its micromorphological features indicated trampling, dunging and localised colluviation.



Figure SS1.143
Barrow 4.
Machining on the mound.
(Photo English Heritage)

Figure SS1.144
Barrow 4.
Charred oak planks in
mound, just above old
land surface.



The boundary between the pre-mound soil and the mound base was obscured by earthworm activity (Macphail SS4.8.2).

60316 was excavated in spits. It contained a small amount of struck flint (Table SS1.16). Layer 60340 appeared from S1194 and S1195 (Fig SS1.145) to be the continuation of this horizon outside the ditch, although this relationship was less clear on S1193 (Fig SS1.146). Since 60340 was not sealed by the mound and would have continued to develop up to alluviation, its continuity with the upper ditch fill in S1193 is not surprising.

In the south-west there was an un-numbered oval cut which measured 5m north-south by an extrapolated 3.50m east-west (disappearing into the central baulk) and was orientated NNE-SSW. It is planned as pre-dating ditch F60333 (SS1.142). The feature was in unspecified relationship to the buried soil (context 60316) and was not allocated a context number on site or mentioned in the context description for F60363. It was undoubtedly natural and may equate to 60352 in S1196 (Fig SS1.146).

F60345 was a post- or stakehole 0.08m in diameter and 0.25m deep with vertical sides and a flat bottom, filled with dark brown sandy clay (60346) cut into the pre-mound soil in the north-west of the barrow (Fig SS1.145: S1193).

Phase 2 Construction of the monument

Phase 2.1 the ditch

Two opposed semi-circular ditch segments formed a discontinuous egg-shaped enclosure breached by two causeways, 0.35m wide, one at the north-west, the other at the south-east. The ditches varied between 1m and 1.70m across and 0.50m and 0.60m

deep, with sides angled at 40°–70°. The discontinuous ditch was 26m in diameter and enclosed an area of 519 sq m. The discontinuous ditch was given an overall designation (F60333 – see note on post-excavation renumbering above), with separate numbers allocated to the excavated segments.

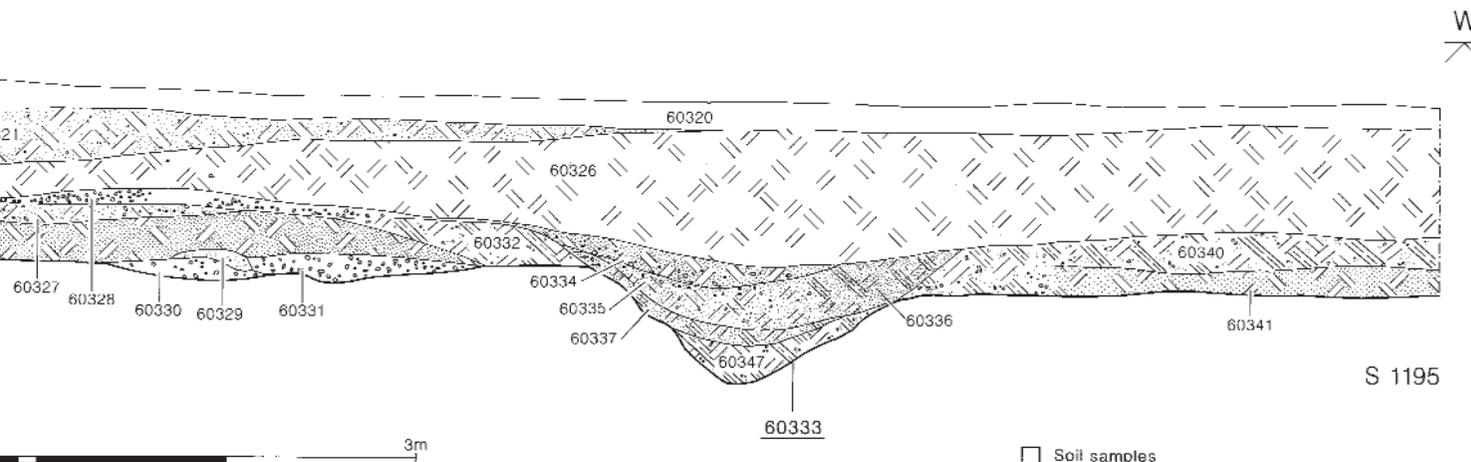
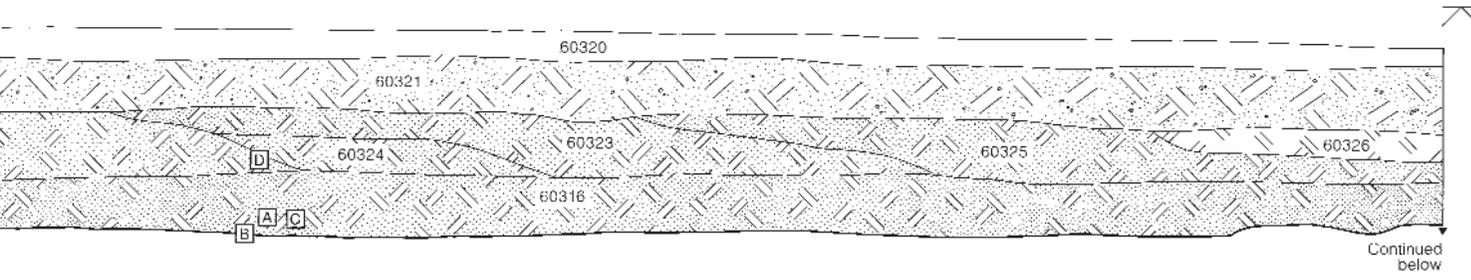
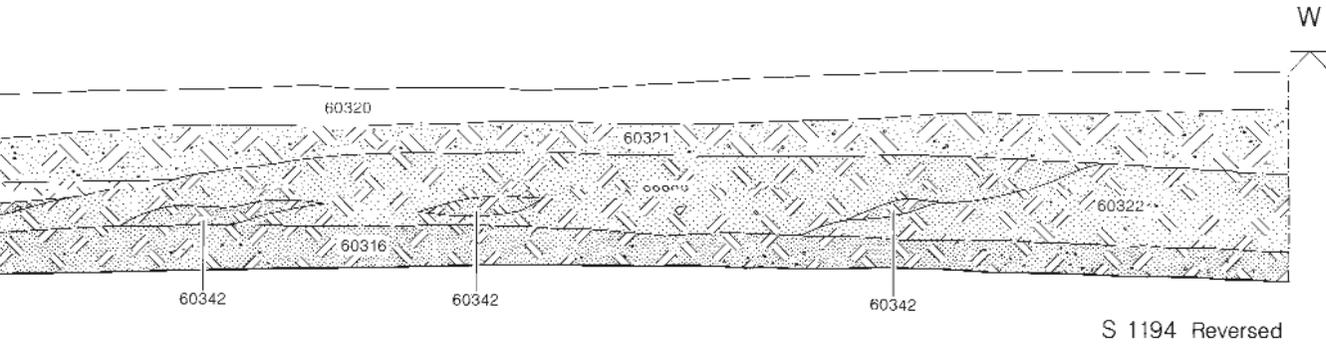
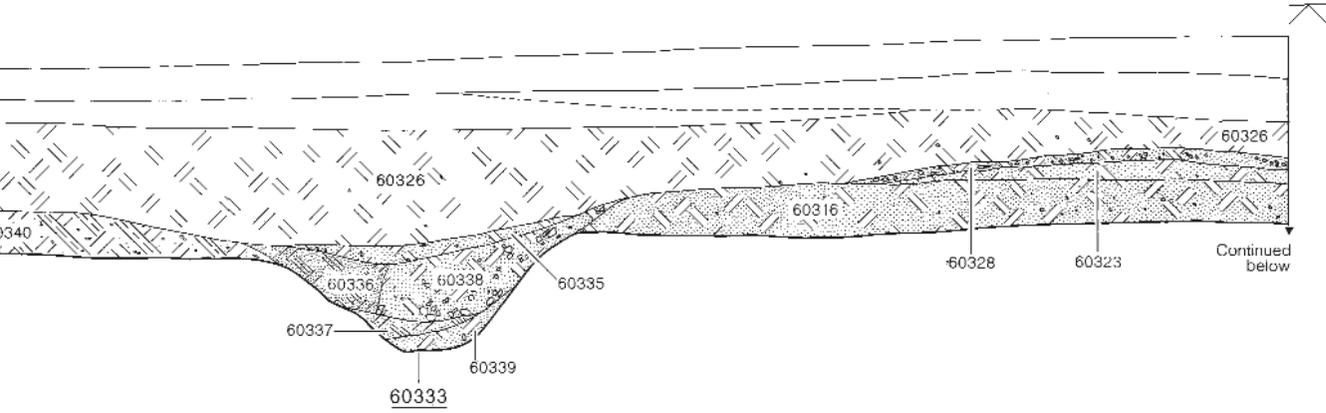
Phase 2.2 The mound

The mound survived to a maximum height of 0.45m, but was almost certainly originally higher, having subsequently suffered from natural erosion and plough damage. The various sandy clay deposits which formed the majority of the mound included 60322–60325, 60327 and 60343. They were almost stone-free, generally plastic, and dark yellow-brown, mottled with flecks of iron and manganese pan. The sections record successive dumps and intermittent lenses (Figs SS1.145–6). The topmost mound deposit, surviving only on the flanks, was a dark brown sandy clay loam with *c* 60% small pebbles, recorded under different numbers including 60307 and 60328. A berm of 1.20m separated the mound from the ditch. A small quantity of struck flint included a chisel arrowhead (Table SS1.16) and was concentrated in the gravel capping. Two Roman sherds in the topmost spit testify to disturbance (AORs 55494, 55497).

Charred timbers. The 1985 evaluation trench sectioned a group of charred, plank-like oak timbers in the base of the mound (contexts 27304, 27305, 27306, 27307, 27308). They were fully excavated in 1987 (context 60319). There were five substantial timbers, sometimes overlying each other and up to 1.50m long and 0.35m wide. There was no hint of structure or pattern (Fig SS1.144). One piece (sample 33415) extended into section S1196 (Fig SS1.146).

In 1987 the material was lifted in blocks and taken to the Ancient Monuments Laboratory in the hope of establishing the size and type of planking and of selecting the most suitable sample for radiocarbon dating. N D Balaam examined samples 33475–8 and 33482–3 in the year after they were lifted and commented as follows:

In all cases the surviving charred wood was at most 15mm thick although it was more usually about 5mm. The remains had split both along and across the grain of the wood – usually at intervals of about 5mm. The material was very contorted and it was not possible to isolate individual timbers. In some cases the remains of two or more



timbers were superimposed on one another. In all the cases that were examined the charred timber was lying with its annual growth rings parallel to the ground surface. The implication of this, and the fact that the individual timbers appear to have been 10cm or more wide, is that the charcoal is either the remains of substantial squared timbers of which only the outer parts were charred or that it is the remains of tangentially split planks. There are thus very few growth rings represented in the remains of each timber and none of these is from the heart of the tree. It is not possible to assess with any acceptable degree of accuracy the size of the trees from which the timber came, although it is likely that they would have been at least 40cm in diameter.

One of the 1987 timbers, sample 33478, was dated to 2110–1680 cal BC (3530±70 BP; OxA-3053) and provides a *terminus post quem* for the mound, since the timbers must have been incorporated during its construction.

Phase 2.3 The ditch silts

Thirteen sections were excavated across the ditch, and the sequence of silting was recorded in four drawn sections. The fills consisted of deposits of silty clay, with a tendency for a higher percentage of pebble inclusions towards the top of the sequence. In the early stages of silting, S1193 (Fig SS1.146) shows a preponderance of the lower silts derived from the outside and sections S1195 and S1196 show roughly equal quantities from both sides. This would be in keeping with the former presence of an external bank. There was a small amount of struck flint and a fragment of fired clay (Table SS1.16).

No strong case, on the basis of the ditch silting patterns, can be made for significant site-wide depositional events. The only discernible change was for an increased presence of localised pebble concentrations in some of the upper ditch fills. This may provide evidence for primary silting being derived from the ditch sides and immediate surroundings, with mound material eroding across the berm and into the ditch as a secondary deposit.

In the north-east of the circuit there may have been a recut in the fully silted ditch. The form of the interface of 60336 and the preceding layers strongly suggests that it lay in a cut which had truncated them (Figs SS1.145–6; S1193, S1194).

Phase 2.4 Cremation and limestone setting

Cremation F60312 was within the body of the mound and had probably been cut into

it, although incorporation during construction is not out of the question. It was recognised, probably in a truncated state, during hoeing after the machining-off of some of the mound material. It did not penetrate to the pre-mound soil. Its relationship to the gravel capping is unknown, since it lay inside the surviving upper limit of that layer. Its recognition close to rather than in the surface of the mound may well reflect the disturbed state of that surface. There were four scattered limestone blocks to the south-east of it (Fig SS1.142). The cremation (6460) was of an adolescent of 12–16 years (Mays SS4.7.4). Charcoal flecks were present and there was what was thought to be pottery under the bone (AOR 55522), although this has not subsequently been traced. The only charred plant remains present were two tuber fragments (Campbell SS4.5.4), dated to 1940–1530 cal BC (3450±70 BP; OxA-3052), suggesting that the timespan between the initial construction of the mound and the insertion of the burial (if it was indeed inserted) may have been relatively short.

Phase 3 Subsequent activity

While artefacts were universally scarce (Table SS1.16), the largest single collection of struck flint was made when hoeing the mound surface after the alluvium had been machined off (Table SS1.16). This may reflect knapping on the surface of the completed mound, as on some other barrows in the area. A denticulate suggests that this was indeed Bronze Age material.

The fills of the almost silted ditch appeared truncated at their interface with 60334, a plastic brown silty clay with 40% pebbles. This is most obvious in S1193 and S1196 (Fig SS1.146), but is also visible in the other sections. The most likely mechanism for this is ploughing, which could have truncated the ditch fills before introducing a mixture of clay and gravel from the mound, where the surface of successive dumps of material was clearly also planed-off (Figs SS1.145–6). In S1193 the surrounding soil (60340) seems to have eroded into the ditch as well. Roman pottery from superficial contexts (Table SS1.16) may relate to these events. These deposits were overlain by stone-free alluvium (60348, 60326). The main alluvial deposit (60326) did not survive over the truncated centre of the monument, which was overlain by 60321, a dark yellowish-brown stone-free sandy clay loam which lapped the inner edges of 60326 and extended only over the mound area. It is

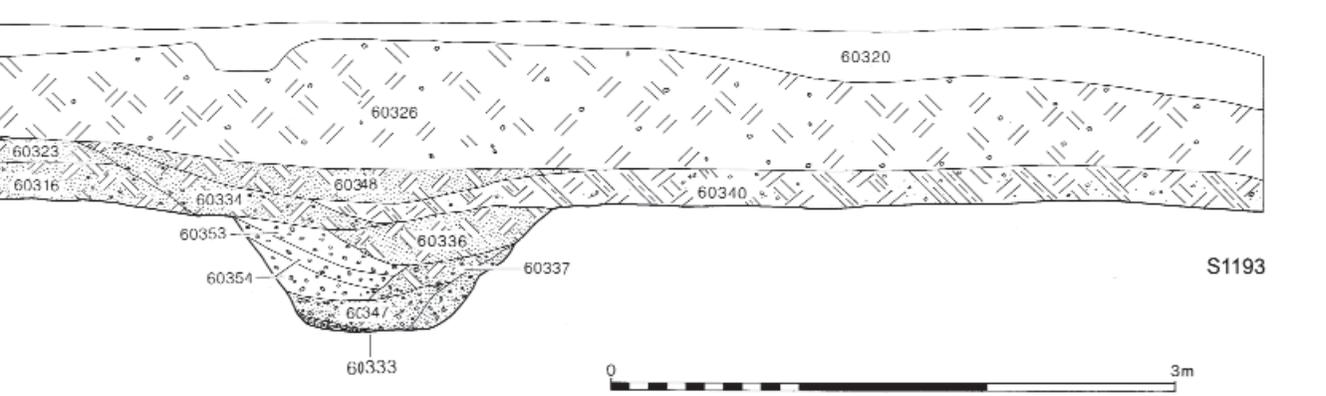
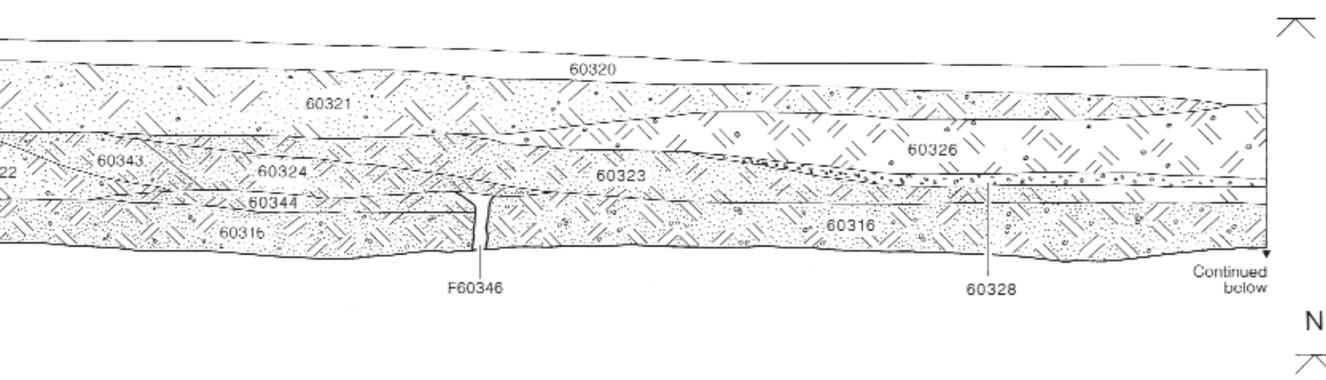
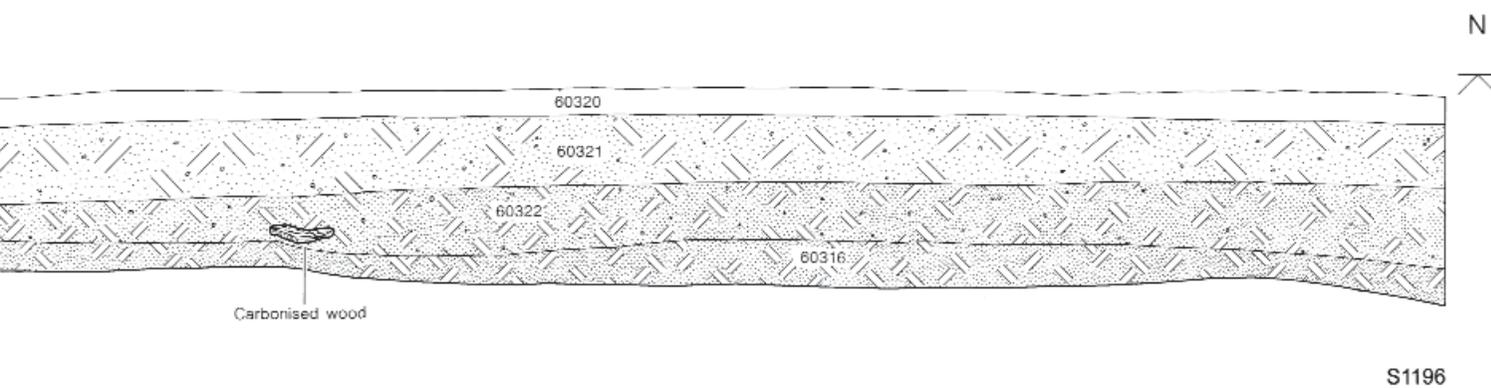
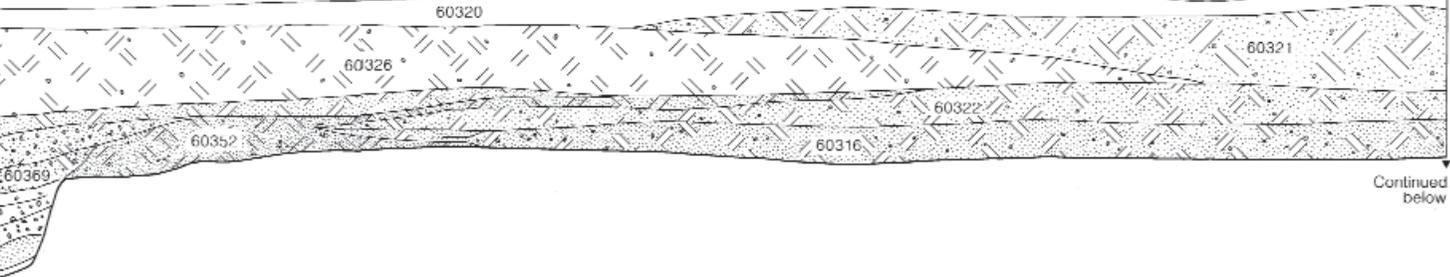


Table SS1.16. Barrow 4. Summary of finds

* = recorded, but unidentified or missing
Lithics are of flint unless otherwise stated

Phase	Context	Human remains	Animal bone	Pottery	Lithics	Charred material	Environmental evidence	¹⁴ C BP	Cal BC
0-1 Pre-mound soil					4 cores, non-bulbar fragment, 5 flakes, 2 blades		Sandy loam soil subjected to animal trampling and dunging and localised colluviation		
2.2 Mound				13 g Roman	Non-bulbar fragment, 15 flakes, chisel arrowhead	5 substantial charred oak timbers, plus fragments		3530±70 (OxA-3053)	2110-1680
2.3 Ditch silts				Fired clay	Non-bulbar fragment, 4 flakes, 2 blades, chip, scraper, knife				
2.4 Cremation	F60312	Cremation of 12-16 year old		* (AOR 55522 recorded in field, not subsequently identified)		Lesser celandine and indeterminate tubers		3450±70 (OxA-3052) on tubers	1940-1530
3 Later activity					Flake				
Clearance at base of alluvium	60301			41 g Roman	4 cores, 7 non-bulbar fragments, 33 flakes, 2 blades, denticulate, 2 misc retouched	Wood (55444) Fired clay			

likely to have been a combination of alluvium and mound material amalgamated by cultivation following alluviation.

F60355 was a probably circular undated feature cut into the natural deposits outside the monument to the north-west. It had vertical sides and a flat bottom with a fill indistinguishable from layer 60340 which overlay it.

3 Discussion of stratigraphy and phasing

The stratigraphic record points to a single episode of construction, in which the mound was built with sandy clay from the ditch and capped with gravel from the base of the ditch. A fairly even input of silts from both sides of the ditch is compatible with there having been an external bank. The only hint of remodelling is a possible late recut, filled by layer 60336, which was shallow and did not extend around the whole circuit (Figs SS1.145-6: S1193, S1194).

An alternative interpretation is suggested by the irregular plan of the ditch and its two opposed causeways, which are reminiscent of hengiform monuments of Clare's subtype L (1986, 296). This opens the possibility that the barrow was preceded by a later Neolithic ditched enclosure. In this case, given the slightness and incompleteness of the possible recut, the mound would have to have been built within the already silted henge ditch with material brought from farther away. This is not impossible, but a single-phase monument seems more likely. The only artefactual evidence for activity before the early Bronze Age is a middle or late Neolithic chisel arrowhead incorporated into the mound. Slight, irregular ditches surrounded some early Bronze Age barrows, like the first mound of Barrow 6 (Fig SS1.153), and some had causeways, like the first ditch of Barrow 3 (Fig SS1.125) or the inner ditch of ring ditch I at Grendon, Northamptonshire (Gibson and McCormick 1985, fig 2). The frequency and characteristics of causewayed round barrow ditches are discussed by Harding with Lee (1987, 24-26), Allen (1981, 108-10) and Bellamy (1992, 128). The irregular, double-causewayed ditch of Barrow 4 is not outside the early Bronze Age repertoire.

4 Resource estimate

The ditch, with an estimated capacity of 75.43 cu m, would have taken a team of three 111 hours to complete, or 333 hours in total.

SS1.16 Barrow 5

*Aidan Allan, Stéphane Rault and
Jon Humble*

Abstract

Barrow 5 lay between the Stanwick Roman villa estate and the deserted hamlet of West Cotton. The mound survived to a height of 0.54m and sealed a post circle *c* 17m in diameter, a smaller post arc, and various isolated postholes and post-built structures. The monument consisted of at least two major constructional phases, and had two ditches, *c* 17.50m and *c* 30.50m in respective diameter, which appeared to have silted naturally.

The central feature under the mound contained a Style 2 Beaker and five barbed and tanged flint arrowheads. There were no associated human remains, but the disturbed state of the assemblage suggested that the 'grave' may have been robbed. Secondary burials were present. There was animal bone, including a cattle skull, in a pit cut into the mound, in uncertain relation to a multiple cremation in a Collared Urn. Three peripheral cremations were also found, one of them with charcoal dated to the late fourth millennium cal BC.

In the Roman period, the barrow was the site of a *temenos*, surrounded by a polygonal wall. A metalled way extending away from the barrow is thought to have linked it with a crossing of the river Nene to the south-west. In the medieval period the monument was subjected to ploughing which caused damage to the upper levels and doubtless contributed to the erosion of the already naturally denuding mound. Alluvium sealed all features including early ridge-and-furrow cultivation.

1 Location and excavation

Barrow 5 lay between the Stanwick Roman villa estate and the deserted hamlet of West Cotton (NGR SP 97434 72242). It was unrecognised until immediately before its destruction, due to the extent of overlying alluvium. It was excavated in near-salvage conditions. The main body of the mound was removed mechanically, apart from sample transects cut across it, and the two ditches were examined only within limited areas. It was possible to record the features which cut the pre-barrow ground surface in greater detail.

Approximately four-fifths of the mound were removed, exposing the features which

cut into the natural sand and gravel. Four-fifths of the inner ditch, and three-quarters of the outer ditch were exposed in plan. Due to time constraints, it was possible only to sample the ditches with 2m wide trenches in the south and west axes. A 1m wide baulk extending from the centre to the eastern edge of the monument was left for environmental purposes. Bulk samples were taken from significant features, including the central primary feature F47179, where four 20-litre samples were taken from the middle fill (31649) and another four from the upper fill (47180), and the central secondary pit F47168, where 13 20-litre samples were taken from the bottom fill (47181), five from the middle fill (47170) and seven from the top fill (47169).

2 The excavated evidence

Phase 0 Natural deposits

Pre-mound soil

The natural deposits in this area were calcareous sands and gravels, on which had formed an acidic argillic brown loamy sand soil up to 0.50m deep, with diminishing amounts of sand and generally increasing amounts of silt and clay upwards through the profile. Clay translocation had produced a clay rich silty clay loam bBt horizon. The sandy loam bA horizon had been merged with the base of the mound by earthworm action. The results of micromorphological analysis, coupled with the organic phosphate levels in the upper parts of the profile, have been interpreted as reflecting dunging and trampling by livestock (Macphail SS4.8.2).

Treeholes

There were several treeholes within the inner ditch, including F31690, F31730, F31800 and F31804. F31690 was cut by phase 1 postholes, F31800 by phase 5.2 pit F47168. In post-excavation, treeholes containing artefacts were collectively numbered F58500. Six flint flakes and three blades were found in F31730 and charcoal in F31690. F31783, an unplanned treehole near the centre of trench B100, contained a flint flake.

The fact that three postholes were cut into the fill of treehole F31690 (Fig SS1.147) suggests, however, that the fill at least of that treehole had stabilized over a considerable period before the erection of the post-built structures, since large *in situ* roots would have caused difficulty in post-hole digging. The treeholes consequently did

not appear to have had any bearing on the location of the subsequent monument.

Phase 1. Pre-barrow features

Phase 1.1 Posthole arcs and related features

A number of circular and subcircular postholes and stakeholes were cut through the natural sand and gravel. Discernible alignments included two arcs, a stakehole cluster and seven two-post structures. Most features in this phase had no recorded stratigraphic relationship. They were sealed by mound material, and were cut through the natural sand and gravel (context 47183). There were a few features beyond the limits of the mound, and in view of the absence of Roman postholes from trench B100, they too may have belonged to this period.

F58501 large posthole arc

A total of 41 circular or subcircular features formed an arc inside and eccentric to the southern part of the inner ditch, which cut the arc at both its western and eastern ends. The arc may best be interpreted as the southern part of a post-built circle (like those under Barrow 3) the northern part of which was cut by the ditch. The distance across the arc at its greatest width was *c* 17m. Its south-west side was flattened. In post-excavation analysis, the cuts were given the global number F58501.

The postholes were typically steep-sided, with a rounded profile and a flat or rounded base. They varied from 0.18m to 0.60m in diameter by 0.07m to 0.38m deep; typical dimensions were *c* 0.20m to 0.30m in diameter by 0.20m deep below the top of the natural sand and gravel (context 47183). The distance between the cuts varied from 0.10m to 0.70m, with a typical separation of *c* 0.20m to 0.30m.

There was a larger than average gap of 0.68m (inner edge to inner edge) between F31710 and F31720, immediately to the east of inner and outer flanking postholes F31706 and F31712, and around the mid-point of the WNW-ESE arc. This may have been an entrance, close to the centre of the flattened south-west side, but it should be noted that similarly sized gaps were present between the larger westernmost postholes, and between F31773 and F31775 in the east of the arc.

The fills of the postholes consisted of a homogeneous sandy clay loam, and with the exception of the charcoal flecks in context 31757 (the fill of F31756), none contained coarse components. Approximately half the

fills were a dark brown (10YR 3/3) colour, but dark grey brown (10YR 3/2) and dark yellow browns (10YR 4/4 and 10YR 4/6) were also recorded. The twelve easternmost postholes were not excavated and virtually all their fills were described as very dark brown (10YR 2/2). Apart from the two instances of 10YR 4/4 coloration, which were present in extremely shallow cuts (of which there were only four examples), there appears to be no correlation between fill type and cut type. A flint blade in F31686 was the only artefact from the large posthole arc.

During post-excavation analysis, archive information was used to construct a section drawing passing along a hypothetical line through the centre of each cut (Barrow 5 post-excavation drawing 1). With the exception of a tendency for the larger examples to be situated to the west of the alignment, no other patterning was discernible and there was nothing to suggest that the arc was anything other than a single entity, laid out as a single action. Moreover, as some postholes at both surviving ends of the arc were truncated by the inner ditch, it is assumed that the whole structure was stratigraphically earlier than this feature.

The shallowness of some postholes relative to their width indicates that, in some cases at least, the tops of the postholes may have been removed by later activity. Before the inner ditch was cut, the postholes would almost certainly have formed a circle of upright timbers, at least 17m in diameter. By the time the mound was constructed the posts appear either to have decayed or to have been removed. Post-built arcs under barrows have been noted from all over Britain (eg Ashbee 1957). Various interpretations have been put forward for these features. In the case of this structure, the construction directly over it of the subsequent barrow strongly suggests a ceremonial purpose, rather than agricultural use (eg as a livestock pen). Its very large diameter (*c* 18 m) may argue against its having been covered, but the arrangements of internal posts may have functioned as additional support for a superstructure. The absence of evidence for a drip-gully, however, suggests that it was originally left open.

F58502 small posthole arc

An arc of circular and ovoid cuts considerably smaller than F58501 lay on the inside of the south-west part of arc F58501 and approximately concentric to it. In post-excavation, this was issued the generic number F58502.

The centre of F58502 was at 1232.30/1540.40. F58502 was 2m from F58501 at its southern end, and 2.50m at its northern end.

F58502 comprised (from north to south): F31664, F31694, F31696 and F31719. There was no general consistency of profile – gently sloping sides, steep sides, flat and rounded bases were all present. All but one were *c* 0.20m in diameter: F31719 was an oval measuring 0.06m x 0.10m. The depths of the cuts were 0.09m, 0.15m, 0.21m and 0.03m respectively.

In each case the fill was a homogeneous sandy clay loam with no coarse components. Colour varied from dark brown (10YR 3/3) to dark yellow browns (10YR 4/4 and 10YR 3/4). In form and fill type, the cuts were therefore closely comparable with those in the large posthole arc. The curvature of the arc, by extrapolation, would have formed a circle *c* 10m in diameter.

The shallow depth/width ratios of the postholes suggest either post-depositional damage, or insertion through the body of the mound. By analogy with Barrow 3, where it is almost certain that the eccentric circles were not constructed as a single episode, it is possible that this arc was built at a separate period from the large post circle.

There was no archaeological evidence for the chronological relationships relative to this arc, and in view of the shallowness of the cuts, it is possible that the feature was of considerably greater extent, possibly forming a circle of smaller diameter than F58501.

F58503 stake-hole cluster

There was a concentration of small circular features midway between the large posthole arc F58501 and small posthole arc (F58502). The cluster extended over an area *c* 2m x 1.2m, with its centre at 1230.70/1540.20, and comprised 21 stakeholes, which were issued the generic number F58503. Individually, they were F31671, F31672, F31673, F31674, F31675, F31676, F31677, F31678, F31679, F31680, F31681, F31682, F31683 (the last number is a composite, recording 9 stakeholes). A further outlying stakehole (F31688), 0.5m north-west of the main group, is also included here, bringing the total to 22.

All the stakeholes had steep sides with a concave break to either a flat or rounded base; the fills were not recorded. The posts appear to have been grouped in threes and twos. There were two three-post east-west alignments at the south of the complex and two north-west/south-east alignments imme-

diately to the north. The remainder of the postholes consisted of two posts aligned ENE-WSW to the west of the north-west/south-east, two more immediately below and to the east of the east-west complex, sharing its alignment, and an isolated post 0.50m to the ESE of the north-west/south-east complex. It should be stressed that it may be possible to interpret the patterning differently.

Because the stratigraphic relationships were not recorded, it is not possible to place the cluster accurately in the sequence. Although it has been attributed to the same phase as F58501 and F58502, due to its central position between them and its respect for the curvature of the two posthole arcs, it is possible that it was not contemporary with either, and it could have been inserted through the mound at a later date. The close proximity between the stakeholes (typically *c* 0.20 m) makes it difficult to explain as a single-period complex. It is possible that the short parallel rows supported some form of superstructure, such as raised platforms for ritual objects or activity, but this cannot be proved.

Pairs of postholes

In seven instances, similarly-proportioned circular or oval cuts in close proximity to one another have been interpreted as two-post structures and numbered generically in post-excavation. Other than F58510, whose inclusion in this subgroup may not be as fully justified as the others, there was little reason to doubt the classification of these features as two-post structures. Their function remains unclear, although they may have served to support a superstructure, perhaps a beam associated with roofing for the large post arc. The approximate co-ordinates given below are midway between each two post features, and distances between the two postholes are centre to centre:

F58504. Two oval cuts, F31803 and F31798, centred on 1243.00/1544.80. F31803 was 0.30m x 0.20m x 0.04m deep, F31798 0.40m x 0.30m x 0.07m deep. The two were 0.50m apart and aligned roughly ENE-WSW.

F58505. Two circular cuts, F31793 and F31794, centred on 1242.20/1540.40. Both postholes were 0.20m in diameter, were concave in profile, and possessed steep sides and a flat base. They differed in depth, F31793 being 0.08m deep, and F31794 0.21m deep. They were 0.50m apart and aligned approximately ENE-WSW.

F58506. Two cuts centred on 1237.70/1539.80. F31795 was circular, *c* 0.20m in

diameter x 0.09m deep, with a concave profile, steep sides and a flat base. F31801 was 0.26m x 0.40m x 0.05m deep. The two postholes were 0.70m apart and aligned approximately ENE-WSW.

F58507. Two cuts, F31643 and F31645, centred on 1230.50/1545.60. The former was 0.20m in diameter by 0.03m deep, the latter was an oval 0.30m x 0.20m, but of unrecorded depth. Both were concave in profile with gently sloping sides. Fills 31644 and 31646 were both dark yellowish brown (10YR 4/4) sandy clay loam, with no coarse components and no finds. The two postholes were 0.50m apart and aligned approximately NNE-SSW.

F58508. Two cuts, F47191 and F47193, with their centre at 1235.26/1546.96. The former was 0.25m in diameter by 0.12m deep, the latter 0.20m in diameter by 0.07m deep; both were concave in profile. Fills 47192 and 47194 were identical to those in F58507 above. The two were 0.50m apart and aligned approximately NNW-SSE.

F58509. Two oval stakeholes, centring around 1233.50/1540.24. F31717 measured 0.08m x 0.04m x an unrecorded depth, F31718 was 0.08m x 0.08m x an unrecorded depth; both had a concave profile and steep sides. The two postholes were 0.25m apart and aligned approximately NNE-SSW.

F31789 and F31791. Two circular cuts centred on 1236.50/1529.90. The former was 0.26m in diameter x 0.26m deep, the latter 0.31m in diameter x 0.25m deep. They were situated between the inner and outer ditches in sample transect 47105. Their respective fills (contexts 31790 and 31792) were both dark brown (10YR 4/3) sandy clay loams.

Miscellaneous features

Many of the other features ascribed to phase 1 had no recorded stratigraphic relationships, but are thought to occupy a similar stratigraphic position, ie later than natural context 47183, and earlier than the construction of the first barrow mound.

F31641. Stakehole 0.08m in diameter x 0.04m deep, centred on 1230.52/1546.41. Fill 31642 was a yellowish-brown (10YR 4/4) sandy clay loam.

F31650. A short linear cut situated between the inner and outer ditches (although of unknown relationship to these features), centring on 1223.50/1533.00. The cut was orientated north-west/south-east and was 0.09m wide. Fill 31651 was a brown (10YR 5/3) clay loam with yellow-brown

(10YR 6/3) mottles.

F31662. Oval posthole 0.24m x 0.18m x 0.13m deep, centring on 1230.15/1543.30. F31662 was concave in profile with flat sides. Fill 31663 was a dark brown (10YR 3/3) sandy clay loam.

F31706. Stakehole 0.26m x 0.30m x 0.06m deep, centred at 1233.85/1536.00. The profile was rounded, the sides gently sloping, and the base rounded. F31706 was situated to the south of the extreme eastern posthole of the western arm of the large posthole arc (F58501) and may have been associated with this feature. Fill 31707 was a dark yellow brown (10YR 4/4) sandy clay loam.

F31712. Oval stakehole 0.38 x 0.22 x 0.16m deep, centred at 1234.40/1537.30. The profile was concave, the sides steep and the base rounded. F31712 was situated to the north of the extreme eastern posthole of the western arm of the large posthole arc (F58501) and may have been related to this feature. Fill 31713 was a dark brown (10YR 3/3) sandy clay loam.

F31714. Roughly circular posthole 0.26m in diameter and 0.06m deep, centred on 1233.80/1533.20. Fill 31715 was a dark brown (10YR 3/3) sandy clay loam.

F31716. Pit 1.38m x 0.90m x 0.08m, centred on 1232.90/1540.60. Fill 31735 was a dark red (5YR 3/2) brown sandy clay loam with dispersed flecks of charcoal.

F31758. Circular posthole 0.18m in diameter by 0.05m deep, centred on 1229.15/1541.85. The profile was concave, the sides steep and the base flat. Fill 31759 was a dark yellow brown (10YR 4/4) sandy clay loam.

F31767. Circular posthole, centred on 1241.25/1535.00. Unexcavated.

F31785. Roughly circular posthole 0.36m in diameter by 0.18m deep, situated to the south of the outer ditch in transect 47105, centred on 1236.50/1520.92. The cut had a concave profile, steep sides and a flat base. Fill 31786 consisted of a dark brown (10YR 4/3) sandy clay loam.

F31787. Roughly circular posthole 0.41m in diameter by 0.26m deep. F31787 was situated to the south of the phase 4 outer ditch in transect 47105, centred on 1235.31/1525.22. The cut had a concave profile, steep sides and a flat base. Fill 31788 consisted of a dark yellowish-brown (10YR 4/6) sandy clay loam.

F31779. Unexcavated posthole filled by context 31780, situated 'towards the eastern end of trench B100'. Although not more

closely located, F31779 probably belonged to phase 1 in view of the absence of such Roman features in trench B100.

F31796. Ovoid posthole 0.39m x 0.26m x 0.06m deep, centred on 1244.69/1545.16.

F31797. Circular stakehole 0.12m in diameter, centred on 1242.36/1545.16.

F31802. Circular stakehole, 0.06m diameter, centred on 1240.14/1546.08.

F31805. Ovoid cut 0.60m x 0.50m x 0.15 deep, centred on 1231.10/1548.30. The eastern side of the cut was quite steep, with the western side more gently sloping. The base was narrow, and possibly pointed. This feature was cut by the phase 2 inner ditch F47140=F47196.

F31806. Ovoid cut 0.78m x 0.46m x 0.07m deep, centred on 1230.02/1546.51. The cut possessed a wide, flat base.

F31807. Ovoid cut 0.90m x 0.60m, of unrecorded depth, centred on 1230.80/1543/40. No other details were recorded.

F31815. Circular posthole 0.12m in diameter and 0.05m deep, centred on 1232.72/1545/35.

F47096. Unlocated cut, one horizontal dimension *c* 0.50m. It was filled by context 47086, a very dark grey-brown (10YR 3/2) silt-loam and was cut by the inner ditch (F47140=F47196) in phase 2. It was interpreted on site as a ditch, but this seems unlikely, as it was not investigated further. There were three crumbs of flint-tempered pottery, possibly Neolithic, one with traces of impressions, in the fill (AOR 55213).

F47182. Circular posthole 0.22m in diameter by 0.10m deep, centred on 1231.46/1548.04. F47182 cut natural context 47183 and was filled by 47184 a dark yellow brown (10YR 4/4) sandy clay loam.

F47185. Circular posthole 0.18m in diameter by 0.07m deep, centred on 1233.06/1548.05. The cut was concave in profile with gently sloping sides. Fill 47186 was a dark brown (10YR 3/3) sandy clay loam. When aligned with F47187, these postholes follow a similar course to the unnumbered linear feature detailed below.

F47187. Ovoid posthole 0.22m x 0.18m x 0.11m deep, centred at 1233.65/1246.60. The cut was concave in profile with steep sides. Fill 47188 was a dark yellow brown (10YR 4/4) sandy clay loam.

F47189. Unexcavated and unlocated posthole 0.16m wide by 0.19m deep, situated 'near the northern baulk of trench B100', filled by 47190. Probably belonged to phase 1 given the absence of comparable Roman features in this trench.

F47195. Small unlocated sub-circular cut situated 'near the northern baulk of trench B100', no fill recorded. Probably belonged to phase 1, given the absence of comparable Roman features in this trench.

Un-numbered cut. Finally, there was an un-numbered linear cut 2.80m x 0.70m x 0.06m deep, centring on 1233.60/1548.40. The feature extended beyond the northern trench edge and was orientated NNE-SSW, an alignment shared by postholes F47185 and F47187 to its west.

Postholes beyond the area enclosed by the inner ditch attest that phase 1 activity was not confined to the area later utilised by the barrow. Due to time constraints, however, it should be noted that not all of the trench was excavated down to the level of the natural subsoil, and attention was focused on the area of the barrow.

Phase 1.2 Central feature F47179

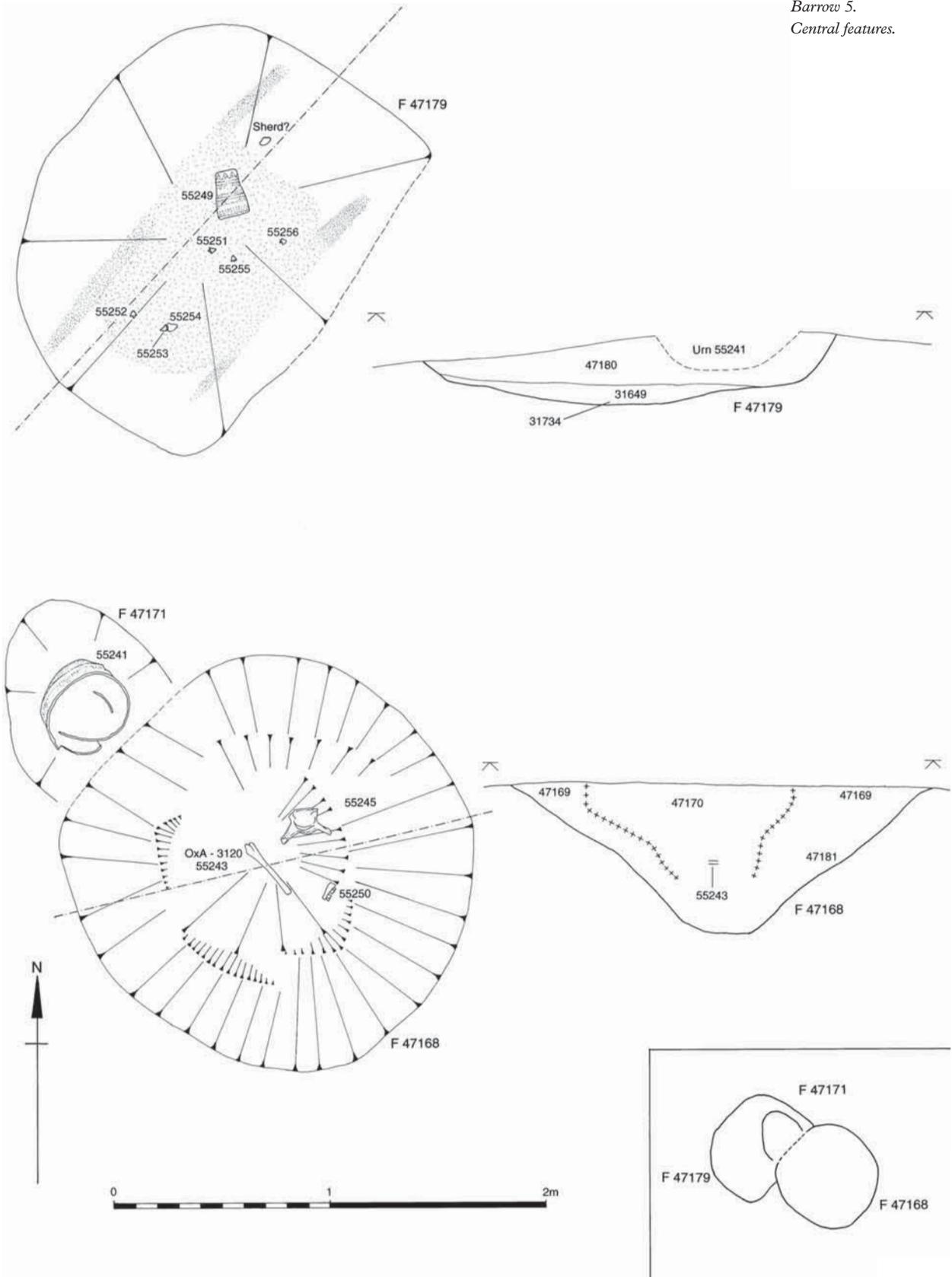
Section S858 shows that the central feature underlay the mound (47103; Fig SS1.149). F47179, a subrounded cut 1.90m x 1.45m x 0.30m deep (Fig SS1.148), was situated centrally within the area enclosed by the inner ditch. The northern side of the cut was angled at 70°, the southern at 30° (Fig SS1.148). The sides broke twice to the base; the break to the scoop-like profile displayed by the base of the cut coincided roughly with the interface between the two fills; the possibility of a recut at this point is considered in the discussion below.

Upon the removal of the primary fill, two discontinuous, linear, parallel soil discolourations were evident. Each was up to 0.10m wide and the longer was 1.65m in length. The two were separated by a distance of 0.70m and this intervening area was also discoloured. This discolouration is thought to have represented the decayed remains of a timber bier.

The primary fill (31734) was a dark brown (5YR 3/2) sandy clay loam, with inclusions of charcoal, sandstone and ironstone fragments. This deposit was of negligible depth, and was present on the base of the cut.

On the surface of 31734 were a crushed and slightly dispersed Wessex/Middle Rhine Beaker (AOR 55249; Tomalin SS3.8.4: P83) and five scattered barbed and tanged flint arrowheads of unspecialised form (AORs 55251-3 and 55255-6; Ballin SS3.7.6, Fig SS3.34: 83-87). A pottery find (AOR 55254) which lay with one of the arrowheads (AOR 55253) was recorded as an incomplete cremation urn. This is likely to be the small

Figure SS1.148
Barrow 5.
Central features.



Collared Urn illustrated as P94 (Tomalin SS3.8.4). There is, however, some confusion as to the provenance of this vessel: a sketch of it is marked with two AOR numbers, 55254 and 36224, the second of which is that of two unstratified sherds from Barrow 3. All the sherds attributed to both numbers have been destroyed in the course of residue and fabric analysis. Sherds with both numbers were submitted separately for analysis as 'Collared Urn', so it is probable that both finds consisted of Collared Urn sherds. Both contained traces of highly degraded animal fats, as did the Wessex/ Middle Rhine Beaker (Copley *et al* SS3.8.2). No human remains were present.

The middle fill (31649) which overlay the artefacts was identical to 31734 in every respect, apart from being described as 'sticky and gritty'. A preliminary examination of samples from 31649 showed that it contained charcoal, charred plant remains, including an onion couch grass tuber fragment, and some bone. The upper fill was context 47180, a dark brown (7.5 YR 3/2) sandy loam with patches of dark yellowish

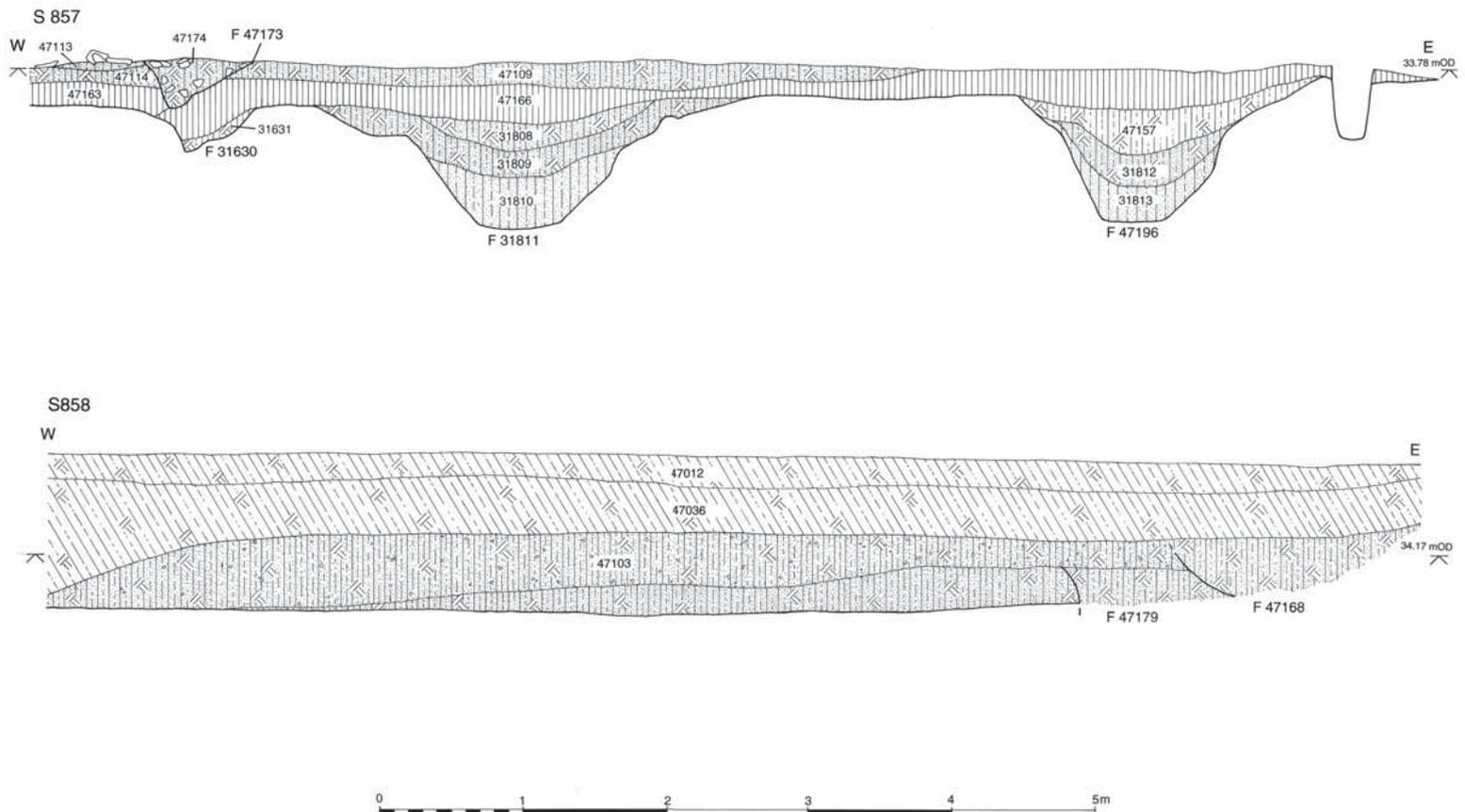
brown (10 YR 4/6) sandy clay and flecks of charcoal, sandstone and ironstone. It was up to 0.24m deep. The lower part of F47171, the cut for a Collared Urn cremation, extended into it, although its limits were difficult to distinguish, and its south-east edge would have been cut by pit F47168, which was cut through the barrow mound (Fig SS1.149). Samples from 47180 contained burnt flint, bone, charcoal and charred hazelnut shell, onion couch grass tuber, and indeterminate cereal (Campbell SS4.5.4). Context 47180 also displayed signs of having been truncated during the mechanical removal of the mound, although it is conceivable that this had occurred in antiquity.

Phase 2. Construction of primary mound and inner ditch

Phase 2.1 the inner ditch

The inner ditch was excavated and recorded in detail in sample transects 2.50m wide, numbered 47105 on the southern side of the barrow (where the ditch was numbered F47140), and 47106 on the west side (where

Figure SS1.149
Barrow 5.
Sections. The posthole at the east edge of the inner ditch was drawn as shown here, but aligns with others that underlay the relict mound and/or were cut by the inner ditch.



the ditch was numbered F47196). Elsewhere, the top edge of the ditch cut was recorded in plan, but not excavated. F47140 was recorded as having cut the phase 1 contexts F47096 and F31805. In transect 47105, F47140 was 1.60m wide, by 0.70m–1.00m deep, with its top edge at 33.81m OD. The ditch sides were slightly irregular, angled at 60°, and the base was flat. In transect 47106, it was 2.14m wide and 1.00–1.13m deep, with its top edge at 33.73m OD. The western side was angled at 60°, whereas on the eastern side the angle was 30° at the top, increasing to 50° halfway down the cut. The base was again flat.

The diameter of the ditch (centre to centre) was *c* 17.50m, with an extrapolated perimeter to the inner edge of 55.70m. The ditch enclosed an area of *c* 243 m².

Phase 2.2 the mound

Spoil derived from the ditches was probably mounded internally. In colour photographs, however, the core of the mound appears extremely dark and soily, suggesting that it was exclusively of a turf or turf and topsoil construction, with material from the inner ditch being used for the outer layers. In the written record it is sometimes referred to as ‘turf’, which implies that it was dark and stone-free. It was recorded during soil-sampling as a dark brown moderately weak sandy loam with common fine diffuse mottles, manganese staining and earthworm burrows, without any mention of features indicating the former presence of turves (Macphail SS4.8.2). 47103 was assigned as the general context number for the mound material. Variations were observed. On S849, for example, the deposit was numbered 47160 and 47161 and was composed of a gritty sandy-clay loam coloured 10YR 5/4 and 10YR 4/4 respectively. There was a grogged, coil-built body sherd, probably of early Bronze Age date, in the first spit (AOR 55125). The lithics from it were largely Neolithic, with some Mesolithic and Bronze Age material (Table SS1.18; Ballin SS3.7.6). Eroded mound material in the top of the inner ditch was a dark, stone-free, reddish-brown sandy clay loam. There was little sign of gravel. It was not clear whether the mound was enlarged when the outer ditch was dug.

Phase 3. Inner ditch silts

The digging of the inner ditch was followed by a period of silting. In transect 47106, cut F47196 had three fills: 31813 a light yellow-

brown sandy loam with humic streaks; overlain by 31812, a dark brown sandy clay-loam which was earlier than 47157, a brown clay-loam which contained a grogged fragment from the collar of an early Bronze Age vessel (AOR 44077; Tomalin SS3.8.4: P95). Context 47157 was overlain by 47154/47166 during phase 6, thought to be equal to 47137, the trench-wide buried soil which divided the earlier prehistoric horizons from the Iron Age and Romano-British features (Fig SS1.149).

In transect 47105, the fills of cut F47140 were as follows. The primary fill (47095) consisted exclusively of sand and gravel up to 0.10m deep. This was overlain by 47094, a yellow brown sandy silt up to 0.25m deep, in turn overlain by 47093, a dark grey-brown silt up to 0.25m deep. Context 47093 was stratigraphically earlier than two unrelated deposits; 47092 was a 0.20m deep deposit of yellow-brown silty clay loam with frequent gravel, and 47198 was a yellow-brown sandy clay-loam up to 0.25m deep. The sequence was completed by context 47139, a dark-brown clay-loam, which was overlain by context 47137 in phase 6, the site-wide buried soil which divided the earlier prehistoric horizons from the Iron Age and Romano-British features (Fig SS1.149).

The length of time between the end of phase 2 and the beginning of phase 3 is open to debate. Phase 3 could have started immediately after the excavation of the ditch if silts had been allowed to accumulate unchecked; alternatively, silting may have been removed periodically. Silting occurred equally from both sides of the ditch, with no tiplines or evidence of mound-slumping.

The inner ditch fills showed no evidence for redeposition of the original upcast in reverse stratigraphic order. No substantial gravel deposit could be identified in the inner ditch fills. The primary silts appeared to be inwash accumulated soon after the initial digging of the ditch (or following the period after which it was initially allowed to silt). In addition, although 47092 contained ‘frequent gravel’, the amount was not quantified, and there was no unmistakable redeposited gravel deposit like that in the Barrow 1 ditch fills.

As a consequence of the conditions in which the barrow was excavated, it is possible that sand and gravel in the inner ditch fills were not fully recorded. The evidence suggests that the phase 2 mound was of turf and topsoil, and that the gravel derived from the lowest levels of the digging of the inner ditch (or even all the ditch upcast) was

Figure SS1.150
Barrow 5.
Inverted, truncated urn
55241.
(Photo English Heritage)



deposited elsewhere. It should be remembered, however, that only small segments of both ditches were excavated.

Phase 4. Enlargement of barrow and construction of outer ditch

An outer ditch apparently approximately concentric to the inner ditch was recorded in sample transects 47105 and 47106. Within transect 47105, it was numbered F47084 and was 2.60m wide and 0.85m deep with sides angled at 45°, breaking to a flat base 0.80m wide. F31811 was the continuation of the ditch in transect 47106 and was 3.10m wide by 0.90m deep. The top edges were at first gentle, angled at between 25° and 30°, breaking 0.30m down the cut to an angle of 50°. The base was flat and 0.50m wide. The unexcavated ditch was planned between these two areas (Fig SS1.149). By extrapolation a ditch of such curvature would have formed a circle *c* 30.50m in diameter (centre to centre), enclosing an area *c* 28.40m in diameter, and 450 sq m in area.

As with the initial construction of the barrow in phase 2, the spoil derived from the digging of the ditch in this phase appears likely to have been mounded internally. Due to the constraints of the circumstances of excavation, it was not possible to differentiate between mound phases.

Phase 5. Outer ditch silts, secondary deposits and cremations

Phase 5.1 Outer ditch silts

The digging of the outer ditch was followed by a period of silting. In transect 47106, cut F31811 contained three fills: 31810 was a light yellow-brown sandy loam with humic streaks which was stratigraphically earlier than context 31809, a brown sandy clay-loam; this was in turn overlain by 31808, a dark grey-brown sandy clay-loam. Context 31808 was overlain by 47154/47166 in phase 6, thought to equate with 47137, a buried soil which divided the earlier prehistoric

horizons from the Iron Age and Romano-British features (Fig SS1.149).

In transect 47105, the fills of cut F47084 were also superimposed one on another in simple stratigraphic succession. The following list is presented from the earliest to the latest: 47091 sand and gravel up to 0.25m deep; 47090 light brown and olive grey sandy silt; 47089 olive grey silt; 47083 olive grey silt, very occasional gravel; 31626 dark yellow-brown sandy clay-loam. This last deposit was overlain by context 47137, the buried soil found throughout trench B100, which divided the earlier prehistoric from the Iron Age and Romano-British features.

Phase 5.2 Secondary deposits in the centre of the barrow

F47171 was a subcircular cut 0.80m x 0.70m x 0.20m deep situated in the centre of the area defined by the inner ditch, centring on 1236.90/1543.40, with its top at 33.88m OD. Fill 47172 consisted of a dark brown (7.5YR 3/4) sandy clay loam with charcoal flecks, which was not readily distinguishable from adjacent fills. It contained an inverted Collared Urn (AOR 55241; Tomalin SS3.8.4: P90). The absence of the base is thought to be due to a combination of plough truncation in antiquity and possibly machine disturbance at the time of excavation. The urn was lifted as a block and excavated in the Ancient Monuments laboratory. The cremation (6461) was of at least three adults, including one possible male and one possible female, all probably under *c* 40 years (Mays SS4.7.4). Some grave fill still adhered to one side, and an unburnt bifacially flaked foliate flint knife or dagger was found in it, lying against the outside of the pot at the base of the collar (AOR 55112; Edwards SS3.2, Fig SS3.1, Ballin SS3.7.6, Fig SS3.46: 90). The urn had contained ruminant fats and had been heated (Copley *et al* SS3.8.2). A thin-walled, formerly shell-tempered body sherd, possibly Neolithic, was also present.

The mouth of the urn lay within the upper fill of central feature F47179, and a plan suggests that F47171 was itself cut by F47168, although the indistinct edges of F47171 make it difficult to be sure of this.

F47168 was a roughly circular cut 1.80m in diameter by 0.70m deep (Fig SS1.148), situated in the centre of the area defined by the inner ditch, with its midpoint at 1237.90/1542.99; no top height was recorded, although F47168 was described 'cut from high up in the barrow mound', and S858 shows it cut through the full height of

the mound, while S856 suggests the same. Three fills were present: the lowest, 47181 consisted of a sticky and gritty dark brown (7.5YR 3/2) sandy clay loam with flecks of charcoal, decayed sandstone and ironstone. A cattle skull (AOR 55245), a large jaw fragment (AOR 55250) and a large artiodactyl tibia (AOR 55243) placed centrally in the pit are recorded as from this layer, although the section shows them as possibly in the lower part of 47170, the base of which was not defined (Fig SS1.148). The tibia is dated to *2140–2070 cal BC at 15% probability*, or *2050–1880 cal BC at 80% probability* (mean of 3680 ± 100 BP (OxA-3120) and 3625 ± 40 BP (OxA-7950)). None of the tibia survives; the jaw fragment could not be found in 2002; and the skull, having been lifted in a block of earth, was so fragile that removing the hardened earth would have done it considerable damage (Polydora Baker pers comm). It is thus impossible to provide details of the bones in this deposit. Samples from 47181 contained burnt flint, burnt stone, burnt clay and charcoal, as well as the charred remains of lesser celandine, vetch or tare, Polygonaceae, hazelnut shell fragment, bedstraw, mayweed, onion couch grass tubers, grain and rachis fragment of free-threshing wheat (both probably intrusive) and indeterminate tubers (Campbell SS4.5.4).

47181 was overlain by 47169, a sandy clay loam (7.5YR 3/2) with flecks of charcoal, decayed sandstone and ironstone (all less than 5%), mixed with a dark yellowish brown (10YR 4/4) sandy clay. In it were 10 sherds/206 g of first-century Roman pottery, the precise location of which is not recorded. Samples from it contained burnt flint, bone, charcoal and charred remains of onion couch-grass tuber. 'Human? tooth fragments' were noted in the field (AOR 55219), although the identification has not been verified.

The latest fill, 47170, was a dark brown (7.5YR 3/2) sandy clay loam with patches of dark yellowish brown sandy clay. Its steep interface with 47169, which were marked by iron pan (Fig SS1.148) suggests that it was the fill of a recut. In contrast to the first-century pottery from 47169, 47170 contained 8 sherds/406 g of fourth-century and later Roman pottery. Samples from 47170 included burnt flint, charcoal and charred remains of vetch or tare, onion couch grass tuber and indeterminate tubers.

A further 10 sherds/220 g of fourth-century pottery were recorded only as from F47168.

Phase 5.3. Peripheral cremations

F47143 was an oval cut 0.40m x 0.25m (depth unrecorded), situated in the northern part of the mound, centring on 1235.20/1550.80, with its top at 34.22m OD. F47143 truncated mound material (47103) in this phase, and was filled by 47144 a dark brown (10YR 4/3) silty loam, 30% of which was composed of burnt bone (cremation 6452), and 1% of charcoal. The cremation was of an adult of *c* 30–50. A fragment of burnt animal bone was also present (Mays SS4.7.4).

F47087 was a sub-circular cut (Figs SS1.151–2), measuring 0.40m by 0.35m and 0.08m deep, situated between the inner and outer ditches within sample transect 47105, centred on 1235.79/1530.28, with its top at 33.70m OD. The cut truncated natural deposit 47088. Fill 47085 was not described. F47085 contained a quite densely packed cremation (6453), a flint fabricator (AOR 55217), flake (AOR 55216) and blade (AOR 55218), all burnt, and very little charcoal. The cremation was of an adult, with an additional right mandibular condyle from a second adult (Mays SS4.7.4). The charcoal was so highly-burnt as to be unidentifiable,

Figure SS1.151
Barrow 5.
Cremation in F47087.

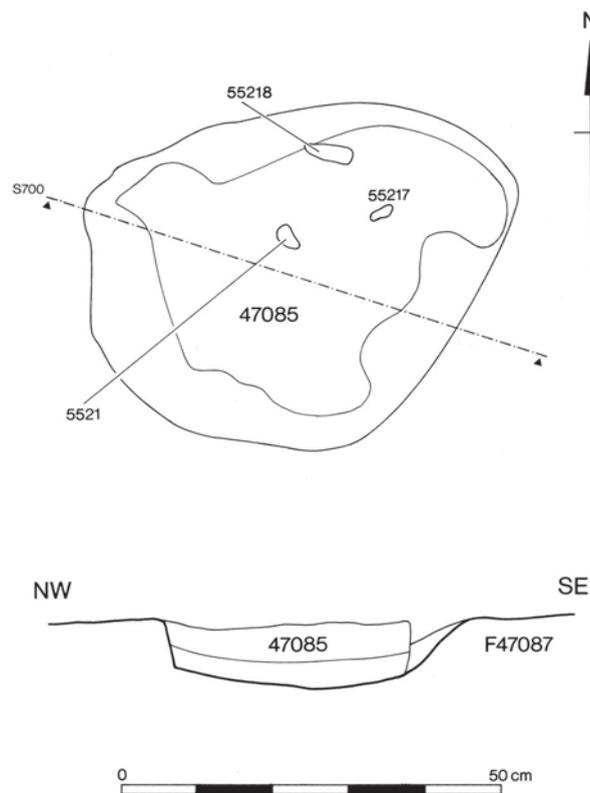


Figure SS1.152
Barrow 5.
Cremation in F47087.
(Photo English Heritage)



suggesting that already-old charcoal may have been reburied on the pyre (Campbell, SS4.5.4). In these circumstances, a date of 3350–2920 cal BC at 95% probability (4460±70 BP; OxA-3054) for twiggy charcoal may either identify a middle Neolithic cremation or reflect the use of pyre material of disparate ages.

F47111 was a cremation 0.25m x 0.15m x 0.05m deep, centred on 1241.75/1541.75, and located in the south-east quadrant of the mound within the inner ditch, at the interface between mound material and alluvium 47026. No cut was apparent. Finds located and disturbed by the initial machining over the cremation (bone, pottery and flint) were given the context numbers 47145–6. The cremation (6451) was of an adult aged c 30–50, and included a neonate or slightly older femur fragment (Mays SS4.7.4). The burial was truncated by medieval plough furrow 47028, and had almost certainly been truncated during the machine removal of alluvium.

Phase 6. Later activity

Following the apparent disuse of the barrow in phase 5, there was no further archaeological evidence for human activity within trench B100 until the Romano-British period. In the interlude, soil 47137?=47154/47166 formed, which separated the earlier prehistoric from later activity, including intensive medieval ploughing which destroyed much of the mound. Among the overwhelmingly

Roman pottery in superficial contexts were two sherds possibly of Grooved Ware, one of which is illustrated (Tomalin SS3.8.4: P63).

3. Discussion of stratigraphy and phasing

Phase 1.2 F47179

In F47179, the deposition of a typical Beaker burial assemblage along with a possible bier strongly suggests a funerary function. There were, however, no human remains. It is highly unlikely that the remains had decayed *in situ*, because of the reasonable preservation of bone from elsewhere within the same trench. Possible interpretations include the following:

1. The central feature was a cenotaph, originally containing an assemblage like those deposited with corpses but without a body.
2. Human remains were originally present, but were exhumed at a relatively early date, certainly before the filling of the two central secondary features, F47168 and F47161, within the early Bronze Age. The dispersal of the grave goods across the base of the pit with the inclusion of a Collared Urn fragment (Fig SS1.148) is suggestive of post-burial disturbance, as is the mixed character of the upper fill, 47180, where there were patches of dark yellowish-brown sandy clay in the dark brown sandy loam matrix.

The plausibility of the second interpretation is heightened by the presence in 47180 and, to a less extent in 31649, of charred plant remains, charcoal, fragmented bone and burnt flint. This is the kind of material usually recovered from cremations. It might perhaps have been introduced from the later central cremation deposit by worm action. Given the rest of the evidence, however, it is possible that F47179 was dug out down to the surface of 31734, the original inhumation was removed and the grave goods scattered, the emptied grave was backfilled with spoil which included cremation material, and the urned cremation F47171 was buried in it in the process.

Phase 2. Construction of primary mound and inner ditch

Although the inner ditch was slightly eccentric to the large posthole arc, by c 2.50m to the NNE, it appeared to have been focused on the arc, suggesting some relation between the two structures. The ditch thus may have represented a re-design of an already extant monument. It may then be reasonable to

postulate that a comparatively short period of time elapsed between the erection/use of the arc and the digging of the ditch, as otherwise the location of the arc would have become obscured.

Phase 5.1 Outer ditch silts

The sequence of three ditch fills in transect 47106 is likely to be a simplification of that originally present. The sequence in transect 47105, of relatively thin bands of deposit, was indicative of constant, gradual silting over a period of time; there was no evidence for the formation of soil horizons between layers and deep homogeneous deposits resulting from deliberate infilling were not represented. Other than the primary sand and gravel fill (probably contemporary with the construction of the ditch), no deposits with a high gravel content were present. As ditch fills are expected to be composed to a large degree of material denuded from the mound, the lack of gravel suggests that the mound was composed exclusively of turf and topsoil and that the spoil derived from the digging of the ditch was deposited elsewhere.

Phase 5.2 Secondary features in the centre of the barrow

The charred plant remains from F47168 form an assemblage familiar from Bronze Age cremations, and were concentrated in its lowest fill, with an animal bone deposit, one item in which was of early Bronze Age date (Table SS1.17: 47181). Despite this, first-century pottery was recovered from layer 47169 and fourth-century pottery from 47170, which filled a probable recut. Plausible interpretations include the following:

1. The pit, layer 47181 and layer 47169 all date from the early Bronze Age, the mixed character of 47169 reflecting the fact that it was backfill. Intrusive first-century pottery entered the upper part of 47169 during the early use of the temenos. A recut was made in the fourth century.

2. The pit and layer 47181 date from the early Bronze Age. Most of its contents were dug out in the first century AD, and it was recut in the fourth century.

3. The pit was cut in the first century, at which time animal bone encountered in the mound was rearranged in it. It was recut in the fourth century.

Furthermore, the uncertain stratigraphic relation between F47168 and the urned cremation F47171 makes the interpretation of both difficult. Again, there are several possibilities.

- a. The cutting of F47171, the re-excavation of primary feature F47149, and the insertion of the cremation all took place before F47168 was cut into the mound. In this case, F47168 would have truncated the cremation and the cremation material in the pit could have been redeposited from there. This would be compatible with possibilities 1, 2 or 3.

- b. The cremation was inserted after F47168 was cut. In this case the cremation material in the bottom of the pit could be consistent with its having served as a bustum, a pit over which cremation was carried out (Campbell Ch 2), with the animal bone subsequently placed in the pit. This would be compatible with possibilities 1 and 2.

- c. Given that the matrix of the cremation was difficult to distinguish from surrounding deposits, the re-excavation of F47149, the cutting of F47168, the cutting of F47171 and the insertion of the cremation might all have formed a single episode. There is even the possibility that the original inhumation from F47149 was included in the cremation. This too would be compatible with possibilities 1 and 2.

Phase 5.3 Peripheral cremations

F47143 was recorded as cut into the mound, and the same is likely to hold for F47111, which was recognised at the interface of mound surface and alluvium. These relationships should be regarded with caution due to the denuded character of the mound and the recording constraints. They might even date from the use of barrow site as a shrine in the Roman period. The early date for F47087 may reflect the incorporation of already old charcoal in the pyre or may identify a middle Neolithic cremation not far removed from activity of the period at West Cotton. The circumstances of excavation were such that further cremations may have gone un-noticed.

Phase 6. Later activity

A number of finds of Bronze Age pottery in later contexts suggest that Roman and later activity may have disturbed further burials.

4 Resource estimates

The timber circle

It is almost certain that the phase 1 post arcs which were cut through by the inner ditch originally formed part of a complete circle or

Table SS1.17. Barrow 5. Summary of finds

* = recorded, but unidentified or missing
 Lithics are of flint unless otherwise stated
 Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Context</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Other artefacts</i>	<i>Charred material</i>	<i>Soils</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
0 Pre-barrow treeholes and natural gravel					8 flakes, 3 blades, 1 misc. retouched		Charcoal (F31690)	Acidic argillic brown loamy sand soil, probably dunged and trampled		
1.1 Posthole arc and related features	F31686				Blade					
	F31716						Charred plant remains inc vetch or tare Charcoal			
	F47096			3 small sherds or spalls, 1 with traces of tool impression ?Neolithic (F)						
1.2 F47149	interface of 31734 and 31649			Wessex/Middle Rhine Beaker, P83 (QS) small Collared Urn, P94 (G — some doubt as to context)	5 barbed and tanged arrowheads					
	31649						Charred plant remains, including onion couch grass Charcoal			
	47180		*				Hazelnut shell, onion couch grass tuber, indeterminate cereal Charcoal			
2.2 Mound				EBA body sherd (G) in topmost spit	6 cores, 4 core rejuvenation flakes, 2 non-bulbar fragments, 24 flakes, 20 blades, 2 microburins, 2 burins, microlith, 3 scrapers					
?Mound	47075				2 flakes, 2 blades, core rejuvenation flake, microlith					
3 Inner ditch silts				Cord-impressed EBA collar fragment, P95 (G)	4 flakes, blade					
5.1 Outer ditch silts			*		2 flakes					

5.2 F47171		Cremation of at least 3 individuals. 1 possibly male, 1 possibly female, 1 unknown, all probably under c 40 yr	Stylistically early Collared Urn, P90 (G) 1 ?Neolithic body sherd (TV)	Bifacially flaked foliate knife/dagger	Charcoal		
5.2 F47168	47181	Cattle skull, large artiodactyl tibia, large jaw fragment		Blade	Lesser celandine, vetch or tare, Polygonaceae, hazelnut shell fragment, bedstraw, mayweed, onion couch grass tubers, grain and rachis fragment of free-threshing wheat, indeterminate tubers Charcoal	3625±40 (OxA-7950)	2140-1880 (mean of OxA-7950 -3120) 3680±100 (OxA-3120) on tibia
	47169	'human? tooth fragment' AOR 55219	10 sherds/206g first century Roman pottery	Blade	Onion couch-grass tuber Charcoal		
	47170		8 sherds/406g fourth century and earlier Roman pottery		Vetch or tare, onion couch grass tuber, indeterminate tubers		
	no layer specified		10 sherds/220g fourth century and earlier Roman pottery				
5.3 peripheral cremations	F47143	Cremation of adult c 30-50	Fragment of burnt animal bone		Charcoal		
	F47087	Cremation of adult, with R mandibular condyle of second adult		Flake, blade, fabricator (all burnt)	Twiggy charcoal so highly burnt as to be unidentifiable on charcoal	4460±70 (OxA-3054)	3370-2910
	F47111	Cremation of adult c 30-50 yr, also infant femur fragment	*				
6 Later activity			2 sherds of ?Grooved Ware, including P63 (both TV), much Roman pottery	5 cores, 2 core rejuvenation flakes, 15 flakes, 6 blades	Coins, metal artefacts		

void, which would have measured a minimum of 17m in diameter, with an average separation of *c* 0.20m to 0.30m. As in the case of phase 1 at Barrow 3, it is not known whether there was any wattling between the uprights, or if there were any lintels, making labour estimates difficult, especially as it is not certain that the postholes ever formed a complete ring.

Inner ditch (and first mound ?)

It is not clear whether gravel from the ditch capped the first mound, the core of which was of turf and/or topsoil. A sectional area of 1 sq m multiplied by a circumference of 65m gives a volume of 65 cu m, which would make 95.59 hours of work for a team of three, or 287 hours in total.

Outer ditch (and mound enlargement?)

A sectional area of 1.50 cu m multiplied by a circumference of 99m gives a volume of 148.50 cu m, which would make 218.38 hours of work for a team of three, or 655 hours in total.

SS1.17 Barrow 6

Andy Chapman, Tony Baker, Dave Windell, Jo Woodiwiss

Abstract

Barrow 6 was a complex, multi-phase round barrow, with three concentric ditches, each associated with a mound. The first ditch may have been centred on a pre-existing tree, perhaps in conjunction with a large open pit immediately to the north-west.

The Beaker grave truncated the treethrow hollow at its eastern end, suggesting that the tree was no longer present. The main burial, of a 5 ft 10 in male aged between 25 and 35, was crouched on his left side and faced north-west. Grave goods comprised a flint dagger, knife, and flake, a chalk object, a jet button, and a Late Southern (Step 6) Beaker. The estimated date of the burial is *2050–1890 at 82% probability* (Fig SS6.11: UB-3311). Under the grave, there was a small pit containing the disarticulated remains of a male and another individual of uncertain sex, with an estimated date of *3360–3090 cal BC at 95%* (Fig SS6.11: UB-3310), as much as a thousand years older than the overlying burial. There is strong evidence that the bones had been exhumed from elsewhere after partial

decomposition. The initial mound was of turf and topsoil, and, from the shallowness of the grave, appears to have closely followed the Beaker burial.

The middle ditch was then cut around the mound, which was extended, incorporating the extracted gravel over the heavily silted inner ditch. A large postpit was subsequently dug into the upper fills of this ditch.

The final, outer, ditch was *c* 31m in diameter, and of comparable morphology to the inner ditch, but not to the middle ditch. A further arc on the eastern side formed part of this enclosure, although interrupted by a causeway on either side where the outer ditch intersected with the north-western part of the Ditched Enclosure, suggesting that the latter's internal bank was still visible and deliberately respected.

As was the case for the middle ditch, topsoil, probably from the outer ditch and berm, was dumped around the mound perimeter, which was then gravel-capped.

Two infant cremations (one of which was beneath a small Collared Urn) were inserted into secondary fills of the outer ditch and an adult cremation in a Collared Urn was buried in the berm, all in the area shared with the Ditched Enclosure. The final detectable prehistoric activity prior to ploughing consisted of deliberate backfilling of parts of the outer ditch.

1 Location and excavation

Barrow 6 lay at SP 97605 72561. It was the first prehistoric monument to be discovered, and was found during 1985 at an early stage in the excavations, in an area measuring *c* 19m north-west/south-east by 22m north-east/south-west at the northern end of the excavations, which was machined to natural in order to help establish at an early stage the likely depth of stratigraphy beneath the medieval buildings, and also to test for the presence and character of late Saxon features and deposits.

The area was covered by a generally uniform soil horizon, suggesting that it represented build-up (probably through cultivation) within a plot to the rear of the buildings. In places, the machining did cut into the natural, with the upper level of orange-brown sandy clay with gravel being partially or totally removed to expose clean calcareous gravel. The upper levels of the barrow ditches at these places were thus truncated slightly, but probably by no more than 0.05m as medieval disturbances over

much of this area had previously penetrated to a similar level.

Together with late Saxon ditches, almost exactly 25% of a circular structure consisting of two concentric ditches was thus uncovered. The third, outer, ditch was partly disturbed and obscured by later features, and so was recognised slightly later, following further cleaning. At this stage all three ditches were sectioned at a number of places to obtain dating evidence, disclosing the presence of struck flints and the absence of later pottery. This confirmed the suspected prehistoric date, and the monument was identified as a heavily truncated triple-ditched round-barrow (Fig SS1.153).

It subsequently became apparent that some of the remaining mound had been removed on the south-western side of this initial area by the machining, in the form of a narrow band of mound material extending at most *c* 1m from the section face, the mound beyond this having been removed by medieval disturbance.

The presence of *in situ* mound deposits was recognized towards the end of the 1985 excavation season. To the south of the initial area, a raised area consisting of dark grey loams, similar in character to the fills of the inner ditch, was exposed. These loams were flanked by two concentric bands of gravel, with the stratigraphic sequence of their deposition already partly apparent within the sides of the late Saxon ditches. The mound deposits were partially sealed by an extensive soil horizon pre-dating the late Saxon features.

During 1986, the removal of further medieval and late Saxon deposits to the east, south-east, and south, left the barrow area fully exposed and ready for excavation (Fig SS1.153). Three major baulks were established. Those to the north-west and north-east were defined by the limits of the initial area of excavation which, fortuitously, had quite closely defined a quadrant of the barrow area. The third baulk, to the south, was located across the area showing least disturbance and maximum mound survival. To have used the initial baulks as the basis for a more traditional quadrant system would have resulted in a loss of information due to the poorer survival of the mound levels and the pattern of late disturbance.

The post-barrow horizon partially sealed the mound and overlay much of the outer ditch circuit as well as the Ditched Enclosure to the east, which was recognised only after the removal of this horizon. All finds from this soil horizon were three-dimensionally

recorded, but, given the rapid removal of this layer, it is likely that not all of the flintwork present was recovered.

The removal of this soil horizon led to the definition of the ditches lying beyond the *in situ* mound, with the exception of the north-eastern length of the outer ditch. The course of the ditch here was only established by cutting exploratory trenches across its projected course, from which it became apparent that the outer edge of the ditch had been truncated by later cuts. Initial sections were located across the outer ditch at intervals to establish depth, fill sequence and material survival, and all finds were three-dimensionally recorded. These initial sections were excavated with more care than those which came later, given the low levels of artefact survival encountered. The excavation of further lengths of the outer ditch circuit was considered desirable in order to lessen the possibility of missing any satellite burials within the ditch fills, such as were located earlier within the south-eastern arm of the circuit.

As there was a well defined sequence of deposition for the surviving mound, deposits were excavated in sequence and in plan, whilst retaining the three major baulks; and all finds were three-dimensionally recorded. The outer layers of the mound had survived as successive bands of material around its original perimeter, as in the lower section on Figure SS1.162. These were relatively undisturbed to the south, but survived more patchily to the east and west. In each instance, excavation began at the south, where it was easiest to establish the extent and depth of a deposit and the nature of those underlying it. The more disturbed areas were removed once the stratigraphy in the individual area had been understood. Both before and after mound removal, general photographs were taken of the central area from a standard viewpoint — located to the south-east — and the area was replanned. All general plans were drawn at 1:50 whilst specific features, particularly the burials, were planned at either 1:10 or 1:20. Sections were drawn at 1:10, with the exception of two of the outer ditch sections which were drawn at 1:20.

The edges of the middle ditch were defined following the removal of the four outer bands of mound material, whilst the central area and the inner ditch were sealed by the better-preserved primary mound. The initial cleaning of this material had demonstrated that it contained a substantial flint scatter. The primary mound was removed by



Figure SS1.154
Barrow 6 and
Ditched Enclosure.
Excavation in progress,
showing extent of
disturbance to central area
of barrow by later features.
(Photo Northamptonshire
County Council)

vigorous trowelling, to expose the preserved pre-mound subsoil, and all finds were three-dimensionally recorded. The removal of the primary mound defined the location of the inner ditch, a burial pit and other pre-mound features.

The burial pit (F3259) lay partly beneath the southern baulk. In order to fully open the central area, the three major baulks were partially removed, with lengths of 1.0m to 2.0m left within the central area to retain the stratigraphic sequence across the inner and middle ditches. The large pit F3384 was located at this time, within an area of known later disturbance (Fig SS1.156).

The inner and middle ditches were initially excavated in a series of long sections. Given the high level of flint recovery, all minor baulks were subsequently removed along the inner ditch. Further lengths of both the middle and outer ditches were also excavated within the northern quadrant in order to minimise the possibility of missing satellite burials and to check the fill sequences and levels of finds recovery as defined by the excavations of the previous year.

All the features located beneath the surviving part of the primary mound were fully excavated apart from an irregular feature of natural origin lying between and partly cut by the two central grave pits. The surviving part of the pre-mound subsoil was removed following the excavation of the features within the central area.

10 litre or 20 litre soil samples for flotation and fine sieving were taken at intervals from the surviving mound deposits and from the pre-mound subsoil. Soil samples were also obtained from the features sealed by the mound. Very few soil samples were taken from the outer ditch fills and a limited number from the middle ditch. The dark loams filling the inner ditch were sampled at regular intervals around the circuit.

2 The Excavated Evidence

Phase 0 Natural deposits and features

Pre-mound soil

The upper natural was of orange-brown sandy clay with gravel, generally from 0.10m to 0.20m thick. A pre-mound land surface (context 3391) was preserved beneath the surviving mound across the south-western half of the central area and on the southern half of the narrow berm to the north-west between the inner and middle barrow ditches (Fig SS1.156). This surface was not present on the narrow strip, up to 0.40m wide, around the outer edge of the middle ditch on the south-western side, where later mound deposits had survived *in situ*. This layer was 0.08m thick to the south (surface level 34.35m OD) and 0.05m thick to the north-west (surface level 34.25m OD). It consisted of a fine light brown sand virtually free of pebble inclusions; there was a sharply

defined interface with the underlying natural geology of sandy clay and gravel. At the time of excavation, 3391 seemed to be a subsoil stripped of its turf and topsoil. Micromorphological analysis, however, indicates that a complete soil profile was present, extending from the surface of the natural clay and gravel into what appeared to be the base of the primary mound (3194; Macphail, SS4.8.2). This is consistent with the distribution of struck flint in 3194, where artefacts were concentrated in the lowest 0.10m and some were clustered around a pit containing a large flint core (F3257, described in phase 1.1 below). A few pieces were present in 3391 (Table SS1.19). The subsoil was a well-drained argillic brown earth, formed in woodland conditions and probably truncated. The lower part of the topsoil was disturbed, perhaps by cultivation; the upper part was a biologically worked, humic soil developed in pasture, differing little from the turves of the mound (Macphail, SS4.8.2).

Treehole

An irregular feature lay within the central area of the barrow, measuring c 1.60m north-south by c 1.60m east-west, with a narrow curvilinear extension running southwards from the eastern extremity (Fig SS1.156). This feature was cut on its western edge by pit F3384. The eastern side and part of the extension were cut by grave pit F3259. The feature was also disturbed by a medieval pit (F3375). Although not excavated, the nature of the fills was evident on the surface and in the sides of the later features. The fills con-

sisted of steeply angled and contorted layers of dark grey compacted sands (distinct in nature, if not colour, from the primary mound material), pale yellow sands and gravels. Both the fills and the plan indicated that this was a treethrow hole. This would suggest a single standing tree post-dating the subsoil and thus potentially removed immediately or closely prior to barrow construction, and perhaps even defining the chosen centre of the barrow. No similar features were located elsewhere within the limits of Barrow 6.

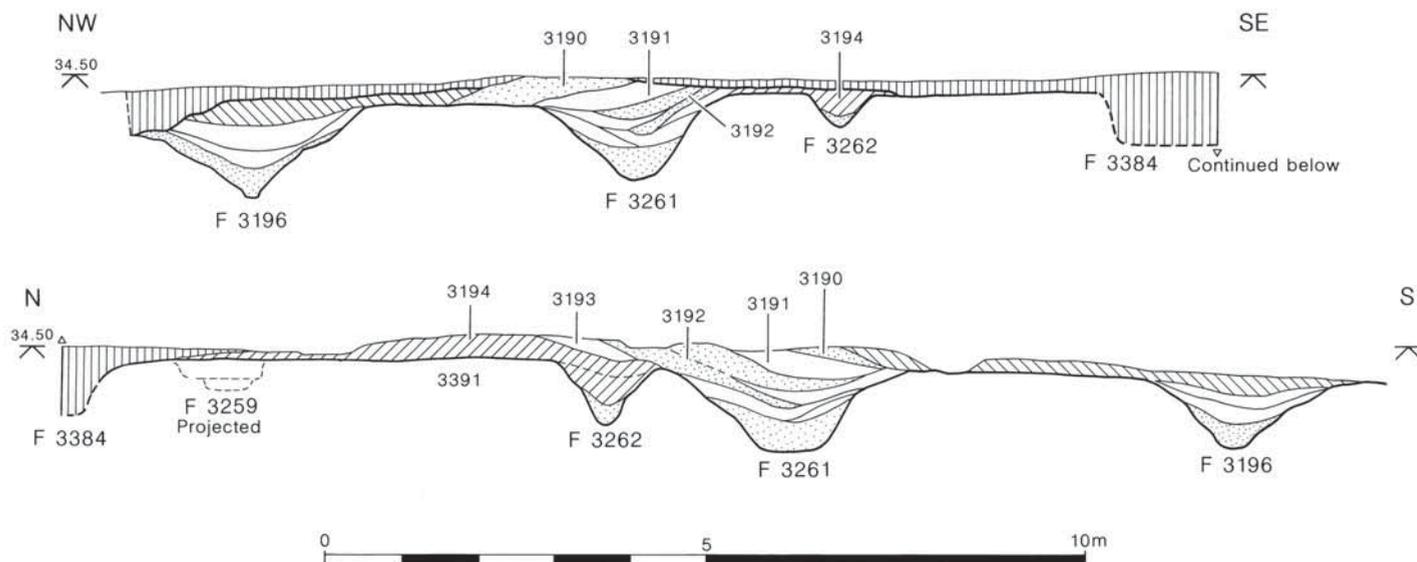
Phase 1

Phasing of the initial stages of activity, including the relationship of the burials and other features within the central area to each other and to the suggested two-stage development of the inner barrow ditch, must remain uncertain.

Phase 1.1 Pre-mound features

The inner ditch enclosed a nearly circular area of c 138 sq m, averaging 13.25m in diameter (Fig SS1.156). Over the south-western half of this area, the mound had survived sufficiently to preserve the underlying land surface (context 3391), and thus any cut features within it. Over the north-eastern half of this area, later activity had entirely removed the mound and pre-mound land surface across the initial, northern, area of excavation; machine-stripping and subsequent hand-cleaning had also removed much of the upper natural of orange-brown sandy clay with gravel, which was generally from 0.10m to 0.20m thick, and partially exposed

Figure SS1.155
Barrow 6.
Composite section. The upper part runs from WNW to SSE, the lower from NNW to SSE



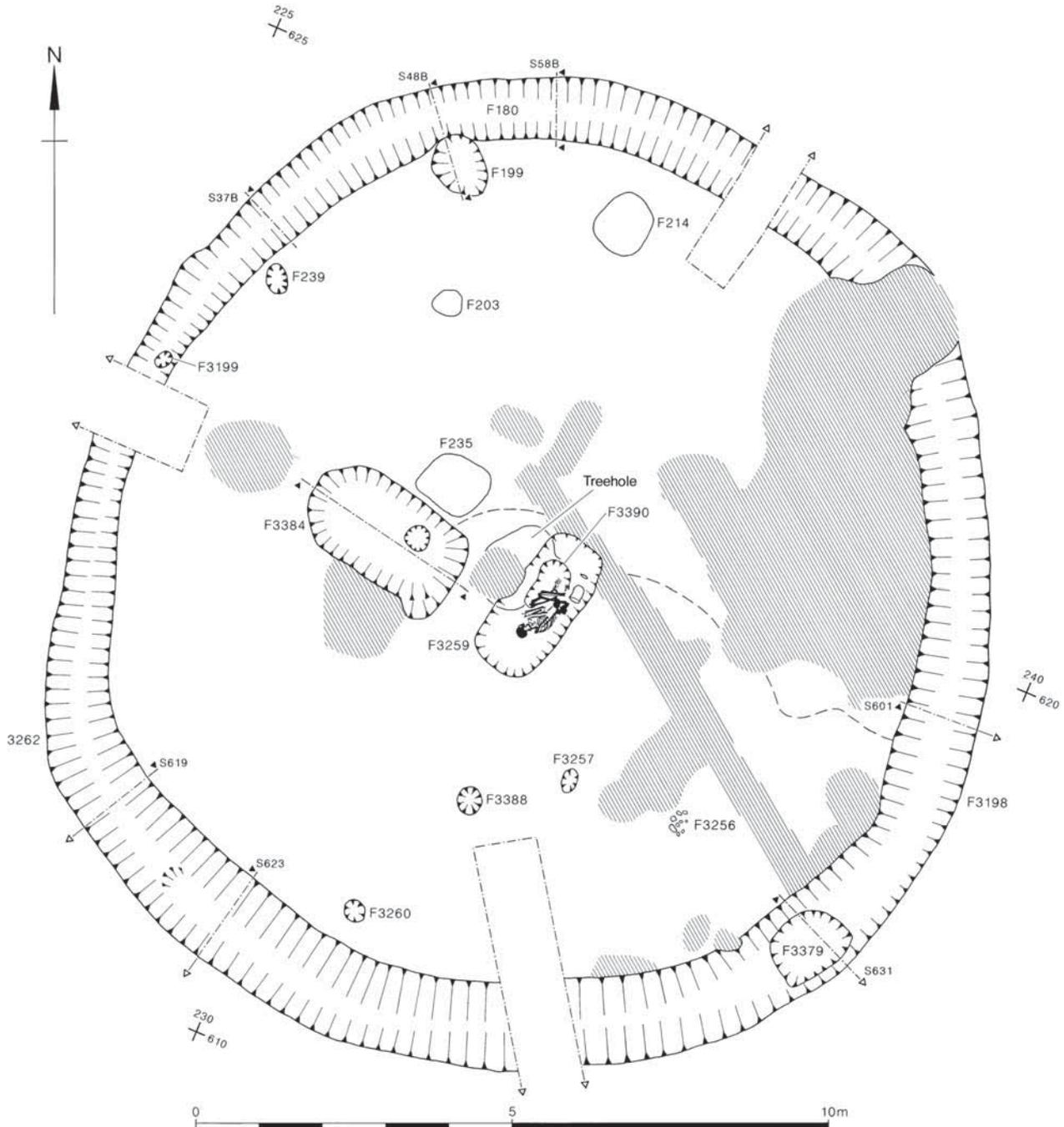
the underlying clean gravels. To the north-east of the central pits, the surface of the natural sandy clay and gravel was exposed, whilst east of this an area measuring 6.80m north-south by up to 4m east-west had been badly disturbed by a cluster of later medieval pits. It is certain, therefore, that across the north-eastern half of the central area any features less than 0.10m deep would have been lost, whilst features as deep as 0.20m or

even approaching 0.30m would have been lost at least within parts of this area.

Minor features

Three shallow pits (F3257, F3260, F3388) and a setting of ironstone nodules (F3256) were sealed by the mound and cut into the pre-mound land surface. Given the depth of the later disturbances to the north-east, any similar features in that area would have been

*Figure SS1.156
Barrow 6.
Detail of central area.
The sinuous broken line
running between the inner
edge of the ditch and
F3384 is the northern limit
of the area where the
pre-mound soil survived.*



lost. A single, deeper, pit (F199), and a possible posthole (F239) did survive to the north, with the contemporaneity between F199 and the mound being indicated by its fill and its relationship to the inner ditch. Two other disturbances of the natural gravel in the northern sector were of natural origin (F203 and F214; Fig SS1.156).

Stone setting F3256 consisted of a loose setting of ten irregular fragments or small nodules of local ironstone, measuring 0.43m north-east/south-west by 0.34m north-west/south-east. The stones were set on the pre-mound land surface, with mound material (3194) over and between the individual stones. The largest stone was a small block or nodule of ironstone 0.15m long by 0.08m wide, which lay at the south-western edge of the setting. The smallest piece was 0.02m in diameter and the others were between 0.06m and 0.11m long.

Pit F3388 was a shallow pit of circular plan and bowl-shaped profile, 0.45m in diameter and 0.05m deep. The fill was a dark red-brown sandy loam with a few pebbles. There were no finds.

Pit F3260 was a shallow circular pit with a bowl-shaped profile, 0.35m to 0.40m in diameter and 0.07m deep, which lay on the south-western side of the central area, 0.40m from the edge of the inner ditch. The fill was a dark brown to grey-brown sandy loam with a few small pebbles, similar to the overlying mound (3194). Frequent charcoal fragments were scattered irregularly throughout the fill. The bulk of these consisted of individual lengths of carbonized wood typically 50mm long and 20mm to 30mm in diameter. These appear to have been short twigs or thin branches originally of greater length (100mm to 150 mm), which had fragmented during or following deposition.

Pit F3257 was a shallow oval pit with a bowl-shaped profile, which measured 0.40m north-east/south-west, 0.25m north-west/south-east and 0.06m deep. The fill was a light grey sandy loam mixed with some red-brown sand. This feature contained a single find: a large nodule of chalk flint from which flakes and blades had been struck (sf 4610). It was of roughly conical form, 0.11m high with a maximum diameter of 0.12m. It had clearly been deliberately and carefully placed in the pit with its pointed end downwards and the base almost horizontal. The core was exceptionally large for the area, weighing over 1 kg in contrast to the generality of cores collected during the project, few of which weigh as much as 100 g

Pit F199 was an oval pit, with its long axis perpendicular to the line of the adjacent inner ditch, measuring 1m north-south by up to 0.80m east-west. It had steeply sloping sides and a concave bottom. As excavated, the pit was 0.34m deep from the surface of the natural gravel (bottoming at 33.76m OD), which would indicate an original depth of *c* 0.50m. It was separated from the inner ditch by a ridge of natural gravel 0.13m high.

The fill (198) was a dark grey, virtually pebble-free, sandy silt with occasional orange sand mottle, with the few pebbles concentrated towards the base of the cut. It contained a single flint blade. This fill was indistinguishable from the secondary fill (176) of the inner ditch, although there was no primary fill of clean sands and gravel like that of the ditch (Fig SS1.162: S48B). The pit therefore appears to have been filled after a fairly short time, probably either immediately prior to, or as part of, the construction of the primary mound.

This pit lay close to the northernmost point of the ditch circuit and may have been a north-point marker. It also lay adjacent to a significant point of change in the depth, profile and course of the inner ditch circuit, which has been interpreted as the junction of two separately dug lengths of ditch circuit.

Pit F239 was a steep-sided, flat-bottomed cut of oval plan, measuring 0.50m north-south by 0.35m east-west. The excavated depth of 0.18m (bottom level 33.92m OD) would suggest an original depth of *c* 0.35m. The fill was of orange-brown silty sand with some pebbles, and a higher gravel content towards the base of the cut. During machining of this area, a cluster of large cobbles up to 0.15m in diameter were located, which may have formed post packing in the upper part of the fill.

Grave-like pit

Pit F3384 was of subrectangular plan, with an almost semi-circular north-western end. It measured 2.65m north-west/south-east by 1.45m north-east/south-west and was 0.70m deep, being cut well into the underlying natural gravels. It was steep to almost vertical-sided and had a flat base with a slight hollow towards the south-eastern end.

It lay 0.70m north-west of the Beaker burial F3259, their long axes almost perpendicular to each other (Fig SS1.156). The only finds in the bottom 0.15m of the fill (3385) were a core, 5 non-bulbar fragments, eight flakes, 11 blades, a notch and a scraper, three flint blades and a flake. 3385 itself was

a greyish-brown to dark grey-brown sandy loam with frequent lenses or mottles of clean yellow-brown sand up to 0.20m across. Against the lower sides of the cut there was a deposit, *c* 0.15m thick, of clean yellow-brown sand mixed with greyish-brown loam, as if forming a lining against the cut sides. This may have represented the remnants of an earlier, original, fill. The upper fill (3383) was also a greyish-brown to dark grey-brown sandy loam, but with fewer and smaller lenses or mottles of yellow-brown sand. Some pebbles were present within this fill, which also produced several sherds of medieval pottery as well as a small amount of struck flint (Table SS1.19). At the land surface, this fill was indistinguishable from that of an adjacent medieval pit.

Further medieval pits to the north-west and north-east also had similar fills. All of these features lay within an area measuring some 13m north-west/south-east by at least 6m north-east/south-west, over which the primary mound (3194) had not been fully removed but had been completely reworked and redeposited. This layer (3115) was a medium brown almost pebble-free loam of similar texture to the primary mound, but lighter in colour. It contained a flint scatter, a scatter of medieval sherds and a few small fragments of limestone.

Whilst the evidence was uncertain and equivocal, the presence of such a grave-shaped feature within the central area of the barrow, when few pits of similar form were located within late Saxon or medieval contexts elsewhere on the site, is considered to be an indication that this was a prehistoric pit. Whilst the upper fills had been disturbed in the medieval period there was, perhaps, also an earlier disturbance which had penetrated to the floor of the cut and had left the original fill *in situ* only around the cut edges. This earlier disturbance may have resulted from the removal of an original burial.

An obvious, if speculative, context for such an action can be found in the deposit of disarticulated human bones set within a pit beneath the Beaker burial. However, given the early radiocarbon date obtained for these bones (see below), if they had derived from a burial or burials originally interred in this pit, then it would imply that this pit was a much earlier feature pre-dating the appearance of Barrow 6, although perhaps providing the focal point for its location.

The fill of F3384 contained much dark loam suggesting that the pit was partly filled with turf or topsoil and not merely with the

light sands and gravels that would have been obtained from cutting the pit itself. However, the later disturbance of the pit fills may have been responsible for this in part. Even if the dark loams did represent an original fill containing much turf and topsoil, this does not link the filling of this pit to the stage immediately prior to mound construction.

The disarticulated burial

F3390 was a shallow pit cutting down from the floor of the grave pit for Beaker burial F3259. There was no evidence to indicate whether the feature had been cut by the later grave or was dug from the base of it. No disarticulated human bone was recovered from the backfill over the later burial. The pit was of subrectangular plan measuring 0.88m north-east/south-west by up to 0.53m north-west/south-east (Fig SS1.156). It was steep-sided, except on the south-east side where the slope was moderate, at *c* 45°. The base of the pit was flat to slightly concave. The pit was 0.15m deep from the floor of the Beaker burial grave cut and bottomed 0.40m below the contemporary ground level. The only artefact present was a minute crumb of pottery (sf 4651).

The disarticulated human bone, dated to 3360–3090 *cal BC* at 95% probability (4500±33 BP; Fig SS6.11: UB-3310), lay mainly in a compact mass against the more gently sloping south-east side of the cut, and at the upper edge of the pit the bone came almost level with the base of the Beaker burial grave cut. There was some sense of order to the bone placement. Fragments of the major long bones (femur, tibia and humerus), averaging *c* 0.15m long, were grouped together, the majority roughly parallel to the length of the cut but with a couple of lengths at the south-western end lying approximately at right-angles to the rest. Whilst the long bones towards the base of the deposit lay fairly flat, those towards the top were steeply inclined and interwoven with each other. Shorter lengths of long bones, mainly the smaller bones (ulna, radius and fibula) lay between the longer lengths. Partly intermixed with the long bones, but largely beneath them and concentrated towards the north-east end of the deposit, was a mass of poorly-preserved bone, much of which was reduced to unidentifiable pieces of cancellous tissue. This included some vertebrae and is likely to have comprised vertebrae, ribs and skull fragments.

A substantial piece of skull, the superior maxillary bone, with much of the upper jaw

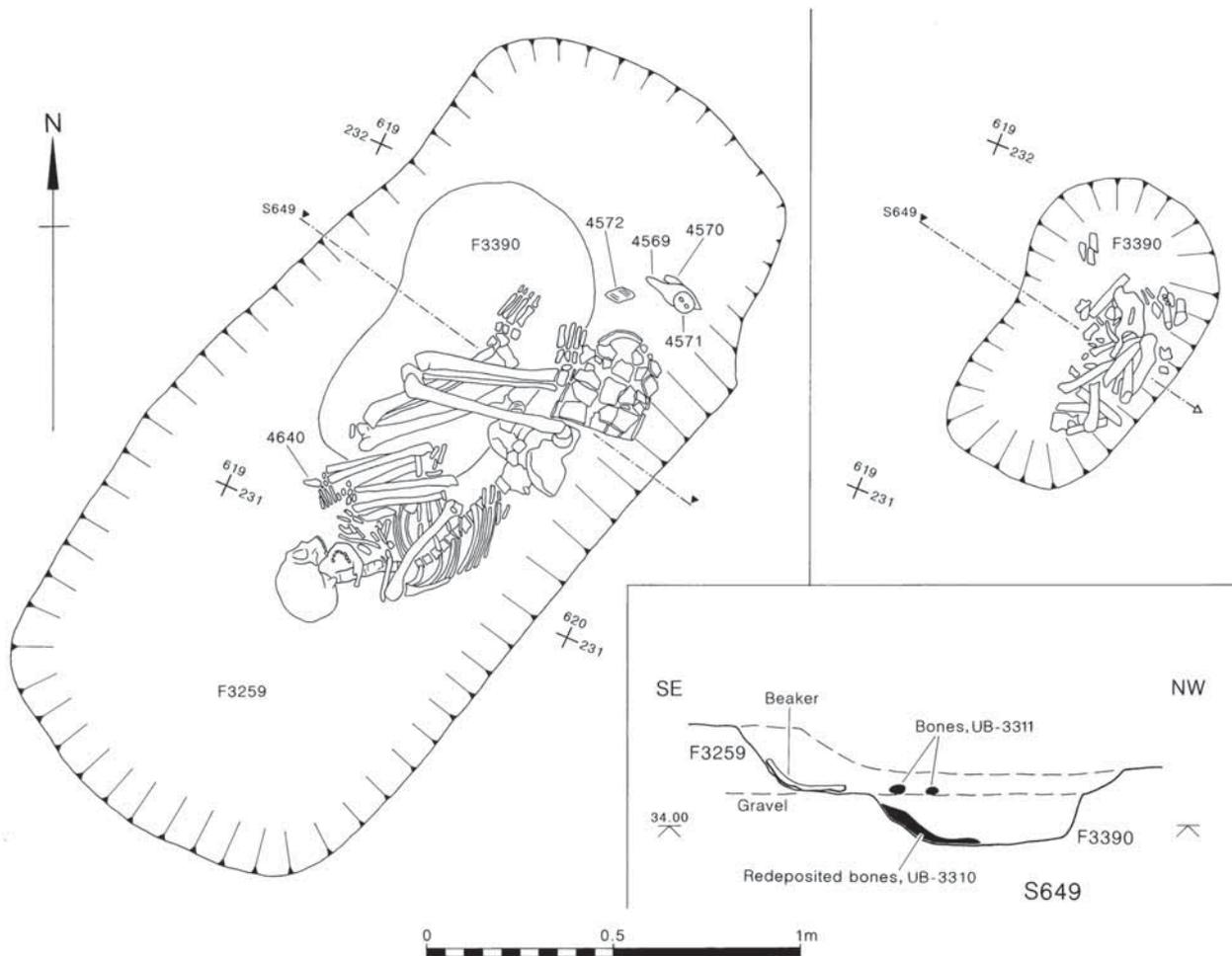
intact, lay at the north-eastern end of the deposit. The other teeth recovered were close by, but only a single tooth was from a lower jaw. At the south-western end of the deposit there was a large fragment of a pelvis, part of an ilium. No finger, wrist, ankle or toe bones were recovered. Given the poor preservation, it is possible that this may have been a result of decay, although this would not account for the quasi-absence of lower teeth.

The disposition of this material suggested that some, but not excessive, care was taken in its placement, with a simple attempt being made to produce a form of body pattern. The first stage would appear to have been the placing of skull fragments, but without the lower jaw, at the north-east end, part of a pelvis to the south-west and a grouping of vertebrae and ribs between them. Over this was placed a collection of long bone fragments, but these do not appear to have been individually placed in careful alignment. Whilst there had been some crumbling of the long bones

following deposition, it was clear that they were already fragmented when deposited.

Whilst the bones were generally in a poor condition, there was considerable variation depending on their position within the deposit. The upper surfaces of the long bones on the top of the deposit were heavily eroded and pitted with the upward projecting ends being rounded and smoothed. The undersides and the covered lower ends were, however, not eroded or pitted which was also true for the surfaces of long bones at lower levels. The cause of this erosion is uncertain. One possibility is that the upper part of the bone deposit was actually exposed to the elements or only thinly covered for some time. It is argued, however, that the good condition of the teeth and the preservation of substantial pieces of cancellous bone make this unlikely (Mays SS4.7.2). As the teeth were not at the highest level, where this bone erosion was generally present, this argument may not apply. Alternatively the erosion and pitting may have occurred over a more pro-

Figure SS1.157
Barrow 6.
Burials in F3390 and F3259. The labelled grave goods are, clockwise from the bottom left, flint knife (4640), chalk lump (4572), flint dagger (4569), flint flake (4570), button (4571).



longed period following the insertion of the Beaker burial. However, whilst it can be accepted that differences in permeability between undisturbed soil and loosely packed feature fill will probably create specific localised conditions which may influence bone preservation, it is difficult to define a circumstance that would produce the specific conditions seen in this bone deposit.

The human bone recovered from this deposit represented the partial remains of at least two adults, a male of about 25 and a possible male of uncertain age (Mays SS4.7.2). Given the poor bone preservation and the mixed and fragmentary nature of the material, it was not possible to determine the proportions of the individuals represented in this deposit. In general, it is only possible to say that a substantial but not complete selection of the major long bones was represented, together with parts of both skulls but only a single upper jaw and neither lower jaw, save for a single loose tooth. The duplication of axis and atlas vertebrae provided a further indication that there was a deliberate attempt to recover both skulls. The least well preserved bone was most likely to have derived from a selection of vertebrae, pelvis and ribs. Whilst the lack of any hand and foot bones may have been totally a product of bone decay, the complete absence may be more likely to reflect a genuine lack of such material.

Phase 1.2 Beaker burial (F3259)

This inhumation lay within a large, but shallow subrectangular grave pit cutting through the preserved pre-mound subsoil (3391) and the upper natural. The pit measured 2.45m north-east/south-west by 1.16m north-west/south-east and was 0.25m deep (Figs SS1.156, SS1.157). The sides were steep to almost vertical and the flat bottom lay on the upper surface of the clean natural gravels. The north-eastern end of the pit was partly cut by a late Saxon ditch.

The burial was a crouched inhumation, the skeleton lying on its left side and facing to the north-west. The more upright positioning of the mandible would suggest, however, that originally the head was facing upwards and was perhaps supported in this position. Whilst the right side of the skull was intact the left side had suffered considerable damage and was almost flattened, perhaps as a result of a movement of the skull rather than merely continuous pressure.

The condition of the skeleton was variable (Fig SS1.159). The long bones were well preserved but the vertebrae and, in part,



the ribs were semi-decayed. The pelvis was crushed and in poor condition, whilst much of the sacrum had decayed. The bones of the feet were only moderately well preserved and the second and third phalanges of the left foot and all the phalanges of the right foot were missing and presumably had totally decayed. In general it was those bones in direct contact with the floor of the cut, particularly the smaller bones, which were the worst-preserved.

Figure SS1.158
Barrow 6.
Disarticulated remains
of two adults in F3390.
(Photo Northamptonshire
County Council)



Figure SS1.159
Barrow 6.
Burial in F3259.
(Photo Northamptonshire
County Council)

Figure SS1.160
Barrow 6.
Flake, dagger, button, chalk
lump and Beaker in situ
at feet of burial in F3259.
(Photo Northamptonshire
County Council)



The extreme flexing of the legs would suggest that they may well have been bound in this position. The hands were drawn up to the neck and lay above the floor of the cut, suggesting that they had moved slightly from an original position of resting on the left shoulder. The skeleton lay almost centrally within the length of the grave but towards the south-eastern side of the cut. The burial only occupied one half of the total length of the grave pit, and in its crouched position measured *c* 1.10m long, with *c* 0.60m from either extremity to the ends of the cut.

The inhumation was of an adult male. Whilst the attrition of the molars indicate an age at death of about 25 years, the pattern of cranial suture would suggest a rather older age than the teeth. The age at death therefore has been estimated at 25 to 35 years whilst the height of the man has been estimated at 1.774m (5 ft 10 in; Mays SS4.7.2). The estimated date of the burial is *2050–1890 cal BC at 82% probability* (3608±41 BP; Fig SS6.11: UB-3311).

Six grave goods were recovered and the former existence of at least one other item may be postulated.

A small flint knife 55mm long (sf 4640; Ballin SS3.7.6, Fig SS3.42: 60) lay beside the hands (Fig SS1.157). This had clearly been displaced since it lay, like the hands, well above the base of the cut. Originally it is likely to have rested on the hands. The grainy character of the flint rendered usewear analysis

inconclusive (Grace SS3.7.4). The other items all lay in a group in the north-east corner of the grave cut (Figs SS1.159–60). A long-necked style 3 Beaker (sf 4573; Tomalin SS3.8.4: P84) lay on its side between the right foot and the side of the grave cut. The vessel was whole but crushed with the mouth to the south-west. The base was broken and did not rest immediately on the cut floor, indicating that the vessel had been lying on its side when crushed. There was a thin spread of soil between the two layers of sherds, but insufficient to have even half filled the vessel. The indicated presence of a partial void within the vessel prior to it being crushed would be consistent with its having lain on its side originally. However, this void could also be accounted for if the vessel had originally stood upright and been covered by an organic material which had subsequently decayed. With a height of 230mm, the rim of the vessel would have been almost level with the ground surface if the vessel stood upright. However, the only situations in which an upright vessel could have fallen over following deposition would appear to be during the backfilling of the grave, which is a possibility, or had the grave been covered over or kept open for some time, for which there was no evidence. It seems most likely that the vessel was originally upright, due to thermal and bacterial attack from liquid contents causing a 'tide mark' *c* 20mm below the rim. Residue analysis has identified ruminant dairy fat in the fabric

of the pot, suggesting that it held milk or a milk product (Copley *et al* SS3.8.2).

A group of three items were stacked 0.15m north-east of the Beaker (Fig SS1.157). At the base there was a large unretouched flint flake (sf 4570; Ballin SS3.7.6, Fig SS3.42: 59), which measured 56mm by up to 37mm. The right edge had been used, probably to whittle wood (Grace SS3.7.4) and it appeared to have been carefully placed, lying at a right angle to the line of the grave cut, and was partially covered by the flint dagger. The flint dagger (sf 4569; Ballin SS3.7.6, Fig SS3.43: 61), which measured 170mm by up to 75mm, also lay at a right angle to the grave cut, with its butt end slightly raised. The opposed pairs of notches indicate that originally, and probably when deposited, it had possessed a hilt secured by bindings. Wear traces indicated that it had been in a sheath (Grace SS3.7.4).

The final item in this group was a large, carefully-finished conical V-perforated button of Whitby jet, 49mm in diameter and up to 15mm thick (sf 4571). Wear traces indicate that it may have been tightly attached to the garment or other covering of which it formed a part (Shepherd SS3.4.1; Davis SS3.4.2). It lay with its base upwards and nearly horizontal; the point of the conical side poised on the flint dagger beneath (Figs SS1.157, SS1.159). It is clear that this button could not have rested in this position without support, so the disposition of this object strongly indicates that it was originally attached to or rested on some organic material which had subsequently decayed and of which no trace was discernible during excavation.

There is therefore little doubt that this group originally consisted of four items, one of which was probably of cloth or leather. Given the precise and apparently careful positioning of each object, this was probably not merely a bag containing the items. This would also seem inadequate to account for the specific positioning of the button. An item of clothing or some other accoutrement which either supported the button from beneath or to which the button was attached and thereby suspended from it, seems the most likely option.

The final item was an irregular piece of chalk measuring 50mm by 40mm (sf 4572). It lay between the Beaker and the other grave goods. Parallel grooves on the upward-facing surface were almost certainly the result of differential weathering of harder and softer bands of chalk (Humble *et al* SS3.7.1).

The backfill of the grave (3258) was mixed and mottled, consisting mainly of a friable medium greyish-brown sandy loam with mottles of a more compact dark grey-brown sandy loam and small mottles and streaks of yellow-brown to orange-brown sand. There was a thin scatter of pebbles through the fill. Given that the grave was partly cut into the mixed fills of a probable tree-hollow, it would appear that this was most likely to be merely the originally excavated material being returned, but in a more mixed form. The presence of a small number of finds within the backfill would suggest, however, either the incorporation of some soil containing residual finds or the deposition of some material into the soil at the time of burial. The material recovered consisted of a single fragment of bone (sf 4557) and three flint flakes and two blades (sfs 4574–4578)

Although *in situ* mound deposits had survived only over the south-western end of the grave, they were indistinguishable from the remainder of the mound and so provided no evidence for the existence of a small cairn overlying only this burial. It seems most likely, therefore, that the whole of the primary mound was constructed shortly after the insertion of the Beaker burial, making it the final stage of activity in the central area.

Phase 1.3 The primary mound (3194)

The south-western half of the primary mound survived to varying degrees; in the north-eastern half it had been totally removed by later activity (Fig SS1.155). The area of best preservation lay to the south and

Figure SS1.161
Barrow 6.
Detail of flake, dagger, button
and chalk lump in situ.
(Photo Northamptonshire
County Council)



south-east, where the mound stood to a maximum height of 0.32m (34.65m OD) and was typically in excess of 0.20m high (Fig SS1.155) and partly sealed the Beaker burial (F3259). To the west, including the area over and around the large pit F3384, no *in situ* mound remained, although the actual mound material appeared to have been reworked into the fill of an extensive shallow hollow of medieval date. Although truncated, the pre-mound land surface had partially survived in this area. To the south-west the mound had survived to a maximum height of 0.10m.

The primary mound consisted of a compact homogenous sandy loam typically dark grey-brown in colour, but varying irregularly from almost black to a dark medium brown (Fig SS1.155: 3194). It was virtually free of natural inclusions, with only very occasional small pebbles present and was built of turf or turf and topsoil (Macphail SS4.8.2), although no macroscopic evidence for individual turves survived.

The mound sections and the nature and rapidity of the filling of the inner ditch suggest that there was no berm between it and the mound, and that the latter may have been steep-sided. In this event, the mound would probably have been relatively flat-topped. There was no evidence from the ditch fills that any other material had been used in the construction of the primary mound. The gravel that would have been obtained from the cutting of the inner ditch was clearly not used to provide a capping to the turf mound.

Finds from the primary mound material (3194) almost certainly include some from the top of the pre-mound soil (see phase 0), although no attempt is made to separate these retrospectively. Some 14 small and abraded pieces of animal bone and a single crumb of pottery were far out-numbered by 177 pieces of struck flint (Table SS1.19), all of which was fully three-dimensionally recorded. These were derived almost entirely from the relatively well-preserved south-eastern quarter of the mound and probably represent something of the order of a 20% sample of that originally present. The vertical distribution of flint through the mound was analysed by compiling grouped frequency distributions for 0.05m intervals of vertical height in relation to both ordnance datum and height above subsoil. Given a 0.20m variation in subsoil level, it was found that the grouping by height above subsoil provided the more useful analysis. In view of

the relatively low numbers of flint present, this analysis was carried out for all the recovered flint and for a defined sampling area totalling 10 sq m.

The vertical distribution of the flint through the primary mound indicated that the bottom 0.10m of the mound contained a significantly higher flint density than the higher levels. With the mound surviving up to 0.30m high, the bottom third produced, in the 10 sq m sample area, 60% of the recovered flint (62 out of 103). However, it must be remembered that the bottom third by depth amounted to considerably more than one-third by volume, given the disturbances in the surviving mound surface. It is thus difficult to estimate the original occurrence of flint in the upper mound. The value obtained for the level between 0.10m and 0.19m above subsoil is 28 flints per cu m. This is certain to be lower than the true density, due to later disturbances, but is unlikely to be as low as a half of the original density. The respective values are, therefore, estimated to be 62 flints per cu m for the base of the mound (0 to 0.09m above subsoil) and *c* 30–35 flints per cu m for the upper levels of the mound. This accords with the probability that the apparent base of the mound was in fact the surface of the pre-existing soil.

Over an area of 27 sq m of best survival, the flint scatter for the bottom 0.10m of the mound would average 3.4 flints per sq m. The observed distribution ranges from 0 to 9 flints per sq m, with the highest densities lying along a band running south-eastward from the Beaker burial. This band lies within the area in which the subsoil was at its highest level, 34.34m to 34.36m OD. More specifically, however, there appear to be two distinct clusters of flint within the general area of greatest concentration. One lay at the south-eastern edge of the central area, immediately over the highest point of the subsoil. The second concentration was around F3257, a pit containing an exceptionally large flint core (phase 1.1). Some 23 struck flints, representing 24.5% of the total scatter within the 27 sq m examined, lay within 0.60m of this feature. The lithics are predominantly Mesolithic and early Neolithic in character (Table SS1.19), which suggests that F3257 may itself substantially pre-date the barrow.

Phase 1.4 Inner ditch

Although the detailed sequence cannot be demonstrated, the initial monument may have consisted of an open ditched enclosure,

perhaps centred on a standing tree, and associated with the deep pit (F3384).

The inner ditch was recorded during the excavations as F180, F3198 and F3262. The south-western half of the circuit was sealed by surviving mound deposits and around this length the ditch was preserved up to the surface of the pre-mound ground level (3391). Over the remainder of the circuit, later disturbances of late Saxon to medieval date had removed all occupation deposits, even cutting into the underlying natural gravels. The uppermost 0.10m to 0.20m of the ditch had thus been removed around half of the circuit.

The ditch was fully excavated apart from at the three major baulks, each 1m wide. To the east, a length of 1.60m had been removed by a medieval well pit. In all, 40.40m (90%) of the total circumference of 45m was excavated.

The major part of the ditch circuit followed a closely circular plan with a diameter of 14.50m (centre to centre), enclosing an area averaging 13.25m in diameter (Fig SS1.156). The centre of this circle would have lain *c* 0.10m north-west of the Beaker burial F3259. Whilst three-quarters of the circuit respected this circular plan, the north-western sector followed a more flattened circle for an arc of *c* 100°, deviating from circularity by up to 0.75m. The northern end of this arc was adjacent to a small pit (F199).

In general terms the ditch could be described as having been of roughly circular plan and of variable width, depth and profile. It varied from a shallow V-profiled cut on the north-western side (0.87m wide and 0.45 deep) to a deep V-profiled cut to the south, 1.40m wide by 0.90m deep. In intervening areas, and particularly on the north-eastern side, it generally had a U-shaped profile (Figs SS1.155, SS1.162–5).

It is possible to suggest a more complex arrangement, however, in which the circuit consisted of three separate arcs, of unequal lengths, defined by the parabolic arc and a shallow pit to the south-east (F3379) cut down from the base of the ditch. These factors would define the circuit as having consisted of:

- 1) A circular north-eastern arc
- 2) A circular southern arc
- 3) A 'flattened' north-western arc

The suggestion that these arcs reflected an original plan, and perhaps also a construction sequence, is supported by the observed variations in the depth and profile

of the ditch which appeared to relate closely to the defined arcs.

The north-eastern arc. The northern end of this arc was defined as the point where the ditch course changed from non-circular to circular, with the adjacent pit (F199) providing an additional defining factor. At this point the ditch was shallow, the excavated depth of 0.40m (bottom level 33.70m OD) suggesting an original depth of *c* 0.55m. Both to the west and east the ditch deepened, but to the west it was V-profiled (Fig SS1.164: S37B) and to the east U-profiled (Fig SS1.162: S48B, S58B). From the north to the north-east, the ditch deepened steadily to a maximum excavated depth of 0.66m, indicating an original depth of 0.75m (Fig SS1.162: S598) with the cut being more V-profiled. This point lay at the main north-eastern baulk, somewhat west of the centre of this arc. Towards the south-east, the ditch became shallower and more U-profiled (Fig SS1.162: S601), being 0.60m deep 2m north of pit F3379. Immediately northwards from this pit, the ditch bottom broadened rapidly and deepened slightly to 0.65m. In total this arc was 19.5m long with a sector angle of 150°, representing 42% of the full circuit.

Pit F3379 was a shallow subrectangular cut in the base of the inner ditch, 1.30m long by 0.75m wide and 0.20m deeper than the ditch itself, giving a total depth of 0.94m (Figs SS1.156, SS1.162: S631). It was steep-sided (*c* 60°) and flat-bottomed. The fill was of mixed silty sands, orange-brown to dark grey in colour, being very similar to the primary mound material, but mixed with naturally derived clean sandy silts. There were few pebble inclusions, but the fill contained a single large cobble 0.20m in diameter. The fill was sealed by the primary ditch silts, this and the absence of derived gravel suggesting that the pit had been deliberately filled prior to the commencement of natural silting.

The southern arc was generally the deepest part of the ditch circuit. Immediately south-west of pit F3379 the ditch had a broad-bottomed, U-shaped profile, 0.75m deep. However, it tapered inwards more rapidly than to the north-east of the pit, to a V-profile. It also deepened slightly, reaching a maximum depth for the circuit as a whole of 0.90m (bottom level 33.45m OD), to the west of the centre of the sector (Fig SS1.163: S623). To the west the depth remained almost constant at 0.85m, whilst the ditch profile again became more U-profiled. At this point there was a distinct step, 0.10m high, in the ditch floor, thought to indicate a

shallowing of the ditch towards the end of this arc. However, this step lay *c* 2.70m east of the point of departure from a circular plan, leaving the end of this arc only vaguely defined. If the west end of the arc is marked by the change in plan, this southern arc would be 14m long with a sector angle of 110°, representing 30% of the full circuit.

It can be seen that the north-western and southern arcs shared a common, circular, plan and a common pattern of profile and depth variations. A simplest interpretation of this could be that the pit to the south-east (F3379) had served to divide the circular part of the ditch circuit into two arcs, which were dug out separately. In each case the ends of the excavated lengths tended to be shallower and more U-profiled than the central parts, with the southern arc being dug to a greater average depth.

The north-western arc was distinctive in its depth and profile variations, as well as in its non-circular plan. Its profile was consistently narrow and sharply V-profiled. At the northern end it was 0.55m deep, but over a length of *c* 2m to the south-west it deepened to 0.58m (bottom level 33.45m OD) indicating an original depth of *c* 0.70m, becoming narrower and shallower to the south. At the possible post setting (Fig SS1.156: F3199), the ditch was 0.75m wide and 0.55m deep.

Posthole F3199 was 0.30m in diameter, with almost vertical sides and a rounded base. The cut penetrated 0.20m into the underlying gravel, with a total depth of 0.30m, including the primary ditch silts. The fill was darker than these silts, consisting of mixed gravel, red-brown sand and light greyish-brown sandy silt. It may have represented a post either inserted through the primary fill or set into the base of the ditch, and around which the primary silts had accumulated. The post had probably either decayed or been removed prior to secondary ditch-fill, given the absence of darker, mound-like silts within the posthole. This post setting was at the centre of the north-western arc.

Whilst F3199 was the only posthole located and excavated, it was noted during the initial excavation of the ditch to the north of this that there were sandy patches in the floor of the cut which also might have been postholes. These were not investigated, but it seems more likely that they were pockets of natural sand, like many others subsequently observed in areas of natural gravel.

To the south of centre, the V-profiled ditch was particularly narrow and shallow for

a length of *c* 2.50m, with a width of 0.78m and depth of only 0.45m (bottom level 33.82m OD) at the shallowest part of the entire circuit (Fig SS1.164: S615). To the south-east the ditch deepened and broadened rapidly over *c* 1.60m, being 1.15m wide and 0.80m deep at the defined end of the arc. The length of ditch between the point of departure from circularity and the step in the ditch floor was fairly level with a depth of 0.75m to 0.80m. As defined, this arc was 12m long with a sector angle of 100°, representing 28% of the full circuit.

The form of the north-western arc was thus different in all respects from the remainder of the circuit. A possible explanation is that this arc may have been dug both separately from and at a later date than the remainder of the circuit. The proposed interpretation is therefore that the inner ditch initially consisted of a three-quarter circle probably dug in two separate lengths, with the north-western quadrant left open. Subsequently the circuit was completed by the excavation of a shallower length of ditch following a more flattened curve. This interpretation is based entirely on the plan and no confirmation was provided by the ditch fill sequences.

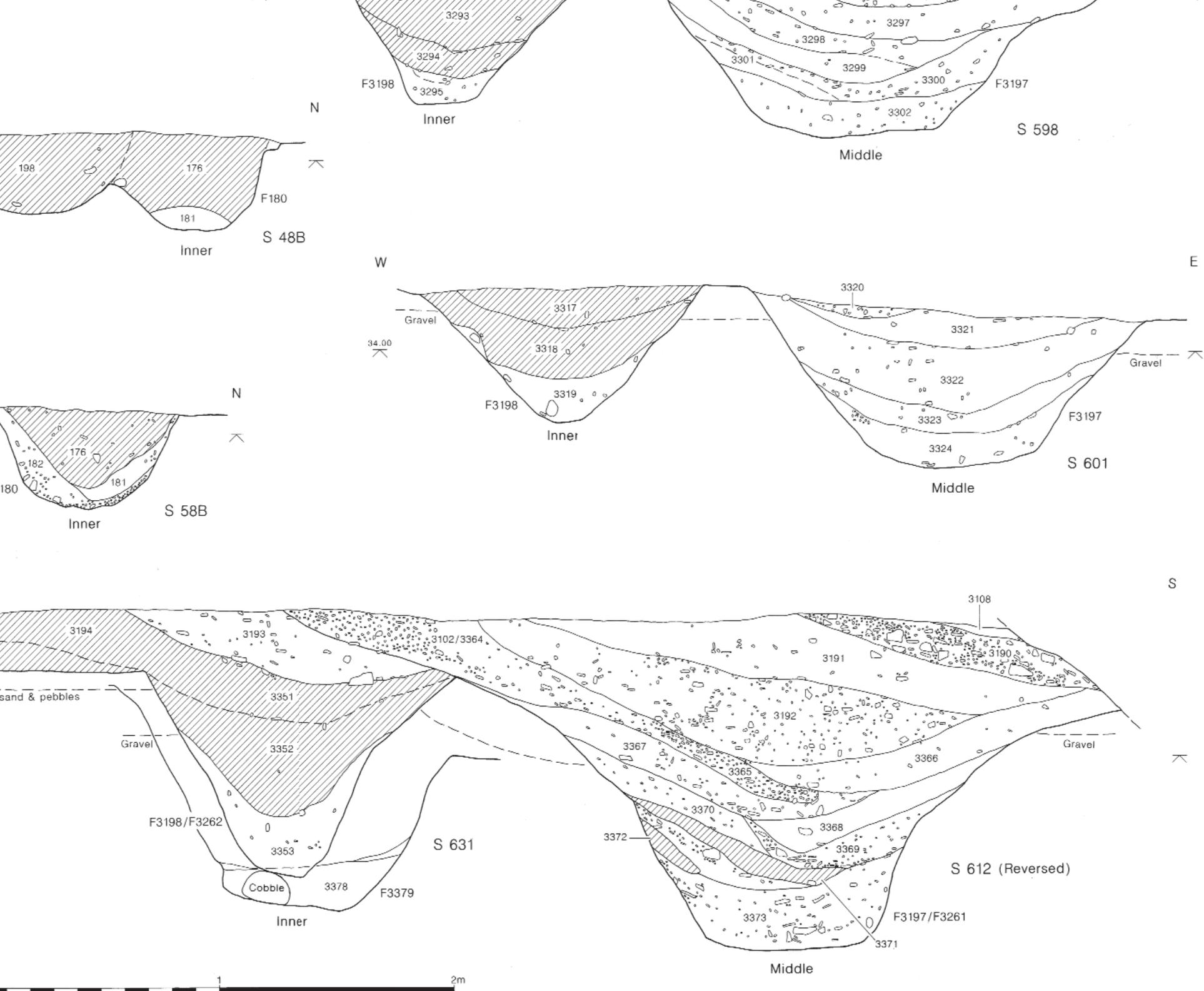
Phase 2 The inner ditch fills

By the time the barrow was enlarged, in phase 3, the inner ditch was almost totally filled, mainly by slumped mound material. The fills followed a simple and consistent sequence around the entire ditch circuit (Figs SS1.162–4).

The primary fill accumulated to a depth of 0.05m to 0.18m and consisted of orange-brown to light yellow-brown sand, often gritty, and containing frequent pebbles. In some sections, dark brown to dark grey-brown loam was mixed with the lighter sands. This silting clearly derived from erosion of the ditch sides, but with a limited amount of darker loams, presumably from early but localised slumping of the primary mound.

The primary fill sealed the fill of pit F3379 on the south-eastern side of the circuit, whilst post setting F3199, to the north-west, was visible through these silts, which may have accumulated around an *in situ* post.

The secondary fill comprised a compact dark grey-brown loam, virtually free of pebble inclusions. There were some mottles and streaks of yellow to orange-brown sand, particularly towards the cut edges. This silting had clearly derived from rapid slumping of the primary mound.



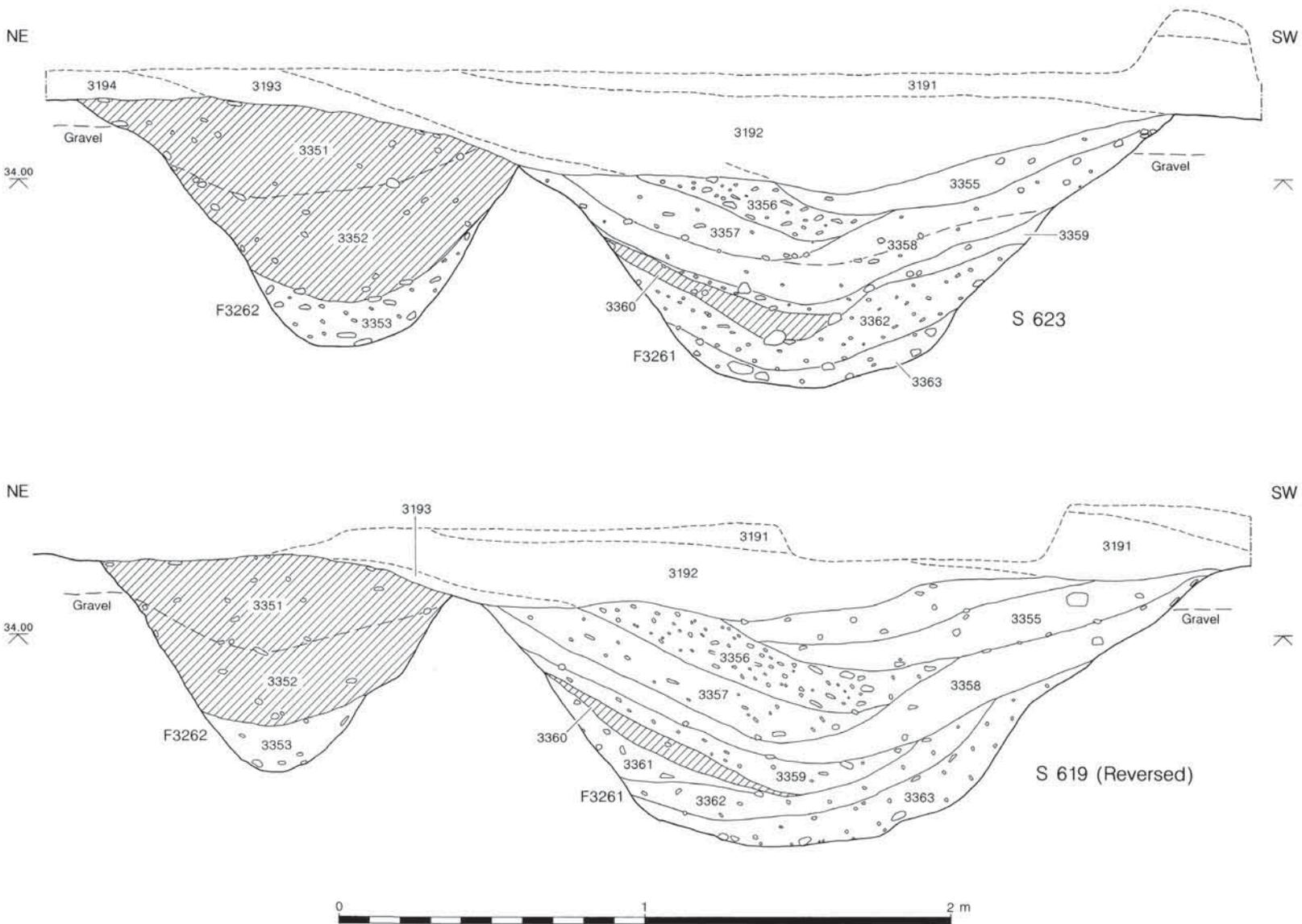


Figure SS1.163

Barrow 6.

Sections through the inner ditch and the middle ditch.

The transition from silts derived from erosion of the ditch sides, to silts derived from mound slumping was evidently sudden, given the minimal mixing of the respective materials. The shallow depth of the primary silts would also suggest that the secondary filling began quite early. These factors suggest that the primary mound probably possessed a steep side, set very near the lip of the inner ditch.

The final ditch fills consisted of further slumped mound material. In many sections an interface between secondary and final fills was marked by poorly developed pebble trails, indicating an hiatus or at least a slowing in the rate of mound slumping. There was no visible distinction between these final ditch fills, representing mound slump, and the *in situ* mound material.

The slumping of the primary turf mound fully filled the inner ditch. In this eroded form, the sides of the mound lay at the angle of rest of $c 30^\circ$, the location of the ditch being marked only by a slight hollow. On the north-western side, where the ditch had been particularly shallow, the mound would have filled the ditch even more rapidly, and had spread up to 2m beyond the outer edge of the ditch. The inner ditch contained a dense flint scatter and sixteen sherds of pottery.

Pottery

Apart from a single undiagnostic crumb to the south and another to the south-west (sfs 4440 and 4446), pottery lay in two concentrations on the north-eastern and south-eastern sides of the ditch circuit.

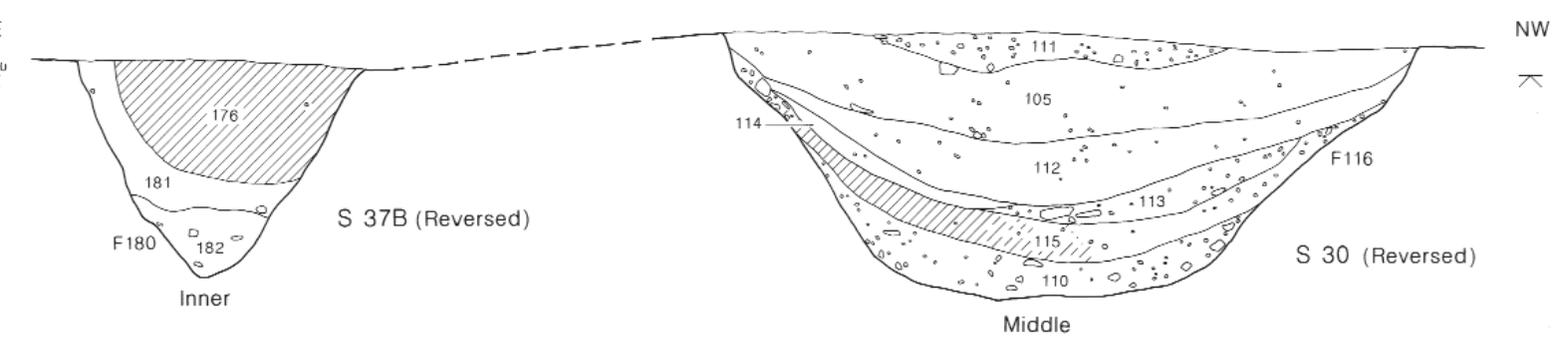
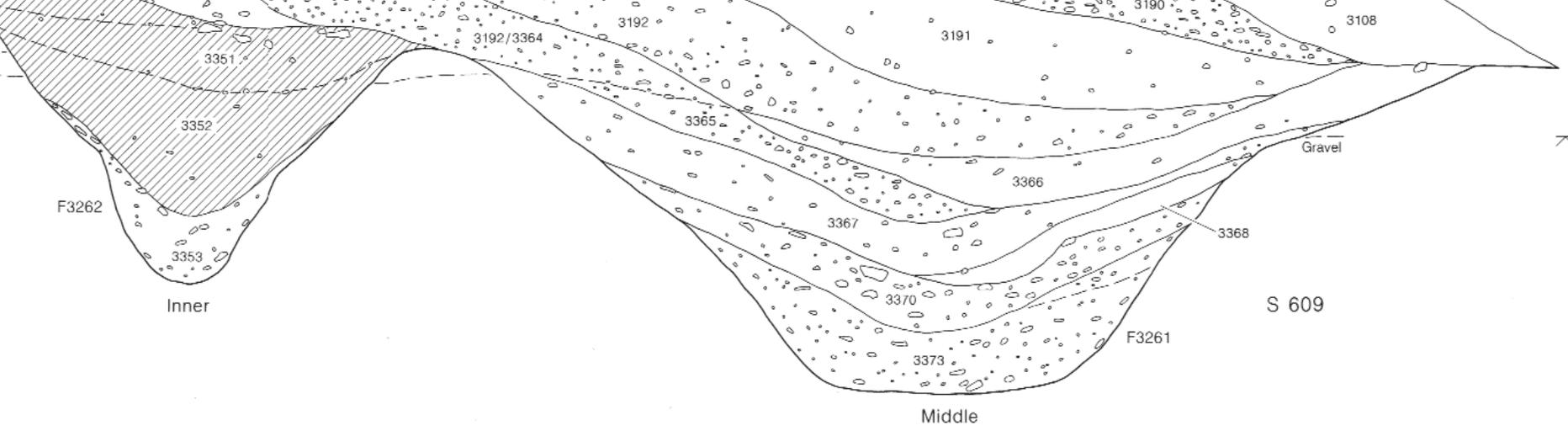




Figure SS1.165
Barrow 6.
Section S609 through inner
and middle ditches.
(Photo Northamptonshire
County Council)

The first concentration lay immediately north-west of a medieval intrusion, which had cut away a length of the inner ditch. Relatively large, well-preserved sherds from a shell-tempered decorated Peterborough Ware bowl (sf 1071; Tomalin SS3.8.4: P55) were located during cleaning of the sides of this feature and it is possible that part of the vessel was lost, especially given a scatter of four further, but smaller, sherds within the secondary ditch fills over a distance of some 0.60m around the main cluster. Two of these (sfs 4282, 4285) were from the same vessel, as was one of two sherds in the middle ditch immediately to the north-east (sf 4562). Residue analysis of sf 4285 showed that it had contained ruminant (probably bovine) adipose fat and had been heated to over 300° C (Copley *et al* SS3.8.2).

The second concentration of sherds lay on the south-eastern side of the circuit from 0.80m to 2.50m to the south-west of the pit F3379. A further single sherd lay *c* 3.2m south-west of the pit. This was a more dispersed scatter of seven small sherds spread throughout the secondary fill but towards the inner side of the ditch (sfs 4283, 4284, 4441, 4444, 4445, 4563 and 4564). All but one of these was quartz-tempered and may have come from a single vessel. They were far smaller and worse-preserved than the sherds in the first concentration.

Further west again, close to F3260, were two sherds of a Neolithic Bowl, also quartz-tempered (sf 4440; Tomalin SS3.4.8: P24).

Struck flint

The inner ditch contained over 200 pieces of struck flint (Table SS1.19). All of this material was fully three-dimensionally recorded, with the exception of eighteen pieces recovered from the inner ditch fills on the north-western side during the prelimi-

nary excavations of 1985. Almost all of the material present was recovered, only three baulks remaining unexcavated. The flint is likely to have been derived from the primary mound, which made up almost all of the ditch fill. Like the material from the mound, it has a substantial Mesolithic and early Neolithic component (Ballin SS3.7.6). Its distribution around the ditch shows a strong bias towards the southern half of the ditch circuit, with 86% of the flint recovered lying within the southern half and only 14% to the north. These percentages are based on 239 plotted flints.

The distribution of this material can also be defined in relation to the proposed division of the ditch circuit into three arcs. The majority occur within the fills of the southern arc and the southern half of the north-eastern arc, that is, from the east round to the south-west. Even though it would appear that the pit in the base of the ditch on the south-east side, F3379, had been filled at an early stage, prior to the accumulation of the primary silts, there was a slightly higher concentration of flint within the fills above and around it. Within a 30% arc centred on this pit, which would extend *c* 1.5m beyond the pit to both the NE and SW, there were some 60 flints comprising 25% of all the recovered material.

To the north the majority of the flint recovered falls into two distinct clusters. From 2m to 3m to the west of F199 eight flints were recovered from the ditch fills. From 0.50m to 1.70m to the east of the main northern baulk thirteen flints were recovered. It should be noted that a cluster of pot sherds, including much of a single Peterborough Ware vessel, also lay in this latter area (see above). The northern half of the ditch circuit was therefore almost devoid of flint, with the exception of these two clusters.

It would not seem possible to account for this distribution pattern if the primary turf mound had a random scatter of residual flint throughout. It would be necessary to assume a strong bias in this flint scatter; with the southern half of the mound consisting of turf containing much flint whilst the northern half contained little. Measured in terms of flint density, the highest values were 40–45 flints per cu m in the south-eastern part of the ditch, from 125° to 180° as measured from Ordnance Survey north, with the southern third of the circuit in general, 120° to 240°, having an average density of 32 flints per cu m. The average for the whole circuit is 19.8 flints per cubic metre.

The value of 32 flints per cu m for the southern third of the circuit is comparable to the value of 30 flints per cu m obtained for the mound itself at more than 0.10m above apparent subsoil level. This may suggest that the flint within the ditches on the south side reflects, on average, the flint density within the upper parts of the mound. However, the flint was not evenly distributed through the ditch fills. The majority lay towards the inner side of the ditch from the base of the secondary fills and upwards. Far fewer flints were recovered from high up within the secondary fills and towards the outer edge of the ditch. Whilst this may at least in part be a product of differential movement of flints as opposed to soil, with the flint, in effect, not moving outwards to the same extent as the soil, it could also suggest that more of the flint had lain on or high up in the mound and had therefore been deposited preferentially during the earlier stages of silting. The comparable levels of flint densities within the ditch and within the mound above 0.10m above subsoil do not however provide support for this argument.

The absence of a general flint scatter within the ditch to the north would appear to be inexplicable if the upper levels of the mound had a consistent flint density of *c* 30 flints per cu m. The only conclusion possible would appear to be that the mound on the northern side had possessed a very low flint density.

Phase 3 Middle ditch and mound refurbishment

Once the phase 1 mound had slumped to such an extent that the inner ditch was almost totally filled, a new encircling ditch was dug. It appears that the topsoil derived from the ditch line was used to reinstate the mound edge, with the underlying gravel used to both heighten and cap the mound.

It is suggested that this phase of activity probably quite closely followed on from phase 1, with the reinstatement of the mound and ditch probably representing a completion of the original barrow, rather than a separate and substantially later reuse of the existing structure. There is no evidence for regeneration over the slumped turf mound, although such evidence could have been removed in the later refashioning of the mound's sides. Similarly, there was no evidence that any burial was associated with phase 3, although any burials in the top of the mound would have been removed by the subsequent complete removal of the gravel capping.

Whilst the phase 3 reinstatement was therefore likely to have occurred fairly shortly, probably only a matter of years, after the creation of the turf mound, whether it marked a new phase of burial activity or, as suggested, a completion or reinstatement of the original barrow must remain uncertain.

Phase 3.1 The middle ditch: F116/F3197/F3261

Like the inner ditch, this was sealed by surviving mound deposits around the south-western half of the circuit. Over the north-eastern half, later activity had stripped the surface down to or slightly into the natural gravels.

Of the total circumference of 56.50m, 44.20m (78%) was fully excavated, with baulks left at intervals around the circuit as described in Section 1, leaving a total length of 12.30m of unexcavated ditch (Fig SS1.153).

The ditch had been cut following the complete filling of the inner ditch during Phase 2 by slumped mound material; when the visible monument would have consisted of a circular turf mound with its edges eroded down to an angle of *c* 30°. The middle ditch would appear to have been dug immediately beside and probably slightly into the perimeter of the eroded primary mound. It was also therefore immediately adjacent to the inner ditch, the top outer edge of which it cut in places (Fig SS1.162: S598; S612). On the north-western side, the middle ditch curved away from the inner ditch, probably as a result of following a mound perimeter which had spread well beyond this shallow length of the inner ditch.

The middle ditch was almost circular in plan, with a diameter of 18m (centre to centre). To the west and south, the curvature of the ditch floor in plan showed distinct angularities in its course, suggesting that the ditch here had been in the form of at least three flattened arcs from 6.50m to 9m long (south-east to south: 6.50 m; south to south-west: 9 m; south-west to west: 7 m).

To the north and east, the ditch followed an almost circular course, although a slight angularity in the ditch floor to the north may indicate that here also the ditch had been cut as a series of slightly flattened arcs. If the entire ditch had been dug in this fashion it would have consisted of some seven or eight such lengths averaging *c* 7.50m.

This ditch had a U-shaped profile, being steep-sided with a broad flat floor typically 0.60m to 0.70m wide. On the north-western side, where the ditch was at its deepest, it tended towards a narrower-bottomed and

more V-shaped profile. The lower edges of the cut were typically steep-sided at $c 60^\circ$, with a range of 50° to 70° . The upper edges on both sides had been eroded to quite shallow slopes generally at 40° to 50° , but as low as 30° in some places. The base of the erosion cone generally began at a slightly higher level, and was slightly steeper on the inner side of the ditch. In some sections, there appeared to have been very little erosion of the inner edge of the ditch. This preferential protection of the inner edge, due to the more rapid accumulation of silts against it, was clearly evident within the ditch fills themselves.

As excavated, the ditch varied from 0.65m to 1.10m deep, and was shallowest in the northern sector, where the pre-mound soil and subsoil levels had been disturbed by later activity. Allowing for this effect, the ditch was deepest to the north-west (Fig SS1.164: S615) and south (Fig SS1.162: S612) at 1.10m (bottom levels 33.15m OD and 33.19m OD respectively), and shallowest on the eastern side (Fig SS1.162: S601) at 0.75m (bottom level 33.51m OD).

The variations in depth appear to relate to the plan. On the northern side, which showed minimal evidence for lengths of flattened arcs, the ditch was generally about 0.80m deep, the bottom undulating between 33.37m OD and 33.44m OD. From the north-east to the east it became shallower, being at its shallowest to the east at 0.75m. From the east to the south-east, the ditch deepened by $c 0.20$ m to 0.95m (bottom level $c 33.30$ m OD). From the south-east to the south, and the best defined angularity in the ditch floor, the ditch initially deepened, but for most of the arc was $c 1.05$ m deep (bottom level 33.20m OD). From the south to the west, the depth was typically 0.95m to 1.0m, but at the end of the arc it shallowed to 0.90m (bottom level 33.35m OD). From the west to the north-west, and another possible angularity in the ditch floor, the ditch deepened quite sharply to its deepest point at 1.10m (bottom level 33.15m OD). From the north-west to the north it rapidly became shallower, reaching 0.85m.

The available evidence suggests therefore that the recorded variations in the depth of the ditch may have been related to its probably having been cut as a series of individual flattened arcs. It would appear that the depth of individual arcs varied slightly. An arc either steadily deepened or became shallower, perhaps in order to link with a pre-existing length of ditch, or they were dug to relatively constant depths but sloped more

steeply towards the end of the arc to create a smooth, rather than a stepped join.

The width of the ditch, as excavated, varied from only 1.70m on the shallow east side to 3.20m in the south-east, at one of the deepest points. The ditch was of similar depth on the north-west side, but here its width was 2.45m due to the narrow-bottomed, more V-shaped profile. In its original form, as a steep sided U-profiled ditch, its width would have been typically 1.80m to 1.90m, ranging from $c 1.60$ m on the shallow eastern side to $c 2.20$ m to 2.30m on the deeper southern side.

Phase 3.2 The second mound

The primary mound in its denuded form, with the inner ditch fully filled by slumped mound material, was sealed around its margins by a red-brown sandy loam with some pebble inclusions (3193). 3193 survived to a maximum thickness of 0.30m on the southern side of the mound, but it was generally thinner elsewhere (Figs SS1.162–164). It was absent around the north-eastern half of the barrow, where the mound had been totally removed by later activity. The junction between this layer and the underlying primary mound was sharply defined, and in places there were concentrations of larger pebbles at the interface, particularly in the slight subsidence hollow over the inner ditch.

Given the maximum thickness and homogeneity of this layer, it would appear to have been a dumped deposit rather than a soil horizon that had developed over the primary mound. Material within it is thus likely to have been residual within the redeposited soil, rather than contemporary with this phase of barrow activity. There was a single shell-tempered sherd with some carbonised residue, a scatter of charcoal flecks and some thirty pieces of struck flint of Mesolithic and/or early Neolithic character. A foot from a cast bronze vessel (sf 3954) was intrusive from overlying levels.

Whilst clearly post-dating the slumping of the primary mound, this layer can only be shown to have pre-dated the upper secondary fills of the middle ditch. However, it would seem most likely that the layer represented a refurbishment of the mound contemporary with the cutting of the middle ditch. The material used would appear to have been topsoil, probably mixed with some of the upper natural of sandy clay and gravel. This was most probably derived from topsoil obtained from the course of the middle ditch.

It has already been suggested that the primary mound originally may have been

relatively steep-sided and flat-topped. The dumping of topsoil around the margins of the denuded primary mound may have served to reinstate the mound to a steep-sided and flat-topped form, with the angle of slope presumably being somewhat in excess of the maximum surviving slope of *c* 40° on the eroded surface of this layer.

Phase 4 the middle ditch fills

The fills of the middle ditch at their most complete, in the south and north-west, exhibited a complex sequence, possessing stratigraphic relationships to earlier and subsequent phases of mound construction and denudation. It is this middle ditch fill sequence and its relationships which provided the basis for the phasing of Barrow 6, whilst the nature of the fills provided significant evidence for the interpretation of the barrow's constructional history (Figs SS1.162–4).

The primary fill consisted of gravel pebbles in a yellow to orange-brown silty sand matrix. These generally had accumulated to a depth of 0.15m to 0.25m, but for a length of 3m to 4m in the NNW of the circuit, where only some 0.07m to 0.10m of clean primary silt had accumulated prior to the commencement of secondary silting (Fig SS1.164: S30).

The primary fill had accumulated fairly evenly from both sides of the ditch, with only a slight suggestion that more material had accumulated from the inner side of the ditch. It would appear that the bulk of the primary filling was derived from the initial erosion of the ditch sides and not from mound slumping. In a single section on the southern side, the primary silts were quite strongly asymmetrical. In this instance, clean gravel and sandy silts were overlain by a lens of material against the inner side of the ditch consisting of dark brown sandy loam mixed with orange-brown sand (3372; Fig SS1.162: S612). This darker material was sealed by gravel in an orange sand matrix. The sequence here would suggest an early, isolated, slumping of part of the mound edge or the weathering back of the inner ditch edge into the fills of the inner ditch.

The initial secondary silting consisted of a compact, virtually pebble-free, dark brown loam. Around most of the ditch circuit, this layer was 0.05m to 0.10m thick and had clearly been derived from mound slumping. It lay against the inner side and over the silted floor of the ditch. For a length of at least 10m on the north-western side of the circuit (from *c* 2m south of the main baulk,

S615, to at least S606 in the north) this layer was more extensive and from 0.08m to 0.20m thick. It was also darker in colour, being a dark brown to grey-brown sandy loam.

There can be little doubt that these loams were derived from material exposed in the side of the Phase 3 mound. This would suggest that the side of this mound consisted of dark and fairly pebble-free loams. However, in the sections preserving the most complete sequence of mound construction, the material at the side was seen to be lighter in colour and containing more pebbles (context 3193).

This discrepancy could be explained by postulating a narrow turf revetment around the outer edge of the mound during this phase. The initial secondary silting would then have derived largely from the collapse and erosion of this revetment, in accordance with the observed sequence of silting.

The initial secondary silting was sealed by a mixed layer of medium brown to yellow-brown sand and silty sand, with a variable density of gravel inclusions from few to moderate. This material was probably derived partly from further erosion of the ditch sides, probably mainly the upper sides, and partly from further erosion of the mound-edge (layers 3364 and 3192).

The secondary fills above this level followed a consistent general pattern, but with some variations in detail. Around the deepest parts of the circuit, from the south-east to the north-west, there was a distinctive and well defined layer (collectively 3368, 3406 and 3358) of red-brown to dark brown sandy loam with few, mainly small, pebble inclusions. This layer had accumulated against the outer slope and appears to have derived from erosion of a topsoil layer beyond the ditch. If so, this would indicate that the area beyond the ditch circuit had not been stripped of turf and topsoil.

A similar process may well have been occurring along the shallower lengths of ditch to the east and north, where the material accumulating against the outer slope generally did contain fewer pebble inclusions. Above this, there was a more mixed layer of red-brown to medium brown sandy loam mottled with dark brown sandy loam and containing variable, but generally moderate, pebble inclusions: 3367, 3403–5, 3304, 3357 and 3299. This layer had accumulated against the inner side of the ditch, and presumably derived from erosion of the dumped topsoil (3193) and the gravel capping (3192).

This stage of mound erosion had generally culminated in a substantial accumula-

tion of gravel in red-brown sand (3365, 3402, 3356 and 3298). This material was most probably derived from a major and rapid slumping of the gravel capping to the phase 3 mound (3192). The layer was clearly defined along the deeper parts of the ditch to the south and west, but was less clearly marked along the shallower lengths of ditch to the north and east. It appeared to be totally absent for a length of *c* 10m to the north (eg Fig SS1.164: S30) and for *c* 5m to the east.

Once the gravel capping around the perimeter of the mound had slumped into the middle ditch, a period of near stability had been reached with the eroded slope of the mound running fairly smoothly into the ditch fills.

A final fill of dark red-brown to medium brown sandy loam with few pebble inclusions (3366, 3401, 3298 and 105) covered much of the ditch. This layer was at its thickest towards the outer edge of the ditch. To the north-west the contemporary ground surface had not been fully removed by later activity and here the fill appeared to be continuous with the soil level beyond the ditch (Fig SS1.164: S615). It should be noted, however, that this soil level lay directly on the natural surface of sandy clay and gravel; the pale sandy subsoil (3391), preserved beneath the primary turf mound, being absent. This may have been an indication of turf and topsoil stripping at some stage, with the subsoil either being removed at the same time, or perhaps more probably being 'lost' due to being exposed and becoming incorporated into a newly-developing topsoil cover. As topsoil-like material was accumulating against the outer slope of the middle ditch at an early stage, presumably from erosion of the adjacent ground surface, it is possible that there was a turf and topsoil layer beyond the middle ditch at this time. If the absence of a subsoil layer indicates deliberate stripping, then this perhaps most likely occurred prior to the phase 1 mound.

The final ditch fill was clearly derived from slow silting and it is probable that a turf cover would have been developing over the shallowly sloping outer ditch-wall. Over the steeper inner slope, mound erosion appears to have continued.

This erosion of the mound may have been responsible for the accumulation within the ditch of layer 3192, which consisted of gravel in a mixed matrix, ranging from medium brown sandy loam to clean yellow-brown sand. The gravel density was variable, but generally lower than for the earlier phase

of gravel erosion. However, as the slope of the mound and the final ditch fills appear to have reached stability prior to the deposition of layer 3192, it does seem unlikely that a further 0.20m to 0.35m of gravel would have derived purely from continuing erosion.

This final gravel fill may have resulted at least partly from human activity. There are two likely contexts for this. It may have derived from periodic recleaning of the mound surface to retain its gravel-capped form. Conversely, it could have derived from a single act of cleaning which re-exposed the gravel capping. This may have related to the construction of the phase 5 mound and will be discussed further in that context.

The fills of the middle ditch produced a sparse scatter of finds consisting of minute quantities of Neolithic and indeterminate pottery, seventy pieces of struck flint, six small fragments of bone and some charcoal (Table SS1.19). This material was scattered around the ditch circuit, and was generally present within the less gravelly loams of the secondary fills. The material appears to have been fairly equally derived from both the inner and outer sides of the ditch. It may be regarded as residual material derived from either mound erosion or external topsoil.

Postpit F3210 lay on the south-eastern side of the barrow (Fig SS1.153), and was located following the removal of layer 3191 of the barrow mound. However, it lay within an area heavily disturbed by later features and so could not clearly be seen to have been sealed by 3191. It was cut through layer 3192 of the barrow mound and into the underlying fills of the middle ditch. The oval plan was sharply defined on the surface by the upper fill of orange-brown coarse sand with a few pebbles. However, beneath this deposit, which was up to 0.10m thick, the sides of the cut were very difficult to define.

The pit was of oval plan, measuring 1.20m east-west by 1.05m north-south, and up to 0.86m deep. The cut was almost vertical-sided to the east, with the angle of slope becoming progressively shallower towards the west. There was a distinct circular depression at the base of the cut, 0.14m deep and 0.35m in diameter. The form of the cut suggested a postpit with a steeply inclined 'ramp' on the western side. The fills would tend to confirm this interpretation. The basal hollow was filled with a dark brown compact sandy loam. Directly above this, the fill was a mixture of compact dark brown loam and medium brown sandy loam with some pebbles. Above the ramped side, to the

west, the fill was looser and comprised a medium brown sandy loam mottled with orange-brown sand and containing some pebbles. The fills suggested the presence of a postpipe derived from a post c 0.35m in diameter. The final fill was of fairly clean sands and gravel, perhaps derived from the mound capping material. The post appeared to have been left to decay *in situ*, with the subsidence hollow becoming filled with sand and gravel derived from the mound capping. F3210 contained a fragment of animal bone and a small amount of struck flint (Table SS1.18).

It may be significant that this postpit lay closely adjacent to pit F3379, cut into the base of the inner ditch. It could be suggested that these two features represented successive definitions of a common point. F3379 was, however, sealed by the inner ditch fills and therefore gave no indication that it had held a post that could have been standing subsequently to the construction of the primary mound. So the positioning of postpit F3210 could not have been derived directly from the preceding feature. There would have to be either a further, unrecognised, defining factor or else pure coincidence of positioning.

Phase 5 Outer ditch and mound refurbishment

The long sequence of infilling within the middle ditch would suggest that phase 5 occurred a substantial time after the creation of the gravel-capped mound. The middle ditch had silted sufficiently for a stable soil horizon to have developed over at least the outer slope of the subsidence hollow. The substantial depth of loam with gravel above this soil horizon and over the inner slope was also indicative of a soil horizon developing over the gravel-capped mound itself. This argument would appear to be true even given the uncertainty as to the cause of the deposition of this layer; which is seen as probably a result of either periodic cleaning or a single act of exposure of the gravel capping, but probably including further slumped material.

The final barrow form, with its new enclosing ditch and larger gravel-capped mound, could be seen as a completely new structure likely to have been associated with a new phase of burial. However, as for phase 3, any burials on the mound would have been subsequently removed.

The phase 5 ditch had two interruptions set just inside the line of the Ditched Enclo-

sure ditch (Fig SS1.153). It is possible to suggest that the slight but consistent variations from circularity indicated a plan possessing symmetry about a near east-west axis line which passed through the eastern interruption. It is possible to suggest that the south-eastern interruption was provided in order to avoid a putative internal bank to the Ditched Enclosure. The eastern interruption lay further from the ditch line than would seem likely for the same interpretation to hold and it may be viewed as having formed an axially-located eastern entrance. It is suggested, therefore, that the possible complexities of planning on this eastern side did not merely derive from a need to respect an earlier monument, but that there was actually a positive attempt to interlink the two monuments. It is also possible to propose a special position for the lens-shaped area encompassed by the respective ditches of the two monuments and thereby common to both.

Phase 5.1 The outer ditch; F188/F3195/F3196/F3177

This ditch was of approximately circular plan with a diameter of 31.0m (centre to centre), formed by two separate ditch lengths. The main circuit, with a circumference of 80.25m, was cut through the secondary fills of the ditch of the Ditched Enclosure to the east and south-east before terminating within the area enclosed by that ditch. The terminals lay 2m and 1m inside the ditch line, to the east and south-east respectively. The main circuit was separated from a short (14.50m) south-eastern arc of ditch (F3177) by berms of 1.80m and 1.60m, to the east and south-east respectively. This length of ditch lay fully within the Ditched Enclosure (Fig SS1.153).

59.75m (75%) of the main ditch circuit was fully excavated. The unexcavated baulks were from 1m to 2.40m long, with a single longer baulk, at 5.80m, on the south-western side. On the south-eastern arm, two baulks were left *in situ*, giving an excavated length of 12.15m (84%). In total 71.90m out of the 94.75m of the outer ditch circuit was fully excavated (76%). Of the excavated lengths, those to the east and south-east were taken down in plan more carefully, given the presence of secondary burials and a more complex stratigraphy, including the relationship to the ditched enclosure. Around the north-western half of the circuit, the initial lengths were taken down in plan with care whilst subsequent lengths were dug out rapidly, in

order to provide a completeness of plan and to minimise the possibility of missing secondary burials.

The approximately circular plan had an average diameter of 31m, centre to centre, and the ditch enclosed an area of *c* 616 sq m, measuring from 27m to 29m in diameter. The centre of the circle would have lain *c* 1m south-east of the arc-centre for the inner ditch. This would have placed it within the central grave pit, although this would have been sealed at the time beneath the existing barrow mound. As a result of being off-centre with respect to the first phase, the berm between the middle and outer ditches varied from a minimum width of 2.20m to the north-west to 6m to the south-east and a maximum of 7.40m to the east, where the northern end of the south-eastern arm was well outside the general circular arc. This asymmetrical positioning of the outer ditch was clearly necessitated by the presence of the Ditched Enclosure, which probably had an internal bank. The course chosen would have minimise disturbance to the pre-existing earthworks.

The deviations of the ditch from a true 31m circle followed consistent patterns around the northern and southern halves of the circuit, perhaps suggesting a plan laid out along a defined east-west axis passing through the berm on the eastern side of the circuit. To the north-west and south-west, the course of the ditch ran up to *c* 0.40m outside the circular arc. To the north and south the ditch lay within the circular arc, with this effect being even more evident to the east of the north-south line, where for arcs of *c* 30° the ditch was flattened quite considerably, by up to 0.70m and 0.90m to the north and south respectively. To the east, the northern end of the short, south-eastern arm of ditch ran well outside the circular arc, whilst to the north of this the main circuit also bulged outwards from the circular arc, although turning back towards it at the terminal.

The overall effect was a plan with a nearly circular western half, and an eastern half flattened to the north and south and elongated towards the east. The more northerly of the two breaks in the ditch circuit was flanked by an out-turned northern terminal and an in-turning southern terminal, as if providing a skewed entrance way. The effect of these deviations from circularity was, therefore, to provide a north-south diameter of 30m and an east-west, axial, diameter of 32m. Whilst the difference between these two diameters

would clearly have been too small to be noticeable on the ground, the consistency of the patterning does suggest that these effects, whilst quite small in scale, were deliberate acts and not merely vagaries of ditch cutting. The controlling factor may have been a defined east-west axial line. The reconstructed axis is aligned at *c* 92° with respect to OS grid north.

The main outer ditch circuit was V-profiled, generally with a narrow base of *c* 0.20m, but broader, at *c* 0.40m, where the ditch had been cut into softer, sandier gravels. The bottom *c* 0.50m of the cut was typically steep-sided at *c* 60°, but up to 70° in places. Along the shallow length of ditch to the north-east and in a single section (Fig SS1.167: S603) to the south, the lower sides were shallower, at 45–55°, but apparently as a result of localised early erosion. The upper ditch sides in virtually all sections were quite heavily eroded to an angle of *c* 30°, with the degree of erosion being similar on both the inner and outer slopes. The width of the ditch, as excavated, was between 2.30m and 2.75m, with the exception of the shallower length to the north-east, where it measured 1.70m to 1.90m as excavated, although here the ground level had been lowered rather more by later activity than was typical elsewhere.

As excavated, the ditch was typically 0.75m to 1.20m deep, although along the north-eastern arc it was only 0.60m deep. This range was, however, severely distorted by the varying degrees in which the ground surface had been lowered by later activity. Taking an original ground level at around 34.20m OD to 34.25m OD, the ditch would typically have been 1.20m to 1.45m deep (bottom level 33.0m OD to 32.75m OD), but slightly shallower towards the two terminals. To the north-east, the ditch would have been as shallow as *c* 0.90m, deepening slightly to *c* 1m (bottom level 33.20m OD) at the eastern terminal (Fig SS1.168: S570). There was a similar pattern to the south-east, with the ditch shallowing to *c* 1m at 5.50m west of the terminal, but deepening slightly to *c* 1.10m (bottom level 33.13m OD) at the terminal itself (Fig SS1.167: S586). Assuming that the lower ditch sides as excavated were close to the original profile, the ditch when first dug would have been 1.80m to 1.90m wide and on average 1.20m deep with a base *c* 0.30m wide.

The south-eastern arm, F3177. This detached length of ditch, lying fully within the Ditched Enclosure (F3177), had a distinctive form and filling and is therefore

described separately from the main circuit. This 14.50m length of the outer ditch circuit was gently curving, and had an asymmetrical V-profile with quite a broad base, up to 0.35m wide. The lower edge on the west side was steep, at 60° to 70°, with a sharp break onto a heavily eroded upper edge (only 25° to 30°). The eastern side was generally at a shallower angle towards the bottom, 45° to 55°, with far less erosion of the upper edge.

The surviving ditch was 1.50m to 1.60m wide. The excavated depth varied from 0.62m to 0.84m, but the ground surface over the northern half of the ditch had been heavily disturbed by later activity, so the ditch was only recognised here at the level of the clean natural gravels. Allowing for these effects, the central part of the ditch would have been 0.90m to 0.95m deep (bottoming at between 33.30m and 33.34m OD). The northern and southern ends were both up to c 0.1m deeper (bottoming at 33.24m and 33.25m OD respectively). These deepened ends extended for c 1.40m along the ditch. At the southern end the base rose steadily, whilst at the northern end the change in level lay beneath the unexcavated baulk.

This arm of the ditch was therefore shallower than the main circuit; being of comparable depth to the particularly shallow north-eastern arc of the main circuit. The asymmetrical profile was probably largely a product of the processes occurring during the filling of the ditch. In its original form the ditch was probably a steep sided V-profiled cut, 0.90m to 0.95m deep and c 1.35m wide, deepening to 1m at the terminals.

Phase 5.2 The third mound

As with the earlier phases of mound construction, preservation *in situ* was confined to the south-western half of the barrow. It was quite well preserved to the south, but to the south-west and west had been partially removed by later activity.

The filling of the middle ditch by natural erosion and slumping of the phase 3 mound would have resulted in it becoming a shallow hollow c 0.30m deep with respect to the external ground surface, and with the slope on the inner side running smoothly into the eroded edge of the mound. The final phase of filling of this hollow – the deposition of the gravelly layer 3192 – has already been described. This layer has been interpreted as possibly the product of a combination of factors; from continued natural erosion, through periodic cleaning of the gravelled mound to a final act of cleaning and expo-

sure of the phase 3 gravel capping prior to the creation of the phase 5 mound.

It is possible that the first stage in the creation of the phase 5 mound was indeed the exposure of the phase 3 gravel capping, with the mixed loams and gravels being scraped down into the remaining subsidence hollow over the middle ditch. The first stage of mound rebuilding proper, however, was the deposition of layer 3191, a medium brown to dark brown sandy loam with sparse pebble inclusions, but containing some pockets of material, up to 0.15m across, with a moderate to high pebble density (Figs SS1.162–4). There were also patches of red-brown sand and the layer was sparsely flecked with charcoal, including small pieces up to 5mm long.

The layer survived around the perimeter of the mound only, directly overlying the final gravel deposit (3192), but extending to the outer edge of the middle ditch. Here it directly overlay the final loam filling of the middle ditch (3366/3401) which appeared to be continuous with the external topsoil. Where this area was least disturbed, to the north-west (Fig SS1.164: S615) and to the south (Fig SS1.164: S609), these final loams representing a stable horizon, beyond and down the outer slope of the middle ditch, had been truncated by later activity. This disturbed surface was contiguous with the outer slope of layer 3191. On the north-western side of the mound, the phase 3 topsoil layer had been entirely removed beyond 0.45m from the edge of the middle ditch, with the later gravel layer (3190) lying directly upon the exposed natural of orange sandy clay with gravel.

The loams of layer 3191, which were up to 0.30m thick, would suggest that it was a topsoil or mixed turf and topsoil layer. Given the truncation of the phase 3 topsoil, along a line contiguous with the outer slope of 3191, it seems most likely that this material was derived from the turf and topsoil stripped from over the outer ditch line and from the berm between the outer and middle ditches.

To the south-east, where an extensive area of the original surface of 3191 was preserved, there was a patchy scatter of small charcoal fragments on the surface, directly sealed by the later gravel. These seem likely to have derived from small deposits of charcoal made at the time, rather than being part of the sparser charcoal flecking evident through the layer itself.

A small quantity of finds came from 3191: 28 pieces of struck flint, six small frag-

ments of bone and two sherds perhaps of Grooved Ware (sf 3857). All are likely to have been residual.

The final stage of mound rebuilding was the dumping of a gravel layer (3190), which had survived around the southern and western sides of the mound (Figs SS1.162: S612; Fig SS1.164: S609, S615; Fig SS1.166: S616). It had been heavily disturbed by later cuts to the south-west, but here the full extent of the layer was defined by a short segment of raised natural defining a previously protected surface. To the south-east, the layer had been totally removed across the area where a direct relationship to the Ditched Enclosure may have been obtained.

However, whilst to the north-west the berm between the mound edge and the outer ditch was as narrow as 1.10m, to the south-west it broadened to *c* 2m, to the south it reached 2.50m and, at the point of intersection between the outer ditch and the Ditched Enclosure to the south-east, it was as broad as 3.50m. Even though these differences were exaggerated by differential survival of this layer (to the north-west the original edge to the gravel, prior to slumping, probably left a berm measuring *c* 2 m), it is still certain that the phase 5 mound was not closely concentric with the outer ditch.

The mound on the south-eastern side was likely to have extended almost to the outer edge of the Ditched Enclosure ditch but not over it. This would appear to have been deliberate, and an intentional avoidance of the Ditched Enclosure, even though by then the ditch would only have survived as a shallow hollow.

The final gravel layer contained a wide range of pebble sizes, in comparison to the phase 3 gravel, and a higher pebble density. The pebble size varied from fine gravel up to cobbles 0.10m in diameter. There can be little doubt that this gravel was derived from the excavation of the outer ditch. The soil matrix was a medium brown to reddish-brown sandy loam, with the darker loams probably deriving from the later development of a topsoil and turf layer over the mound. To the south, this gravel layer, as it survived, was up to 0.16m in thickness comprising a spread with a fairly uniform pebble density.

To the north-west, a more complex pattern was seen (Fig SS1.166: S616). Here the basal material was a similarly dense gravel spread, up to *c* 0.15m in thickness. This merged into a much thicker deposit of 0.30m, with only a moderate pebble density,

but a thin 0.10m band, with a higher pebble density, lay at the outer edge. This sequence probably represented the early stages of mound denudation. The layer containing a lower pebble density may have derived from natural slippage of the mound edge, whilst the thin outer band of gravel may have come from higher up the mound, either due to a subsequent, more rapid, collapse or slumping of the mound edge, or even dragging down of gravel during the early stages of ploughing.

Given the existence of a gravel capping to the phase 3 mound, and the suggestion that the initial stage in the phase 5 mound rebuilding may have been an exposure of that gravel capping, it can be suggested that the gravel capping probably only occurred around the perimeter of the mound. The requirement may have been that the new gravel sealed the immediately preceding dumps of mixed loams and gravel (3191 and 3192), and became contiguous with the phase 3 gravel spread; to create a fully gravel-capped mound.

The subsequent erosion of the mound surface and sides makes it impossible to be certain what the profile of this final mound would have been. However, given the probably flat-topped form of the phase 3 mound, it seems likely that the final mound was similarly flat-topped. The high pebble density within the final gravel suggests that this material was largely *in situ*. The sides of the mound were therefore probably also gravel-capped and unlikely, therefore, to have been as steeply inclined as has been suggested for the earlier phases.

Phase 6 the outer ditch fills

Phase 6.1. The main ditch circuit

The fills of the main outer ditch followed a simple pattern, their merging boundaries reflecting a steady process of silting, free from major disruptions or complicating factors, such as mound erosion (Figs SS1.166–7). In all sections, the initial primary silting consisted of gravel in a clean matrix of yellow-brown to orange or red-brown silty sands. The occasional occurrence of fine light grey silts suggests that at least parts of the ditch contained water for some time, but probably for relatively short periods. Above the clean primary silts, the fill was more variable, with a darker matrix of orange-brown to red-brown sand. In some instances this was relatively free of gravel, but sometimes it contained as much or even slightly more gravel than the primary silts.

Figure SS1.166
 Barrow 6.
 Sections through the main
 circuit of the outer ditch.

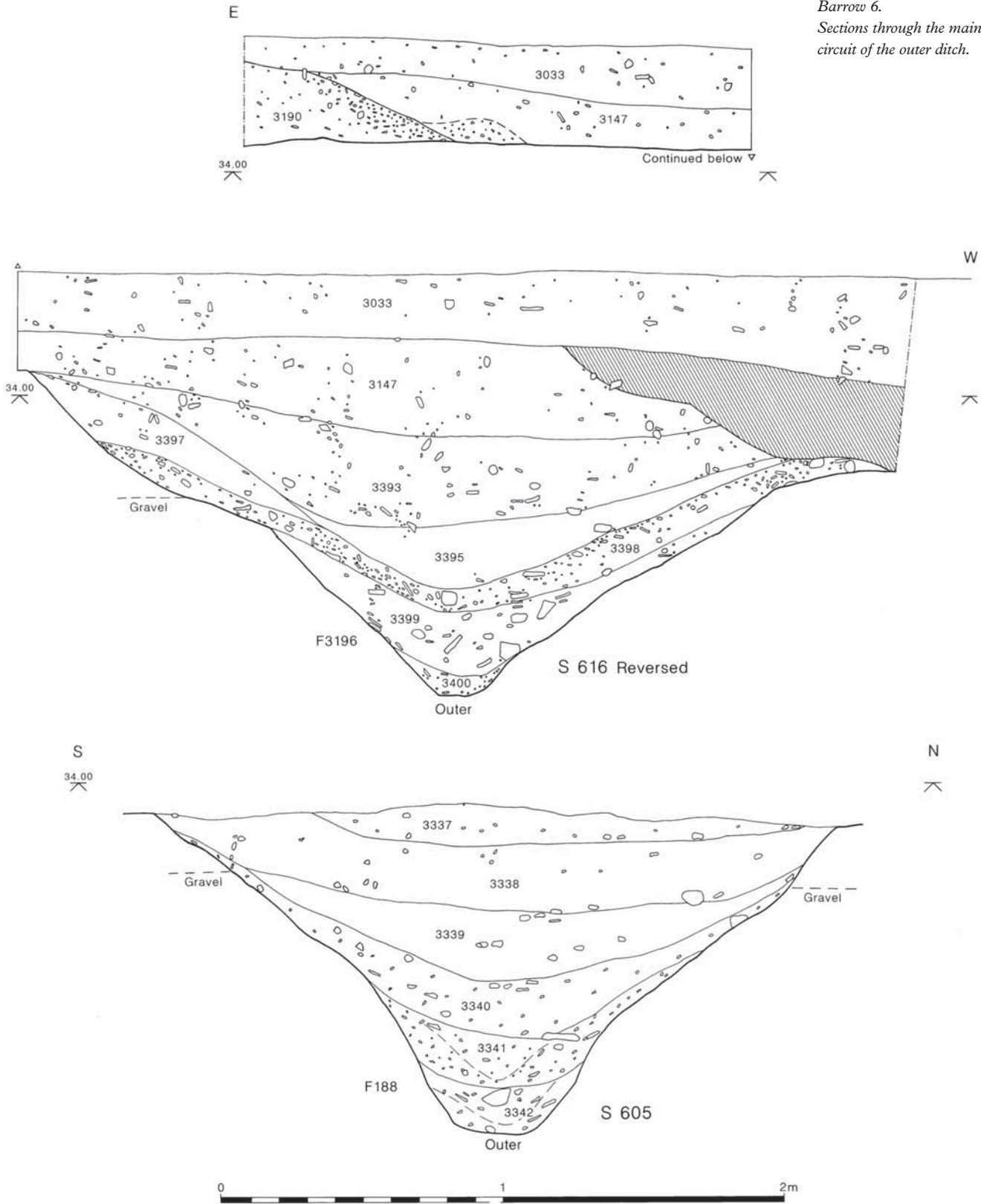


Figure SS1.167
Barrow 6.
Sections through the main
circuit of the outer ditch.

This phase of rapid silting accumulated to a depth of *c* 0.50m, up to the shoulder between the steep lower sides and the eroded upper edges. The material was clearly derived almost entirely from erosion of the ditch sides. No finds were recovered from these silts.

Following the rapid silting, the ditch had almost reached a state of stability. Most sections show a relatively thin secondary fill, *c* 0.10m thick, of red-brown loam with variable quantities of gravel covering the eroded upper edges of the ditch. To the south, the

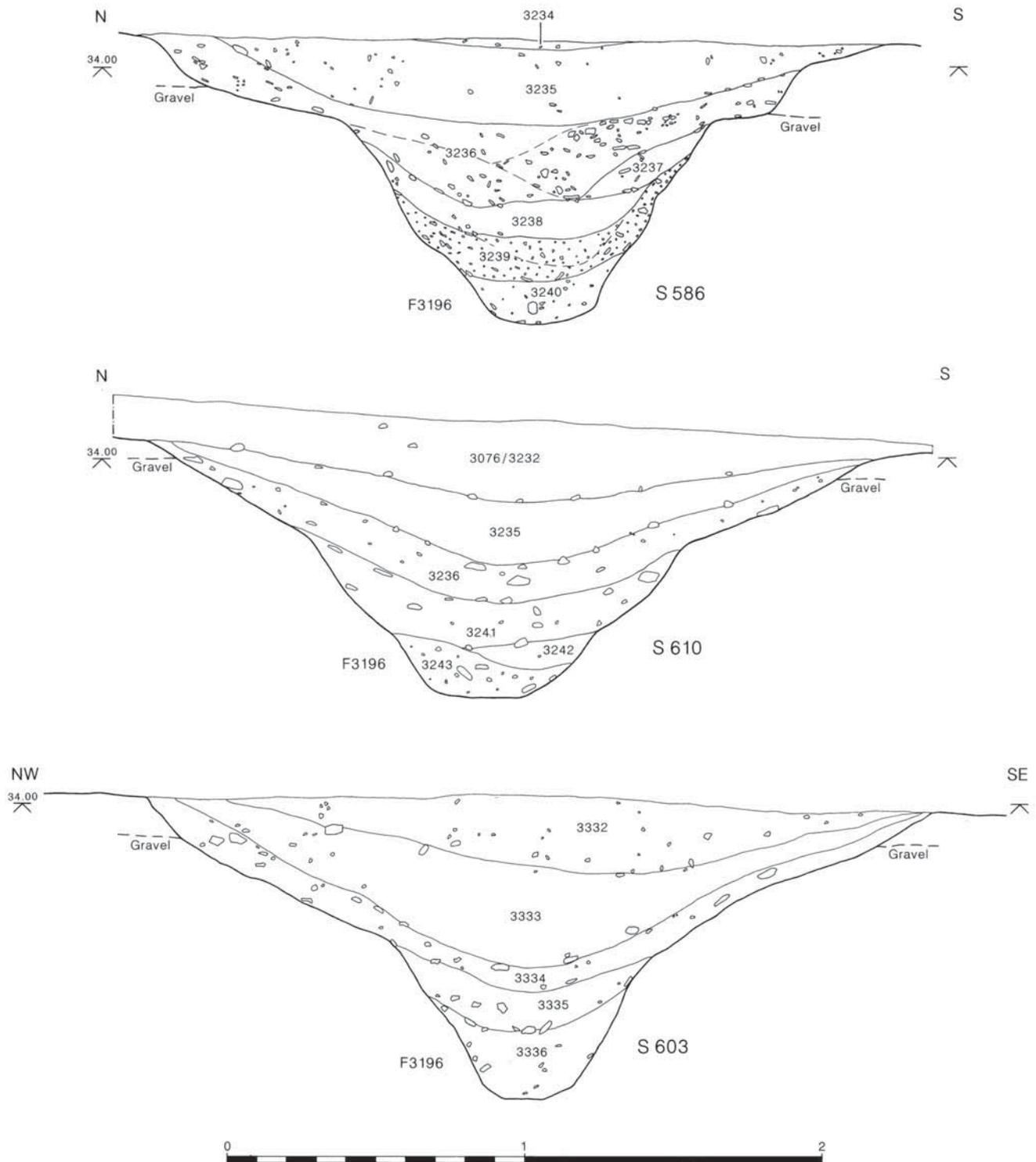
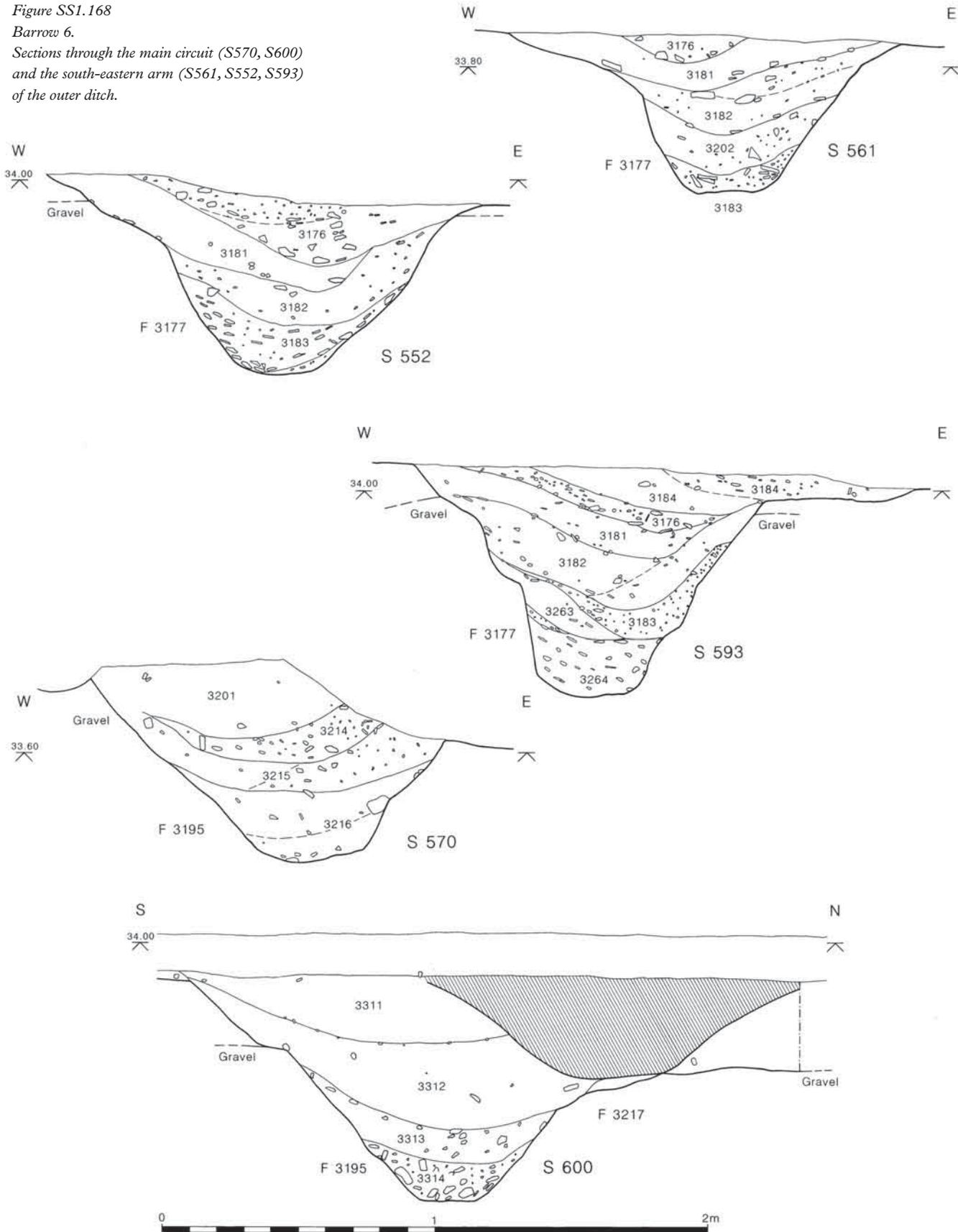


Figure SS1.168

Barrow 6.

Sections through the main circuit (S570, S600)
and the south-eastern arm (S561, S552, S593)
of the outer ditch.



remains of a carbonized length or 'plank' of wood (context 3230) were recovered from this layer (3236). This 'plank' measured 0.35m by 0.06m to 0.08m by *c* 0.01m thick.

The bulk of the secondary fill around the entire ditch circuit was a fairly homogeneous layer, 0.30m to 0.40m thick, of red-brown loam with few pebble inclusions. Around the south-western side this layer contained a few struck flints, which appear to have entered the ditch from the outside, but in total only some 20 flints were recovered. This fill probably marked the long term development of a soil horizon within the stabilised ditch, which would probably have been continuous with a soil development over all of the abandoned mound.

The secondary fills of the ditch at the two terminals showed some differences from the general pattern. This is interpreted as deliberate backfilling and is described in detail in phase 8. Notably, although most sections show layer 3236 as described above, the context given this number in the terminal section (Fig SS1.167: S586) was very different, and actually phase 8 backfill.

In some sections, particularly around the northern and north-western sides of the ditch circuit, the secondary fill was sealed by a layer up to 0.14m thick, but often less, of medium brown to red-brown sand with moderate gravel pebble inclusions at a higher density than in the general post-mound soil level. This layer may mark the onset of ploughing over the mound, with this bringing gravel into the ditch from the mound capping.

In all sections the final fill consisted of an orange to red-brown sand with a moderate pebble scatter. Where undisturbed by later activity, this layer had also sealed the berm between the outer ditch and the mound and also continued up over the mound itself, overlying the outer perimeter of the final gravel dump (3190). It had survived up to 0.25m in thickness and is interpreted as a plough-turned soil horizon pre-dating the appearance of the late Saxon occupation. The majority of the struck flint from the outer ditch was within this final fill and a comparable flint scatter was present throughout the layer. The only other find of note within this final fill came from the western side. A single human neonate femur was recovered (sf 4068; Mays SS4.7.2), and this may have been derived from a disturbed infant inhumation perhaps originally located on the berm between the outer ditch and the mound. Pottery from the main outer ditch included sherds from a Neolithic Bowl (sf

4278; Tomalin SS3.4.8: P21), a sherd possibly of Peterborough Ware (sf 4566; *ibid*: P51), two Collared Urn sherds and another possibly early Bronze Age sherd (sfs 3678, 3940, 4565, *ibid*: P96–P98).

The south-eastern arm. The detached arm of the outer ditch to the south-east (F3177) had a more complex sequence of fills than the main ditch circuit (Fig SS1.168). The most southerly full section (Fig SS1.168: S593) shows clear evidence of a recut. A primary fill of gravel in a matrix of light grey-brown to yellow-brown sandy silt (3264) was overlain by a secondary fill (3263), of red-brown sand with some gravel. The secondary fill had been partly removed by a recut along the east side of the ditch, 0.63m deep at this point, which bottomed at 33.46m OD. No clear evidence for recutting was observed to the north of this.

As the primary fill of the recut was seen to be continuous with the primary fills further north, it would seem that this recut may have represented a near-complete cleaning out of the ditch. The recut had probably been shallower towards the southern end of the ditch, and thus had not removed the earlier fills at this end.

A similar pattern may have occurred at the northern end, where there was no evidence for recutting, but two stages of primary silting were present, with the upper silting bottoming at *c* 33.40m OD. It is possible that the recutting at the northern end had left intact the fill of the original ditch which, as noted above, was deeper towards both butt ends. A further possibility is that originally the ditch may have consisted of two separate cuts, shorter but deeper than a recut which subsequently linked them together.

The primary fill of the recut was a yellow-brown to light grey silty sand with a high density of fine gravel and pebbles. This appeared to have accumulated fairly equally from both sides of the ditch. The secondary fills were red-brown to medium red-brown sandy loams with moderate gravel and pebble inclusions, and some lenses of clean sand and gravel derived from the ditch sides.

A final stage of secondary filling was the accumulation of a red-brown sand with few pebble inclusions which appeared to have come in largely from the western side of the ditch. This fill was cut by two shallow pits towards the southern end of the ditch length; both contained small quantities of calcined human bone (F3206 and F3219, see phase 7).

Towards the southern end of the ditch and within the final loam fill, the primary

and secondary fills produced no finds apart from two cremations.

Phase 7. Cremations

Three cremation deposits were associated with Barrow 6. They all lay on the south-eastern side, within the area common to both Barrow 6 and the Ditched Enclosure. Two of these were set into the upper secondary fill of F3177, the south-eastern arm of the outer ditch circuit, and were probably derived from a single act of deposition. The third (F3178) lay closely adjacent to the western edge of the same ditch and was set within a shallow pit (Fig SS1.169).

F3219 and F3206

These two roughly circular and almost vertical-sided pits lay 1m apart and 2.30m and 1.30m north of the south-western end of the detached south-eastern arm of the outer ditch circuit (F3177). They were both cut into the upper secondary ditch fills and were sealed by a dumped gravelly layer (3176) which was at its thickest in this end of the ditch, although it is not clear if F3219 was cut from directly below this layer or from a lower level.

F3219 was 0.20m in diameter and 0.10m deep, as excavated, although it is likely that up to *c* 0.10m of the pit had been removed before it was recognised. The bottom 0.10m of the fill (3225) was a medium brown loam mixed with a dark grey charcoal-flecked loam containing a few pebbles with blackened and heat-reddened surfaces, presumably derived from the pyre area, and which may have been set as triggering for the post described below. The fill also contained scattered flecks of calcined bone, with a few larger pieces, 20mm to 30mm, lying on the surface of the fill. Nearly central within the pit was a probable stakehole. This was of subrectangular plan, measuring 0.12m by 0.07m by 0.10m, and was vertical-sided with a rounded base coincident with the base of the pit. The fill (3224) was a grey black charcoal-flecked loam containing a scatter of small pieces of calcined bone, with some slightly larger pieces, 5mm to 10mm, in the bottom 0.03m of the fill, which had presumably fallen in when the post rotted. Pomoideae charcoal from the fill has an estimated date of *2030–1870 cal BC at 89% probability* (3610±40 BP; Fig SS6.11: OxA-7866).

5.51 g of cremated bone from an infant were recovered from this feature, and some fragments of burnt animal tooth/teeth were also present (Mays SS4.7.3).

Immediately above the stakehole and the excavated pit fill, there lay a tight cluster of sherds from a miniature Collared Urn (sf 3938; Tomalin SS3.4.8: P101). The exact disposition of these sherds was lost when they were accidentally lifted during excavation, but they appear to have been disordered, with the base of the vessel within the mass of sherds and not beneath, as might have been the case had the pot originally stood upright. Approximately 40% of the vessel survived, including parts of the rim and base. Since the sherds were heavily burnt, probably during the cremation, the vessel is unlikely to have been buried intact. If it was placed in the pit intact, either the base or one side would have been standing proud of the surface.

F3206 was 0.35m in diameter and 0.31m deep, with its base 0.10m deeper than that of the northern pit (F3219). The fill was a grey-black loam containing flecks and small pieces of charcoal and some pebbles with blackened surfaces, mixed with a dark brown sandy loam. The bottom 0.05m of the fill contained a small quantity of calcined bone in fragments of up to 20mm. During subsequent excavation of the surrounding ditch fills, a lens of grey sandy loam containing similar calcined bone (3226) was found at *c* 0.05m to 0.15m from the pit. This material was probably derived from the pit, since the ditch fills in this area had suffered from animal disturbance – a series of runs being noted during excavation. In total, 4.94 g of cremated bone from a single infant were recovered from both contexts (Mays SS4.7.3). Charcoal from this pit, mainly of oak, provides an estimated date of *1750–1490 cal BC at 95% probability* (3347±54 BP; Fig SS6.11: UB-3315). It would appear that soil containing cremated bone was placed in the bottom of the pit with the remainder of the fill comprising burnt soil, blackened pebbles and charcoal presumably derived from the cremation pyre area.

F3178

This cremation was directly sealed by the post-barrow plough soil (3108), and had clearly been partially truncated. It lay close to the inner edge of the south-eastern arm of the outer ditch and *c* 1m south of the ditch centre.

The cremation deposit had been placed within an approximately circular pit 0.65m in diameter (F3180), of which only the bottom 0.04m had survived. Given a probable ground level at around 34.25m OD, the pit

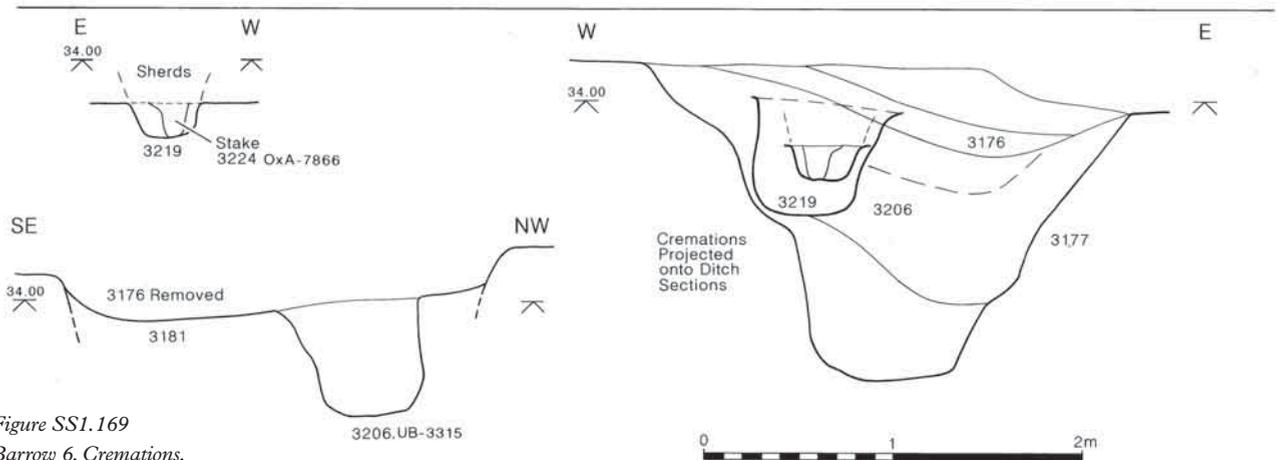
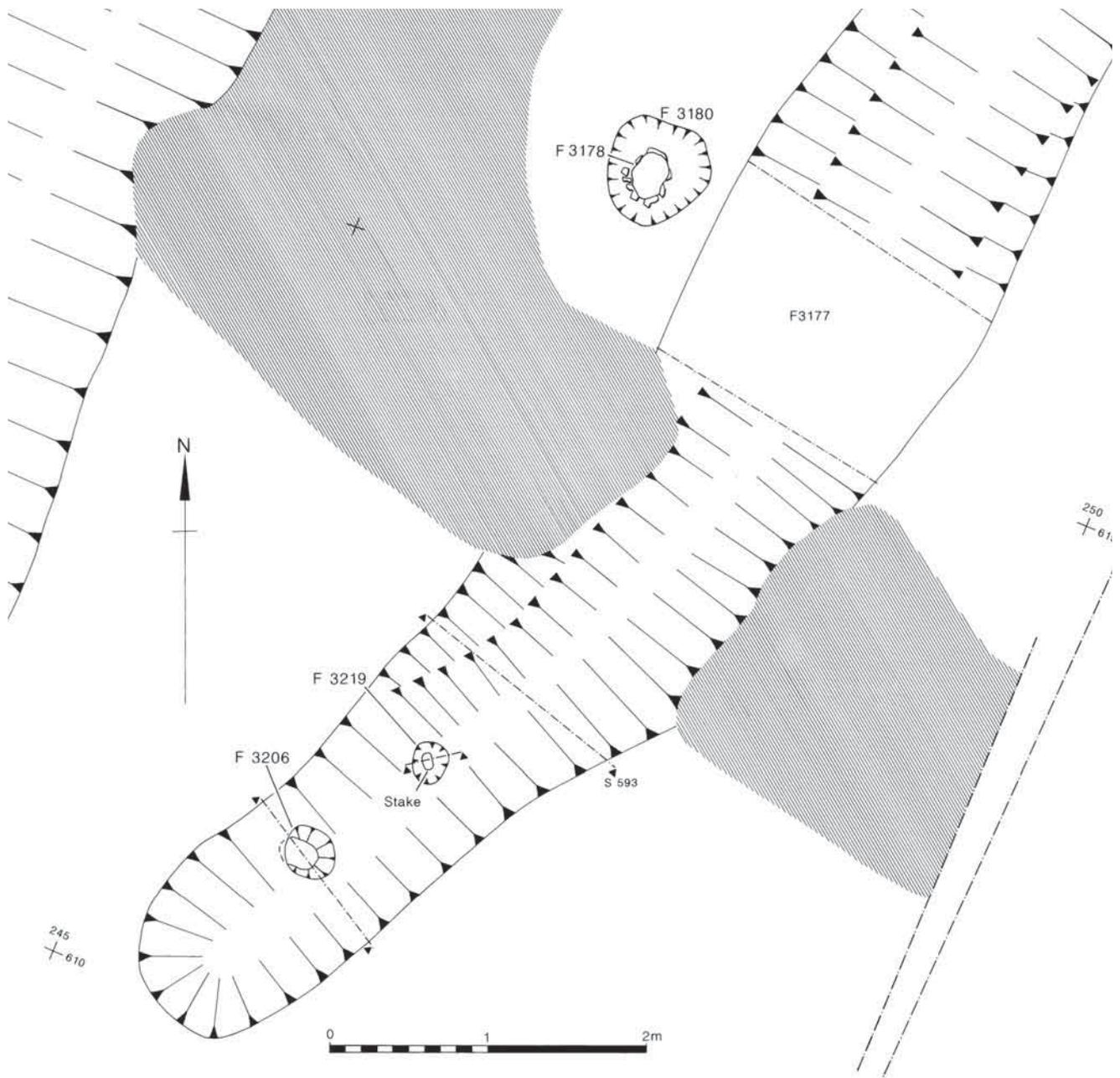


Figure SS1.169
Barrow 6. Cremations.

would originally have been *c* 0.25m deep. The surviving fill (3179) was a clean red-brown sand from which came some fragments of cattle or horse tooth (sf 3680) and a single flint flake (sf 3681).

The cremation deposit itself consisted of a mass of cremated bone from a ?female of *c* 16 to 21 (Mays SS4.7.3), mixed with red-brown sand and resting directly on approximately 40% of a stylistically late Collared Urn (sf 3678; Tomalin SS3.4.8: P99a). The urn was lying on its side on the floor of the pit, with its base to the north-east and mouth to the south-west and, thereby, on an alignment parallel to the adjacent length of ditch. The remainder of the urn, and probably some of the cremated bone, are likely to have been removed during later ploughing (Fig SS1.170). Within the mass of bone there was a small ceramic 'button' (sf 3679; Tomalin SS3.4.8: P99b), lying towards the base of the urn. The urn would have stood 320mm high, with a rim diameter of 225mm.

The stage at which this cremation was deposited is unknown. However, given its positioning adjacent to the short arm of the outer ditch and the coincident alignments of ditch and urn, the preferred interpretation is that it probably post-dated the cutting of this ditch length. Its position may also suggest that it lay on the inner side of the putative internal bank to the Ditched Enclosure, and therefore pre-dated the dumping of the gravelly layer into the ditches here, which has been seen as marking the levelling of such a bank. This cremation is likely to lie within phase 7 of the barrow development. Stratigraphically, however, it could have been considerably earlier in date and may have been a cremation within the Ditched Enclosure.

Phase 8. Backfilling of the outer ditch

The last clearly recognisable stage of active maintenance and use of Barrow 6 would appear to have been the dumping of gravelly loam into F3177, the adjacent length of the Ditched Enclosure ditch, and the two terminals of the main outer ditch. If these gravels were derived from the adjacent length of an internal bank to the Ditched Enclosure, then its levelling into the ditches would have served to remove the remnant ditches and the bank which had served to separate the two monuments.

In its final form, the monument complex here may thus have consisted of a partially silted up ditch-line, derived from two sepa-



Figure SS1.170
Barrow 6.
Cremation and Collared
Urn in F3178.
(Photo Northamptonshire
County Council)

rate monuments, defining a figure-of-eight-shaped area. In the western half would have stood the gravel-capped mound surrounded by a berm. In the eastern half, the ditch would appear to have possessed an internal bank, but as the majority of the interior of this monument is unexcavated, there is no knowledge of whatever else may have lain within it.

Terminals

The south-eastern terminal appears to have filled more rapidly than normal, with the cut edges being steep-sided up to a height of 0.70m (Fig SS1.167: S586). The primary silts, derived from erosion (3240, 3239), were sealed by a thin (0.12 m) layer of red-brown sand with few inclusions (3238), marking a period of stabilisation. Above this, there was up to 0.26m of medium brown to red-brown sandy loam with moderate pebble inclusions, which appeared to consist of interleaved tips (context 3236, which here differed in stratigraphic position and character from the secondary phase 6.1 fills given the same number elsewhere in the ditch), with the material derived from the outer edge containing the higher pebble density. In this event, the layers shown in this section as 3235 and 3236 would belong to phase 9, and potentially not be prehistoric at all. The eastern ditch terminal showed a similar pattern. The upper secondary fill (context 3214) was a red-brown loam with a high pebble density, which also appeared to be derived from the outer edge of the ditch.

It is thought that this activity within the ditch terminals reflected deliberate dumping of loam and gravel relating to a late phase more clearly evidenced within the fills of the Ditched Enclosure and the south-eastern arm of the outer ditch circuit. In these ditches, the secondary fills were sealed by dumped loams and gravels thought to have been derived from a length of bank standing between them.

The south-eastern arm

The secondary fills of this arm, and the two inserted cremations were sealed by a final fill of medium brown to red-brown sandy loam with a moderate to high level of gravel and pebble inclusions. This layer (3176) had come from the western side, and the density of pebble inclusions was higher over the southern half of the ditch length. This gravelly layer was similar in nature to that sealing the secondary fills along the central length of the ditch of the Ditched Enclosure. Further gravelly deposits sealed the secondary fills of the main outer barrow ditch at the two terminals.

It is possible, therefore, that these were all contemporary deposits, which may have resulted from a levelling of the putative internal bank to the Ditched Enclosure along the stretch between the arms of the main outer barrow ditch. This would have occurred subsequent to the insertion of the cremation deposits, and perhaps quite shortly afterwards. The gravelly final fill was sealed by red-brown loams fairly free of inclusions, probably representing the development of a stable soil horizon. This arm of the outer ditch produced few finds, except a dispersed cluster of four flints and a single bone fragment, charcoal, and a cordon or collar fragment possibly from a middle Bronze Age urn (sf 3851; Tomalin SS3.4.8: P108).

Phase 9. Later activity

Activities likely to have occurred subsequent to the creation of the final mound were represented by more marginal evidence. The presence of a single infant femur (sf 4068) within the final outer ditch fill on the west has been noted (phase 6). This may have been derived from a late infant inhumation, perhaps originally on the berm.

To the south and, to a lesser degree, to the south-west there was a scatter of sherds either towards the base of the later plough soil on the berm (sfs 3814, 3847, 3850, 3854, 3855, 4642 and 4645), or within the adjacent final fills of the outer Barrow ditch (sfs 3752, 3848, 4278, 4525, 4565, 4566,

4567 and 4644). The sherds were generally so small as to be unidentifiable and ranged in possible attribution from Neolithic to middle Bronze Age (Table SS1.19). In one instance there was a substantial cluster of sherds (20 sherds/78g) from an early or middle Bronze Age urn (sf 3847; Tomalin SS3.4.8: P104–5), which had contained ovine adipose fat and had been heated (Copley *et al* SS3.8.2). A further possibly middle Bronze Age sherd in this area came from a later pit, F3157 (sf 3667; Tomalin SS3.4.4: P109). Two unidentifiable sherds were recovered from the plough soil just beyond the outer ditch (sf 3849 and 4166). A further three sherds lay in the final outer ditch fills near the southern terminal (sf 4280, 4286 and 4442), one of them a possibly early Bronze Age rim (sf 4286; *ibid*: P98). Two further sherds came from the post-barrow plough soil within the ditched enclosure to the south-east.

In addition, the post-barrow ploughsoil, including the final ditch fills, contained a considerable scatter of struck flint, with a particular concentration within the ditch fills for a length of *c* 5.0m to the south-west. It is notable that the vast majority of this material lay around the south-western half of the outer ditch circuit. Like the residual flint in the primary mound and the later topsoil dumps, this material included a substantial Mesolithic and early Neolithic component (Table SS1.19; Ballin SS3.7.6) and is likely to have been derived from the mound.

The time period represented from the cessation of barrow related activity to the commencement of unrelated activity impinging on the barrow is unknown. On the north-west side there was evidence for a stage of gravel slumping down the sides of the phase 5 mound. Above this, no evidence survived indicating the development of a topsoil and turf line. However, any such evidence would probably have been removed by subsequent activity.

Around and beyond Barrow 6 there was a substantial build-up of red-brown sand with only sparse pebble inclusions (3076/3107/3108/3147). Beyond Barrow 6, this directly overlay the natural whilst, in relation to Barrow 6, it formed the final fill of the outer ditch, and overlay natural on the berm, also sealing the outer perimeter of the final gravel dump (3190). As it survived, the layer was up to 0.25m thick and fairly homogeneous in character. It has been interpreted as a ploughsoil. The presence of similar, but more gravelly soil layers, sealed beneath the

final fill in the outer ditch, may indicate an initial stage of ploughing in which gravel from the mound capping was carried down into the outer ditch. However the sparse pebble inclusions present within the layer in general suggest that this stage of activity was not responsible for all of the severe truncation of the upper part of the mound.

The creation of this layer did, however, result in the removal of the ground levels around the perimeter of the mound and across the outer ditch. The surface of the natural, as preserved beneath the mound, lay at *c* 34.25m OD, whilst in areas free of other later disturbances, the natural surface located beneath the plough soil lay between *c* 33.90m OD and *c* 34.10m OD, a loss of from 0.15m to 0.35m. It is quite possible that satellite burials on the berm were lost during this process. The urned cremation to the south-east (F3178) was clearly partially removed at this time; any cremations originally in P104–5 and P109 may have met the same fate; and the quantity of Mesolithic and Neolithic material (Table SS1.18) indicates that earlier deposits were also eroded.

Intensive occupation of the area began in the late Saxon period, and at this time both the mound and the barrow ditches had been disturbed by ditches and other cut features. The appearance of the stone-built houses of the medieval hamlet was, however, of more significance both in terms of the preservation and the destruction of the barrow mound. The best preserved area on the southern side lay directly beneath a building. This had effectively sealed it and prevented further truncation of the surviving mound. However, it is also likely that prior to building the area would have been levelled, with this one act perhaps being responsible for the removal of much of the upper mound levels. The western side of the mound lay beyond the medieval building and here activity had removed much, but not all, of the mound. The north-eastern half lay within the plot to the rear of the medieval building and here the mound had been totally removed, with the major factor being the probable use of this area as a horticultural plot. Even the surviving levels of the post-barrow plough soil were heavily disturbed and contaminated.

With the abandonment of the hamlet in the later medieval period, the entire area became pasture, with the surviving mound thus being fossilised at the point of cessation of medieval disturbance.

3 Discussion of Stratigraphy and Phasing

Phase 1

The relative abundance of Mesolithic and early Neolithic struck flint in both mound and ditch, together with small quantities of Neolithic Bowl pottery, is like that in the nearby Long Mound and must reflect a substantial amount of such material in the turf of and topsoil. Given human activity in the immediate area since at least the fifth millennium cal BC, it is likely that the features sealed by the mound may have been cut over a long period. There is a resemblance between fifth millennium pit F5488 beneath the Long Mound, with its burnt oak fragments, and F3260 in the central area of Barrow 6, which contained frequent charcoal fragments apparently from twigs or thin branches 100mm to 150mm long. A concentration of relatively well-preserved sherds from a Peterborough Ware bowl in one part of the inner ditch suggests that the ditch may have cut through a pit. A former pit in the berm of the outer ditch may similarly be represented by relatively well-preserved plain Bowl sherds. Other features are more certainly related to the monument, notably F199 which seems to have infilled at the same time as the inner ditch.

The disarticulated human remains beneath the Beaker burial date to the late fourth millennium cal BC. The corpses seem to have been left to decay naturally, and were most probably buried, given the lack of gnawing and cut marks on the bones. This deposit is therefore likely to represent the reburial of exhumed bones from two individuals, probably with the minor bones and parts of the major bones not being recovered for reburial. It might be argued that their deposition predated the insertion of the Beaker burial by up to a thousand years. Alternatively, it could be argued that the disarticulated bones had been recovered from a much earlier burial or burials and were reinterred closely, if not immediately, prior to the insertion of the Beaker burial. Circumstantial evidence in support of the second argument is provided by the coincidence of location of the two burial deposits, the similar orientations of the two cuts, both of which were aligned north-east/south-west, and by the lack of disturbance of the disarticulated bones. It is thought most likely, therefore, that the disarticulated bones were obtained from elsewhere and reinterred just before the deposition of the Beaker burial.

Table SS1.18. Barrow 6. Summary of finds

* = recorded, but unidentified or missing
 Lithics are of flint unless otherwise stated
 Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Context</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Other artefacts</i>	<i>Charred material</i>	<i>Environmental evidence</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
0 Pre-mound soil	3391			*	Core, flake, scraper on blade end			Bt horizon of well-drained argillic brown earth. Separated by hiatus (truncation?) from upper soil, lower part of which mixed and disturbed, perhaps by cultivation, upper part a grassland topsoil		
1.1 Features within inner ditch	F199				Blade					
	F3257				Large chalk flint core					
	F3260						Charcoal			
	F3384			Medieval sherds in upper fill	Core, 14 blades, 9 flakes, 5 non-bulbar fragments, scraper, notch					
	F3390	Disarticulated bones of 1 male of c 25, 1 ?male of uncertain age		1 crumb/1g (-)					4500±33 (UB-3310)	3360–3030 cal BC
1.2 Beaker grave	F3259	Articulated skeleton of male of c 25–30		Complete style 3 Beaker, P84 (E)	Flint dagger, knife, flake Chalk lump	Large V-perforated jet button			3608±41 (UB-3311)	2130–1820 cal BC
	3258 (grave fill)		*		3 flakes, 2 blades					
1.3 1st mound			*	1 crumb/0.5g (-)	11 cores, 12 non-bulbar fragments, 6 core rejuvenation flakes, 107 flakes, 29 blades, microburin, 8 microliths, leaf arrowhead fragment, 4 scrapers, boreer 1 misc retouched		Microscopic charcoal, 'nutshell', 'seeds'	Turf stack, upper part reworked by biological activity. Mainly humic Ah horizon turf material		
2 Inner ditch fills			*	2 sherds from plain Neolithic Bowl, P24 (Q) 4 sherds/210g from Peterborough Ware bowl, P55 (E) 4 sherds/12g (Q) 2 sherds/5g (E) 2 sherds/2.9g (-)	12 cores, 34 non-bulbar fragments, 136 flakes, 46 blades, burin 2 microliths, flake from ground axe, 4 scrapers, 2 notches, 2 misc retouched	Shell	Charcoal			
3.2 2nd mound			*	1 sherd/2g (E), Carbonised residue on inner surface	2 cores, core rejuvenation flake, 13 flakes, 14 blades, 2 microliths	Foot from cast bronze vessel (intrusive)	Charcoal			

4 Middle ditch fills			*	1 sherd/1g of Peterborough Ware bowl P55, most of which was in inner ditch (E) 1 sherd/0.5g (E) 1 sherd/4.1g (E), burnt	4 cores, 6 non-bulbar fragments, 6 core rejuvenation flakes, 30 flakes, 18 blades, scraper, 1 misc retouched	Charcoal 'Seeds'			
F3210			*		Core, 2 flakes, blade				
5.2 3rd mound			*	2 sherds/18g ?Grooved Ware (E)	3 cores, 17 flakes, 8 blades, microlith	Charcoal			
6.1 Main outer ditch fills		Neonate femur	*	2 sherds/78g from a Neolithic Bowl, P21 (E) 1 sherd/1g Peterborough Ware, ?Ebbsfleet substyle, P51 (E) 2 sherds/2.5g ?Beaker (E and -) 2 sherds/13.1g Collared Urn, P96, P97 (G) 1 rim sherd ?EBA, P98 (-) 2 sherds/25g (E) 2 sherds/6g (-)	11 cores, 3 non-bulbar fragments, core rejuvenation flake, 35 flakes, 15 blades, microlith, serrated blade, denticulate, 2 misc retouched	'Plank', Charcoal			
6.2 SE arm of outer ditch					2 cores, non-bulbar fragment, core rejuvenation flake, 9 flakes, 4 blades, microlith				
7 Cremations	F3178	Cremation of ?female c 16-21		Cow or horse tooth	Collared Urn, P99a (G) ceramic stud, P99b	Flake	Oyster shell (almost certainly intrusive)		
	F3206	Infant cremation					Charcoal, mainly oak, without twiggy material	3347±54 (UB-3315) cal BC	1750-1510 cal BC
	F3219	Infant cremation		Burnt animal tooth or teeth	Miniature Collared Urn, P101 (G)		Medicago, black bindweed. Pomoideae charcoal in stakehole	3610±40 (OxA-7866) cal BC	2130-1820 cal BC
8.2 Backfilling of SE arm of outer ditch			*		?cordon or collar, ?MBA, P108 (MT)		Charcoal		
9 Later activity			*		2 shoulder sherds from Neolithic Bowl, P22 (F) Rim sherd from Neolithic Bowl, P23 (E) ?Peterborough Ware body sherd, P52 (MT) 20 sherds/78g from E or MBA urn, P104-5 (E) 2 sherds/11g ?MBA, including P109 (E)	Anvil, 13 cores, 20 non-bulbar fragments, 4 core rejuvenation flakes, 163 flakes, 34 blades, 3 microliths, leaf arrowhead, serrated flake, 3 scrapers, 2 borers, denticulate, 2 notches, 4 misc retouched	Cu alloy brooch pin, iron nail, further iron object		

The only likely location for the original burial place recovered during the excavations would be the large but empty grave-like cut (F3384), lying immediately to the north-west of the disarticulated deposit. It would be tempting to see the empty pit as indeed a grave, with the disarticulated bones deposited beneath the Beaker burial coming from inhumations located in this pit. If the radiocarbon dates for the disarticulated bones and the Beaker burial had been closer this would certainly have been the favoured interpretation. It would have been suggested that the deep pit contained a pair of inhumations and that it was unrounded and either unditched or partially enclosed by a three-quarter ditch circuit. Subsequently, these inhumations would have been disinterred and parts of both redeposited closely prior to the insertion of the Beaker burial.

The substantial time difference however, introduces many complexities. If the disarticulated bones did derive from this pit then it would be unlikely to have been enclosed by a ditch. The inner ditch shows an accumulation of rapid primary silt followed by dark loams eroded from the primary mound. For this ditch to have enclosed a grave of a much earlier date than the Beaker burial it would be necessary to suggest that the ditch had been totally cleaned out, but with no trace of this recutting having survived. If the disarticulated bones did come from the empty pit then it is likely to have been a flat burial, although its relocation several centuries later suggests that its position was, somehow, known or marked.

Mention must also be made of the natural feature at the centre of the barrow. This was most probably a treehole, which might suggest that the barrow was centred on a standing tree, or at least on its location. Any such tree must have been removed prior to the insertion of the Beaker burial, which partially overlay the feature, but it is possible that F3384 could have been positioned immediately beside it. As far as any monument is concerned, the original features may have consisted of F3384, perhaps containing a burial, set beside a standing tree, eventually if not initially surrounded by a ditched enclosure open to the north-west. While the ditch began to silt soon after the construction of the primary mound, sand and gravel from it did not form part of that mound, suggesting that it may have been dug as a separate operation.

Other evidence relevant to this discussion is provided by the geometry of the inner

ditch circuit and its relationship to the alignments of the main central features. The alignment of the 'empty' pit bisects the postulated open north-western side of the inner circuit, perhaps suggesting that they may have been closely contemporary in origin, or that the alignment of one was determined by the existing and visible alignment of the other. The Beaker burial was aligned near-perpendicular to the pit and the postulated open side of the circuit. It could be suggested that the pit to the north (F199) and the postulated ditch terminal immediately beside it may have been deliberately located at the north point of the circuit. The error with respect to OS north being no more than 9°. It can also be noted that the two major central features were also aligned at nearly equal angles to the east and west of this suggested orientation, the Beaker burial being aligned at 47° to the east, whilst the 'empty' pit was aligned at 50° to the west. It might be expected that such an apparent coherence of layout would suggest that the major features were most likely to be quite closely contemporary.

The primary mound of turf (or turf and topsoil) is likely to have closely followed the Beaker burial. It would seem most likely that the shallow, flattened arc of the ditch to the north-west would have not have been cut until immediately after mound construction, thus providing access to the central area while this task was still underway.

Postholes

A succession of posts was erected at different stages in the development of the monument. The first may have stood in F239, a possible posthole beneath the primary mound. Other possible postholes were dug either as the inner ditch was excavated or just afterwards, with one, F3379, in the ditch base sealed by the primary silts in the south and F3199, and possibly others, cut either into the base of the north-western arc or through its primary silts. When these were sealed and out of sight, F3210, holding a post *c.* 0.35m in diameter, was cut into the silted middle ditch close to the site of F3379. Later again, when the outer ditch was largely silted, a stake with horizontal dimensions of *c.* 0.10m x 0.07m was placed in cremation F3219. The former presence of a post or stake is positively attested only in the last two. There is the distinct possibility that markers were set up at different stages in the monument's history and that some of them related to points in the geometry of the inner and outer ditches.

Phase 7

The two infant cremations in the south-east arm of the outer ditch were close to each other and within a common stratigraphic horizon, which would make them appear almost contemporary. Their dates, however, do not overlap (Fig SS6.11: UB-3315, OxA-7866), and the interval between them may have been even greater than the probability distributions indicate, because the sample from F3206 was mainly of mature oak charcoal, so that its estimated date of 1750–1490 cal BC at 95% probability may be a *terminus post quem* for the cremation, separating it even further from the estimated date of 2030–1870 cal BC at 89% probability for the cremation in F3219. F3206 was recognised at a higher level than F3219 (Fig SS1.169) and may in fact have been cut from a higher level. It is not clear whether the dated Pomoideae charcoal fragments from the stakehole of F3219 were the remains of a partly charred stake or whether they formed part of the surrounding cremation and entered the stakehole after the stake had decayed together with fragments of cremated bone which were also present there. In either case, the Pomoideae being relatively short-lived, they should be close in age to the cremation itself.

The estimated date for the older cremation is virtually indistinguishable from that of 2050–1890 at 82% probability for the Beaker burial beneath the primary mound (Fig SS6.11: OxA-7866, UB-3311), with the implication that the construction and two successive enlargements of the barrow took place within three centuries and possibly much less, although the cremations in F3206 and perhaps F3178 were later insertions.

Relation to the Ditched Enclosure

Secondary fills has already accumulated in the Ditched Enclosure when the outer ditch was cut through it. The plan of the outer ditch and the eccentric location within it of the final, enlarged mound clearly relate to the still-visible adjacent monument, as may the location of the phase 7 cremations. The relation between the enclosure and the earlier stages of the barrow is unclear, although the paucity of finds in the enclosure ditch suggests that the lithics-rich turf of the primary barrow mound may already have been cut when the enclosure was built – assuming that the source of that turf was immediately local.

The backfilling of the tops of the south-eastern arm of the outer ditch and the

adjacent terminals was arguably part of the same event as the backfilling of the top of the enclosure ditch, the backfill itself coming from the enclosure bank. If so, the result would have been a weathered mound surrounded by a largely silted ditch open to the south-east. This would have occurred after the insertion of the cremation in F3206, in the mid-second millennium or later.

4 Resource estimates

Phase 1

The inner ditch. The estimated capacity of the inner ditch (17.70 cu m) would have required 26 hours of labour by a team of three or 78 hours in total. The destination of the spoil is unknown, although the turf from its surface may have been used in the mound.

The Beaker burial and initial mound construction.

The original height of the primary mound is unknown. It survived to a maximum height of 0.32m, but if the angle of the slumped side of the mound were projected above this level, it would suggest a minimum height of 0.40m before truncation, and probably nearer 0.50m.

The slumped mound material within the inner ditch totalled *c* 13 cu m. Spread across the entire central area this would have provided a layer 0.09m in thickness. In reality this material would have derived from around the side of the mound, but the calculation does serve to indicate a height loss well in excess of 0.10m. An original height of at least 0.50m is therefore a reasonable estimate. Much of this material is likely to have been turf, which has a high compaction factor, so when newly constructed the mound would have stood considerably higher. An estimate of *c* 0.75m to *c* 1m may be suggested, with the true value unlikely to be below this range, but possibly higher, due to the unknown extent of later truncation.

Using the estimated original height of the mound and the known area of the original turf mound, it is possible to calculate the area that would need to have been deturfed to provide this material.

Taking a minimum turf thickness of *c* 0.10m and a maximum thickness of *c* 0.15m, then the turf stack could have been between 5 to 10 turves high to give a mound height of 0.75m to 1m. The minimum area deturfed would be 690 sq m, equating to 414 hours, whilst the maximum would be twice

this (1380 sq m, equating to 828 hours). These two values can be represented by circular areas respectively *c* 30m and *c* 42m in diameter. If Barrow 6 had lain at the centre of a circular area of deturfed ground, then the original turf mound could have been surrounded by a deturfed zone some 8m to 13m wide. It also can be noted that even the outer barrow ditch is most likely to have lain within the limits of such an original area of deturfing.

Phase 3

The second mound. Whilst the original extent of layer 3193 (the lower, topsoil component of mound enlargement) is unknown, a comparison of the likely volume of material present to the volume of material that could have been derived from topsoil stripping around the course of the middle ditch does suggest that this layer was probably present only around the margins of the mound. Given an average width for the middle ditch of *c* 1.85m and assuming that the topsoil was between 0.10m and 0.15m thick, then some 10 cu m to 16 cu m of material would have been available. As it survived, 3193 formed a wedge of material on average *c* 0.25m thick, which would indicate a total surviving volume of around 6 cu m. However, both the outer edge and the upper surface had clearly been eroded and truncated.

If it is assumed that originally the layer formed a band *c* 1.50m wide, with a maximum thickness of *c* 0.40m, then the original volume of material would have been *c* 13.50 cu m. It would seem therefore that topsoil stripping around the course of the middle ditch would have provided enough material to reinstate the outer edge of the mound in the form postulated, but unless either the topsoil was thicker than estimated or a larger area had been stripped, there would not have been sufficient material to form a complete capping.

The substantial layers of gravel within the secondary and final fills of the middle ditch, and sealing the topsoil dump (3193), indicate that the phase 3 mound was gravel-capped. These layers consist of gravel pebbles in a matrix of clean natural sands but mixed with some darker loams, probably introduced during the erosion and slumping of the gravel capping down the inner slope of the ditch. There can be no doubt that the gravel was obtained during the excavation of the middle ditch.

Given the probable original profile of this ditch, a steep-sided, U-profiled cut on average *c* 1.85m wide by *c* 0.85m deep, there would have been some 53 cu m to 69 cu m of gravel

derived from its excavation. In phase 3, the top of a steep-sided mound would have possessed a surface area of *c* 165 cu m. Even making no allowance for the expansion of the loose gravel, the material from the middle ditch could have provided a gravel capping from 0.32m to 0.42m thick.

The original height of the phase 3 mound cannot be estimated with any great accuracy, mainly due to uncertainty over the height of the primary turf mound. This first mound had survived, in its fully compacted form, to a maximum height of 0.30m and the slope of its truncated outer edge suggests that was originally higher by at least 0.10m, and probably 0.20m. It would appear that, with the addition of up to 0.40m of gravel, the phase 3 mound must have stood more than *c* 0.75m high, and probably in excess of *c* 0.90m. If the primary mound were largely built of turves which were not fully compacted when the gravel capping was placed over it, the Phase 3 mound could have been over 1m high, perhaps even approaching 1.50m.

Phase 5

3191 (the lower, loam component of mound enlargement) would have contained some 35 to 50 cu m of material around the full mound perimeter. Were it assumed that a *c* 0.10m depth of topsoil was stripped from over the outer ditch line and from the berm between the outer and middle ditches (excluding the area within the Ditched Enclosure), then some 43 cu m of material would have been available for topsoil dumping. These estimates do, therefore, fit with the interpretation quite well.

The outer ditch, excluding the detached south-eastern arm, would have produced some 103.5 ± 10 cu m of gravel. In order to be contiguous with the phase 3 gravel, the final gravel dump (3190) would need to have formed a band about 3.50m wide centred towards the outer edge of the phase 3 ditch. It would therefore have formed a ring with an internal radius of *c* 7.50m and an external radius of *c* 11m, covering 203.4 ± 17 sq m. Making no allowance for expansion, the 103.5 ± 10 cu m of gravel from the outer ditch, when spread over such an area, would have provided a gravel spread 0.51 ± 0.10 m in thickness. This estimate is some three to four times the maximum surviving thickness of the gravel spread, but it is of the proportions that would have been required in order to match the new mound to the probable height of the phase 3 mound. The south-eastern arm would have produced a further 17 cu m.

SS1.18 Barrow 7

Angela Boyle

Abstract

This monument was not fully excavated. The dataset is correspondingly limited, as are the associated assemblages. This restricts the interpretation of the monument.

Barrow 7 was partly truncated during removal of overburden layers. The area was subsequently cleaned and a salvage operation mounted. It has been possible to establish the nature of the monument although some stratigraphic details have been lost. It should be stressed that in spite of the damage to the monument the majority of the features still survive *in situ*. The barrow was defined by a single irregular ring ditch. Two rectangular features and a possible mortuary structure were found. One of these rectangular features was excavated and it proved to be a grave which contained an unaccompanied crouched inhumation. A section through one of the linear features was also excavated. The unexcavated features are also likely to be graves. Remnants of a buried soil were preserved beneath the mound.

1 Location and excavation

The barrow was located at SP 96660 71095 on a low gravel island. Its existence was unknown prior to the excavation carried out by the OAU in 1989. Trench 93 was stripped mechanically. The stripping of the site was initially undertaken in advance of gravel extraction by ARC. During stripping of the bund by the river, ARC exposed a red soil rather than the expected blue-grey alluvium. The strip removed extended halfway across Barrow 7. When the OAU observed the red soil, ARC were asked to provide a box scraper to undertake further stripping. ARC provided a bulldozer and operator who removed approximately 0.30–0.50m of mound material. ARC then provided a 360° machine with a toothless bucket and archaeological stripping was supervised by Dennis Jackson. The area was subsequently cleaned and a salvage operation mounted. At this stage approximately 0.15m of barrow material remained. Hand cleaning of the area then revealed a ring ditch and a number of other features, all of which were cut into the gravel. Selected features were then excavated manually. Although a certain amount of detail has been lost it has been possible to establish the

form of the monument and reconstruct the broad sequence. Where ambiguities exist they are highlighted in the text.

The fact that Barrow 7 was located on the edge of the gravel quarry meant that preservation of the monument had minimal cost implications. Excavation was therefore minimized.

The recording system in operation was the OAU ‘Thornhill Farm System’ in which each feature was numbered in a continuous sequence; each excavated segment or section of that feature was then given a letter (A for the first to be excavated, B for the second etc); and each fill or spit within that segment or section was given a number or letter (1 or a for the topmost deposit, 2 or b for the next, etc). Thus, in the case of Barrow 7, 2001/B/d represents the lowest layer (d) of section B through the ditch (2001). The section letter was omitted where features or layers were excavated in plan, as was the layer or spit number where there was only a single fill (Wilkinson 1992).

The excavation of the barrow was directed by John Moore and supervised by both Dennis Jackson and Mark Roberts.

2 The excavated evidence

Phase 0. Natural deposits

An old ground surface may have been represented by a patchy layer of mid-brown silty clay (2008) underneath the mound and overlying a layer of iron pan (P1). It had a maximum width of 0.88m and a thickness of 0.20m. It comprises a grey sandy silt loam with approximately 20% gravel inclusions.

Phase 1. Pre-barrow activity

A substantial irregular feature (2007) was located just within the northern extent of the barrow. It had a maximum depth of 0.39m. It was described as a wide shallow ditch running west/east. It was recorded as being cut by barrow ditch 2001 (P1; S5) and sealing the old ground surface (2008).

2010 was located within the eastern extent of the ring ditch. It was described as mound material and comprised a red-brown sandy clay loam. This material was very similar to the mound material from barrow 8 and other excavated barrows in the vicinity. However, it was recorded as being cut by barrow ditch 2001 and it must therefore be a pre-barrow feature or deposit.

A treethrow hole (no context number) was located immediately to the south of

Phase 2.1 feature 2002/A (S1). It was sub-rectangular in plan with a shallow bowl-shaped section. The fill was a dark red-brown silty sand with gravel. The feature was 1.30m long and 0.92m wide, and had a maximum excavated depth of 0.28m.

Phase 2. The monument (Fig SS1.171)

Phase 2.1 possible mortuary features and graves

Linear feature 2002

Linear feature 2002 was located just west of the centre of the barrow. It was orientated broadly north-south and measured 5.70m in length and 0.88m in width. One segment (2002/A with north-facing section S1) was excavated. At this point it was 0.94m wide and 0.13m deep with steep sides (70°) and a flattish base. There was a single fill of red brown sandy silt with gravel inclusions (2002/A/1). 2002 apparently cut Phase 1 layer 2007, but the section that demonstrates this relationship cannot be located.

Linear feature 2006

Linear feature 2006 was located approximately 3.05m west of and parallel to 2002. It was orientated broadly north-south and measured 5.30m in length and 0.75m in width. The feature was not excavated.

Feature (grave?) 2005

Feature 2005 was located centrally between 2002 and 2006 and was subrectangular, measuring 3.40m long and 1.57m wide. It was located 2.50m west of feature 2004 and was orientated north-south. The fill was a mid-brown sandy clay (2005/1). The feature was not excavated.

Grave 2000

Grave 2000 was located just south-west of the centre of the barrow. It was a subrectangular feature 2.30m long, 1.60m wide and up to 0.30m deep. It contained the crouched inhumation of a young adult of indeterminate sex. The skeleton was orientated south-west/north-east and lay in a supine position with the legs flexed and drawn tightly into the body. The head faced north-west, the arms were flexed tightly at the elbows, and the hands had been placed on the chest (Figs SS1.171–2). The grave was filled by a red-brown silty sand loam (2000/1). There were no associated grave goods although a single late Neolithic/early Bronze Age sherd was recovered from the fill.

Feature (grave?) 2004

F2004 was a subrectangular feature 2.35m long and 1.75m wide. It was located virtually in the centre of the barrow and was orientated north-east/south-west. The top fill of the feature was a red-brown sandy silt loam (2004/1). An area of grey silt loam lay around the outside edge of the feature (not separately numbered). The feature was not excavated.

Phase 2.2 ditch and mound construction

The ditch

The barrow was defined by a subannular ditch (2001, 2012) (P1 and P3) measuring approximately 19.20m from west to east and 20.25m from north to south. Definition of the ditch was unclear on the north and east sides of the circuit (2012). The ditch varied from 1m to 1.90m in width and from 0.48m to 0.86m in depth. The sides were fairly steep (45–60°) and somewhat irregular. The base varied from flat to slightly rounded. Seven segments were excavated (P1) and four sections were drawn (S2–S5), all in the western circuit. All were drawn at a scale of 1:20. In segment 2001/A (south-facing section S2) the ditch was 1.64m wide and 0.48m deep. The sides sloped at approximately 45° to a flat bottom. In segment 2001/B (north-facing section S3) the ditch was 1.70m wide and 0.60m deep. The sides sloped irregularly at a 45° angle to a flat bottom. In segment 2001/C (south-east-facing section S4) the ditch was 1.44m wide and 0.50m deep. The sides sloped irregularly at a 60° angle to a flat bottom. Segment 2001/D (south-east-facing section S5) provided a half section through the ditch. This shows that 2001 cuts Phase 1 context 2007, which in turn is later than Phase 0 layer 2008. A further three segments were excavated (2001/E, 2001/F and 2001/G) and noted on the context sheet. Section drawings have not been located and it seems likely that they were not drawn.

The mound

The mound had been truncated during stripping by ARC. It was therefore not possible to determine accurately its height or composition. A layer of red-brown sandy clay loam (2010) underlay the topsoil and was described as barrow material. However, it was clearly recorded as cut by barrow ditch 2001.

Phase 3. Ditch fills

The primary fill of the ditch consisted of natural sand and gravel, representing erosion

*Figure SS1.171 (opposite)
Barrows 7 and 8.
Plan, sections of outer
ditch of Barrow 7,
detail of grave F2000.*

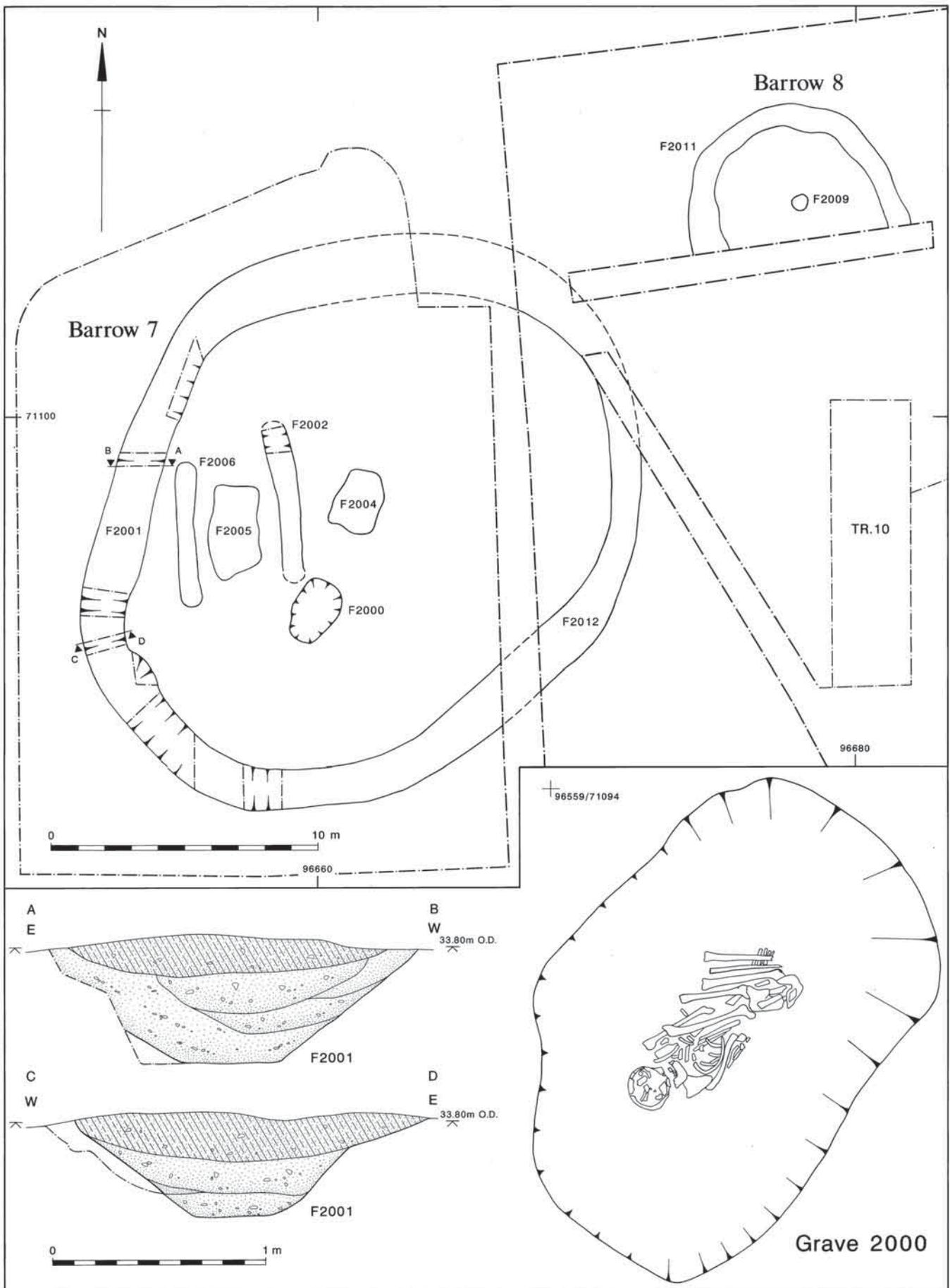


Figure SS1.172
Barrow 7.
Grave F2000.
(Photo Oxford Archaeology)



of the sides. The upper fills probably derived from the truncation of the mound in antiquity. The fills are described by segment (A–C) in the following subsections. Fills in the remaining segments were not fully recorded because of their general homogeneity and are therefore not described here.

Segment 2001/A

The primary fill (2001/A/c) was a yellow-brown sand with approximately 20% gravel inclusions. The secondary fill (2001/A/d) was a yellow-brown sand with a maximum thickness of 0.04m. 2001/A/b sealed this and was a light red-brown sand with approximately 15% gravel inclusions and a maximum thickness of 0.18m. Top fill 2001/A/a was a red-brown silty sand with approximately 5% gravel inclusions. It had a maximum thickness of 0.22 m.

Segment 2001/B

The primary fill (2001/B/d) was a yellow sand with gravel lenses and a maximum thickness of 0.32m. The secondary fill (2001/B/c) was a mid-brown sand with approximately 10% gravel and a maximum thickness of 0.14m. 2001/B/b sealed this and was a similar mid-brown sand with approximately 10% gravel and a maximum thickness of 0.19m. Top fill 2001/B/a was a red-brown silty sand with approximately 5% gravel inclusions. It had a maximum thickness of 0.20m.

Segment 2001/C

The primary fill (2001/C/e) was a yellow sand with a maximum thickness of 0.20m. The secondary fill (2001/C/d) was a yellow sand with approximately 30% gravel inclusions and a maximum thickness of 0.08m. This was sealed by 2001/C/c, a light brown sand with approximately 10% gravel inclusions and a maximum thickness of 0.22m. The next fill (2001/C/b) was a light brown sandy silt with approximately 5% gravel inclusions and a maximum thickness of 0.18m. Top fill 2001/C/a was a red-brown silty sand with approximately 5% gravel inclusions and a maximum thickness of 0.18 m.

Phase 4: later activity

Spread 2003

A possible old ground surface or spread (2003) overlay the south side of barrow ditch 2001.

Alluvium

Grey-brown alluvium (2013) sealed all barrow contexts and layer 2003, and lay directly below the topsoil.

Unphased feature

A possible feature (2014) was noted during topsoil stripping around Trench 93 at c SP 96680/71100. It seemed to be linear, but no relationship could be established between this feature and Barrow 7. No description of the fill was provided. 2014 could relate to Barrow 8 (qv).

3 Discussion of stratigraphy and phasing (Fig SS1.173)

Although a number of possible phases of activity have been identified, the limited nature of the excavation means that these are of necessity tentative. The very limited artefactual

evidence comprised a single late Neolithic/early Bronze Age sherd from the fill of grave 2000 and a small assemblage of undiagnostic worked flint. Two flakes derived from pre-barrow feature or deposit 2010, and a single flake came from the barrow ditch (2001). Seven flakes and one piece of irregular

Figure SS1.173
Barrow 7.
Suggested construction sequence..

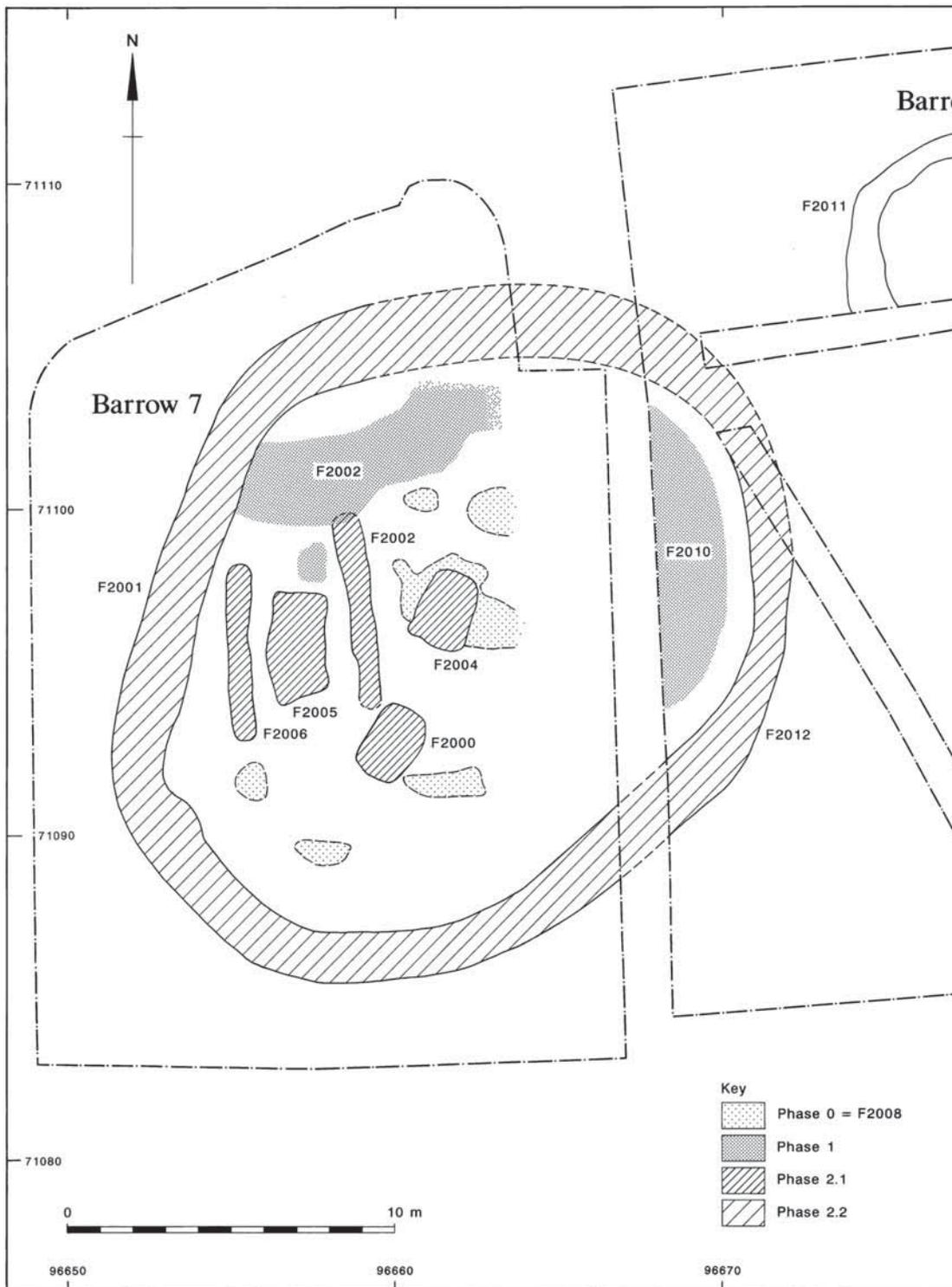


Table SS1.19. Barrow 7. Summary of finds

Lithics are of flint

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Context</i>	<i>Human remains</i>	<i>Pottery</i>	<i>Lithics</i>
0				
1	2010			2 flakes
2.1	F2000	Adult skeleton, ?25-35 yr, very poorly preserved	1 sherd/4g late Neolithic/early Bronze Age (SAG2)	
2.2	F2001			1 flake
3				
4	2003			6 flakes 1 blade 1 frag irregular debitage

debitage derived from an old ground surface or spread (2003) which post-dated all phases of barrow construction.

Evidence for a possible old ground surface (2008), predating the construction of the barrow, was identified. This layer was sealed by a possible irregular shallow ditch (2007) running west to east, which in turn was cut by the barrow ditch (2001). A further deposit of unclear form (2010) was also said to be cut by the barrow ditch (2001). Possible ground clearance prior to the construction of the barrow is indicated by a treethrow hole. Ploughing during the Late Iron Age and Roman periods is likely to have destroyed any trace of the pre-historic ground surface beyond the mound, as at Irthlingborough (Halpin 1987, 5).

A possible mortuary structure comprised a pair of linear features (2002, 2006) with a subrectangular feature (2005) located centrally between the two. This feature, along with 2004, could conceivably be a grave though this is unclear as it was not excavated. At 3.40m in length feature 2005 may on first impression be considered too long for such an interpretation. However, it may have been intended for multiple interments, although the burial of single individuals in very large graves is not unknown. At Cresswell Field, Yarnton, Oxfordshire, an aging adult female skeleton had been buried, probably in the late Neolithic or early Bronze Age, in a wooden coffin in a grave which measured 4.66m in length, 3.62m in width and 1.18m in depth (Hey in prep). F2000 and F2004 measure respectively 2.30m and 2.35m in length. The central grave of barrow 9 is 2.80m in length while the central grave Irthlingborough 1 is 2.65m in length.

There is no real evidence for a difference in date between the linear structures (2002, 2006), the grave (2000) and the putative

graves (2004, 2005). The skeleton from the only excavated grave was submitted for radiocarbon dating but failed to produce sufficient collagen. However, it is certainly possible to argue on typological grounds that the mortuary feature or enclosure represents a distinct phase which actually predates the ditch and mound construction (Kinnes 1979, 61). Parallels can be found at nearby Aldwinckle (Jackson 1976) and Grendon Quarry (Gibson and McCormick 1985) and further afield at Barton Hill Farm, Bedfordshire (Dyer 1962), and New Wintles Farm, Eynsham, Oxfordshire (Kenward 1982).

The development of Barrow 7 might be reconstructed as follows:-

Phase 1: pre-barrow activity (possible ditch 2007; irregular feature 2010) including clearance (treethrow hole)

Phase 2: mortuary structure comprising two short, parallel lengths of ditch and rectangular feature or grave

Phase 3: burial (at least one and possibly two individuals)

Phase 4: final monument covered by round mound with outer ditch.

The alignment of the various features within the ring ditch strengthens the argument for this sequence of events. The elements of the postulated mortuary structure are all aligned north/south and are located off-centre while the graves 2000 and 2004 are orientated north-east/south-west and are broadly speaking located centrally within the barrow ditch.

4 Resource estimate

All calculations were based on Startin (1982), who gives a figure of 0.68 cu m per hour for a prehistoric team of picker, shoveller and an appropriate number of basket carriers.

It has been assumed that the widening of the ditch cut, due to erosion and infilling, compensates for ignoring the topsoil in all calculations. The volume excavated from the ditch was estimated by using the mean cross-sectional area calculated from drawings and multiplied by the length of the ditch. This gives a volume of 39.9725 cu m, which equates to 58.78 team hours. There are seven approximately straight sections with a mean width of 1.7m, so one team could work at the face of seven sections simultaneously. This would require 8.40 hours. The amount of spoil would be 43.3035 cu m and the area inside the ditch is 16m in diameter. This would equate to a mound 0.43m high. If the mound was only 10m in diameter it would be 1.10m high.

The total worker hours expended, assuming that a team was composed of three, would be 176.34.

SS1.19 Barrow 8

Angela Boyle

Abstract

Barrow 8 was located approximately 5.5m north-east of Barrow 7. It was defined by an irregular ditch. After the removal of topsoil the barrow was cleaned and features were planned. No further excavation took place. A cremation had been inserted into the top of the mound at its centre.

1. Location and excavation

Barrow 8 was located 5.5m north-east of Barrow 7 (Fig SS1.171) at SP 96678 71109 on a low gravel island within Trench 93 which was stripped mechanically. The stripping of the site was initially undertaken in advance of gravel extraction by ARC who were using a bulldozer. However, when it became clear that archaeology was present a more suitable machine was brought in and the stripping was archaeologically supervised. Evaluation Trench 10 may have uncovered traces of mound material although at that time it was not interpreted as such. The area was stripped mechanically. After the removal of the topsoil it was cleaned and planned. The southern extent of the barrow was not defined as there was insufficient time for cleaning. The fact that Barrow 8 was located on the edge of the gravel quarry pit meant that preservation of

the monument had minimal cost implications. Excavation was therefore minimised.

The recording system in operation was the OAU 'Thornhill Farm System' in which each feature (including evaluation trenches) was numbered in a continuous sequence; each excavated segment or section of that feature was then given a letter (A for the first to be excavated, B for the second etc.); and each fill or spit within that segment or section was given a number or letter (1 or a for the topmost deposit, 2 or b for the next, etc). Thus a typical context might be 2011/A/1. The section letter was omitted where features or layers were excavated in plan, as was the layer or spit number where there was only a single fill (Wilkinson 1992).

The excavation of the barrow was directed by John Moore and supervised by both Dennis Jackson and Mark Roberts.

2 The excavated evidence

Phase 1. The monument

Phase 1.1 ditch construction

An approximately annular ditch (2011) was located, with an upper fill of mid-brown sandy loam mixed with gravel. The south side was not fully defined, but its diameter would be approximately 8.15m (based on east/west width). A single sherd of Wessex/Middle Rhine Beaker was found in the upper ditch fill.

A possible feature (2014) was noted during topsoil stripping at approx. SP 96680 71100. It seemed to be linear and may have been an outer ditch to either Barrow 8 or Barrow 7 (qv). Adequate definition of this feature proved impossible, and no relationship could be determined between this feature and the barrows. Unfortunately no description of the fill of 2014 was provided.

Phase 1.2 the mound

The mound comprised a red-brown sandy clay loam (no context number assigned). Mound material may also have been picked up within evaluation Trench 10. The relevant layers were 10/2, which was a red brown silty loam with a depth of 0.50m, and 10/3, which was a brown-red silty loam with 10% fine gravel and a depth of 0.25m. However, the trench stopped approximately 1.5m south of the barrow as revealed during the excavation.

Phase 2. The cremation

Cremation burial 2009 was in an urn which lay within a pit cut into the centre of the

Table SS1.20. Barrow 8. Summary of finds

* = recorded, but unidentified or missing

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Context</i>	<i>Human remains</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Other</i>	<i>Charcoal</i>
1.1	Ditch 2001 (upper)		1 sherd/5g Beaker, P8 (AP(Fe)1)			
2	Cremation 2009	Cremation left <i>in situ</i>	5 sherds/23g EBA, P18 (C2; came loose from pot, remainder left <i>in situ</i>)		Scorched clay	*

mound. It was filled with scorched clay, possibly pyre debris, and was 0.60m long and 0.55m wide. The burial and vessel were left *in situ*. Five sherds which came loose from the vessel are in a calcareous fabric and seem to come from an early Bronze Age pot with a plain rim.

Phase 3. Erosion

The barrow mound appears to have been partially truncated, presumably by ploughing. The mound material spread over and beyond the ditch in a north-west direction. The possible layers of barrow material in Trench 10 would also be more easily interpreted as erosion products.

Phase 4. Later activity

The barrow was sealed by grey-brown alluvium.

3 Discussion of stratigraphy and phasing

Barrow 8 was immediately adjacent to Barrow 7 and both appear to have been aligned on the Long Barrow, which must have served as an initial focus of activity and lies approximately 280m to the south-west. The presence of treethrow holes below Barrow 7 is indicative of site clearance prior to the construction of that monument and presumably also Barrow 8. Insufficient work was done on this barrow for any meaningful interpretation to be possible beyond asserting that the cremation pit cut into the top of the mound is presumably representative of a later phase of activity. The apparently small size of Barrow 8 as defined by the ring ditch is noteworthy and can be paralleled in the Double Ring Ditch at West Cotton. There was limited evidence for a possible outer ditch to Barrow 8.

It has not been possible to determine the form of the mound. The excavation plan indicates that it runs below the alluvium and

extends beyond the limits of the planned area and far beyond the postulated ring ditch. This may be due to dispersal by ploughing in antiquity. Alternatively the mound may have been considerably larger than suggested above. The excavation plan appears to suggest that the ditch of Barrow 7 cuts through this red mound material, and it is conceivable that 'Barrow' 8 is in fact a monument of rather different form, which existed alongside the initial phases of Barrow 7 (pre-barrow activity/clearance and mortuary enclosure). No levels survive for evaluation Trench 10. However, the red brown silty-loam layer 10/2 which has been interpreted as barrow material had a maximum thickness of 0.50m. The levels taken for Barrow 8 may be useful. At the top of the gravel it was 33.09m OD while adjacent to the cremation a measurement of 34.49m OD was taken which indicates that the mound had a surviving height of at least 1.40m.

4 Resource estimate

None was attempted, as the barrow was not excavated and the real extent of the mound is unclear.

SS1.20 Barrow 9

Angela Boyle

Abstract

Barrow 9 consisted of a double ring ditch visible on aerial photographs at SP 96139 70476. The presence of ditches corresponding to the cropmark was confirmed in evaluation Trench 45 during the assessment phase and the monument was completely excavated. The barrow mound had been ploughed out in antiquity, and the mound material covered the area of the barrow. Five burials in four graves were located within the

inner ring ditch. The central burial had no grave-goods, but there was evidence for a wooden mortuary structure or coffin. One burial was accompanied by a complete Beaker.

The mound did not survive *in situ*, but material from it covered most of the excavation area. All features were sealed by this layer, including the outer barrow ditch. It was therefore impossible to determine a stratigraphic constructional sequence covering all barrow features and deposits. A provisional sequence was devised, however, on the basis of the physical position of the features and the depth to which they had been cut. This has subsequently been confirmed by the sequence of radiocarbon dates. The ploughed-out mound was sealed by an earth mound in the later prehistoric or early Roman period. The principal importance of the barrow is in its graves, as it contains the largest group of inhumations of all the RAP monuments.

1 Location and excavation

Barrow 9 was located at SP 9614 7050. The destruction of areas immediately to the north, east and south by mineral extraction in the 1930s made it impossible to determine whether the barrow lay on a spur of the gravel terrace or on a gravel island. The monument was known from aerial photographs and was located during the evaluation undertaken by the OAU in 1989 within Trench 45. Total excavation took place in 1990 and the area was assigned the letter code J. The excavation commenced with machine-stripping of the topsoil overlying the monument. A central baulk running NNW/SSE was left in place initially so that a section across the barrow could be recorded. The baulk was subsequently removed, again by machine. The inner and outer ditches were excavated manually (40% and 20% respectively) and, at the end of the season, mechanically, prior to destruction during the programme of mineral extraction. All the graves were excavated entirely by hand (Figs SS1.174–5).

The single context system of recording was employed. Each cut, layer and fill was assigned an individual number from a single continuous sequence (Wilkinson 1992). Sections across the ditches were distinguished by letters, eg 723/M, 721/K.

The excavation of the barrow was directed by Graham Keevill and supervised by Gareth Williams.

2 The excavated evidence

Phase 0. Natural deposits and features

The old ground surface

The barrow ditches cut a layer of yellow-red sand loam with approximately 20% medium and coarse gravel inclusions (752). This layer was located between the ring ditches and extended west beyond the limits of the excavation. It overlies the natural gravel (788). 752 was probably the old ground surface, and its limited extent is indicative of the later truncation suffered by the monument.

Treethrow holes

F743 was an oval shaped cut with sides sloping at an angle of approximately 50° down to a rounded bottom. Its dimensions were 1m in length, 1m in width and 0.3m in depth. The fill was a brown sand silt loam with stones and a gravel lens (744). It was located 3m south-east of the inner ditch in the north-west sector of the barrow.

F745 was a subrectangular feature which tapered slightly at its west end. The sides sloped at an angle of approximately 30° to a flattish bottom. It measured 1.7m in length, 0.85m in width and 0.15m in depth. The fill was a dark brown sandy silt loam (746). It was located immediately adjacent to the inner ring ditch in the north-west sector of the barrow. Features 743 and 745 were excavated to determine whether or not they were graves. The complete lack of human bone or artefacts and the irregular form of the features suggest that they were treethrow holes.

Phase 1. The monument

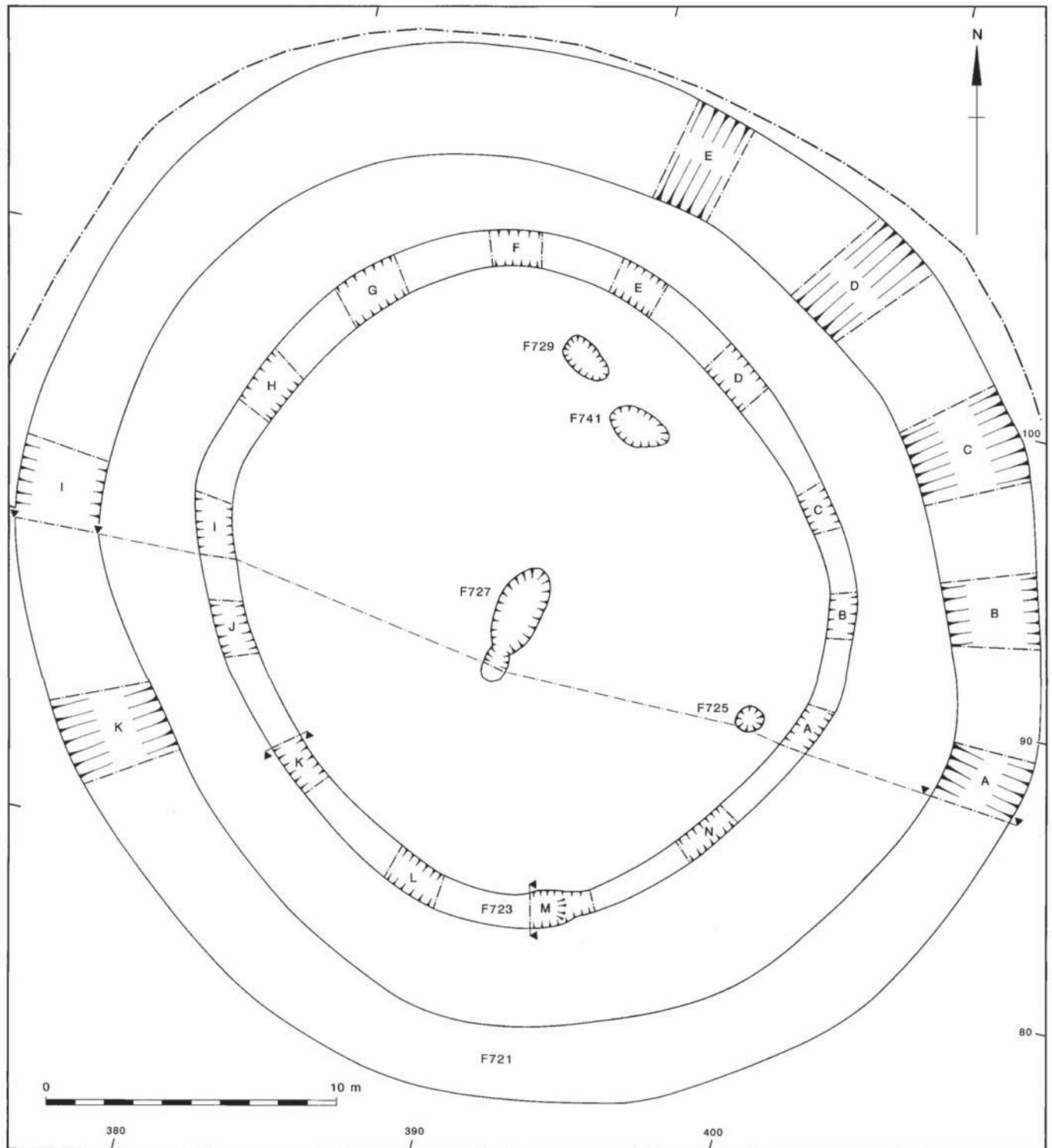
Phase 1.1 central burial

Grave F727 was located in the centre of the barrow and was subrectangular with near vertical sides and a flattish bottom. It was 2.80m long, 1.70m wide and 1.15m deep. A natural feature, possibly a further treethrow hole, at the south end of the grave made it difficult to determine the precise length (Fig SS1.174). There were a number of fills within this grave as well as evidence for a possible mortuary structure or coffin, which may have been a hollowed tree trunk. The grave contained the skeleton of an adult male (747) who was orientated south-west/north-east. He was lying almost supine with the legs tightly flexed and turned to the left. The skull was facing right, to the south-east. The upper arms were by the sides, the lower arms were turned upwards and to the left. The rotation of the head to the right is less

extreme in the photograph (Fig SS1.177) than in the plan (Fig SS1.176), which may incorporate some exaggeration. Fill 750 lay at the base of the grave cut and was confined to the north-west half. It partly surrounded and covered the skeleton and comprised a

dark grey-brown silty sand-loam which appeared as a dark stain flattened against the bottom 0.20m of the grave. This staining may have defined the area of a collapsed coffin or mortuary structure, but a soil sample of the deposit did not contain any charcoal

Figure SS1.174
Barrow 9.
Plan.



(Figs SS1.176–7). The upper grave fills had clearly slumped into a void. The principal fill (731) was a red-brown sandy clay-loam with approximately 40–50% coarse and medium gravel. The upper fill (728) of the grave was approximately 0.28m deep. The top of the coffin appeared as a void upon the removal of overlying deposits.

The skeleton is dated to 2200–1950 cal BC (3645±45 BP (OxA-5543); 3750±55 BP (OxA-5544)).

Phase 1.2. The inner ditch

The inner ditch (F723) was irregular in size and shape, and this may reflect a variable need for gravel during the construction of the mound. The subannular ditch had a diameter of approximately 23m–24m. Fourteen sections through the ditch (723/A–N) were excavated manually (approximately 40% of the whole). The depth of the ditch varied from 0.18m–0.72m, while the width ranged from 0.76m–1.52m. The ditch sides sloped at an angle of 45–60° down to a flat, rounded or irregular bottom. Possible terminals were identified during the excavation of section 723/M, suggesting that construction had commenced and ended here.

It is assumed that the upcast from the ditch formed part of a mound over the central burial. The extent of later truncation, however, had removed the stratigraphic relationships which might have proved this.

Phase 1.3. Inner ditch fills

The primary fills (753 and 778) of ditch F723 comprised material eroded from the barrow mound or from the gravel edges of the ditch. Fill 753 was a yellow-red sand with 90% coarse and medium gravel. The thickness of 753 ranged from 0.04m–0.22m. Fill 778 was a pale yellow silty sand with 90% fine and medium gravel. The thickness of 778 ranged from 0.03m–0.16m (Fig SS1.180).

Phase 1.4. Peripheral burials

Grave F729 was subrectangular with sides sloping at an 80° angle to a flat bottom. The grave was 1.55m long, 1m wide and 0.46m deep, and was filled by a yellow-brown clay-sand loam with 40% medium and coarse gravel (730). The grave contained the skeleton of a child aged approximately 5–7 years (737) orientated north-west/south-east. It was lying on its back with the legs flexed and the head facing north-east (Figs SS1.176, SS1.178). The grave was located approximately 2m south-west of the inner ditch in the north-east sector of the barrow.



The skeleton is dated to 2140–1920 cal BC (3690±40 BP (OxA-5545); 3615±45 BP (OxA-5546)).

Grave F741 was oval with sloping sides. It measured 2.09m in length, 1.25m in width and 0.45m in depth. It was filled by a red-brown slightly clay sand loam (742) with approximately 40% medium and coarse gravel. The grave contained the skeleton of a child aged approximately 4–6 years (751) orientated east/west. It was crouched on its right side with the head facing north. The skeleton was accompanied by a complete rusticated Beaker (P19, SF 1313) which was placed at its feet (Figs SS1.176, SS1.179). The grave was located approximately 1m south-east of grave 729.

The skeleton is dated to 2140–1780 cal BC (3610±50 BP (BM-2866)).

Grave F739 was cut into the earlier grave fill (742). The cut was very indistinct, probably because the grave fill was identical to that of F741. The burial was that of a neonate skeleton in very poor condition (738). As the later skeleton lay directly above the earlier it is likely that the superimposition was deliberate.

Grave F725 was subrectangular with sides sloping at an angle of 40° to a flattish bottom. It measured 1.20m in length, 1.00m in width and 0.18m in depth. It was filled by 726 which was a red brown clay sand loam. The grave contained the skeleton of a child aged approximately 10–12 years (732)

*Figure SS1.175
Barrow 9.*

Aerial view at end of excavation, from the north-east. The shuttering across the centre of the barrow was used in an experimental reconstruction, in which spoil from the excavated 40% of the inner ditch was mounded in 40% of the central area (Figure SS1.20).

(Photo Oxford Archaeology)

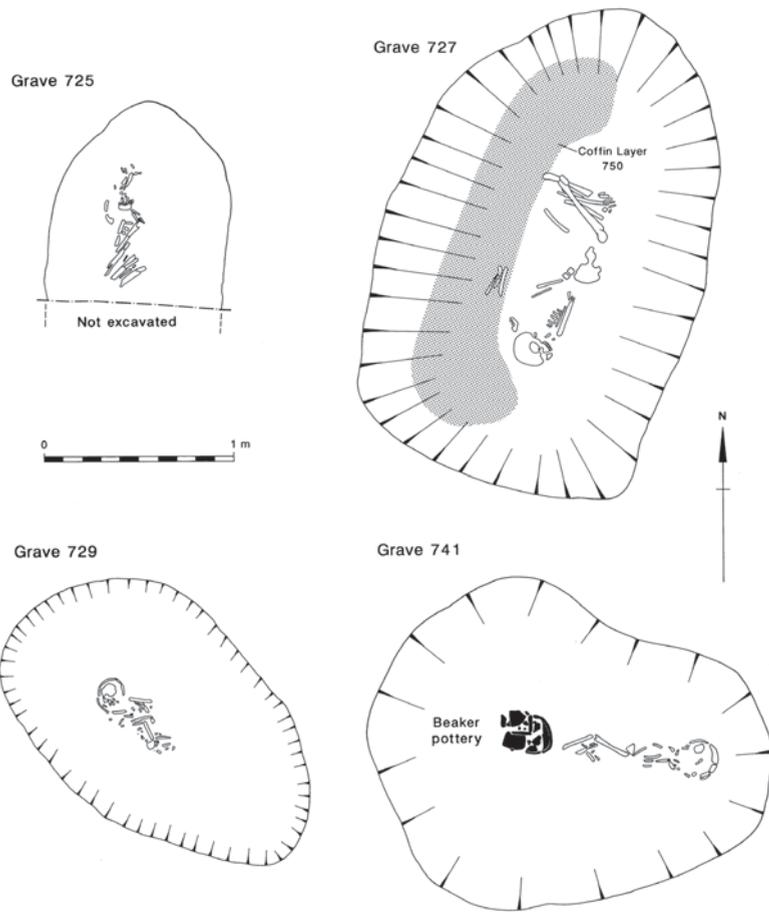


Figure SS1.176 (above)
Barrow 9. Grave plans.

Figure SS1.177 (below)
Barrow 9. Burial 747 in central grave F727 from the north-east, dark material (coffin?) to right.
(Photo Oxford Archaeology)



orientated north/south. It was crouched on its left side with the head facing east. The shallowness of the grave meant that the body had been badly damaged, probably by plough action (Fig SS1.176). The grave was located approximately 1m north-east of the inner ditch in the south-east sector of the barrow.

The skeleton is dated to 1920–1690 cal BC (3495±40 BP (OxA-5545); 3500±70 BP (OxA-5548)).

Also within the inner ditch was a posthole (45/5), found in evaluation trench 45 prior to the main excavation. This was 0.20m inside the ditch and approximately 5m north-west of grave F729. It was 0.45m in diameter and 0.30m deep.

Phase 1.5 outer ditch and mound

The outer ditch (F721) was irregular in size and shape, and this may reflect a variable need for gravel during the construction of the mound. The ditch was subcircular, with a diameter of approximately 36.25m–37.25m. Seven sections through the ditch (721/A–E, 721/I, 721/K) were excavated manually (approximately 20% of the whole). The depth of the ditch varied from 0.88m–1.28m though the former depth was exceptional. Width ranged from 2.8m–4m. The ditch sides sloped at an angle of 40–50° to a rounded bottom, with the exception of sections 721/B and 721/I where the ditch bottom was flat (Figs SS1.180–1).

Phase 1.6 outer ditch fills

The primary fills (755, 756) in ditch F721 consisted of slippage from the barrow mound or from the natural gravel. 755 comprised several layers of sand with variable gravel content (762–767, 773, 783–784). The thickness of 755 ranged from 0.12m–0.73m. 756 comprised several layers of sand with variable gravel content (fills are 768–772, 774–776, and 781–782). The thickness of 756 ranged from 0.10m – 0.82m (Figs SS1.180–1).

Phase 2. Later activity

Truncation of the barrow mound and infill of the ditches

Layers 748 and 749 had been truncated by plough action, spreading the mound material at least a further 15m to the north and south. The Phase 1.4 grave (F725) was very shallow, and the skeleton was exposed virtually at the existing gravel surface. The skeleton was in extremely poor condition and had clearly suffered very extensive damage from plough action.

The upper fills of ditches F721 (722) and F723 (777, 724) were more characteristic of rapid infilling, probably due to plough action. Fill 777 in ditch F723 was a yellow-red sandy silt loam with 10% medium gravel. The thickness of 777 ranged from 0.1m–0.26m. The nature of the fill suggested that it may have been turf-derived. The upper fill 724 was yellow-red sandy silt loam with less than 5% fine and medium gravel. The thickness of 724 ranged from 0.2m – 0.44m.

Fill 722 in ditch F721 comprised several layers of red-brown sandy silt with variable gravel content (less than 5–50% coarse to medium gravel) which may be turf-derived (fills 757–761, 779–780). The thickness of 722 ranged from 0.82m–1.1m (Figs SS1.180–1).

The extended mound

Layer 748 was a thin spread comprising a red-yellow slightly silty sand loam with approximately 80% medium and coarse gravel. It was typically 0.05m thick. It appeared throughout Area J and extended approximately 15m east and south of the barrow. It sealed the upper fills of the ditches (721/A, 721/K and 723/K) and all the graves. Truncation, probably by plough damage had removed any chance of establishing a stratigraphic sequence between the mound and the ditches. Nor was it possible to determine the original height of the mound (Fig SS1.180).

The earth mound

On the west side of the site a thick layer (749) was traced as a subvoid mound approximately 35m long (east/west) and 25m wide. Truncation of the layer spread the material at least a further 15m to the north and south (Figs SS1.180, SS1.182). Mound 749 sealed part of the west side of the ploughed-out barrow mound (748) and in places the probable old ground surface (752). Layer 749 was a red-brown sandy loam with 30% medium gravel. It also covered the western limit of the silted up ditches, and was cut by a Roman gully (785).

If the barrow was being denuded during the late Bronze Age or early Iron Age then the earth mound must date to the later Iron Age or early Roman period.

Romano-British gully

A shallow gully F785 running ENE/WSW was located in an extension trench to the west of Area J. This feature cut both 749 and 752. Its sides sloped at an angle of approximately 45° to a rounded bottom. Its dimensions were



1.75m x 1.68m x 0.45m (full extent of feature not seen). The fill, a brown yellow sandy silt loam, contained a single sherd of Roman pottery. It was very similar in consistency to the fills of other known Roman features in the vicinity and was associated with field systems and paddocks located at the east end of the Romano-British villa site (Area G).

Ploughsoil

The area of the barrow was covered by a ploughsoil (001) which measured up to 0.28m in depth.

Figure SS1.178

Barrow 9.

Burial 737 in grave F729, from the north-east.

(Photo Oxford Archaeology)



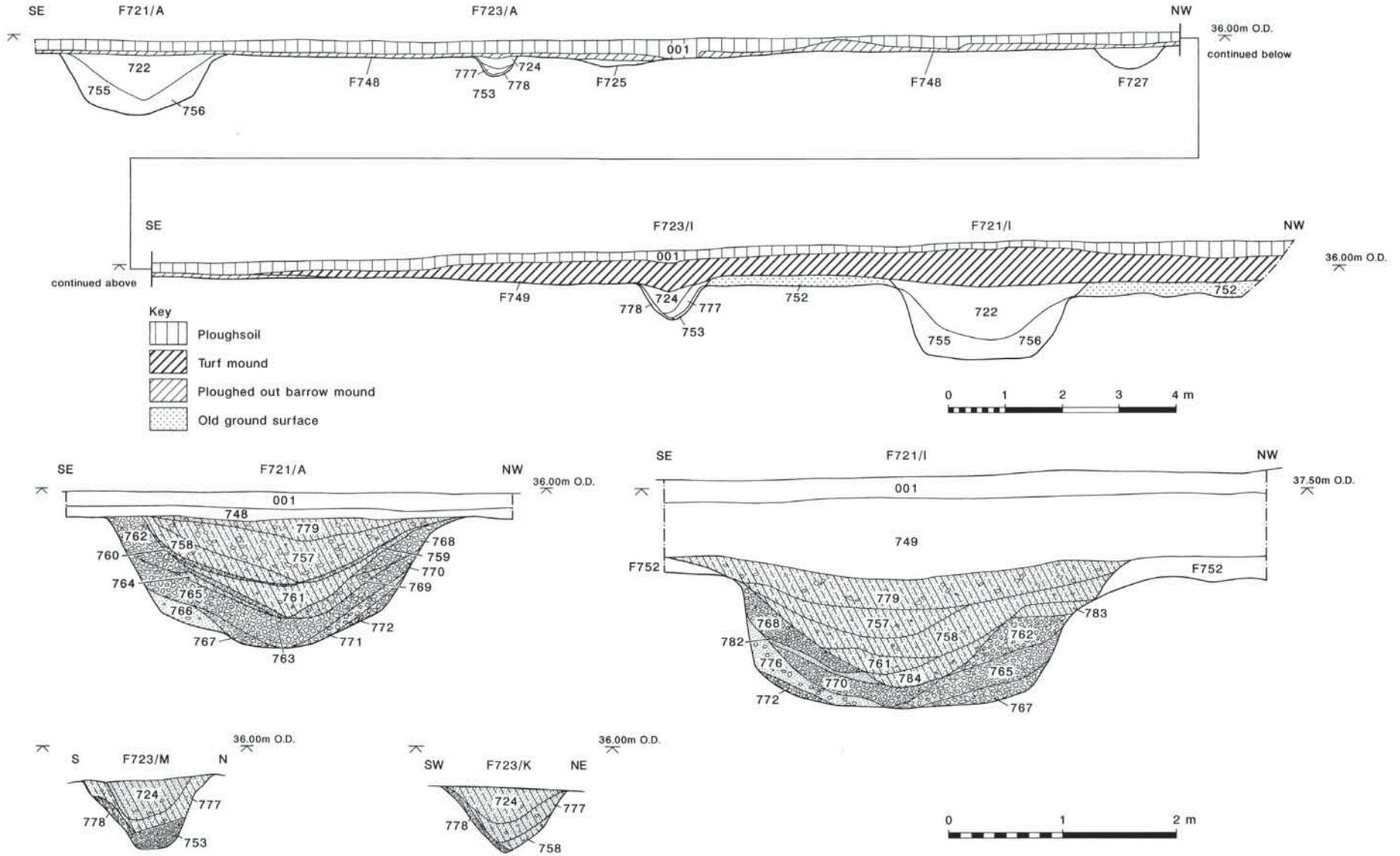
Figure SS1.179

Barrow 9.

Burial 751 in grave F741, looking west.

(Photo Oxford Archaeology)

Figure SS1.180
Barrow 9. Sections across barrow and through outer and inner ditches.



3. Discussion of stratigraphy and phasing (Fig SS1.183)

There is little in the way of stratigraphic evidence to suggest a continuous sequence of development. The only artefact from the monument was a complete Beaker. Despite manual excavation of 40% of the inner ditch and 20% of the outer one, no artefacts were recovered. This situation is paralleled at the majority at least of the Neolithic monuments excavated as part of the Raunds Area Project. With the exception of the Long Mound and the Long Barrow no more than a few sherds have been recovered. It has been suggested that this lack of artefacts is indicative of intermittent or seasonal use. Alternatively, where frequency and extent of use were considerable then we have to accept that the activities involved did not require or result in the deposition of artefacts.

In these circumstances, the main evidence for a sequence is provided by the radiocarbon dates and the relative depths of the graves. Four of the five skeletons have been dated (732, 737, 747, 751; Fig SS6.11; Table SS1.21), and the remaining one (738) was in a grave cut into an existing burial (751). 738 was very poorly preserved and therefore it was decided not to submit it for radiocarbon analysis as sufficient collagen was unlikely to have survived.

There appears to be a correlation between date of burial and grave depth. F727, the central grave, was deepest, at 1.15m. Among the peripheral graves, F729 and F741 were 0.46m and 0.45m deep respectively, while F725 had a depth of only 0.18m, and F739, the infant grave cut into the top of an existing grave, was the shallowest. The fact that the central burial was so very deep in comparison with all the others suggests that it was cut from the pre-mound surface, while they were cut into an already existing mound, or succession of mounds. The two earliest burials were those in F727 and F729, with the central burial in F727 roughly twice as likely to be the earlier. Next comes the Beaker burial in F741, 85% likely to be younger than the central burial, and last the shallowest burial, in F725 (Bayliss *et al* SS6). This would be compatible with the cutting of the less shallow child graves F729 and F741 into the slight first mound soon after it has been built over the central adult burial and with the cutting of the shallowest dated grave, F725, through the more substantial second mound. If this was also true of F739, then F741, into which it was cut, must have been marked.



4 Resource estimate

Robert Whiteman

Calculation of resource estimate

All calculations were based on Startin (1982) who gives a figure of 0.68 cu m per hour for a prehistoric team of picker, shoveller and an appropriate number of basket carriers. It has been assumed that the widening of the ditch cut, due to erosion and infilling, compensates for ignoring the topsoil for all calculations.

The inner ditch

The volume excavated from the ditch was estimated by using the mean cross-sectional area calculated from drawings and multiplied by the length of the ditch. This gives a volume of 22.0852 cu m which equates to 32.48 team hours. There are ten approximately

Figure SS1.181

Barrow 9.

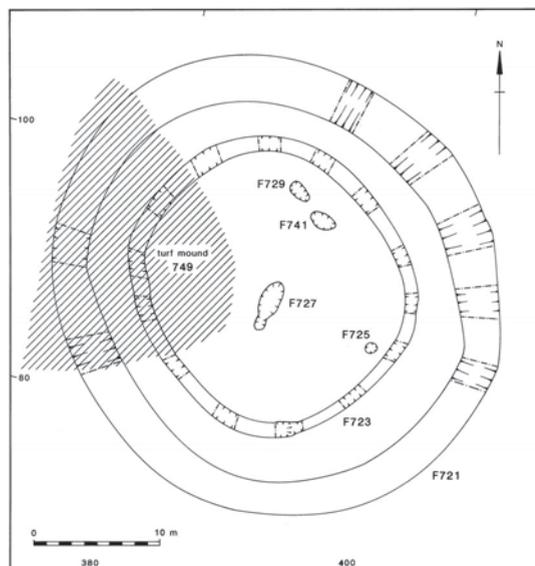
Outer ditch, section 721/A, looking south.

(Photo Oxford Archaeology)

Figure SS1.182

Barrow 9.

Mound 749 overlying barrow.



straight sections with a mean width of 1.1m, so ten teams could work simultaneously. This would require 3.25 hours and produce 23.9256 cu m of spoil. The area inside the ditch is 18m in diameter and the spoil would produce a mound 0.28m in height. If the

mound was only 10m in diameter, the height would be 0.91m.

The outer ditch

The volume was calculated to be 256.7734 cu m which equates to 377.61 team hours.

Figure SS1.183
Barrow 9.
Suggested construction
sequence.

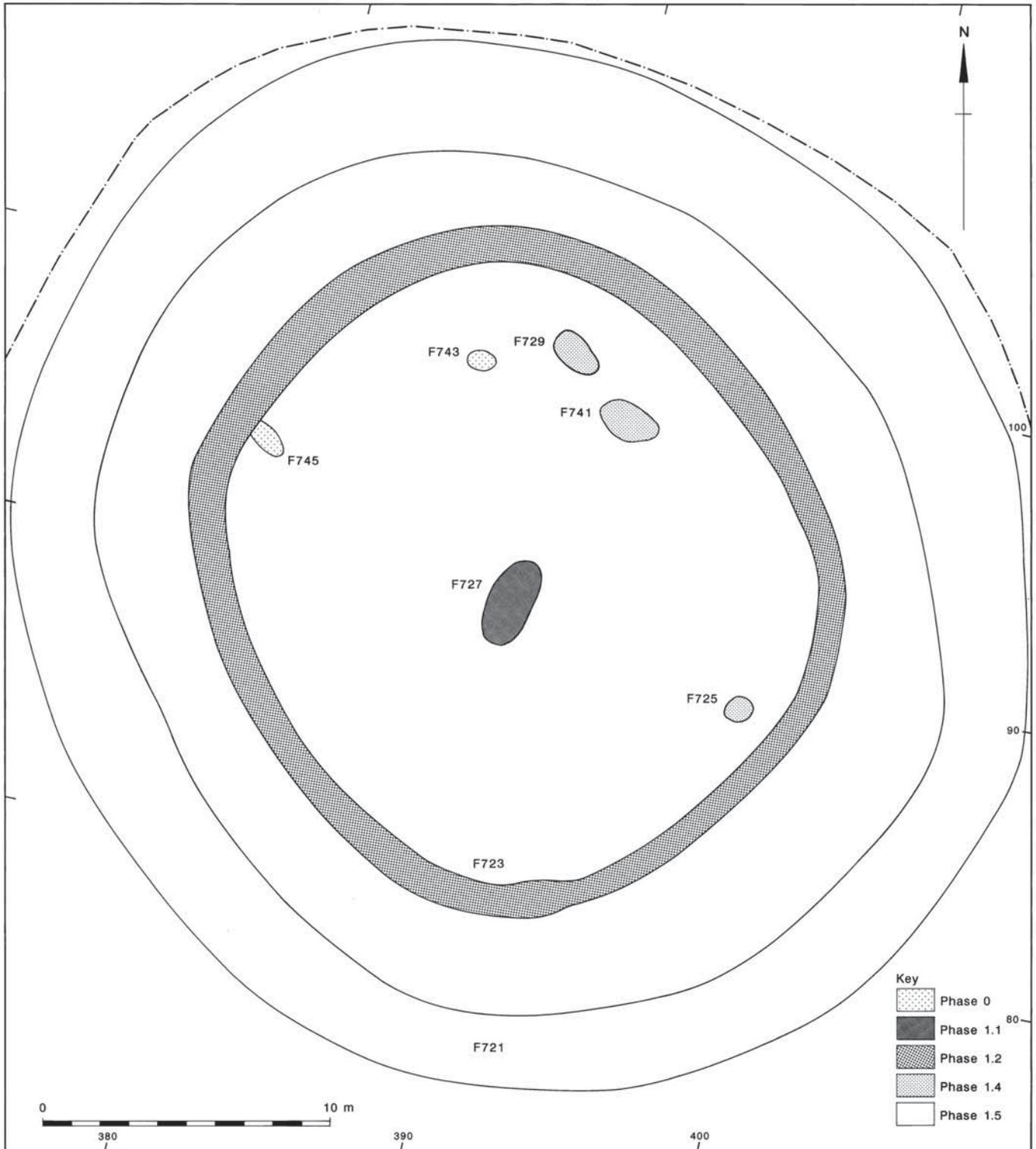


Table SS1.21. Barrow 9. Summary of finds

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Context</i>	<i>Human remains</i>	<i>Pottery</i>	<i>Other</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
1.1	Grave 727	Adult male skeleton (33–45 yr)		Coffin stain	3645±45 (OxA-5543) 3750±55 (OxA-5544)	2200–1950
1.4	Grave 729	Child skeleton (5–7 yr)			3690±40 BP (OxA-5545) 3615±45 BP (OxA-5546)	2140–1920
	Grave 741	Child skeleton (4–6 yr)	Rusticated Beaker, P19 (GAS4)		3610±50 BP (BM-2866)	2140–1780
	Grave 739 (recut of 741)	Neonate skeleton				
	Grave 725	Child skeleton (10–12 yr)			3495±40 BP (OxA-5547) 3500±70 BP (OxA-5548)	1920–1690
2	Gully 785		1 sherd Roman			

There are twelve approximately straight sections with a mean width of 3.3m, so 24 teams could work simultaneously. This would require 15.73 hours and produce 278.1712 cu m of spoil. The amount of spoil from the two ditches (302.0968 cu m) would produce a mound 1.47m in height if it was 28m in diameter, while an 18m diameter mound would be 3.56m in height and a 10m diameter mound would be 11.54m in height.

Experimental reconstruction of the mound

An experimental attempt was made during excavation to reconstruct the potential height of the barrow mound. The spoil removed from the 40% hand-dug sample of the inner ditch was mounded up against vertical shuttering demarcating 40% of the area within the ditch. The shuttering can be seen in Figure SS1.175. A berm of 1.5m was left immediately within the circuit. The mound thus created was 0.4m high. The addition of the spoil from the 20% hand-dug sample of the outer ditch implied that a height of 2m would be achieved if the mound was still constrained by the inner circuit. Clearly a lower height would be achieved if the mound extended over the ditch.

The experimental reconstruction of the mound was not merely an academic exercise. It had been recognized that the peripheral placement of graves 725, 729 and 741 within the inner circuit caused interpretative problems regarding their relationship to the barrow

mound. In particular, the shallowness of grave 725, and of the secondary burial 739 in grave 741, would make them vulnerable to disturbance if the mound had not been enlarged

SS1.21 The Double Ring Ditch

*Andy Chapman, Tony Baker,
Dave Windell, Jo Woodiwiss*

Abstract

In its final form the Double Ring Ditch comprised two concentric ditch circuits, enclosing a central area 3.0m in diameter. Within this area, a single small pit or postpit was located immediately north of centre. No diagnostic finds were recovered and there was insufficient charcoal to provide a radiocarbon date. The structure was probably in use for a relatively short period of time, although the inner ditch was recut with some evidence from the fill of this recut to suggest that there may have been either a central mound or an internal bank. The function of this minor monument is unclear, although it is suggested that it may have served as a post-setting revetted by a shallow mound.

1 Location and excavation

The monument lay at SP 97572 72554, within the western half of the West Cotton site, which was excavated between 1987 and 1989.

It lay 13m to the west of Barrow 6, and was located following the removal by machine of the soil horizon (4931), which had been cut through by late Saxon ditches and overlay the natural geology. The exposed surface was cleaned by hand, and consisted of a thin remnant of the upper natural of gravel in sandy clay, with underlying calcareous gravels showing through in several places. The two ditches were excavated in plan, with four baulks 0.50m wide left to provide two complete cross-sections. These were positioned on the least disturbed lengths of

ditch, and were subsequently removed in order to complete the excavation of the fills from both ditches.

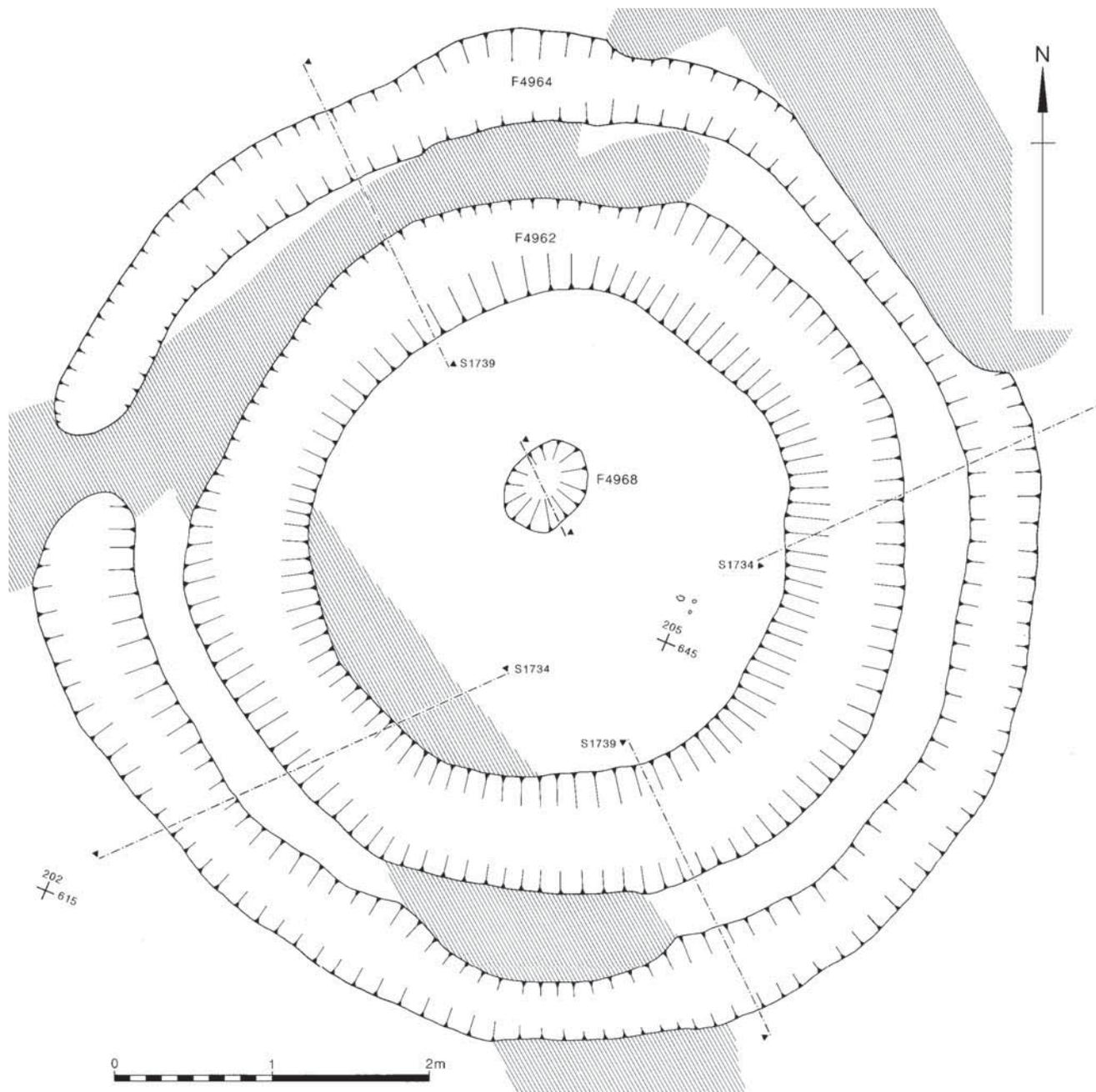
2 The excavated evidence

The monument consisted of two closely concentric ditch circuits (Fig SS1.184). The sequence proposed here is provisional:

Phase 1. Inner ditch and central feature

The inner ditch (F4962) was 3.85m in external diameter, and enclosed a central area of

Figure SS1.184
Double Ring Ditch.
Plan.



3.0m diameter. This ditch was typically 0.80m wide, and the surviving depth varied between 0.32m and 0.45m. This range, however, largely reflected the arbitrary variations in the level of the exposed natural surface. The level of its base varied by only 0.05m, the lowest level, down to 33.42m OD, occurring around the southern side of the circuit and the highest levels, up to 33.47m OD, on the northern side of the circuit. The cut was steep-sided with a rounded base 0.35m to 0.40m wide.

The central area was 3m in diameter and contained a single feature (context F4968) immediately to the north of the central point. This small pit or post-pit was of oval plan measuring 0.60m north-east/south-west by 0.44m north-west/south-east. The sides were moderately steep with a rounded base at a depth of 0.16m. The fill (context 4968) was of orange-brown sandy clay with moderate pebble inclusions. No finds were recovered from this feature.

Most of the inner ditch was filled by an orange to orange-grey sandy clay with some pebbles and very occasional charcoal flecks (Fig SS1.185: context 4960). Against the bottom and sides of the cut, fill 4961 was sandier and contained more pebbles. There was no indication of any differential filling from either the inner or outer edges, and the steep profile of the ditch served to indicate that in all likelihood it had filled fairly rapidly.

Phase 2. Recutting of inner ditch and cutting of outer ditch

The uppermost fill of the inner ditch (context 4959) was an orange sandy clay and pale grey clay with moderate to frequent pebble inclusions. A few small pieces of burnt bone and a little charcoal were recovered from this layer. Around the southern side of the circuit the fill survived to a depth of 0.20m, and appeared to be filling a narrow V-shaped cut (F4969) which was up to 0.45m wide (Fig SS1.185). This possible recut was traced during excavation for a length of only *c* 4.5m along the south-eastern side of the inner ditch circuit, although prior to excavation, an intermittent band of similar material had been observed in plan around the north-eastern side, but which was less than 0.05m in thickness.

Around the whole of the western half of the ditch circuit the upper fills had been removed by later disturbance. It seems likely that the inner ditch was recut, the recut being of similar width and depth to the outer ditch. In addition, the most complete section

appears to indicate that the larger pebble inclusions had derived largely from the inner edge of the cut.

The outer ditch (F4964) was 5.90m in diameter, separated from the inner ditch by a berm typically 0.30m to 0.40m wide, but with an extreme range of 0.25m to 0.45m (Fig SS1.184). It was both narrower and shallower than the inner ditch. On the eastern side, it was only 0.45m wide, but otherwise it was typically between 0.50m and 0.60m. The surviving depth varied between 0.12m and 0.22m, with the shallowest length (up to 33.69m OD) on the eastern side, and the deepest (down to 33.58m OD) on the northern. The cut was typically steep-sided with a flat or slightly rounded bottom typically *c* 0.20m wide.

The fill (context 4963) was an orange-brown sandy clay with some pebble inclusions and a little charcoal.

The only find from the surrounding area was a barbed and tanged arrowhead (sf 9715), located during the removal by hand of remnants of the overlying soil horizon. This was found *c* 4.3m to the north-east of the monument.

3 Discussion of stratigraphy and phasing

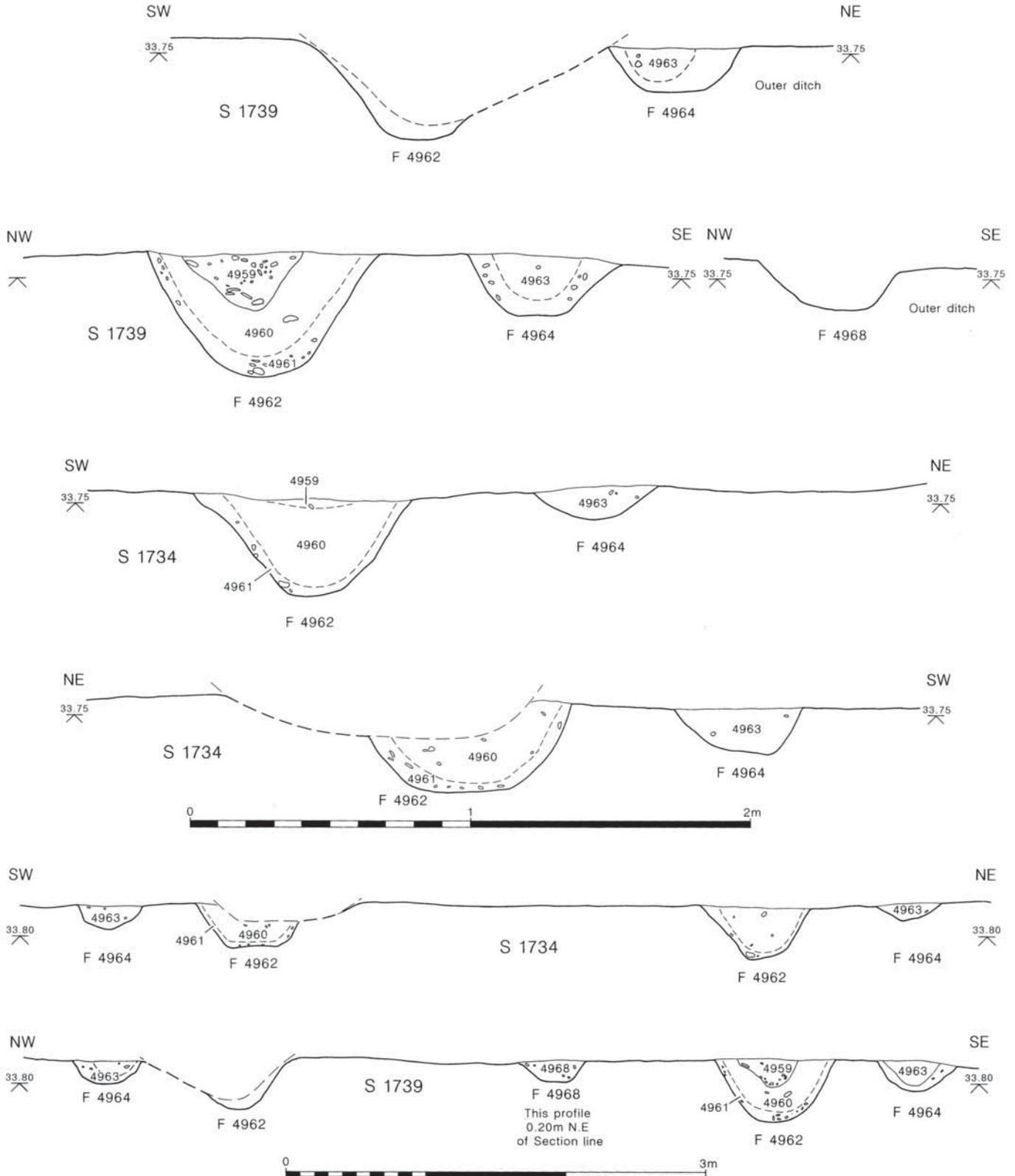
Given the loss of the contemporary ground surface, it is only possible to offer a few tentative interpretations of the form and development of this monument. It would appear that the inner ditch had silted rapidly with the lower sides of the ditch showing minimal erosion. The lack of gravel in this fill would also suggest that if the gravel obtained in cutting the ditch had been used to form a central mound or internal bank then its outer edge could not have been closely adjacent to the inner ditch. A similar argument applies to the presence of an external bank. Although the outer ditch fill contained slightly more gravel than the fill of the inner ditch, this showed no signs of having been derived preferentially from the outer edge. It is also possible that both ditches were back-filled as a deliberate act.

In view of the lack of any stratigraphic links between the inner and outer ditches it is impossible to tell whether the two ditches were cut contemporaneously, or if one replaced the other. The only possible clue was provided by the apparent re-cutting of the inner ditch to a depth broadly comparable to the depth of the outer ditch. It therefore can be suggested that the monument

Figure SS1.185
Double Ring Ditch.
Sections.

may originally have consisted of a single ditch, with this arrangement being replaced by two shallower, concentric ditches. The fairly high incidence of pebble inclusions in

the fill of the recut of the inner ditch may suggest the presence of an internal bank or a central mound, with either slumping of this bank or mound perhaps having brought its



outer edge closer to the inner ditch, or with it being extended outwards by the addition of the gravel obtained from the cutting of the outer ditch. On balance, it seems more likely that the enclosed area was in fact mounded rather than embanked.

Although there is no direct evidence, it can be postulated that the shallow pit or postpit either pre-dated or was contemporary with the cutting of the inner ditch and may have provided the socket for a post-setting reverted by the mounding of gravel around its base. As an act of refurbishment, the recutting of the inner ditch and the addition of the outer ditch, may have been intended to consolidate this setting both in rigidity and appearance.

No finds were recovered and there was insufficient charcoal to provide a radiocarbon date. It is therefore impossible to suggest a date for this monument, which is likely to have been in use for a relatively short time in relation to the monument complex as a whole.

4 Resource estimate

The inner ditch

The sequence and volume estimates for this monument are almost meaningless, due to the loss of the contemporary ground surface. Construction of the inner ditch, in its present and truncated form would have required the digging of only 1.83 cu m of gravel, which could have been completed in 3 hours by a team of three, or 9 hours in total. There was no evidence for a bank or mound, either in the form of surviving earthworks or distinctive silting patterns, although the homogeneous nature of the ditch fill might suggest the rapid filling of the ditch. It is possible that some, or all, of the material from the ditch was mounded either internally or externally in the monument at some distance from the ditch, or it may have been disposed of elsewhere – perhaps as part of the mound or another monument in the complex. It would thus be inappropriate to provide transportation estimates.

Inner ditch recut

The recutting of the inner ditch would have required the removal of 0.23 cu m of gravel and would have taken a team of three around 20 minutes (around one hour in total). The fill of this feature suggested that the spoil may have been banked or mounded internally. This recut may have been related to the outer ditch, as mentioned below, and the

two events have been tentatively ascribed to Phase 1.3. It is possible that the inner ditch was deliberately backfilled, in which case the same labour estimated described for its construction, including widening, should be quoted for this act, added to any transport estimates. The latter would, naturally, be unascertainable, since no source area for any such material can be identified.

Outer ditch

The digging of the surviving depth of the outer ditch required the digging of only 0.59 cu m of gravel, which would have required 1 hour by a team of three, or 3 hours in total. Due to truncation, it is possible that this figure is less than the actual amount of time involved.

Although not stratigraphically demonstrable, the similarity in both depth and form of the inner ditch recut and the outer ditch led the excavator to suggest that the two features may well have been constructed at the same time, the spoil from both perhaps having been banked or mounded internally. This could have been completed by a team of three in just three and a half hours or ten and a half hours in total. It is possible that the outer ditch was also deliberately backfilled, so the same comments apply as for the inner ditch.

SS1.22 Minor and non-structural prehistoric features

1. West Cotton

*Andy Chapman, Tony Baker,
Dave Windell, Jo Woodiwiss*

1.1 Location and excavation

Extensive areas between the major monuments were machine stripped to the surface of the natural geology in an attempt to locate isolated smaller features lying between the major monuments. These areas were disturbed to varying degrees by later features, which clearly could have resulted in the removal of many smaller features of prehistoric date. However, it would appear that there were few isolated features within these areas.

Across much of the site the upper natural geology of gravel in orange brown sandy clay was overlain by a soil horizon of red brown sand containing some gravel pebbles.

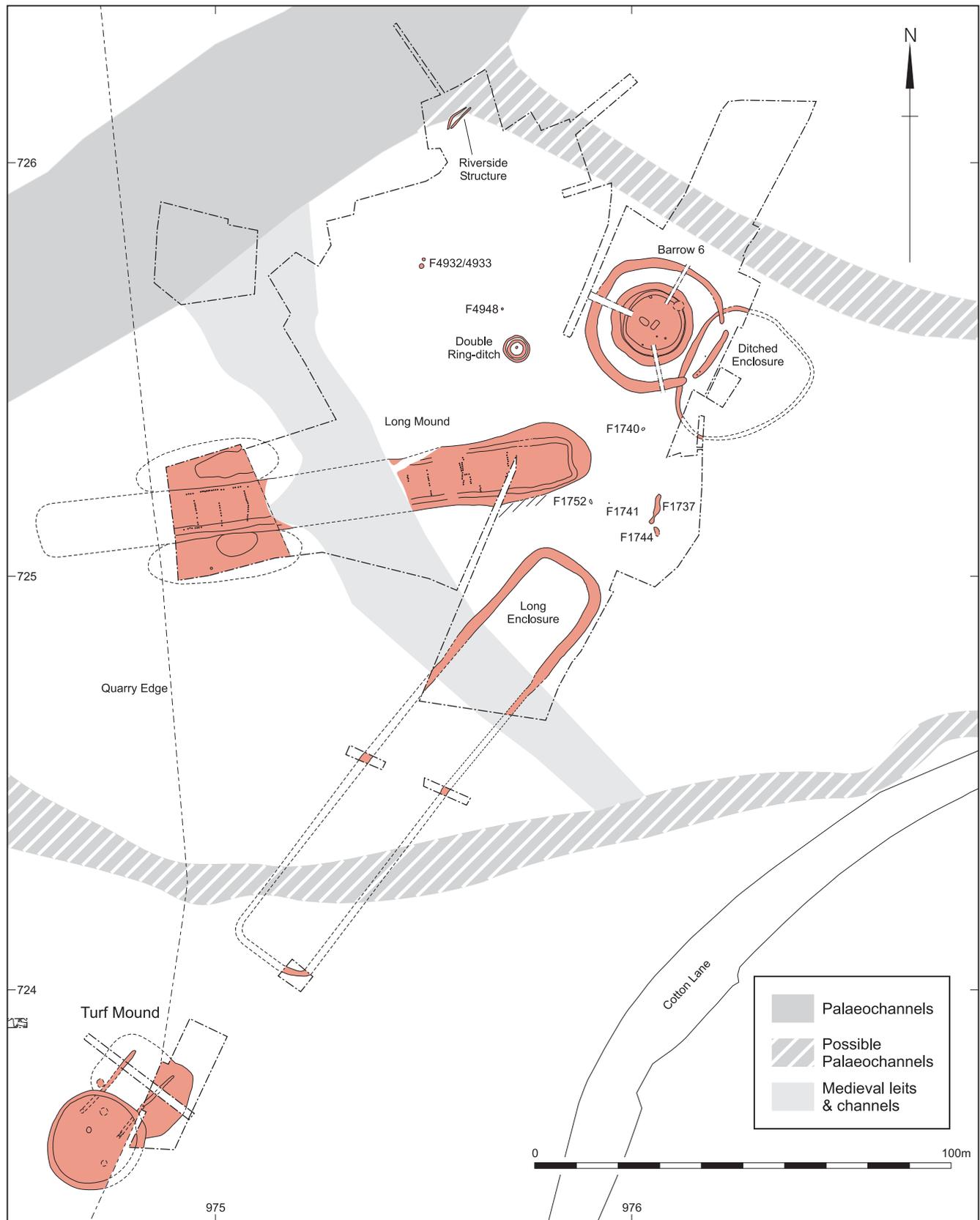


Figure SS1.186 West Cotton. Plan of prehistoric monuments and features.

In places, this soil horizon survived to a depth of *c* 0.30 m. The homogenous nature of this layer indicated that it had been a cultivation soil at least immediately prior to the late Saxon period and probably for intervals at earlier dates.

An early Saxon building was sealed by this soil horizon and the layer also directly overlay the surviving mound deposits of the Long Mound, the Turf Mound and Barrow 6. It also filled the subsidence hollows over the Long Enclosure ditch and the Outer Ditch of Barrow 6, and sealed the ditches of the small Double Ring Ditch. This layer was therefore a product of activity from the Bronze Age through to the late Saxon period, and it would seem that it had been extensively reworked between the 6th and 9th centuries AD.

The layer was removed by hand where it sealed surviving mound deposits. Across the extensive areas lying between the major monuments it was removed by machine following the excavation of all later features. This process led to the recovery of several isolated features. A few of these were subsequently seen to be previously unrecognised late Saxon or medieval features. The remainder were features sealed by the soil horizon. Given the reworking of this layer and the lack of dateable material within the features located, they are all formally undated and could have been as late as early Saxon in date. However, all the features which failed to produce diagnostic finds indicating later dates have been included in this section as being *potentially* of prehistoric date and broadly contemporary with the major monuments.

Although substantial areas of the natural surface were exposed in an attempt to locate isolated prehistoric features, these areas were all extensively disturbed by later features. A band up to 10m wide along the northern side of the site and an area up to 25m wide cutting across the Long Mound were disturbed by late Saxon mill leats and medieval stream courses. In these areas no prehistoric features would have survived.

The area immediately north, east and south-east of the eastern end of the Long Mound was disturbed by late Saxon ditches. An extensive area to the west of the Double Ring Ditch was disturbed by late Saxon ditches and the timber slots of late Saxon buildings. In these areas, prehistoric features could have survived on the undisturbed areas of natural, but clearly much could have been lost in the disturbed areas. Although it is likely that some prehistoric features were

lost, the small number of isolated features recovered would suggest that these never reached a high density.

1.2 The excavated evidence

Possible small ditched enclosure

Whilst included within the minor features, two lengths of shallow ditch may possibly have belonged to a further monument of sub-circular or oval plan made up of discontinuous ditches (Fig SS1.186). These features lay north-east of the Long Enclosure, adjacent to the eastern limit of excavation (Fig SS1.186). They were separated by 1.10m, and there was a gap of *c* 3m to the north-east between the northern ditch and the limit of excavation. Had there been any further features, these would have lain to the east, beyond the limit of excavation. The southern side of this area was badly disturbed by late Saxon ditches (Fig SS1.187).

F1737 was a sinuous linear cut, measuring 7.50m by up to 1.25m. It was typically nearly flat-bottomed and had survived to a depth of only 0.05m. A deeper linear hollow, up to 0.20m in depth, lay towards the northern end. The cut was typically just over 1m wide for a length of 5m, with a slight deepening at its southern end. This southern ditch extremity was only 0.45m wide, with a sub-square hollow projecting from its eastern edge. The fill (context 1735) was a mid-orange sand containing few pebbles. Before excavation the cleaned surface of the ditch had appeared to consist of two parallel cuts each *c* 5m in length, with the western component set *c* 2.50m to the north of the eastern. However, no evidence of two cuts was visible in section or during excavation. No artefacts were recovered from this feature. A little charcoal was noted in flotation samples.

F1744 was a linear cut, surviving to a maximum length of 1.80m, but cut in two places by later ditches. It was probably between 2.50m and 3m long. Had it been longer, it would have appeared in the southern edge of one of the later ditches cutting through it. The ditch was 1m wide and up to 0.43m deep, with steep sides and a slightly concave bottom. The fill was of orange-brown sand with frequent pebble inclusions. No artefacts were recovered. A small amount of fragmented bone was noted in flotation samples.

Both these lengths of ditch were recorded only at the surface of the clean calcareous gravel. The overlying soil horizon, which sealed the features, and the upper natural of gravel in sandy clay were both removed by

machine. Both features would therefore have been considerably deeper than excavated, with F1737 perhaps reaching *c* 0.50m and F1744 *c* 1 m.

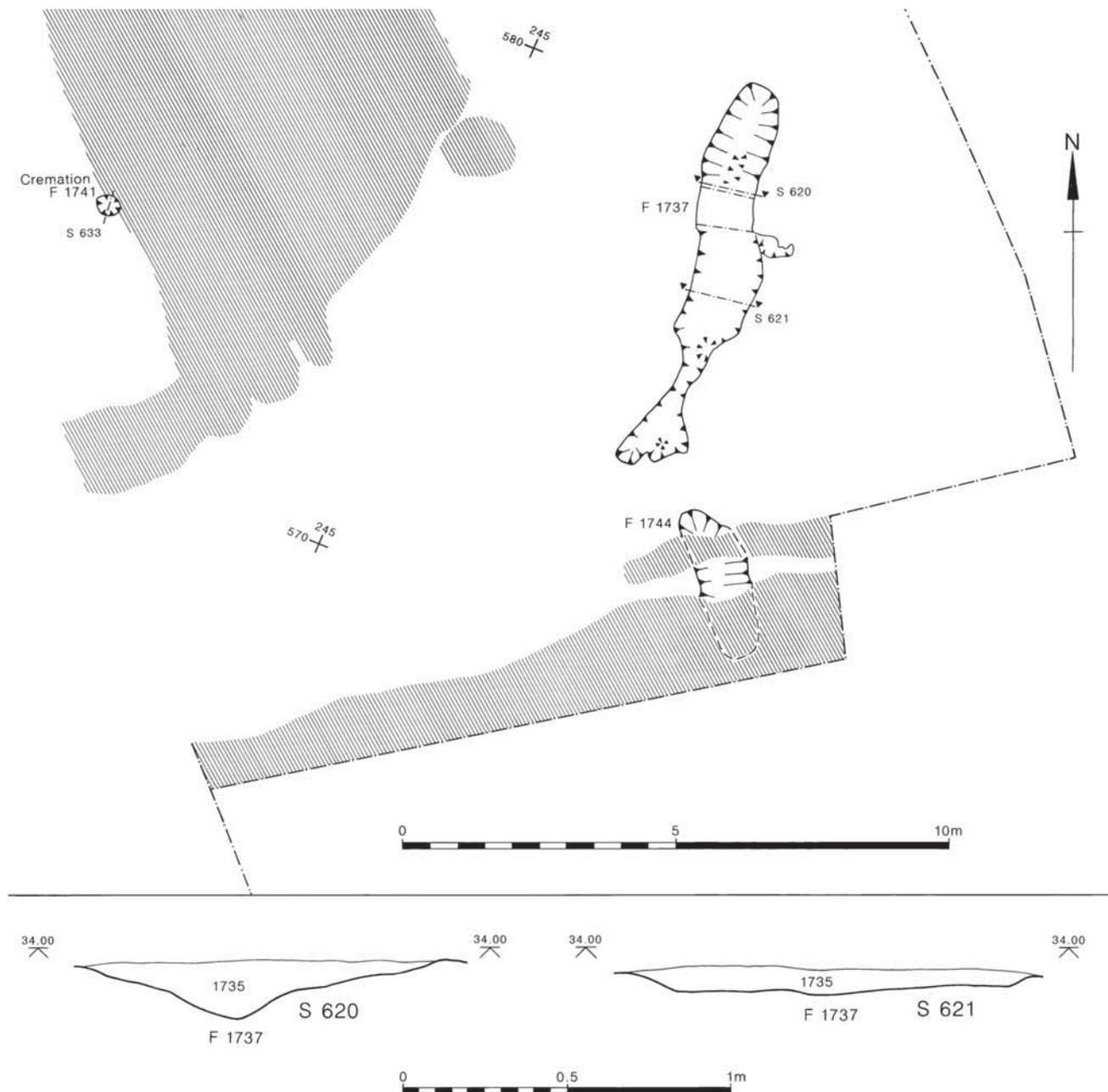
These features may have been just two isolated and shallow lengths of ditch. However, it is possible to suggest that they could represent the western side of a small enclosure comprising a series of discontinuous ditches. There is insufficient evidence to confirm this, or to provide any clear indication of the size and form of such an enclosure. The curvature evident on the located features may indicate

that it was circular or oval in plan, with a minimum north-south extent of 11m or a possible full north-south extent of *c* 15 m. No features were located within the area that may represent part of the interior of the postulated enclosure. A cremation deposit (1741) lay *c* 11m to the west (Figs SS1.186–7).

Cremation burials

The two cremation burials described below were the only ones not directly associated with monuments. Both were sealed by the pre-late Saxon soil horizon.

Figure SS1.187
Minor features.
F1737, F1741 and F1744
at West Cotton.



Cremation burial F1741 lay *c* 8m south-east of the east end of the Long Mound (Figs SS1.186–7). A shallow circular pit, *c* 0.50m diameter by 0.14m deep, was filled with grey-brown sandy clay containing a compact mass of calcined bone. The upper part of the deposit had been lost. The surviving bone (150 g) is that of an older adolescent or adult (Mays SS4.7.3). No other finds were recovered from the pit and only a single small piece of charcoal was present. This cremation deposit, therefore, appears to have comprised bone specifically separated from soil and charcoal.

Cremation burial F4948. This feature lay *c* 6m to the north of the Double Ring Ditch and *c* 21m to the west of Barrow 6 (Fig SS1.186). The fill of a shallow subcircular pit, up to 0.40m across by 0.22m deep, contained a scatter of calcined bone and charcoal flecks with other charred plant remains (Table SS1.22). The surviving bone (123 g) is from an adult (Mays SS4.7.3). The scattering of the cremated bone and charcoal through the fill would suggest that debris from the cremation was collected whole, without any attempt to separate the bone from the soil and charcoal.

Pits

Several isolated pits and shallow hollows were located following the removal of the pre-late Saxon soil horizon. Some of these may belong to the late Saxon and medieval periods, on the basis of their fills and/or the presence of diagnostic finds. Others, particularly the shallow amorphous hollows, appeared to be natural disturbances rather than man-made features. This leaves a small number of features which may be of prehistoric date.

Pair of postpits

These two features lay only 0.75m apart and were of similar form and filling. They lay at SP 97549 72575, 30m north-west of the centre of the Double Ring Ditch, within an area otherwise devoid of prehistoric features (Figs SS1.186, SS1.188).

F4932 was a circular cut, 0.70m in diameter and 0.50m deep, with steep sides and a narrow (0.10m) rounded base. The fill was of dark grey sandy silt mottled with light grey sandy silt and orange sand, and containing some pebbles. The profile is indicative of a postpit.

F4933 was an almost circular cut, 1.10m in diameter. It was typically 0.50m deep, with a circular deepening at the northern end, 0.30m in diameter and 0.15m deep. The sides were

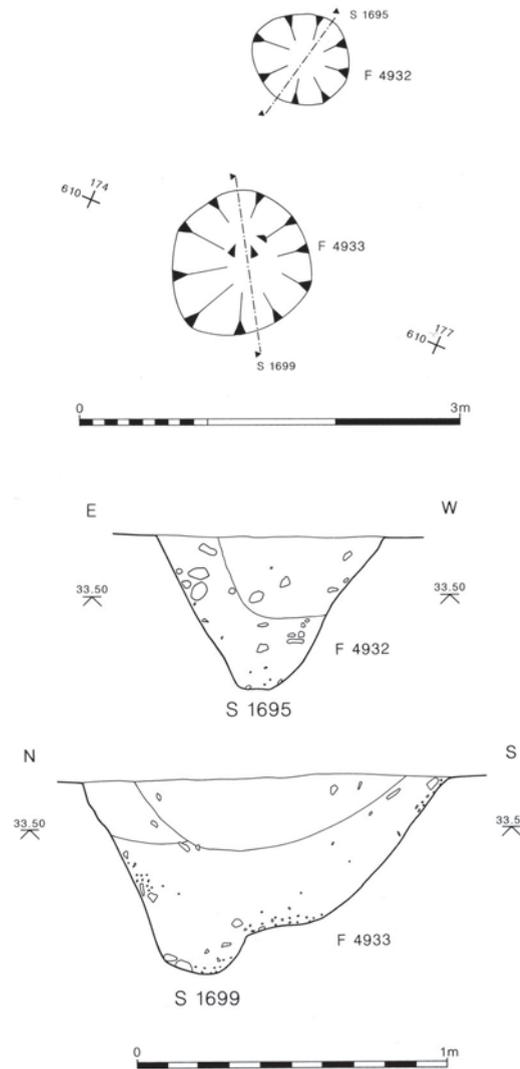


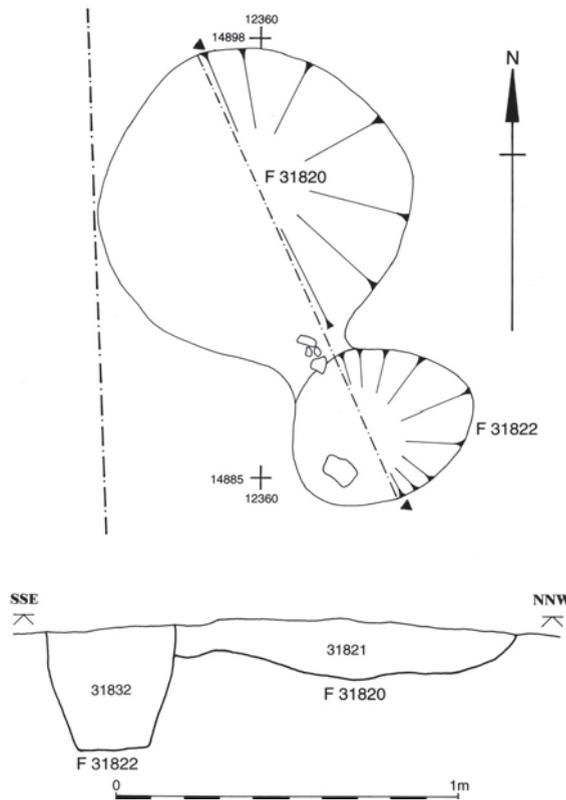
Figure SS1.188
Minor features.
Postpits F4932 and
F4933 at West Cotton.

steep to near-vertical at the northern end and moderately steep at the southern. The fill was dark grey sandy silt, becoming lighter towards the bottom and containing some pebbles and a flint core fragment. This feature may well have been a postpit, with the post set in the deeper hollow at the northern end of the cut.

These two features were of similar form and filling, and they may be regarded as a pair of postpits which probably held posts of 0.10m to 0.20m diameter. If they were in use at the same time they would have held posts set 1.50m apart, centre to centre.

Pit F1740. This feature lay *c* 12 east of the Long Mound and *c* 8m south of Barrow 6 (Fig SS1.186). Medieval activity had removed the soil horizon which usually sealed the natural, so this feature may have belonged to any period up to medieval. However, it lay in an area devoid of late Saxon and medieval features and contained no finds or inclusions (such as fragments of

Figure SS1.189
Minor features.
Pit F31820, Stanwick.



limestone) indicative of a later date. It was an oval pit up to 0.80m in diameter and 0.15m deep. The fill was a mid orange-brown sandy clay with very frequent mottles of reddened (burnt) sand and a moderate scatter of charcoal flecks and pieces. Its fill, therefore, was similar to those of the gully on the Long Mound, and it may be noted that it lay in line with the northern arm of this gully.

?Pit. F1732. This feature lay *c* 5m south-east of the Long Mound and 4m west of cremation burial F1741 (Fig SS1.186). It consisted of a shallow circular pit or hollow, 0.65m across by 0.15m deep. It was filled with orange-brown sandy clay and contained one flint flake. This feature may have been a natural hollow rather than a cut feature.

2 The terrace south of West Cotton

Aidan Allan, Jon Humble, Stéphane Rault

2.2 Location and excavation

Area excavation of the Iron Age and Roman complex exposed a large number of pits and other discrete features. Not all were excavated, and many of those that were excavated were without finds. One was demonstrably Neolithic. Two pre-dated the later second millennium field system (SS1.23).

2.3 The excavated evidence

Grooved Ware Pit

F31820 was situated at 123602/148938 on the Irthlingborough/Stanwick grid, *c* 30m north of the Causewayed Ring Ditch. The cut was circular, 0.90m in diameter and 0.18m deep (Fig SS1.189). It contained fill 31821, a 7.5YR 3/2 dark brown sandy clay loam, 20% of which was made up of charcoal flecks; occasional burnt limestone fragments were also included. The fill contained a number of small sherds from a shell-tempered Grooved Ware vessel (Tomalin SS3.4.8: P60, P61), a little fired clay and a small assemblage of struck flint of late Neolithic character (Table SS1.22; Ballin SS3.7.6). The charcoal was of oak, hazel and Pomoideae. The charred plant remains were dominated by wild species: crab apple, apple or pear, elder, and hazelnut shell, with only two cereal grains. Charred hazelnut shells were dated to 2920–2580 cal BC (4210±70 BP; OxA-3056). A possibly Neolithic sherd came from F31822, an Iron Age posthole which cut the pit.

Features pre-dating the field system

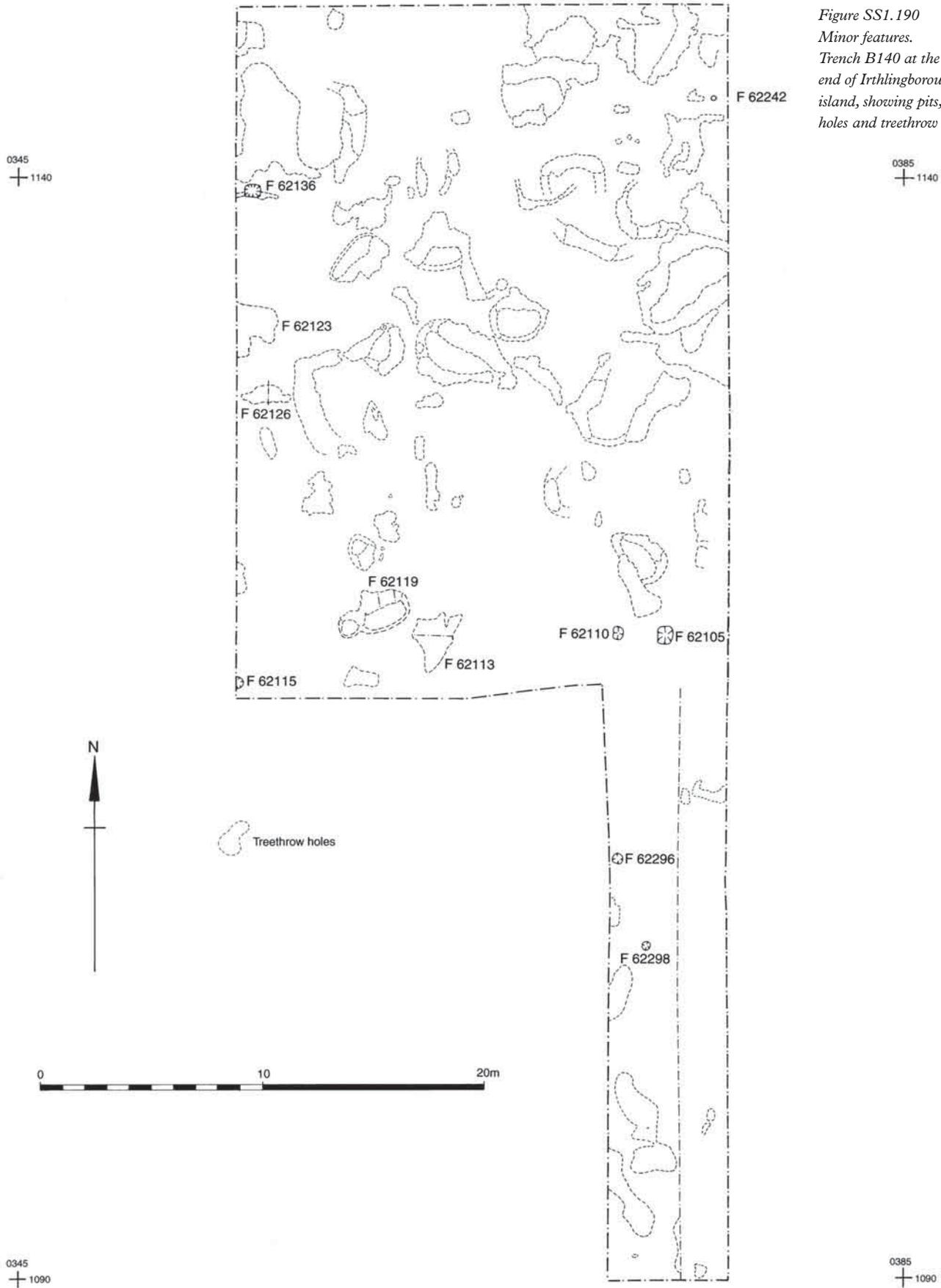
F31282 lay in the north of the Iron Age and Roman complex at 102440/143553 on the Irthlingborough/Stanwick grid, cut by F31284, part of ditch 2 of the later second millennium field system. F31282 was an ovoid pit with steep, slightly concave sides and a flat bottom. It was filled with a friable dark brown (10YR 4/3) sandy clay loam (31283) in which there were animal bones and teeth.

F46384 was farther south, at 111435/118465 on the Irthlingborough/Stanwick grid, and was cut by F46388 of field system ditch 19. F46384 was an irregular gully 0.60m wide and 0.12m deep running for approximately 3.50m south-westwards from its intersection with the field ditch to end in a rounded butt. It was filled with a very dark greyish-brown (10YR 3/2) friable silty clay loam (46385).

Undated crouched burial

F87400 was found during trial trenching in 1991, at 91800/77700 on the Irthlingborough/Stanwick grid, some 100m north-west of the Southern Enclosure. It was a shallow, irregular grave, containing an unaccompanied crouched burial, perhaps of an adolescent. This is so far unanalysed and undated and will be described fully in the report on the Iron Age and Roman occupation of the area (Crosby in prep).

Figure SS1.190
 Minor features.
 Trench B140 at the north
 end of Irthlingborough
 island, showing pits,
 post-holes and
 treethrow holes.



3 Irthlingborough island

Aidan Allan, Frances Healy, Jon Humble, Stéphane Rault

3.1 Location and excavation

Trench B140, at the north end of Irthlingborough island, centred at 11350/03650 on the Irthlingborough/Stanwick grid, was extended in order to investigate a group of burnt-out treethrow holes (Macphail SS4.8.2), which dated at least from the sixth to the fourth millennia cal BC, with another in a trench to the south dating perhaps to the Bronze Age (SS6.6). A small amount of Roman pottery is also recorded from the area. Among the treethrow holes were a handful of undated pits and postholes cut into the clay-loam soil (Fig SS1.190). The pits were characterized by heavy burning and may perhaps relate to the burning-out of the trees.

3.2 The excavated evidence

Pits

F62105 was an oval pit with a bowl-shaped profile, 0.90m long and 0.70m wide. It was at first thought to be a cremation deposit because so much burnt material was present. There was, however, no bone. It was lined with mottled dark reddish brown gritty burnt clay (62160), perhaps the clayey subsoil burnt *in situ*, perhaps a deliberate lining. Above this at one end was a patch of charcoal and burnt clay in a scant matrix of sandy clay loam (62142). The overlying fill consisted mainly of charcoal in plastic dark grey silty clay (62141). There were two substantial pieces of carbonized wood, two fragments of burnt sandstone, burnt flint, some burnt clay fragments and stones. The topmost layer was of dark greyish brown silty clay loam with charcoal, burnt clay fragments and a fragment of burnt sandstone (62106). There was a single flint flake and 'a small amount of pot'.

F62110 was next to F62105. It was an oval pit 0.57m x 0.44m and 0.09m deep, with gently shelving sides and a slightly rounded base, a little deeper to the west than to the east. The lower fill was a dark yellowish brown sandy loam with abundant charcoal flecks and a little gravel (62139). It was overlain by a dark grey silty clay with fragments of charcoal and burnt clay (62111).

F62136 was an ovoid cut 0.68m x 0.50m. It was lined with fragments of reddish brown burnt clay in a silty clay matrix (62157), which may have burnt *in situ* or may have been a deliberate lining. Above this was a

layer consisting almost entirely of charcoal, in a dark grey silty clay matrix (62150), with a piece of recognizable charred wood and some burnt clay fragments. The topmost fill was a dark grey-brown silty clay with much charcoal in fairly large fragments and some fragments of burnt clay and sandstone, as well as a flint core fragment (62137). It was cut by a probable roothole or possible gully (62161).

F62168 was of similar size and shape to F62105. The edges were lined with severely burnt clay and the main fill (62169) consisted mainly of fragmented burnt clay with some charcoal in a reddish brown silty clay matrix. 'A good-sized piece of pot' was recovered from the surface of the fill.

F62296 was a subcircular cut with gently sloping sides and a rounded base. The sides and base were severely burnt and the fill was a brown silty clay (62297).

Postholes

There were three possible postholes, F62115, F62242 and F62298. The lower fill of F62115 was grey in colour and included a little burnt clay. The others were without signs of burning.

4 Redlands Farm

Angela Boyle

4.1 Location and excavation

During the area excavation of the villa complex, directed by Graham Keevill and supervised by Gareth Williams, a group of features in Area G (SP 9220 7100) was identified as prehistoric. The group includes two pits, described here, as well as ditches, a circular gully and a possible round post-built structure, all of which are described with the Field System.

4.2 The excavated evidence

F428 was a subvoid feature located within a rectangular Romano-British barn (Fig SS1.191) and was truncated by the floor layer 426 which was part of that structure. At least half of the pit appeared to have been destroyed by the Romano-British building. It had steep sides and a rounded bottom, measured 1.90m long, 0.75m wide and 0.20m deep, and was filled by a grey-brown silty sand which was characteristically darker than the layer above. It contained a complete but crushed grog- and sand-tempered Wessex/Middle Rhine Beaker (Barclay with Kinnes SS3.8.3: P20). A single flint flake was also

Figure SS1.191 (opposite)
Minor features.
Redlands Farm. Pit F428.

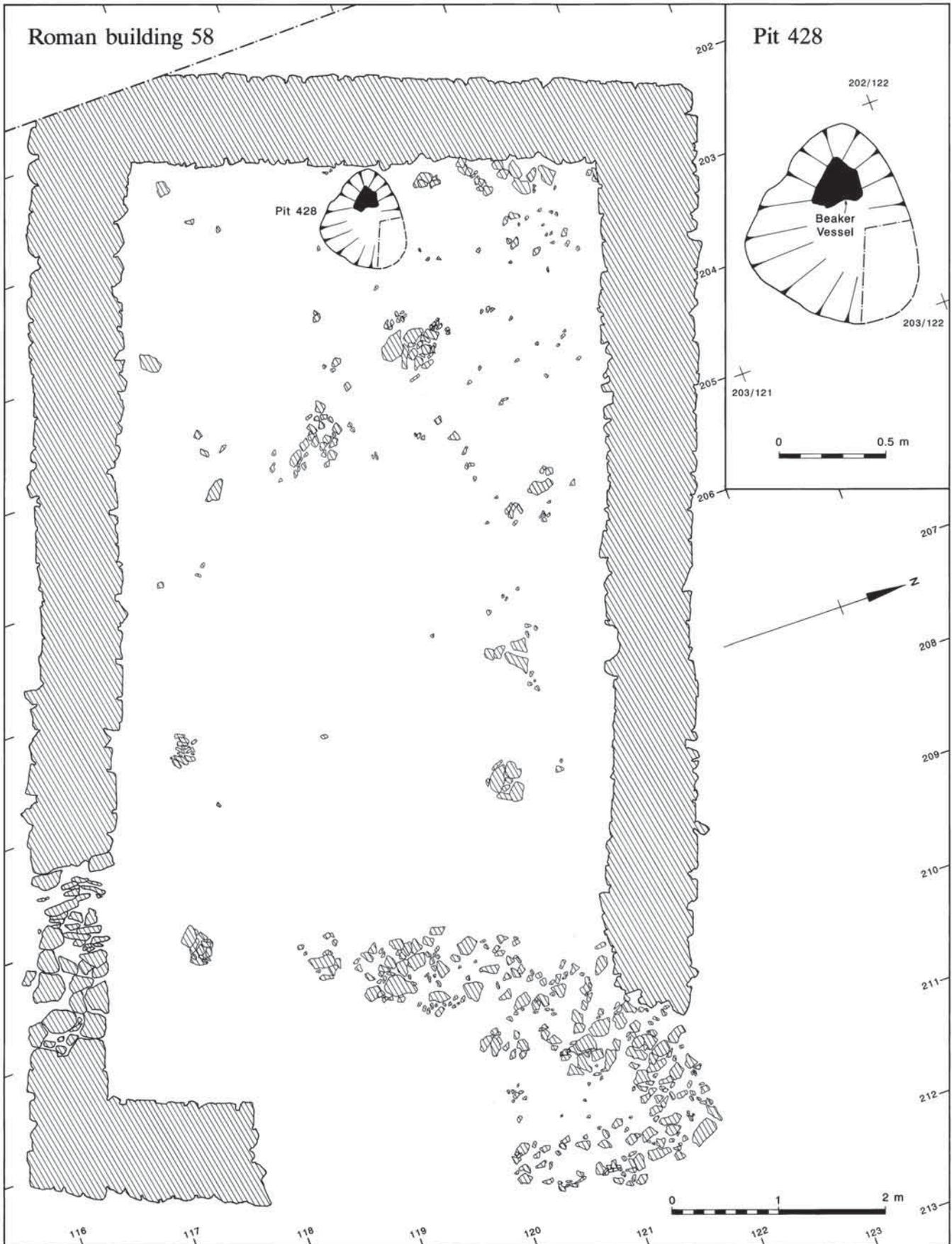


Table SS1.22. Minor Features. Summary of finds

* = recorded, but unidentified or missing

Lithics are of flint unless otherwise stated

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

<i>Phase</i>	<i>Context</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Pottery</i>	<i>Lithics</i>	<i>Other finds</i>	<i>Charred material</i>	<i>¹⁴C BP</i>	<i>Cal BC</i>
West Cotton	F1732				Flake				
	F1737						Charcoal		
	F1740						Charcoal		
	F1741	Older adolescent or adult cremation					1 charcoal fragment		
	F1744								
	F4933					Core fragment			
	F4948	Adult cremation						Fat hen, blinks, plantain, onion couch grass.	
								Charcoal	
Terrace	F31820			9 small sherds from Grooved ware vessel, P60, P61 (E) 1 sherd/0.5g ?Neolithic Bowl (E) in posthole F31822, which cut F31820	Core rejuvenation flake, 18 flakes, 4 blades, serrated blade, knife, borer, burnt limestone	Some fired clay	Charred remains of sloe and related species, crab apple, apple or pear, elder, hazelnut, 1 grain wheat, 1 grain indeterminate cereal. Charcoal of oak, hazel, Pomoideae	4210±70 (OxA-3056)	2920–2580 cal BC
	F31282								
	F87400	Undated skeleton, possibly of adolescent							
Island	F62105				Flake (burnt) Burnt sandstone fragments, burnt flint	Burnt clay	Substantial pieces of charred wood, charcoal		
	F62110				Burnt stone	Burnt clay	Charcoal		
	F62115				Burnt stone, burnt flint		Charcoal		
	F62136				Core fragment Burnt stone, burnt flint	Burnt clay	Charcoal		
	F62168								
	F62296								
Redlands Farm	F428			Complete Wessex/Middle Rhine Beaker, P20 (GA2)	Flake, burnt flint		Much burnt material		
	F680			Much, at least some burnt			Much burnt material		

recovered from the fill. Despite the apparent presence of much burnt material, no carbonized material was recovered from soil samples taken from the matrix and from within the Beaker, although numerous unstruck burnt flint pieces were present.

F680 was a subcircular pit approximately 0.47m in diameter and 0.07m in depth. It was filled with burnt matter including bone. The fill was sampled in its entirety on the assumption that it was a cremation deposit. Flotation of the sample produced much burnt animal bone, but no human skeletal material was present. This feature was sealed by layer 508, which contained a small quantity of Roman pottery. The dating of pit 680 is uncertain but it may be a prehistoric feature.

5 Discussion

Even though there was considerable disturbance of the areas between the major monuments at West Cotton it seems unlikely that there were ever a dense scatter of prehistoric features, and certainly not a scatter of features of considerable depth. It seems equally unlikely that Neolithic and Bronze Age features were abundant in the Stanwick area. It is noteworthy that undated pits, stray finds of Neolithic or Bronze Age pottery, and struck flint of all periods in Stanwick seem to concentrate close to the Causewayed Ring Ditch and Barrow 5, where the pit described here also lay, suggesting that this may have been a focus of activity. In Irthlingborough, the near-restriction of area excavation to monuments reduced the potential for identifying isolated features. These nonetheless seem to have been scarce. There were none in most of the evaluation trenches cut on the island, although the recurrence of treeholes in the trenches (Figs SS1.2–5) strongly suggests that, had discrete features been scattered across the island, some of them would have been found. Other traces of human activity, such as burning in treeholes or concentrations of struck flint, were also rare and localised. It seems likely that features were indeed rare.

At West Cotton, two closely-spaced post-pits (Fig SS1.188) may have formed in effect a minor monument. Similarly the two lengths of ditch towards the eastern side of the site (Fig SS1.187) may also represent part of a small monument defined by a discontinuous ditch circuit. The one truly convincing pit at West Cotton, F1740, lay east of the Long Mound and had a fill similar in character to those of the gully cut into the mound to

which it may have been related. Any further similar pits lying between this example and the east end of the Long Mound would probably have been destroyed by the network of late Saxon ditches across this area. Only the two cremation burials may be regarded as having been certainly deposited between the monuments, although even these lay only 6m and 8m from monuments and were not therefore truly set apart. It may therefore be more appropriate to view the West Cotton complex as having contained a range of monuments of varying sizes and, presumably, functions rather than as a set of major monuments with some limited minor features.

Single pits containing Grooved Ware and Beaker, at Stanwick and Redlands Farm, do appear to have been isolated and are in the tradition of contemporary pit deposits elsewhere. Burnt material, of varying kinds and quantities, recurs in these pits, in F1740 at West Cotton, and in undated pits at Redlands Farm and in trench B140 on Irthlingborough island, as well as characterising the treethrow holes in B140 and some of the fourth millennium monuments. *in situ* burning in four of the five pits in B140 suggests a common function. The quantity and density of charcoal in F62105 and F62136 could even suggest that they were small clamps for charcoal-burning. B140 lay away from identified monuments, in a particularly low-lying part of the island, at about 33m OD, close to the confluence of the Nene with a major subsidiary channel, and may have been differently used.

SS1.23 Field systems and related structures

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Vicky Crosby, Frances Healy, Jon Humble,
Liz Muldowney and Stéphane Rault*

Abstract

Evidence for two field systems and associated post-built structures of middle to late Bronze Age date was recovered on the terrace in the area of the Stanwick complex and at Redlands Farm. A number of narrow linear features separated the area into rectangular divisions, with entrance-ways typically sited at the corner junctions. Despite extensive excavation and sieving of the deposits, very few artefacts or food remains were recovered. Such dating evidence as there is points to the mid to late second millennium cal BC.

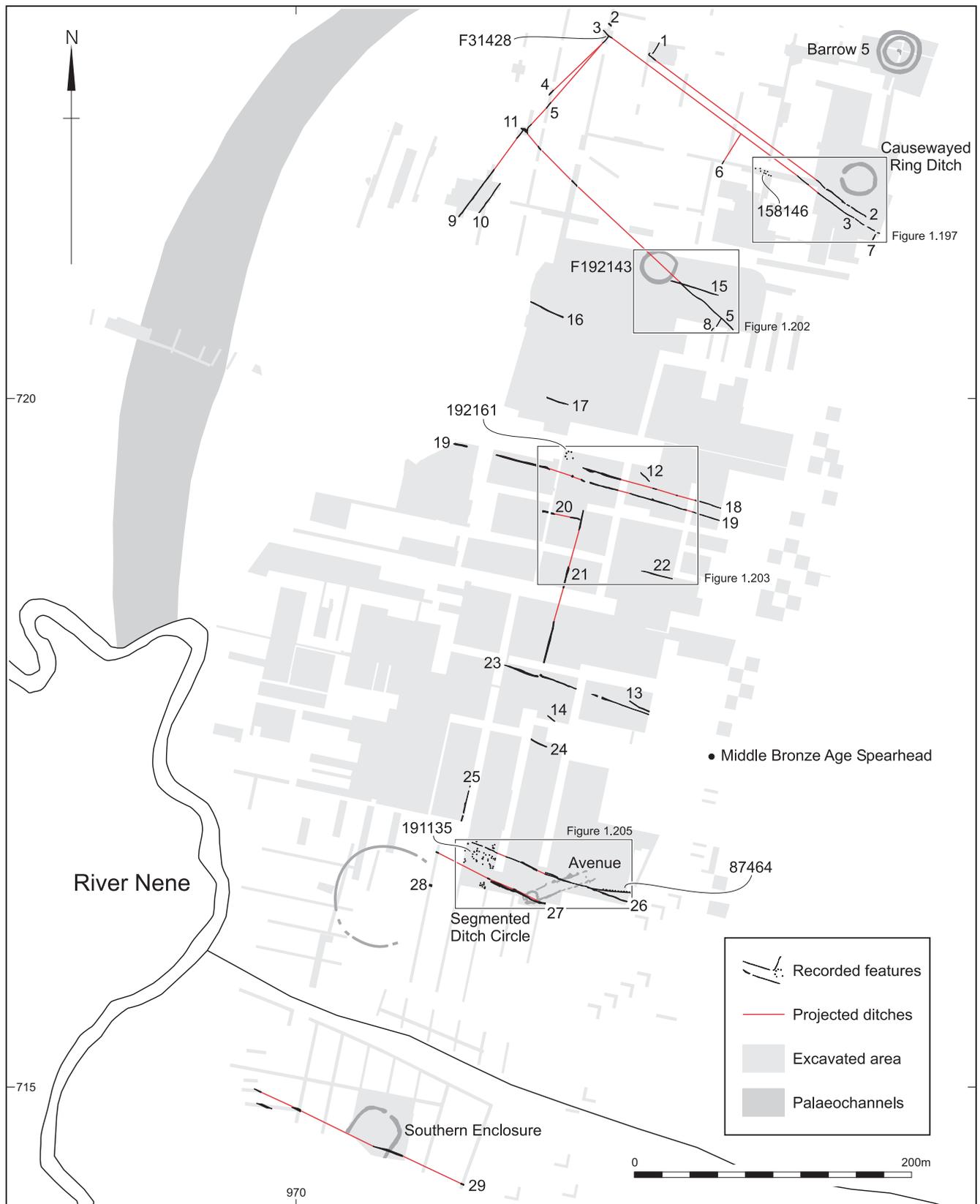


Figure SS1.192 Field systems and related structures. Overall plan

1 Location and excavation

Irthlingborough and Stanwick

In the course of excavations on the terrace it gradually became apparent that fragments of Bronze Age field ditches survived throughout the Roman and Iron Age complex. Many questions about them remained unanswered, and further fieldwork was undertaken in 1991–2 by Mobile Field Team of the Central Archaeology Service of English Heritage, led by Frances Blore, with the aims of dating the field system and learning more about its development, function and extent (Blore 1991; 1992).

The approach taken in 1991 was to target unexcavated parts of ditches identified in previous seasons. Where available, undisturbed 5m-long sections were excavated. Each excavated section was given a context number, but a generic ditch number was used for unexcavated parts of each ditch. 100-litre soil samples were taken from the basal fill of each section. 80 litres of each sample were high-pressure hosed onto an 8mm mesh on site, with the resulting wet residue sorted in Fort Cumberland. The remaining 20 litres were retained whole for processing at Fort Cumberland. Other ditches were located by trial-trenching to the south of the already excavated area, where Iron Age and Roman features were less dense and preservation of the earlier archaeology was likely to be better. 20-litre samples were taken from machine-cut ditch sections and processed at Fort Cumberland. The Southern



Enclosure (SS1.7) was sectioned in the course of this exercise. Where plant machinery was available, it was used to strip areas down to natural in order to reveal the further extent of ditches. The aims of the 1992 season included further investigation of the field ditches, especially of an area bounded by the ditches now called 25 and 26 (Fig SS1.192), where an apparently Bronze Age hut circle had been found in 1991. These were to some extent achieved, although resources were diverted to the excavation of the Avenue (SS1.2) and Segmented Ditch Circle (SS1.11), both of which were revealed by topsoil stripping.

Figure SS1.193

Field systems and related structures.

Trench B99. The angle of ditch 5 (F31356, top right), cut by ditch 11 (F31354, centre), which runs north-west past the north-east butt of ditch 9 (F31352, foreground), looking north-east. Scale in 100mm divisions.

(Photo English Heritage)



Figure SS1.194

Field systems and related structures.

Trench B90. Ditch 3 (F31428), its north-west butt just outside the picture, cutting the north-east butt of F31426 (?ditch 4 or ditch 5), looking north-east. Scale in 100mm divisions.

(Photo English Heritage)



Figure SS1.195
Field systems and related structures.
Trench B91. Ditch 9 (F31094), looking north-east. Scale in 100mm divisions.
(Photo English Heritage)

Figure SS1.196
Field systems and related structures.
Trench B91. Ditch 10 (F30185), looking north-east. Scale in 100mm divisions.
(Photo English Heritage)



Redlands Farm

More than a kilometre to the south-west, similar features were located during the Oxford Archaeological Unit's 1990 excavation of the Redlands Farm Roman villa, where they were confined to area G (SP 9220 7100). It is impossible to tell whether they were ever continuous with those exposed on the terrace because of the amount of intervening unexcavated ground, some of which had already been quarried. The excavations were directed by Graham Keevill and supervised by Gareth Williams in advance of proposed gravel extraction by ARC (Keevill 1992b). The single context system of recording was employed, each cut, layer and fill being assigned an individual number from a continuous sequence.

Limitations

The layout and history of the boundaries and related features were further defined in

the course of post-excitation analysis. The intensity of later activity, however, means that what has been identified is fragmentary and beset with uncertainties. The level of recovery was also affected by varying intensities of excavation, from area excavation with few intervening baulks at the core of the Iron Age and Roman complex to trenching at the peripheries, especially to the north and south. The main common features of ditches attributed to this phase are their position at the base of local stratigraphic sequences, their alignment, their size, their sinuous plans, the character of their fills, and their dearth of finds.

Presentation

On the terrace, each apparent ditch has been given a number, between 1 and 29. These numbers are shown on Figure SS1.192, and are correlated in Table SS1.23 with the original context numbers for the fragments of which they are composed. Table SS1.23 also summarises fills and finds.

2 The excavated evidence

The ditches were generally sinuous in plan and steep-sided in section, with narrow, flat bases.

On the terrace there were two distinct, overlapping blocks of fields on separate alignments (Harding and Healy 2007, Fig SS1.192). Their sequence, however, remains unknown, since the one identified intersection (between ditch 5 of the north block and ditch 15 of the south block) was not excavated.

2.1 The north block (ditches 1–13)

The northern limits of this block are difficult to define because they lay in an area between and to the west of Barrow 5 and the Turf Mound, where trial trenching was minimal (Harding and Healy 2007, Fig 1.5: trenches B50–B53). Elements of the block can probably be identified in these four 2.50 m-wide trenches, but not in further trenches dug to the north of them. These elements are included, with appropriate provisos, in the written description which follows and in Table SS1.23, but are not shown in Figure SS1.192.

Phase 0N. Natural deposits and features

The natural sands and gravels varied over this extensive area. In the east they approximated to those at the site of the Causewayed Ring Ditch (SS1.6). Ditch 5 cut through a treehole (F31115), and ditch 3 another (F38666).

Phase 1N. Pre-construction activity

The entire development of the fourth to

second millennium monuments at Raunds preceded the establishment of the fields. A significant link between the two is the alignment of ditches 5 and 6 on the centre of ring ditch F192143, which was almost certainly an early Bronze Age barrow (Harding and Healy 2007, 147). Otherwise, ditch 1

cut a pit containing animal bone (F31282) and ditch 8 cut a posthole (F47646).

Phase 2N. The ditches

The ditches were between 0.23m and 1.30m wide and between 0.07m and 0.45m deep. They were steep-sided, often V-profiled, but

Figure SS1.197

Field systems and related structures.

The east of ditches 1 and 3, with ditch 7 and posthole group 158146.

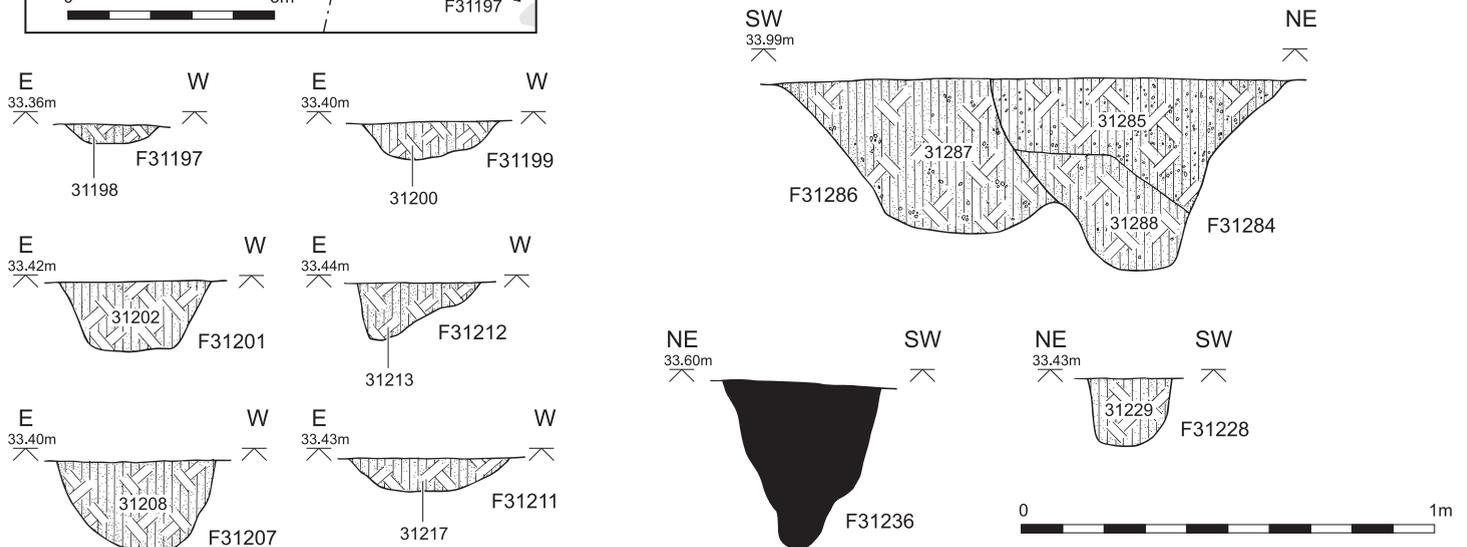
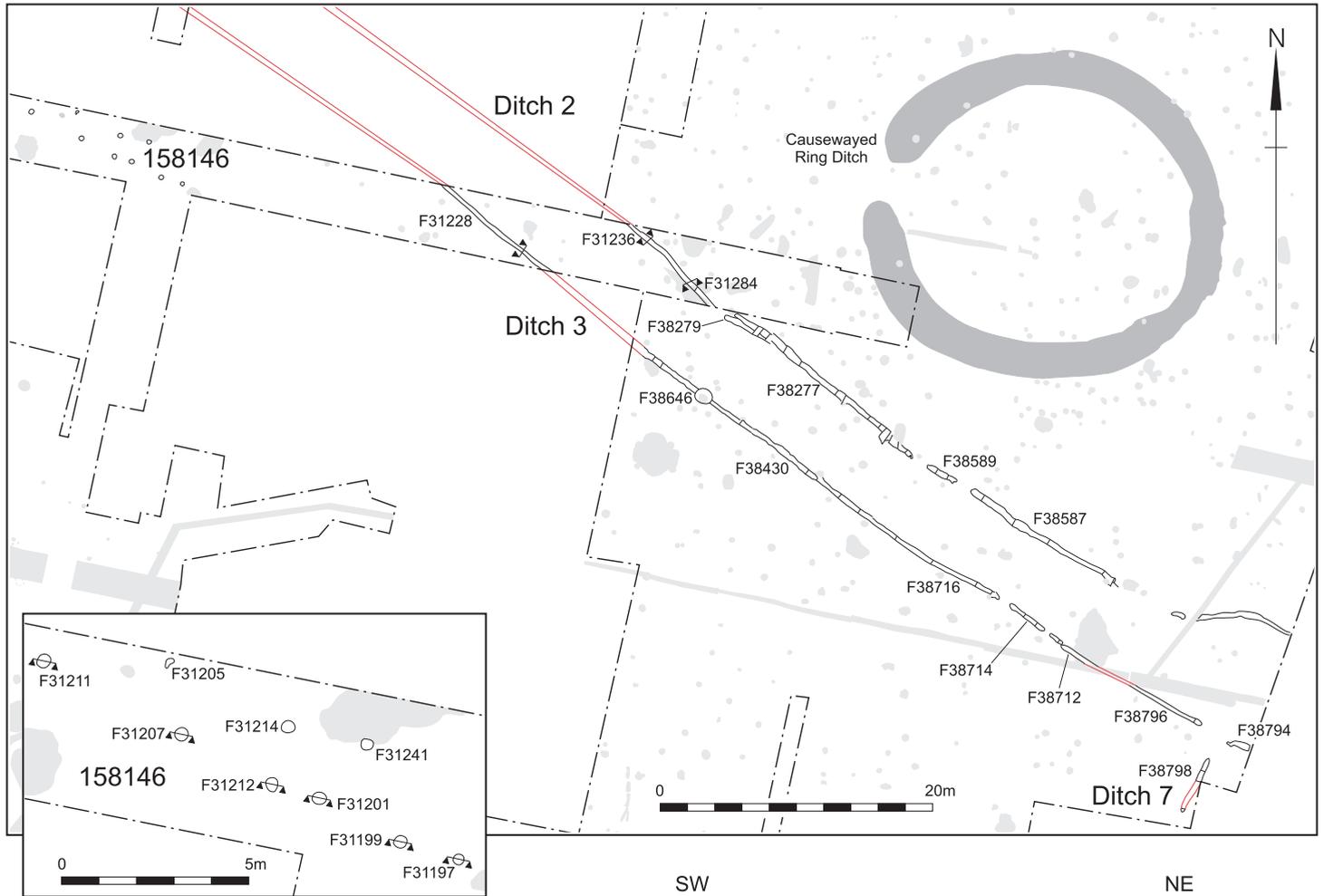




Figure SS1.198
Field systems and related structures.
Ditches 2 (left) and 3 (right) showing converging cuts in ditch 2 (F38277 and F38279), looking south-west. The Causewayed Ring Ditch is on the far left.
(Photo English Heritage)

with narrow, flat bases (Figs SS1.195–6, SS1.199).

The block was aligned north-east/south-west and north-west/south-east. In its northern part the axes were at right-angles and parallel to the main palaeochannel of the Nene. It extended for at least 450m from north-east to south-west and 260m from north-west to south-east. Only the known south-west limit is likely to approximate to the original one; the others reflect the extent of excavation. To the north-east, the alignment and form of ditches encountered in trenches B50–B53 suggest a total extent of 625m.

The known north-west and north-east limits were marked by pairs of ditches (2 and 3, 4 and 5, 9 and 10), and there may have been a further pair in B51, parallel to ditches 2 and 3 and 165m north-east of them, formed by F30519 and F30521, the first of these flanked by a row of stakeholes (30530) on its north-east edge.

The north-west/south-east divisions (ditches 3, 5, 11, 12 and 13) tended to fall at

Figure SS1.199
Field systems and related structures.
Ditch 2 (F38227), looking north-west. Scale in 100mm divisions.
(Photo English Heritage)



intervals of 110m to 130m, ditch 13, only about 40m from ditch 12, being the exception. Divisions at right-angles to these (ditches 1, 6, 7 and 8) formed a less regular pattern, although an interval of approximately 120m between ditches 6 and 7 suggests that they and parts of ditches 3 and 5 enclosed an area that was almost square.

Not all the ditches were open at once. The detectable sequences are described below.

Phase 2.1N

Ditch 5 ran from south-east to north-west for at least 200m, then turned through a rounded corner to run north-east for at least 30m and possibly as much as 90m up to ditch 2. At the corner it was recorded as cut by an irregular ditch, which was rather larger than the others (ditch 11), although the intersection does not seem to have been excavated. The south side of ditch 11 ran past the north butt of ditch 9 (Fig SS1.193).

Ditch 4 was traced for 25m, converging with ditch 5, the gap between them narrowing from 7m to 5m. Farther north, a short length of ditch (F31426), at right-angles to and cut by ditch 3, may have been continuous with either of them (Fig SS1.194).

Ditch 9 (Fig SS1.195) was 80m long, with an original butt at each end.

Ditch 10 (Fig SS1.196) ran parallel to ditch 9m and 10m away from it. It was traced for 25m.

F30576. In trench B53, this butt end of a south-east/north-west ditch was cut by north-west/south-east ditch F30574.

Phase 2.2N

Ditch 11 belongs here, as explained above.

Ditch 2 ran for at least 245m, parallel to ditch 3 and 6m away from it for most of its length, bowing away from it in the south-east (Figs SS1.192, SS1.198–9). At this end there were four original gaps between 0.40m and 2.40m wide, all offset from those in ditch 3 (Figs SS1.198, SS1.200). Two were marked by inturned butts, which in one case had both been recut. The ditch continued beyond the limit of excavation in the north-west, after another gap, marked by an outward turn at a point where the ditch had been recut. It was not recorded the other side of a later ditch which truncated it here, and is likely to have had a butt, offset from that of ditch 1, the south-west end of which was also removed by the later ditch.

Ditch 3 ran for at least 250m, from a rounded butt in the north-west to four

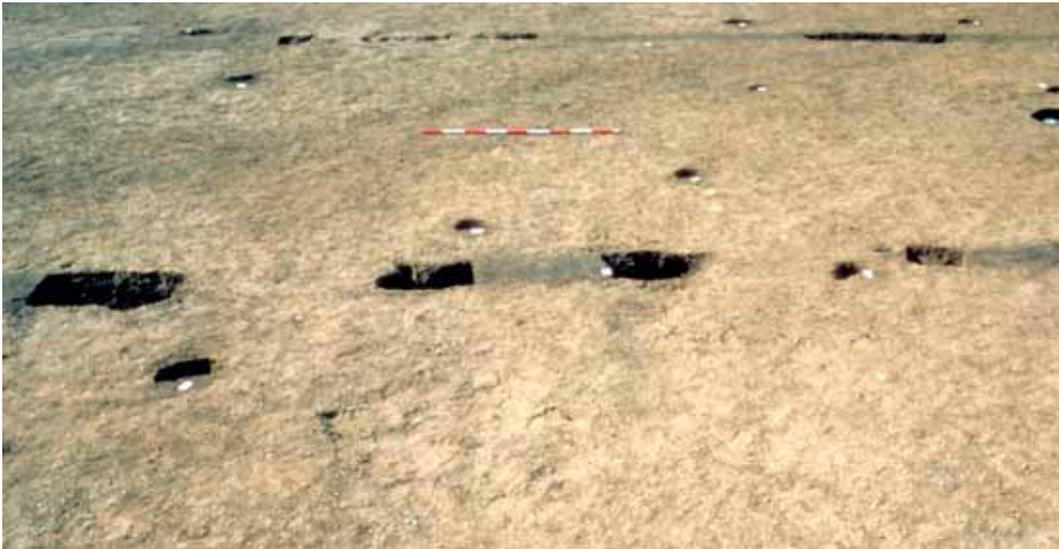


Figure SS1.200
Field systems and related structures.
Ditch 2, original gaps between F38587 (left) and F38589 (centre) and F38277 (right). The postholes are of later date. Scale in 100mm divisions. (Photo English Heritage)

original gaps between 0.4m and 2.4m wide in the south-east, the largest of them marked by a slight inturning of the ditch butts (Fig SS1.197). When fully silted, it was cut by an early Iron Age pit (F38646) which contained a complete pot and a charred wooden object and lay within a small post-built structure (Fig SS1.201).

Ditch 7 was at right-angles to ditch 3 and central to its widest gap. It was either only 3.80m long or continued the other side of a gap beyond the limit of excavation.

Ditch 8 also included a gap between two offset butts, one of them excavated, the other running beyond the limit of excavation.

Phase 3N. The ditch fills

Regardless of stratigraphic relationships the ditches and their recuts almost all had single fills, which were stone-free or virtually stone-free and were typically brown, dark brown or yellowish-brown sandy clay loams (Figs SS1.195–6, SS1.199). Fills seem to have been rather darker than usual around the corner in ditch 5 (F31356) where the fill was black (Fig SS1.193) and, to a less extent, in the sections to either side of it (F31113, F31147, F31355), where the fills were very dark greyish brown, in the adjoining butt of ditch 9 (F31352), where the fill was very dark brown, and in F31354, where the fill was dark greyish-brown. The total collection of artefacts amounts to five flint flakes, one scraper and one miscellaneous retouched piece. Charcoal flecks and fired clay or daub were recorded only in ditch 8. They were, however, in a section which cut through an earlier posthole, and may thus have been derived from it.

Posthole group 158146

10m south of ditch 3 were nine undated postholes forming a band *c* 2.50m wide. They are tentatively related to the field system by their approximate alignment to it. Their extent is unknown, since they ran diagonally across a 4.50m wide trench.

2.2 The south block (ditches 15–29)

Phase 0S. Natural deposits and features

The natural sands and gravels varied over this extensive area. In the south they approximated to those at the sites of the Avenue (SS1.2), the Segmented Ditch Circle (SS1.11) and the Southern Enclosure (SS1.7).

Phase 1S. Pre-construction activity

The entire development of the fourth to second millennium monuments at Raunds preceded the establishment of the fields. The Avenue, the Segmented Ditch Circle and the Southern Enclosure were all cut by elements

Figure SS1.201
Field systems and related structures.
Ditch 3 (F38430) cut by early Iron Age pit F38646 (containing a pot and a charred wooden object) within the postholes of a quadrangular structure. Scale in 100mm divisions. (Photo English Heritage)



of the south block. Its northernmost identified element (ditch 15) may originally have cut through the ditch of ring-ditch F192143, glancing the south side of the mound (Fig SS1.202). Any evidence of this would have been removed by a Romano-British recut of the ring ditch. Ditch 18 may have cut through a pre-existing posthole.

Phase 2S. The ditches

The ditches were between 0.10m and 1.90m wide, and between 0.05m and 0.90m deep. In general, they were slightly more substantial than those of the north block. They were steep-sided, flat-based and V- to U-profiled.

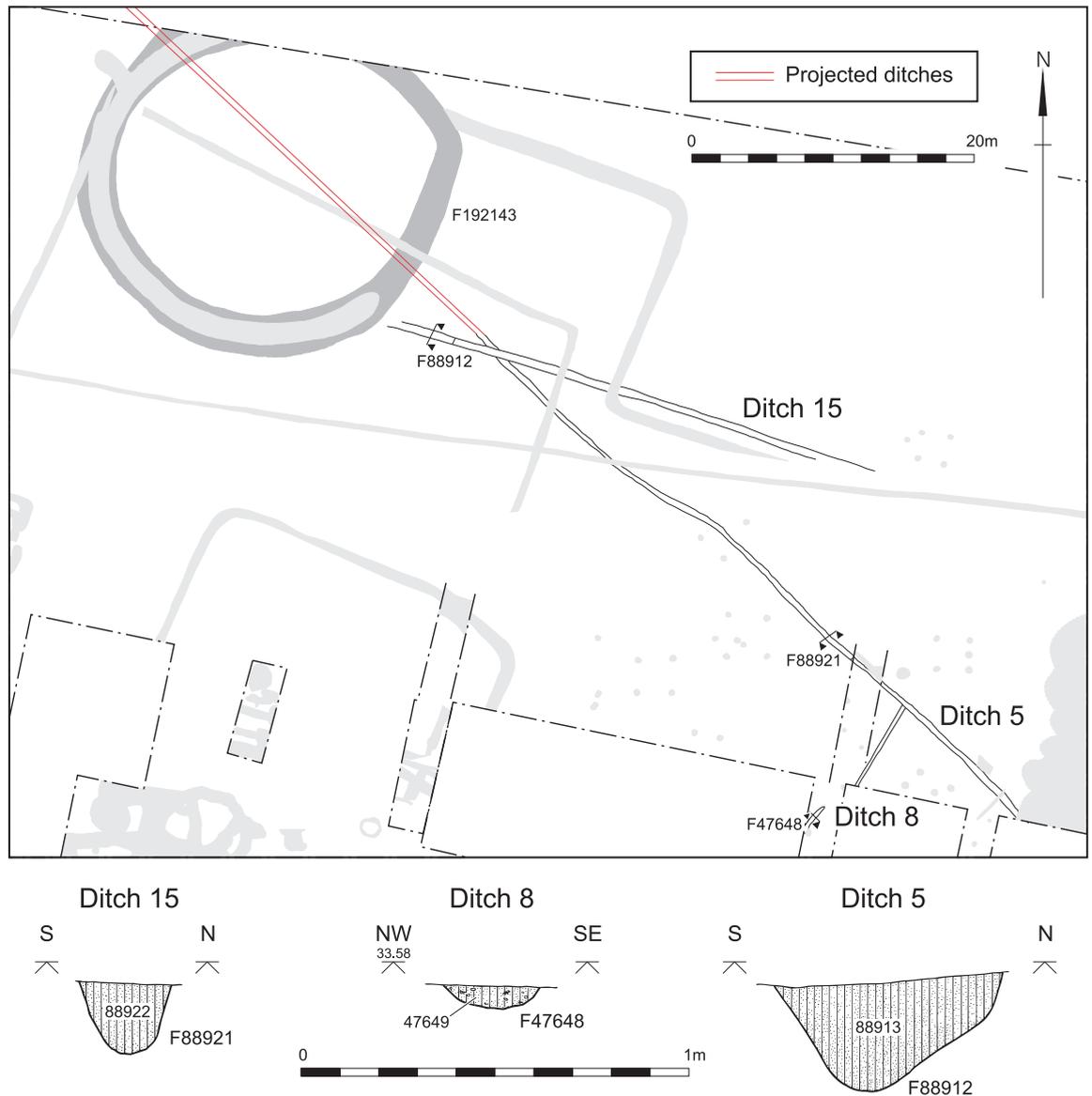
The block was almost aligned on the cardinal points. The axes were at right-angles and parallel to the adjacent part of the main palaeochannel of the Nene. It extended for

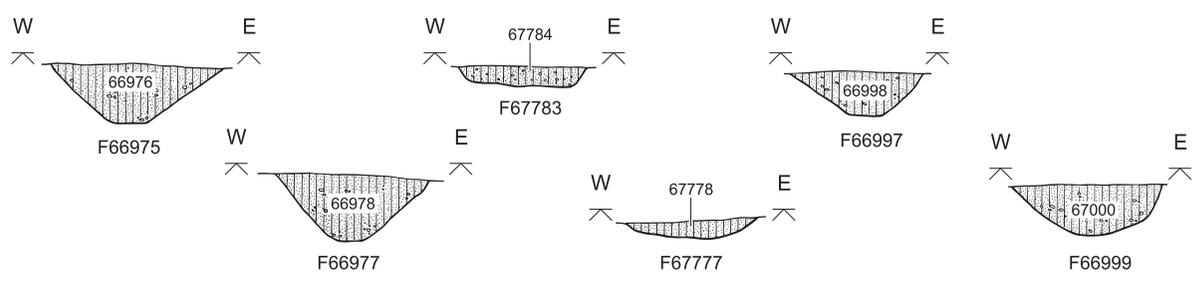
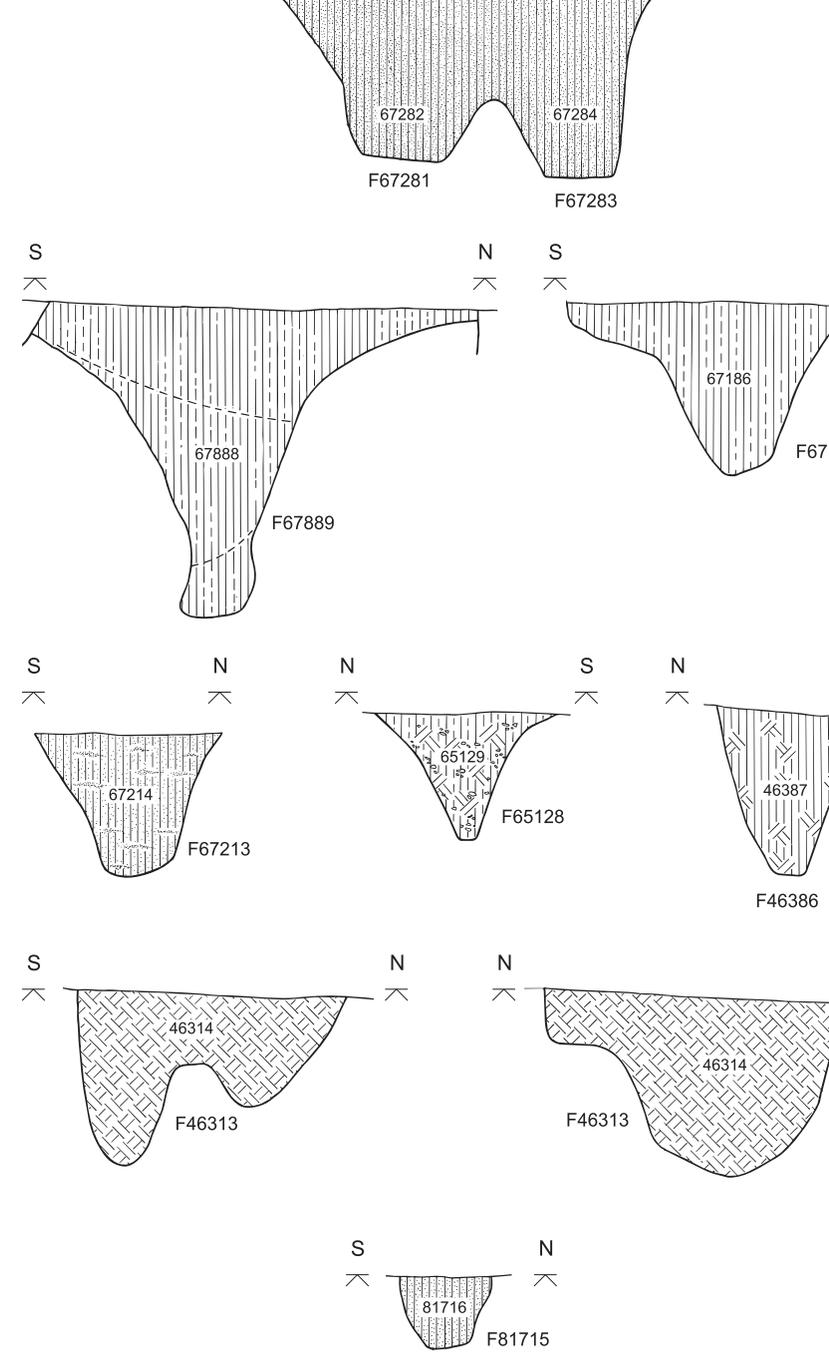
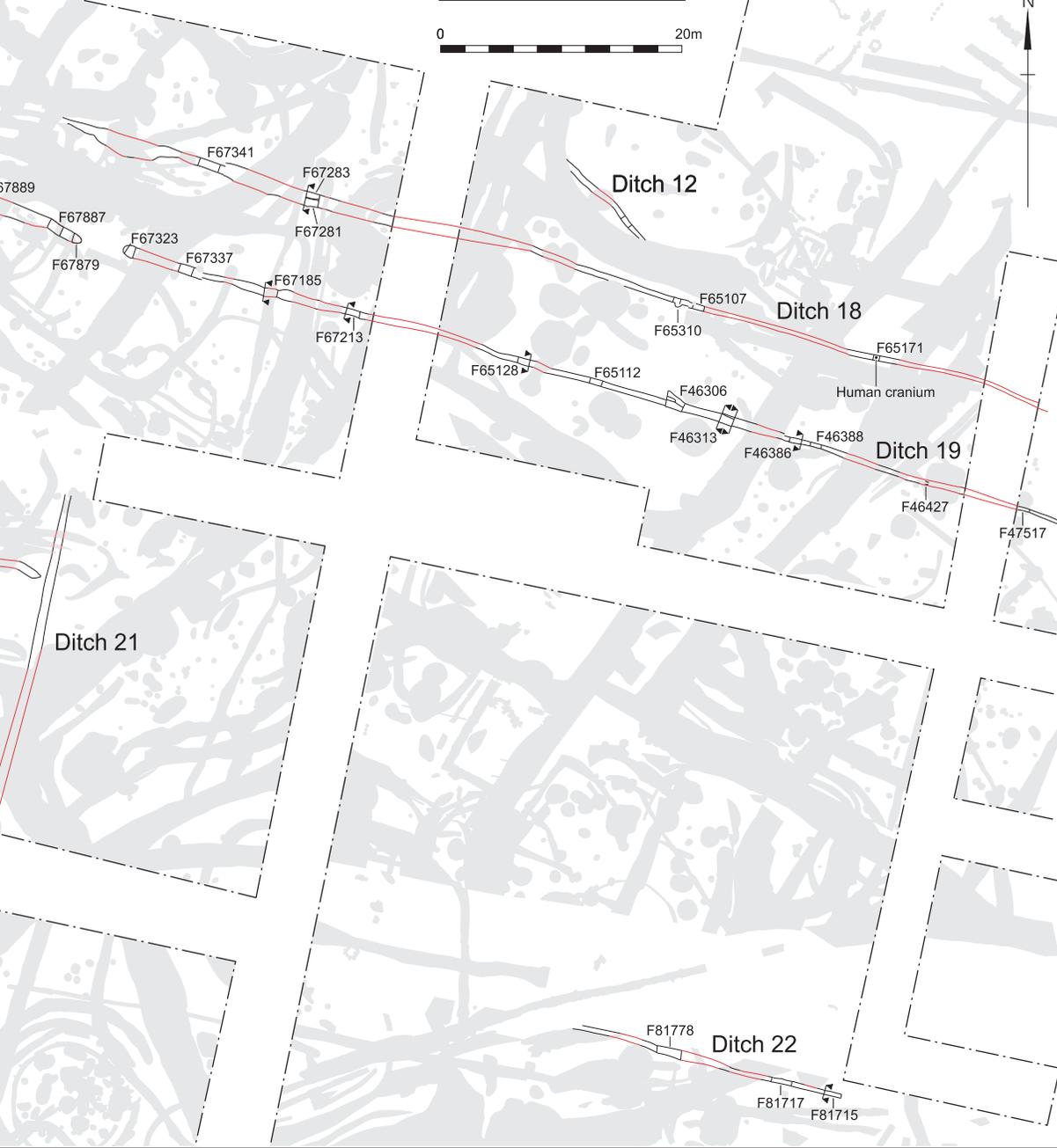
at least 650m from north to south and 200m from east to west. Only the known northern limit (ditch 15; Fig SS1.202) is likely to approximate to the original one; the others reflect the extent of excavation.

The most coherent part of the plan is formed by ditches 18, 19, 21, 23, 25, 26 and 27 (Fig SS1.203). Distances of 140m between ditches 19 and 23 and 130m between ditches 23 and 26 suggest enclosures of similar size to those in the north block. There were, however, much shorter intervals between less fully-recovered east-west ditches within this area and beyond it.

There were two pairs of parallel ditches, both running east-west. Ditches 18 and 19 were 8m to 9m apart, slightly more widely spaced than ditches 2 and 3. Two original gaps were identified in ditch 19, one near

Figure SS1.202
Field systems and related structures.
Ditches 8, 15 and part of 5, with ring ditch F192143.





the western edge of the excavation, where a single butt was recovered, the other 90m to the east, where a 3m wide gap was centred on ditch 21, the north end of which was unexcavated (Fig SS1.203). Their original junction would probably have been like that between ditches 3 and 7, as would the junction between the unexcavated south end of ditch 21 and ditch 23, in which there was a 1m wide gap between two offset butts.

To the south, ditches 26 and 27 were approximately 20m apart. The only original gap identified was one of about 1m in ditch 26.

There were no intersections between the ditches, which butted each other rather than ran into each other, nor did any continuous ditch turn a corner, as ditch 5 did in the north block. There were, however, several localised recuts, all in east-west ditches. Two distinct ditch cuts were distinguished in short lengths of ditches 18 and 19. One butt of the gap in ditch 23 was recut, as was one butt of the gap in ditch 26. Ditch 26 also seems to have been recut farther east before being cut in turn by F87464. Ditch 27 was recut opposite the gap in ditch 26, where the upper part of its profile was uncharacteristically splayed (Figs SS1.205, SS1.210). More extensive recutting may be represented by two successive east-west ditches on the alignment of the south block which cut across the east side of the Southern Enclosure (Fig SS1.74).

Phase 3S. The ditch fills

The ditches and their recuts almost all had single fills, which were stone-free or almost stone-free and were typically brown, dark brown or yellowish-brown sandy clay loams or silty loams (Figs SS1.206–8, SS1.210). Some showed signs of progressive silting. An incomplete, inverted adult cranium lay near the top of the fill of ditch 18 (Fig SS1.204). Animal bone was very scarce and highly fragmented. Charcoal was recorded in only a handful of sections. The total collection of artefacts amounts to two small, abraded sherds of Beaker pottery, ten Iron Age sherds and rather more Roman ones, twenty flint flakes, two blades, four chunks, three scrapers and two edge-retouched flakes. The lithics consist largely of broad, thick flakes compatible with a Bronze Age date (Ballin SS3.7.6). Finds were slightly less scarce in ditches 26 and 27 than elsewhere.

Structure 192161

To the north of ditch 18 were six undated postholes which formed a circular structure 6.10m in diameter (Fig SS1.205).



Structure 191135 and surrounding postholes

Between ditches 26 and 27 was a second circular structure, at least two postholes of which would have been removed by a later ditch. Of the surviving postholes, seven (clockwise from the bottom: F85089, F85087, F85085, F85083, F85079, F85129, F85127) formed a circle 6.45m in diameter, an eighth (F85081) seems to have replaced or supported F85079, and two beyond the line of the circle (F85091, F85093) formed a west-facing porch (Fig SS1.205). One posthole in the circle (F85083) contained an eroded neck and rim sherd, possibly of Beaker; there were charcoal flecks in others.

The structure was surrounded by a scatter of pits and postholes, which extended beyond ditch 26 and among which fencelines might perhaps be picked out (Fig SS1.205). Artefacts from them amounted to two flint flakes. Several contained charcoal and a sample from F85051 yielded a small quantity of miscellaneous charred plant remains, including cereals. A few cereal grains were also recovered from F85059, where a post had burnt *in situ*. *Fraxinus* charcoal from the post is dated to 1390–1040 cal BC (2990±50 BP; GU-5320). A sample comprising half the upper fill of F85106, in another post row, contained over 600 charred grains, mainly of emmer wheat where they were identifiable (Campbell SS4.5.4). Two individual emmer grains are dated to 1050–830 cal BC (2795±40 BP; OxA-7946) and 1110–830 cal BC (2815±40 BP; OxA-7905).

Figure SS1.204
Field systems and related structures.
Ditch 18. Inverted fragmentary cranium (skeleton no 6043) in layer 65172 of F65171. Scale in 100mm intervals. (Photo English Heritage)

Figure SS1.206
Field systems and related structures.
Ditch 26 (F87402), looking west. Scale in 100mm intervals.
(Photo English Heritage)



Ditch 87464 and pit alignment 15794
(Figs SS1.205, SS1.207, SS1.211–2)

Ditch 87464 was of similar size and fill type to the ditches of the field system, but had a more shelving profile. It ran at an oblique angle to ditch 26 and post-dated it, cutting through its upper silts (Fig SS1.207). In it were two small abraded sherds, possibly of Beaker, five flakes and a blade.

Parallel to its north edge was a row of nine features at intervals of 2m to 2.50m, measuring between 0.52m and 0.89m long and 0.38m and 0.66m wide, and surviving to

between 0.05m and 0.21m deep, with steep sides and flat bases. All but the most westerly of them were rectangular in plan. There was no evidence that any had held posts. Most contained charcoal flecks and there was a flint flake from one.

2.3 Redlands Farm

Ditches

Gullies 442, 658, 672, 674 and 695

There were seven ditches or gullies, at the base of a sequence of ditches and gullies forming later fields and paddocks at the east end of Area G. They were aligned north-east/south-west and south-east/north-west (Fig SS1.214) and were between 0.40m and 1.40m wide and 0.19m and 0.35m deep. Their profiles were generally open and rounded, except in the case of gully F442, which was V-shaped (Fig SS1.215). F676, F684 and F687 followed almost a single line, F687 recutting the other two. The line was continued the other side of an already quarried area by F695, but this is unlikely to have been the same ditch, given the lack of similarity in the profiles (Fig SS1.215). F672, truncated by a later ditch, ran parallel to these and 7m to the south-east. F674, on the same alignment and 5m to the south-east again, was the most substantial of the ditches. The least substantial, F442, lay on the same alignment 30m to the south-east and reached a butt end. Its relation at this point to F637, a curvilinear gully of similar size, was obscured by a later feature. At right-angles to these was F658, the inturned butt of which may have been one side of a 17m gap between it and F674, unless a slighter

Figure SS1.207
Field systems and related structures.
Intersection of ditch 26 (F87459, left) and ditch 87464 (F87465, right), looking west. Scale in 100mm intervals.
(Photo English Heritage)



intervening length of ditch was removed by a later feature.

The ditch fills were generally brown to orange-brown sandy silts with few to no inclusions. That of F673 was rather loamier. The only finds were single small sherds of Roman grey ware, probably intrusive in F442 and F658.

Structure 701

A possible round house structure incorporating nine postholes was located in the south-east corner of the excavation area (Fig SS1.214: F625, F629, F645, F647, F666, F668, F704, F790, F792). Its irregular circuit had a maximum diameter of 10.70m. F625 and F790 lay at the centre of the building and may have acted as roof supports. F625, F645, F647, F666, F668, F704 and F792 formed the circumference. F645 was next to and angled towards F647, and may have been inserted as a support for the original post SS1.214). Other postholes could have been removed by later ditches which lay to either side of the structure. A gap to the south is rather more difficult to explain, unless it was an open entrance of some sort. All the postholes but F668 had limestone packing, and their fills were grey to brown sandy silts. F442, the gully described above, would have clipped the east side of the structure and is unlikely to have been contemporary with it.

3 Discussion

3.1 Stratigraphy and phasing

The alignment of the north part of the north block on the main palaeochannel of the Nene and on ring ditch F88091 (Fig SS1.192) suggests that it was first laid out in that area, and extended southward some time later. Similarly, the alignment of the south part of the south block on the adjacent part of the palaeochannel suggests that it may have been extended northward after it had been laid out. The two blocks could have been more-or-less contemporary, with one eventually extended into the area formerly covered by the other.

The few sherds from the ditches of the south block and from structure 191135 are likely to be either redeposited (a few small, abraded fragments of Beaker or possibly of Beaker) or intrusive (rather more sherds of Iron Age and Roman pottery), as is a small fragment of copper alloy sheet. Ditch 27 of the south block cut the Segmented Ditch

Circle (Fig SS1.209), the construction date of which is estimated as 2020–1680 cal BC at 95% probability (Fig SS6.6). Ditch 29, which may have formed part of the same block, cut the Southern Enclosure, which is of unknown but probably Neolithic or early Bronze Age date (SS1.7). Other ditches in both blocks were cut by numerous Iron Age and Romano-British features. The layout of the north block suggests that it post-dated ring ditch F192143, and ditch 3 of that block was cut by early Iron Age pit F38646. A period of use somewhere between the mid second millennium and the very early first millennium cal BC seems probable.

A chance find made c 1987 by a machine driver during the building of a lay-by on the A605 may relate to the south block, since the projected line of ditch 23 crosses the lay-by 50m from its easternmost excavated extent. This is a middle Bronze Age copper alloy basal-looped spearhead 0.44m long. Some wood remained in the socket when it was found (Fig SS1.213; Curteis 1992, 113; Northamptonshire SMR 1738/0/0).

Figure SS1.208
Field systems and related structures.
Ditch 26 (F87469) only 6.50m from Figure SS1.207. Facing east, box section in foreground. Scale in 100mm intervals. (Photo English Heritage)



Figure SS1.209
Field systems and related structures.
Ditch 27 (F87578) cutting Segmented Ditch Circle, facing west.
Scale in 100mm intervals.
(Photo English Heritage)



Figure SS1.210
Field systems and related structures.
Ditch 27 (F87646), facing west.
Scale in 100mm intervals.
(Photo English Heritage)



The relationship between the field systems and the post-built structures within them is purely spatial, as is the relationship between structure 191135 and the features around it. Radiocarbon dates from two of these, however, place them in the timespan inferred for the fields. The base of an ash wood stake, burnt *in situ* in one posthole, which may be

close in age to the construction of the fence, was dated to 1390–1040 cal BC (GU-5320). A substantial deposit of charred grain, predominantly emmer wheat, in the top of a nearby posthole is dated 1110–830 cal BC (OxA-7905) and 1050–830 cal BC (OxA-7946) by measurements on two individual grains. The difference in age between the stake and the grain deposit may stem from different dates for the two alignments to which the postholes belonged, or the deposition of the grain after the fence had gone out of use.

Structure 192161 north of ditch 18 and structure 701 at Redlands Farm were similar to 157207 in that they were both post rings without any encircling ditch or gully, unlike many of the often larger Iron Age round-houses on the site. This is not by itself an indication of relatively early date, however, since slots and gulleys figured in a more complex later Bronze Age structure recorded in salvage conditions just to the north of Irthlingborough Island in Scours Field, Stanwick (Parry 2006, 46; Tomalin 2006), and in one of the second millennium structures within the Fengate field system (Pryor 1980, 53–61). 192161 was of similar size to 191135, 701 was rather larger. Only at 191135 was there any evidence for an outer wall, in the form of two porch postholes.

Ditch 87464 and pit row 15794 ran on a different alignment to the south block and post-dated ditch 26. The fact that they also ended on the line of ditch 26, however, suggests that it was still visible and that there

was some relation between them and it, in other words that they were cut early in the first millennium. It has not been possible to relate these features to any of the Iron Age land divisions in the excavated area (Vicky Crosby pers comm). There was no evidence that the pits had held posts; and the rectangular plans of all but one of them are exceptional on the site. These considerations suggest that 15794 was the end of a pit alignment. In the south-east midlands these land divisions are generally of late Bronze/early Iron Age date, although occasionally later, and are characterised by rectangular pits with steep sides and flat bases, like those composing 15794 (Jackson 1974b; Jackson 1977; Jackson 1978b; French *et al* 1993; Gurney *et al* 1993; Jackson 1995; Meadows 1995; Pollard 1996). The 15794 pits are at the small end of the size range for such features, but this may at least in part be due to truncation, also reflected in the shallowness of the ditch which ran beside them (Figs SS1.211). It is impossible to tell if the ditch and the pits were contemporary or successive markings of the same boundary. The exiguous interval between them (there was none between the edges of the ditch and F87434, F87436 and F87444) suggests the latter.

3.2 Function

The layout of both blocks bespeaks animal management, especially the ditched tracks leading to and from unenclosed pasture by the river and entrances like those between ditches 3 and 7 (Fig SS1.197) or 21 and 23 (Fig SS1.192), at which stock could be diverted into one enclosure or another. In scale, detail and idiosyncrasies the layout matches the better-preserved and more extensively excavated second millennium droeways and enclosures on the fen edge at Fengate, 30km downstream (Pryor 1978; 1980; 1998, 125–30; 2001, fig 1.4). Similar systems have been identified in the Nene valley between Raunds and Fengate including one at Elton, Cambridgeshire (French 1991) and others in and around Peterborough, not to mention further examples in the Welland and Great Ouse valleys (Pryor 1998; Pryor 2001, 74–80; Malim 2001). The exiguous ditches and the spoil from them would have been no barrier to people or animals, even though their original depth from the contemporary surface would have been at least 0.30m greater than their surviving depth from the surface of the natural sand and gravel, on the evidence of the depth of soil preserved beneath the Raunds barrows.



They must have been reinforced in another medium. The two possibilities are fences and hedges. The ditches were often so narrow, steep and flat-bottomed (eg Figs SS1.195–6, SS1.199, SS1.208) that they were recorded as ‘palisade trenches’. Yet the only evidence for any timber setting in them is two postholes *c* 0.20m deep cut into bottom of ditch 15 and, more tentatively, a ‘heavily pitted bottom’ in F31236 in ditch 3. There was also a row of stakeholes beside a 2.50m length of F30519 exposed in trial trench B51. Furthermore, sporadic recutting on the terrace and repeated recutting at Redlands Farm indicate open ditches rather than ditches containing fences. Pryor argues persuasively that the Fengate ditches were reinforced with hedges, set in the slight banks of upcast from the ditches, which could have been grown to functionality in about five years (1998, 87). This would mean either an interval of years before a set of boundaries became opera-

*Figure SS1.211
Field systems and related
structures.
Ditch F87464 and pit
alignment 15794,
looking south-west.
Scale in 100mm intervals.
(Photo English Heritage)*

Figure SS1.212
Field systems and related structures.
F87432 in pit alignment 15794.
Scale in 100mm intervals.
(Photo English Heritage)



tional, or the use of other barriers in the interim. The profiles of some of the Raunds ditches, and the postholes surviving in one of them, suggest that they originally held fences, which were eventually removed, some of the ditches eventually being recut for drainage, giving rise to profiles like that of F87646 in ditch 27 (Fig SS1.210), and, perhaps more often, to wider, more splayed

Figure SS1.213
Field systems and related structures.
Middle Bronze Age basal-looped spearhead found 50m from the easternmost excavated extent of ditch 23 during the construction of a lay-by crossed by its projected line. After a drawing in the Northamptonshire Sites and Monuments Record, supplied by Northamptonshire County Council

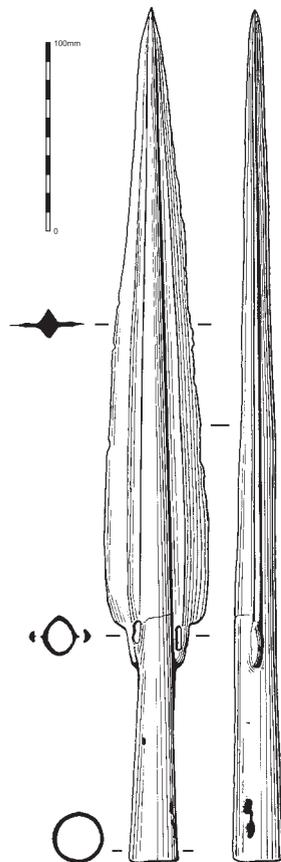
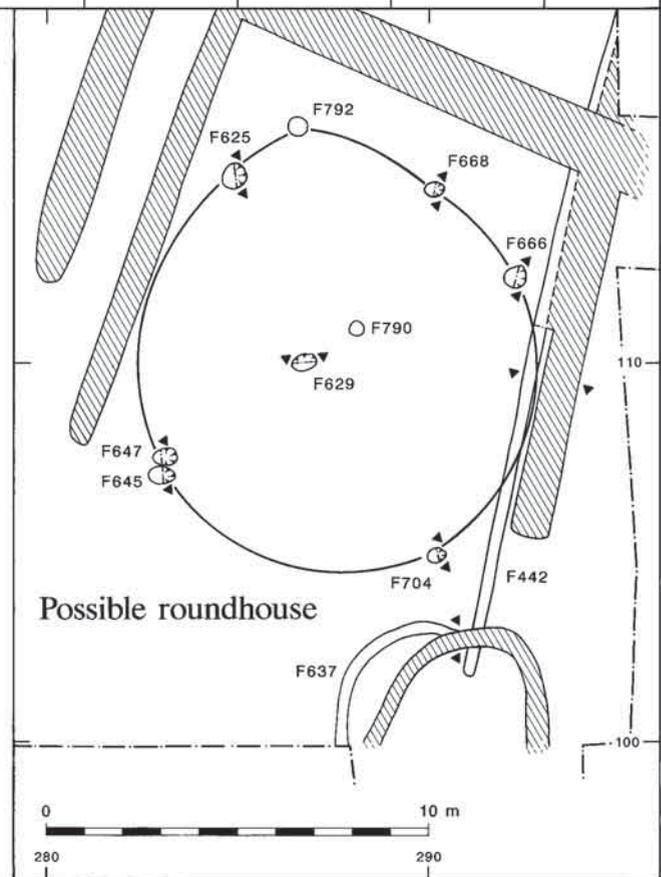
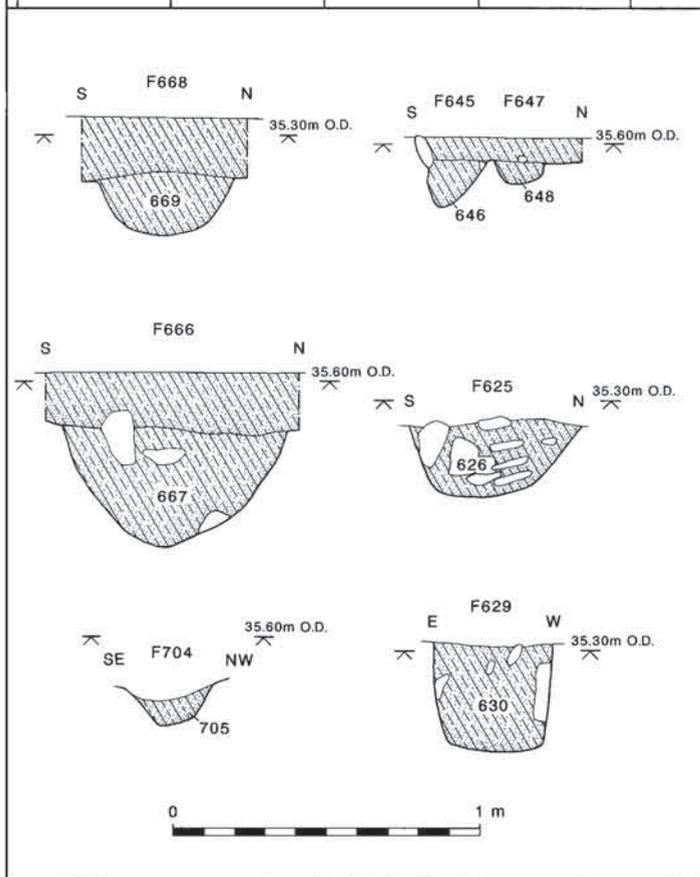
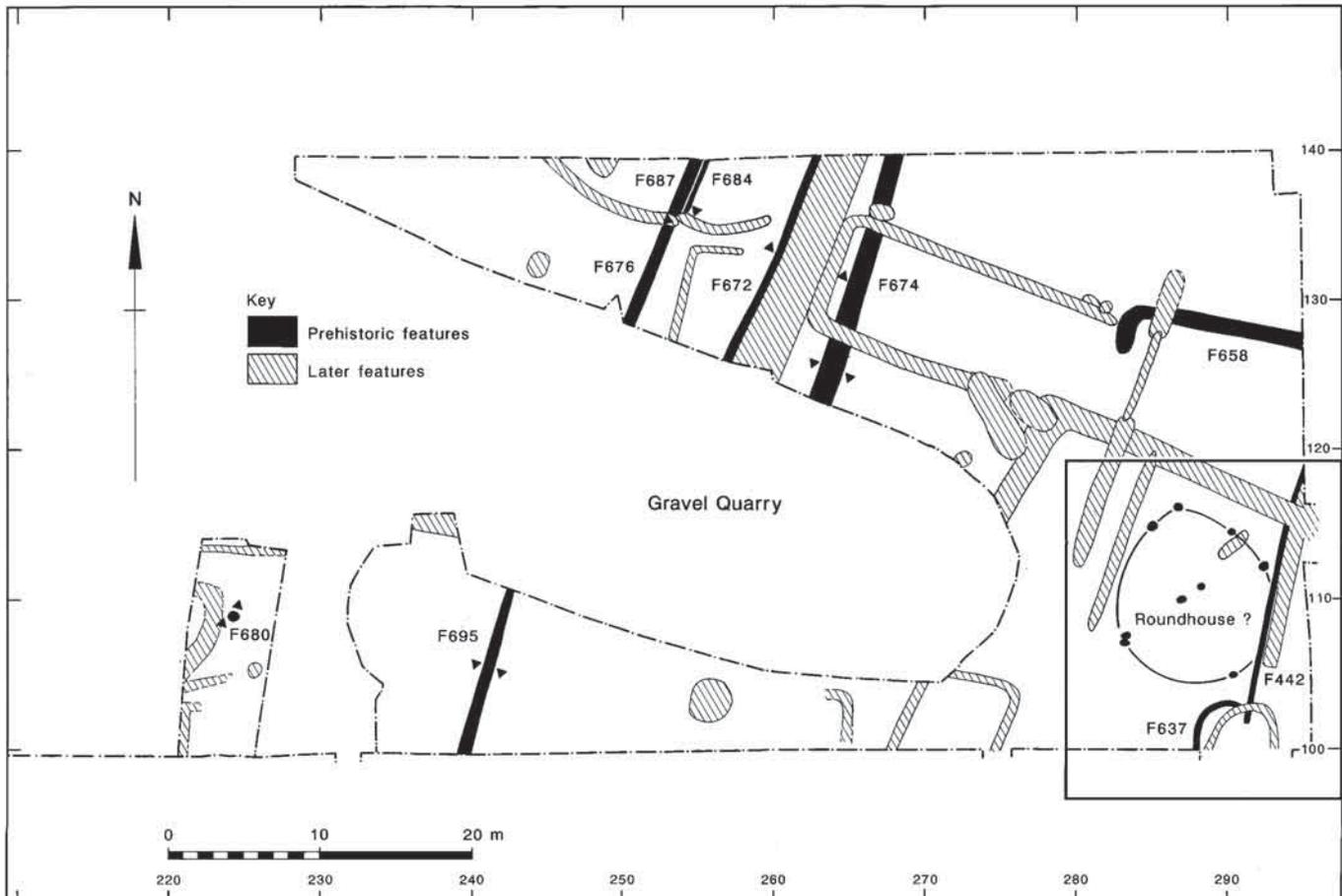


Figure SS1.214 (opposite)
Field systems and related structures.
Redlands Farm.
Pre-Roman ditches and possible round house.

profiles with no trace of a recut at all, since the ditch would have been enlarged (eg Figs SS1.206, SS1.209). Such a process could explain the contrast between the slot-like profile of ditch 26 near the eastern limit of excavation (Fig SS1.208) and its wider, more rounded profile only a few metres to the west (Fig SS1.207). Generally invisible recutting is evidenced where two separate cuts were identified for a short length of one ditch, only to merge into each other in a few metres, as in the case of F38277 and F38279 in ditch 2 (Fig SS1.197) or F46306 in ditch 19 (Fig SS1.203). It is no coincidence that these often occur at or near butts, which would have offered some scope for a change of alignment during recutting.

'Palisade slot' profiles occurred in half or more of the ditch sections in both blocks at Raunds, generally where there was no evidence of recutting or where recuts has been superficial. They were completely absent from Redlands Farm, where the multiple recutting of ditches F676, F684 and F687 echoes that of area IV of the Newark Road subsite at Fengate (Pryor 1980, figs 31–32). They were also absent from Fengate itself, where ditch profiles were generally splayed (Pryor 1978, figs 7–10; Pryor 1980, figs 11–12, 26, 33, 41–43, 49–50, 87). A handful of profiles, however, retained slot-like bases, suggesting that they may originally have been much narrower and steeper (eg Pryor 1980, fig 11). Another contrast between the Raunds ditches and the Fengate ones is that artefacts were less scarce at Fengate. Densities like those plotted for parts of the Fengate system, where there could be several artefacts in one ditch butt (Pryor 1980, figs 25, 51, 52) were not approached at Raunds. Both distinctions could have a single explanation. While the Fengate system lasted for at least a millennium (Bayliss and Pryor 2001), the Raunds ones may have been more short-lived, a shorter span accounting for less modification of ditch profiles by recutting and even less accumulation of artefacts.

An established system in which ditches were a minor part of the total barrier and were cleaned out at intervals would account for the apparent sequences between ditches in the north block (Phase 2N above). They could all have been parts of the coherent system which their plan suggests, but recut at different times, the final recuts making some ditches appear later than others. There is perhaps more evidence for diachronic use in the relation of structures 191135 and 701 to their adjacent ditches. If structure 701 was



indeed circular it could not have co-existed with ditch F442 (SS1.214). The location of structure 191135 within the apparent drove formed by ditches 26 and 27, and the way in which the pits and postholes which cluster around it extended beyond ditch 26 (Fig SS1.205), strongly suggest that the drove and its hypothetical hedges were absent when the building was in use. The late second and early first millennium dates for two of the postholes suggest that the drove may have preceded the structure.

F87464 and related features

If 15794 was indeed the end of a pit alignment it reflects the establishment of a different and more extensive system of land divisions in the valley, and probably beyond it.

4 Resource estimate

In view of the very partial exposure of these features, together with uncertainty as to their contemporaneity, it would be misleading to attempt labour estimates for them.

Figure SS1.215
Field systems and related structures.
Redlands Farm.
Sections of pre-Roman ditches.

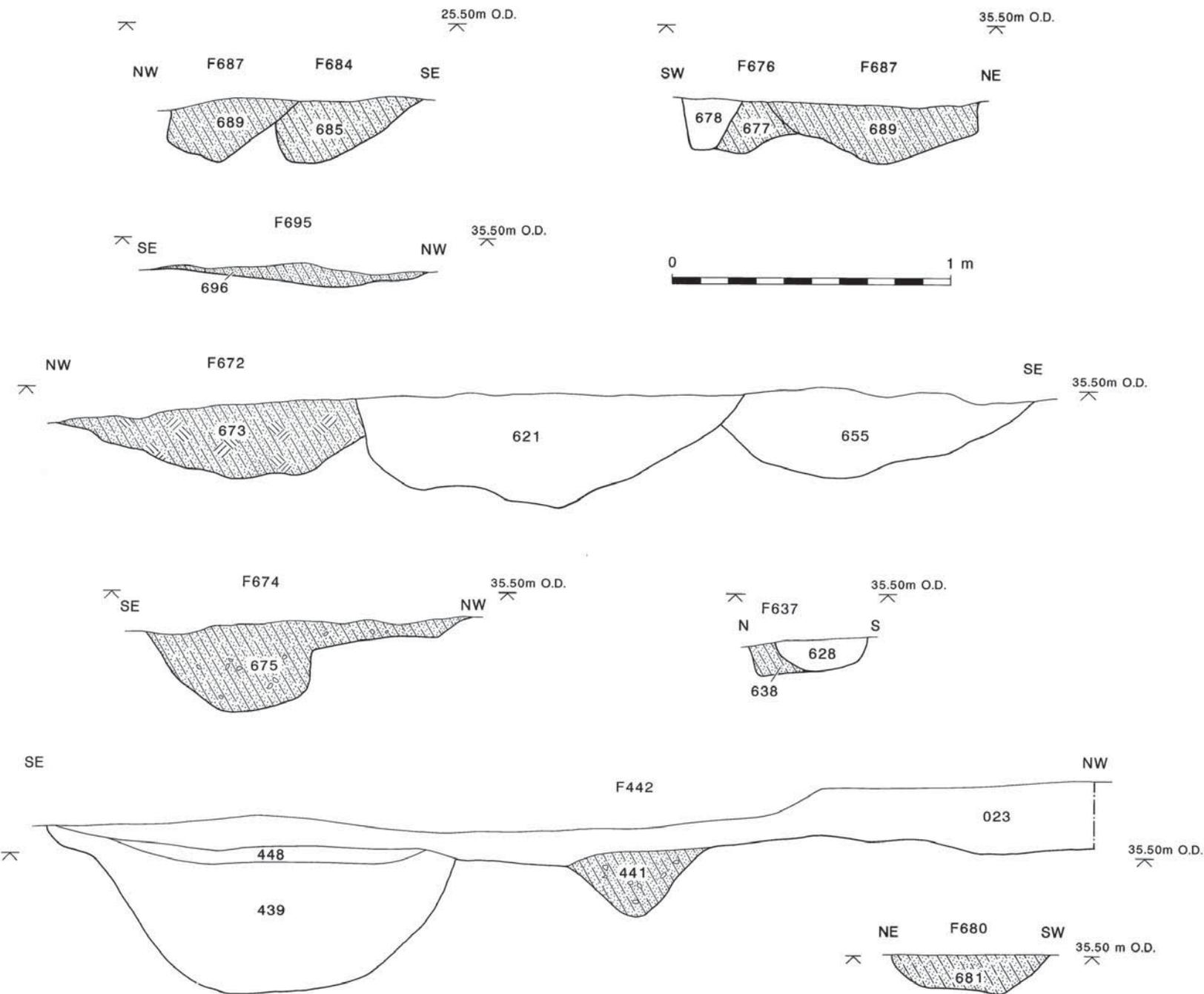


Table SS1.23. Ditches and other features relating to the Bronze Age field systems

For postholes and pits, the figure in the width column is the maximum dimension

* = recorded, but missing or unidentified

Lithics are of flint

Neolithic and Bronze Age sherds are followed by their fabric group or temper in brackets

Entries in the 'Stratigraphic relationships' column are confined to those which affect the interpretation and dating of the fields.

The numerous cases where the ditches are cut by Romano-British features or overlain by Romano-British layers are omitted

<i>Ditch</i>	<i>Cut</i>	<i>Width (m)</i>	<i>Depth (m)</i>	<i>Stratigraphic relationships</i>	<i>Description</i>	<i>Fill(s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Artefacts</i>	<i>Charred material</i>	<i>¹⁴C</i>
North block											
1	F31384	0.35		Cut pit F31282, which contained animal bone	Slot-like profile. Varied considerably in depth, shallower to S	Yellowish brown (10YR 5/6) soft smooth sandy loam (31385)					
1?	F30547	0.80	0.20	Merged into F30539	In B52, expanded NE part of F30539, uneven sides and floor	Dark grey sticky loam without inclusions (30546) on base; overlain at W edge by light brown plastic sand loam with occasional (2%) angular pebbles < 0.01m square and 40% pockets of silty sand (30545); overlain at W edge by mid dark grey plastic loam with occasional (5%) fragments of ironstone < 0.001m square (30544)					
2	F31236				Steep sides, narrow, flat base	Brown/dark brown (10YR 4/3) friable sandy clay loam with < 1% small pebbles (31237)					
2	F31284			? recut of original terminal F31286	Steep sides, flat base. Varied considerably in depth, shallower to S in rounded butt	Very dark greyish brown (10YR 3/2) friable sandy clay loam (31288) underlying yellowish brown (10YR 5/6) soft, smooth sandy loam with 2-5% small-medium pebbles (31385)					
2	F31286			? original terminal, recut by F31284		Very dark greyish brown (10YR 3/2) friable sandy clay loam with 1% small pebbles (31387)					
2	F31325				Concave sides, rounded base	Dark brown (10YR 3/3) sandy clay loam without inclusions (31326)					
2	F31374	0.40		Recut by F31376	U-shaped profile, recut at least once to an irregular depth	Dark yellowish brown (10YR 4/4) soft, smooth sandy silty loam with lenses of brownish yellow sand (31375)			2 flakes, 1 burnt		
2	F31376			Recut of F31374.	Varied in depth and width, generally shallower and narrower than F31374, but at least as large at SE end, where whole original fill removed	Dark yellowish brown (10YR 4/4) soft smooth sandy loam (31377)					
2	F38277	0.30	0.30	Recut of F38279	Steep sides, irregular, narrow base.	Dark brown (10YR 2/3) soft, cohesive sandy clay loam containing up to 2% fine pebbles and small limestone fragments (38278)			Scraper		

<i>Ditch</i>	<i>Cut</i>	<i>Width (m)</i>	<i>Depth (m)</i>	<i>Stratigraphic relationships</i>	<i>Description</i>	<i>Fill(s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Artefacts</i>	<i>Charred material</i>	<i>¹⁴C</i>
2	F38279	1.20	0.15	Recut by F38277	Steep sides, irregular, narrow base	Brown/dark brown (10YR 4/3) sandy clay loam with <5% fine gravel/limestone (38280)					
2	F38587				Inturned butt	Very dark greyish brown (10YR 3/2) sandy clay loam with 2% small pebbles (38588)					
2	F38589				Steep sides, flat base	Dark yellowish brown (10YR 3/4) sandy loam without inclusions (38590)					
2		0.40			Unexcavated arc of ditch extending beyond excavated area, with a butt end 5.50m from E butt of 38587						
3	F31228				Steep-sided, flat-based	Brown/dark brown (10YR 4/3) sandy clay loam without inclusions and no finds (31229)					
3	F31428			Cut F31426	Steeply shelving sides, rounded base. Rounded NW butt	Dark brown (10YR 3/3) sandy clay loam without inclusions (31429)					
3	F38430			Cut by early Iron Age pit F38646 Cut ?treehole F38666	Unexcavated	Very dark greyish brown (10YR 3/2) sandy clay loam (38431)					
3	F38712				Steep sides, uneven rounded base	Dark yellowish brown (10YR 3/4) sandy loam with no coarse components (38713)					
3	F38714				Steep sides, uneven rounded base	Dark yellowish brown (10YR 3/4) sandy loam without inclusions (38715)					
3	F38716				Steep sides, heavily pitted base	Dark yellowish brown ((10YR 3/4) sandy loam with 1% small pebbles (38717)					
3	F38794	0.45	0.45		Steep sides, narrow base	Brown/dark brown (10YR 4/3) sandy clay loam containing 2% fine pebbles (38795)					
3	F38796	0.40	0.22		Fairly gently sloping E butt, otherwise steep sides and narrow base	Dark greyish brown (10YR 4/2) sandy clay loam with < 1% fine pebbles (38797)			Flake		
4	F31317				Steep sides, narrow, flat base	Very dark greyish brown (10YR 3/2) sandy clay loam without inclusions (31318)					
4	F31426			Cut by F31428 at which point it seemed to stop	Steep sides, flat base	Dark brown (10YR 2/3) sandy clay loam without inclusions (31427)					
5	F31113			Cut treehole F31115	V-profiled	Very dark greyish brown (10YR 3/2) friable sandy clay loam with 5% medium-large pebbles (31114)					
5	F31147				Uneven sides, narrow base. Deeper in SE than in NW	Very dark greyish brown (10YR 3/2) friable sandy clay loam without inclusions (31148)			Pottery *		
5	F31315				Steep sides, flat base	Very dark greyish brown (10YR 3/2) friable sandy clay loam without inclusions (31316)					
5	F31356			Recorded as cut by F31354, although intersection does not seem to have been excavated		Black (10YR 2/1) friable sandy clay loam without inclusions (31357)					

5	F85429	0.23		Cut by F85444			
				Plan 1030/1320/2 shows F89722 cutting F85429 which aligned with S block. Context record for F89722 states that F89722 was cut by F85429. The intersection was not excavated			
5	F88921	0.24	0.18		Steep sides, rounded base	Dark yellowish brown (10YR 3/6) friable sandy loam (88922)	
6	F31218				Steep sides, slightly rounded base	Yellowish brown (10YR 5/6) soft gritty sandy loam without inclusions (31219)	
7	F38798	0.35	0.30		Steep sides, narrow base	Brown/dark brown (10YR 4/3) sandy clay loam with < 1% fine pebbles (38799)	1 misc. retouched
8	F47648	0.30	0.07	Butt at NE end, SW end ran into limit of excavation. Cut posthole F47646		Dark brown (10YR 3/3) sandy loam with 5% small limestone fragments (47649)	burnt daub charcoal flecks
8	F85444	0.38		SW end ran into limit of excavation Cut F85429		Dark brown (10YR 3/3) friable sandy loam (85445)	
9	F31094				Rounded SW butt	Dark brown (10YR 3/3) friable, gritty sandy loam without inclusions (31095)	
9	F31153				Steep sides, narrow, flat base	Dark brown (10YR 3/3) friable, gritty sandy clay loam (31095=31154)	31154: flake
9	F31352				Steep sides, flat base. Terminates at the point of intersection with 31354	Very dark brown (10YR 3/2) friable sandy clay loam without inclusions (31353)	
10	F31085				Steep sides	Soft gritty dark brown (10YR 3/3) sandy loam without inclusions (31086)	
11	F31354			Cut F31356	Short, irregular depression between the angle of ditch 5, which it cut, and ditch 9. Steep irregular sides tapering to a narrow bottom.	Friable dark greyish-brown (10YR 4/2) sandy clay loam without inclusions (31355)	Flake
12	F65379	1.30			Unexcavated. Tentatively attributed to N block on stratigraphy, size and alignment		
13	F81015	0.50			U-profiled but irregularly cut in bottom where it cuts into Cornbrash. Could align with N block or form entrance in S block	Brown (10YR 4/3) soft silt loam (81016)	
14	F81107	0.60	0.17		Flat base	Brown (10YR 4/3) friable silt loam (81108)	
14	F81132	0.50	0.10		Flat base	Brown (10YR 4/3) friable silt loam (81133)	

<i>Ditch</i>	<i>Cut</i>	<i>Width (m)</i>	<i>Depth (m)</i>	<i>Stratigraphic relationships</i>	<i>Description</i>	<i>Fill(s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Artefacts</i>	<i>Charred material</i>	<i>¹⁴C</i>
Posthole group 158146											
	F31197	0.22	0.04		Shelving sides, flat base	Yellowish brown (10YR 5/6) friable sandy clay loam without inclusions (31198)					
	F31199	0.33	0.09		Steep sides, flat base	Brown/dark brown (10YR 5/6) sandy clay loam without inclusions (31200)					
	F31201	0.36	0.17		Steep sides, flat base	Dark yellowish brown (10YR 3/4) friable sandy clay loam without inclusions (31202)					
	F31205				Subcircular plan, 1 steep side, 1 straight side	Brown/dark brown (10YR 4/3) friable, gritty sandy clay loam without coarse components (31206)					
	F31207	0.38	0.21		Steep sides, flat base	Brown/dark brown (10YR 4/3) friable sandy clay loam without inclusions (31208)					
	F31211	0.39	0.08		Shelving sides, flat base	Dark yellowish brown (10YR 4/4) friable sandy clay loam without inclusions (31217)					
	F31212	0.30	0.14		Steep to shelving sides, flat base	Dark brown (10YR 3/3) friable sandy clay loam without inclusions (31213)					
	F31214				Subcircular plan, shelving W side, steep E side	Dark brown (10YR 3/3) friable sandy clay loam without coarse components (31215)					
	F31241			Cut treehole F31209	Subcircular plan, contains 1 fill. Steep sides, rounded base	Brown/dark brown (10YR 4/3) friable sandy clay loam without coarse components (31242)					
Probable northward continuation in trenches B50–B53											
	F30519	0.45	0.28		In B51, 6m SW of F30521 and parallel to it, rounded V- profile. Row of 5 stakeholes (30530) along NE edge, extending into baulk to either side	Mid grey brown plastic silty clay with very occasional small pebbles (30518)			Flake		
	F30521	0.55	0.12		In B51, 6m NE of F30519 and parallel to it, shallow, rounded profile	Dark greyish brown plastic and soapy loam with very occasional (<2%) small rounded pebbles (30520)					
1?	F30539	0.25		Merged into F30547	In B52, 65m NE of F30549 and aligned with it. Uneven sides and floor	Dark grey, plastic loam with occasional small, angular pebbles < 0.01m square (30538)			Blade		
1?	F30549	0.50	0.22		In B53, 65m NE of F31384 on similar alignment. Sinuous plan, steep sides, rounded V-profile, uneven base, deeper in SW	Greyish brown, plastic; slightly sticky loam with 10% orange-brown sand in pockets (30548)			Flake, 2 scrapers		
	F30574	50	45	Cut F30576	In B53, at right-angles to F30549 and F30574. Shelving sides, flat base	Mid grey, sticky, slightly silty clay with 10% small (<0.002m) pockets of orange-brown sand (30573) on base; overlain by orange brown silty sand with 50% pockets and lenses of grey-brown sandy silt (30572); in turn overlain by light mid orange-brown sticky silty clay with iron panning and ironstone flecks (30571)					

F30576	33	20	Cut by F30574	In B53, butt end parallel to F30549 and 1.90m SE of it. Exposed for only 1m. Shelving sides, rounded base	Mid grey brown Plastic; slightly friable Silty Clay with 30% pockets of light orange brown slightly silty sand which increased in density towards bottom (30575)	Chip
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South block

15	F88912	0.70	0.28	Plan 1030/1320/2 shows F89722, which aligned with N block, cutting F85429. Context record states that F85429 cut F89722	Two postholes c 0.20m deep cut into bottom of the ditch	Dark yellowish brown (10YR 4/6) friable sandy loam (88913)	*	2 sherds 1st-2nd century pottery
16	F7564	0.50				Brown (10YR 4/3) friable sandy loam with limestone specks and gravel (7565)		
17	F7609	0.80				2 distinct dark brown (10YR 4/3) sandy loam fills with gravel and limestone specks (both 7610), the lower showing signs of slow silting.		Upper fill: Charcoal flecks Roman pottery, 1 oyster shell
18	F47375	0.43				Dark brown (10YR 3/3) plastic silty clay loam (47376)	*	1 sherd IA possibly from surface, 2 chunks (recorded as 'heavily rolled' - ?natural)
18	F47539	0.31	0.38		Steep sides, flat base	Dark brown (10YR 3/3) plastic silty clay loam (47540)		
18	F65107	0.45	0.20		V-profiled	Dark brown (10YR 3/3) plastic silt with a few small flint fragments (65108)		fired clay A few charcoal flecks
18	F65171	0.40			Excavated only to a shallow depth to allow lifting of inverted cranium fragment 6043	Dark brown (10YR 3/3) plastic silt (65172)	Inverted cranium *	(skeleton 6043) in upper fill
18	F65310	0.45	0.25		V-profiled	Dark brown (10YR 3/3) plastic silt with a few small flint fragments (65391)		
18	F67281	0.40	0.50	More southerly of 2 cuts of same ditch, the other being F67283. Sequence unclear. Possible truncated posthole in S side 20m from W section.	Shelving S side, steep N side, merging with that of F67283	Dark yellowish brown (10YR 4/4) sandy loam (67282)		
18	F67283	0.52	0.55	More northerly of 2 cuts of same ditch, the other being F67281. Sequence unclear	Steep sides, rounded base	Dark yellowish brown (10YR 4/4) sandy loam (67284)		
18	F67341	0.75	0.45		Steep sides, flat base	Greyish brown (10YR 5/2) cohesive sandy clay loam with gravel (67342)	15g	Chunk

<i>Ditch</i>	<i>Cut</i>	<i>Width (m)</i>	<i>Depth (m)</i>	<i>Stratigraphic relationships</i>	<i>Description</i>	<i>Fill(s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Artefacts</i>	<i>Charred material</i>	<i>¹⁴C</i>
19	F46306				2 successive V-profiled cuts on slightly different alignments	Dark yellowish brown (10YR 3/4) plastic sandy clay (46305)			1 body sherd/ 1g Beaker, with abraded decoration, P77 (G) 2 flakes		
19	F46313	0.70	0.45		2 cuts seen in 46306 merged in this section. Steep sides	Dark brown (10YR 3/3) plastic clay (46314)					
19	F46386	0.35	0.43		Steep-sided, V-profiles	Brown/dark brown (10YR 4/3) plastic clay loam (46387)					
19	F46388	0.35	0.45	Cut earlier gully F46384 which was not part of ditch 19 but ran at an oblique angle to it, ending at a butt c 3.50m SW of intersection. It was also wider and shallower than ditch 19	V- to U-profiled	Brown/dark brown (10YR 4/3) plastic clay loam, unusually clayey (46389)					
19	F46427				V-profiled	Dark yellowish brown (10YR 3/4) friable clay loam (46428)					
19	F47396	0.58	0.36	Some doubt attaches to record that ditch cut posthole F47394 and pit F47399	Steep, stepped sides, flat base	Dark brown (10YR 3/3) plastic clay loam (47397); Dark yellowish brown (10YR 4/4) plastic clay loam (47421)				47421: charcoal	
19	F47510	0.25	0.10		Steep sides, flat base	Dark brown (10YR 3/3) plastic silty clay loam (47511)		*	Pottery: *		
19	F47512	0.50	0.36		Steep, stepped sides, flat base	Yellowish brown (10YR 5/6) friable sandy silt (47514) overlain by dark brown (10YR 3/3) plastic silty clay loam (47513)					
19	F47515	0.38	0.40		Steep sides, flat, narrow base	Dark brown (10YR 3/3) plastic silty clay loam (47516)					
19	F47517	0.34	0.36		Steep sides, narrow base	Dark brown (10YR 3/3) plastic silty clay loam (47518)					
19	F47726	0.10		Truncated by pit F47723, shape not original		Dark brown (10YR 3/4) plastic silty clay (47727)					
19	F65112	0.45	0.30		V-profiled	Dark brown (10YR 3/3) plastic silty clay (65113)					
19	F65128	0.50	0.40		V-profiled	Silty clay fill with a few limestone fragments (67129)					
19	F65762	1.20	0.20			Dark yellowish brown (10YR 4/4) sandy loam (65763)		*	1st and 2nd century pottery, flake, chunk		
19	F67185	0.54	0.49		V-profile, rounded base	Dark yellowish brown (10YR 3/4) smooth silt loam (67186)					
19	F67213	0.45	0.40		Steep sides, base wider and more rounded at W end	Greyish brown (10YR 5/2) sandy loam with occasional lenses of sand (67214)					

19	F67323	0.75	0.60	W butt. Steep sides	Dark greyish brown (10YR 4/2) plastic silt loam becoming very clayey towards base with patches of pure clay (10YR 5/2, greyish brown). Also lenses of sand towards base. No coarse components (67324)	2g	2 sherds 1st century pottery
19	F67337	0.80	0.50	V-profiled, near-vertical towards base	Greyish brown (10YR 5/2) sticky sandy clay loam with a few gravel pieces (67338)		Blade
19	F67879	0.80	0.90	E butt, unusually deep. V-profiled with 0.20m wide base	Dark yellowish brown (10YR 3/4) silty loam without noticeable inclusions. Odd patches/lenses of natural sand forming tip lines (all 67878)		
19	F67887	1.00	0.30	Incompletely excavated	Dark yellowish brown (10YR 3/6) silty sand, some lenses of redeposited natural sand near the bottom (all 67886).		
19	F67889	1.10	0.80	V-profile, narrow slot-like base	Dark yellowish brown (10YR 3/6) silty loam (67888)		
19	F82921	1.00		Rounded E butt	Yellowish brown (10YR 5/6) gravel and sand (82922)		
20	F83551	1.00			Dark brown (10YR 4/3) friable sandy loam * with gravel and limestone specks (83552)		
20	F89746			Unexcavated. At right-angles to F8929 at which it stopped short.			
21	F82348	0.70	0.45		Dark yellowish brown (10 YR 4/4) loose loamy sand (82350), overlain by dark yellowish brown (10 YR 3/4) friable sandy silt loam (82349)		
21	F87403	0.70	0.45		Dark yellowish brown (10YR 4/4) loose loamy sand (82350) overlain by dark yellowish brown (10YR 3/4) friable sandy silt loam (82349)		
21	F86007	0.87	0.38	Steep sides	Yellowish brown friable (10YR 5/6) silty loam with <10% small flint and ironstone fragments (86008)		Flake
21	F87406	0.90	0.45	Steep sides, flat base	Section A: Fine sandy silt varying in colour from dark yellowish brown along the east cut edge to dark grey brown (10YR 4/2) along the western edge. Colour paler and texture coarser towards base (87404). Section B: Sandy silts with coarse sand. Colour varied between 10YR 4/2 and 4/6 in horizontal banding possibly indicative of seasonal deposition, paler and coarser towards base of cut at S end (87405)		
22	F81715	0.37	0.19	U-profiled	Very dark greyish brown (10YR 3/2) friable loamy sand (81716)		
22	F81717	0.40	0.20		Dark brown (10YR 3/3) friable silt loam (81718)		
22	F81778				Dark yellowish brown (10YR 3/4) friable silty clay (81779)	170g	
22	F81938	1.50	0.35		Brown/dark brown (10YR 4/3) friable loamy sand with pebbles (81937)		

<i>Ditch</i>	<i>Cut</i>	<i>Width (m)</i>	<i>Depth (m)</i>	<i>Stratigraphic relationships</i>	<i>Description</i>	<i>Fill(s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Artefacts</i>	<i>Charred material</i>	<i>¹⁴C</i>
22	F83419				Not excavated	Very dark greyish brown (10YR 3/2) friable silty clay loam (83420)		10g			
23	F81013				Shallow and rounded in E, wider, deeper, more V-profiled towards W	Dark greyish brown (10YR 4/2) soft silt loam, mottled with dark yellowish brown (10YR 4/6) sand and containing some gravel (81014). Finds almost all in deeper part of ditch. Several rounded pebbles, average size 50 mm, in same area of ditch			1 sherd IA, 4 flakes, Cu alloy sheet fragment, max dimension 10mm		
23	F81085	0.50	0.44		V-profiled, shallower to E	Dark brown (10YR 3/3) friable silt loam. 'Very sterile and leached' (81086)			Scraper on corticated blank		
23	F81126	0.50	0.30		Variable shape and depth, deepest and most V-profiled near centre of section, only 0.10m deep in E	Dark brown (10YR 3/3) friable silt loam (81127)					
23	F81950	1.20	0.45			Brown/dark brown (10YR 4/3) friable loamy sand with c 30% yellowish brown (10YR 5/6) sand evenly distributed and <1% pebbles <10mm (81949)					
23	F81965	1.14	0.46	Either 1st cut of ditch butt F82077 or feature cut by ditch butt		Brown/dark brown (10YR 4/3) friable sandy loam with c 2% pebbles <80mm (81964)					
23	F81980	0.90	0.35		Fairly smooth, rounded profile	Brown/dark brown (10YR 4/3) friable loamy sand with c 30% yellowish brown (10YR 5/6) sand evenly distributed and <1% pebbles <20mm (81939)			Blade, 2 flakes, edge-retouched flake		
23	F81996	1.18	0.45		Ditch butt. Rounded base	Brown/dark brown (10YR 4/3) friable loamy sand with c 30% yellowish brown (10YR 5/6) sand evenly distributed and c 1% pebbles <10mm (81951)			IA pottery, also samian, edge-retouched flake		
23	F82077	1.10	0.55	Ditch butt, cutting F81965		Brown/dark brown (10YR 4/3) friable loamy sand with c 20% yellowish brown (10YR 5/6) sand and c 2% pebbles <20mm and c 1% flint <80mm (82123)					
23	F82122	0.80	0.26		Steep sides, S side stepped, rounded base	Brown/dark brown (10YR 4/3) friable loamy sand with c 20% yellowish brown (10YR 5/6) sand and c 2% pebbles <70mm and c 1% flint <15mm (82121)					
24	F88085	0.70			Not excavated. Butt at E end	(88085)					
25	F88613	0.60	0.40		Rounded profile.	Fine silty sand fill without inclusions (88612)					
26	F85125	0.20	0.05	Cut Avenue	Width varied from 0.14m to 0.42m	Dark yellowish brown (10YR 4/6) friable sandy loam with occasional pieces of gravel. One area of darker material (all 85126)					
26	F85156			Recut by F85166	Width variable	Dark yellowish-brown (10YR 4/4) sandy silt in W, black (7.5 YR 2/5) silty sand in E 10m (all 85155)					

26	F85166			Short recut of F85156	Not excavated	Dark brown (10YR 4/3) friable sandy loam fill with no noticeable inclusions (85165)		
26	F87402	0.80	0.40		U-profiled	Light (10YR 4/3) slightly sandy silt with occasional peagrit. Colour slightly paler and sand slightly coarser towards base (87403)		
26	F87459	0.90	0.52	Probably cut by F87464, which was so shallow at this point that the intersection was difficult to interpret	Steep sides, narrow flat base	Dark yellowish brown (10YR 3/4) gritty, slightly plastic sandy clay loam (87462=87472), overlain by yellowish brown (10YR 5/8) gritty, slightly cohesive sandy clay loam without inclusions (87461=87471), overlain by yellowish brown (10YR 5/8) gritty, slightly plastic slumped sandy clay loam (87503), overlain by dark yellowish brown (10YR 3/4) gritty, slightly plastic sandy clay with burnt stone, <1% small stones and 1% medium stones (87460=87470)	87460: 1 neck charcoal flecks sherds/1g ?Beaker with abraded decoration, P82 (G) 8 flakes, 2 scrapers; 87471: 2 flakes	
26	F87469	0.48	0.52	87470=87460 probably the fill of a recut	V-profiled	Dark yellowish brown (10YR 3/4) gritty, slightly plastic sandy clay loam (87472=87462), overlain by slumped natural sand, overlain by yellowish brown (10YR 5/8) gritty, slightly cohesive sandy clay loam without coarse components (87471=87461), overlain by dark yellowish brown (10YR 3/4) gritty, slightly plastic sandy clay with <1% small stones and 1% medium stones (87470=87460)		
27	F87525	1.10	0.50		V-profiled	Dark yellowish brown (10YR 3/4) gritty, friable sandy loam with 5% small stones (87537) overlain by dark yellowish brown (10YR 3/4) gritty, slightly plastic sandy clay loam with 2% small stones (87526)	87537: 2 fragments, 1 burnt; 87526 2 fragments	
27	F87573	0.99	0.55		Cut N side of Avenue, near SW terminal. Narrow bottom, slope of sides uneven	Dark (10YR 3/4) friable, slightly plastic silt loam with 2% gravel (87574)		
27	F87578			Cut Segmented Ditch Circle	Steep sides, rounded base	Dark brown (10YR 3/3) sandy silt loam with 3% small stones (87579)		
27	F87646	1.90	0.71	87656 and 87645 could be fills of recut	Steep sides, flat base, S side stepped	Brown (10YR 5/3) very hard, compacted silty sand with weathered limestone brash (87658) derived from N and similar compacted layer of brown (10YR 5/3) silty sand with denser weathered limestone (87657) derived from S overlain by dark yellowish brown (10YR 3/6) silty sand with frequent weathered stone fragments and pebbles (87656) all overlain by a dark greyish brown (2.5Y 4/2) compact clayey silty sand with sand and pebbles concentrated towards the base (87645)		
27	F88409	0.75	0.60		Round-bottomed	(88408)		
27	F88411				Not excavated	(88410)		
27	F88413				Not excavated. Finds recovered from surface	(88412)	105g	7 sherds IA, also samian

<i>Ditch</i>	<i>Cut</i>	<i>Width (m)</i>	<i>Depth (m)</i>	<i>Stratigraphic relationships</i>	<i>Description</i>	<i>Fill(s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Artefacts</i>	<i>Charred material</i>	<i>¹⁴C</i>
28	F88419	0.90	0.75		Steep sides, flat base	Light brown alluvium with lenses of gravel (88418)					
29		0.70		First of 2 successive ditches cutting E side of Southern Enclosure, truncated to the W by removal of overburden to greater depth	Possibly continued by ditches found in trial trenches further W						
29		0.70		Second of 2 successive ditches cutting E side of Southern Enclosure, truncated to the W by removal of overburden to greater depth	Ending in a tapering butt 15m from E side of trench, in which it seemed cut from higher level than first						
Structure 151487											
	F66975	0.45	0.18		U-profiled, rounded base	Light yellowish brown (10YR 5/6) sandy loam with a few gravel pieces (66976)					
	F66977	0.42	0.19		U-profiled, rounded base	Yellowish brown (10YR 5/6) sandy loam containing a few gravel pieces (66978)					
	F66997	0.40	0.15		V-profiled, shelving sides	Yellowish brown (10YR 5/6) sandy loam containing a few gravel pieces (66998)					
	F66999	0.42	0.15		U-profiled, shelving sides, rounded base	Yellowish brown (10YR 5/6) sandy loam containing a few gravel pieces (67000)					
	F67777	0.30	0.06		U-profiled, rounded base	Yellowish brown (10YR 5/6) sandy loam without inclusions (67778)					
	F67783	0.34	0.09		U-profiled, rounded base	Yellowish brown (10YR 5/6) sandy loam with gravel (67784)					
Structure 157209											
	F85079	0.32	0.17		Larger of two adjacent postholes, the other being F85081. 1 steep side, 1 shelving side	Dark yellowish brown (10YR 4/4 silty loam (85079)					
	F85081	0.26	0.13		Smaller of two adjacent postholes, the other being F85079. Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable silty loam (85082)					
	F85083	0.36	0.19		Shelving sides, rounded base	Brown (10YR 4/3) friable silty loam (85084)			Eroded rim and neck fragment of ?Beaker, in oxydised fabric with fine grog and tabular voids, P86		
	F85085	0.30	0.17		Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable silty loam (85086)				charcoal flecks	

F85087	0.32	0.17	Shelving sides, rounded base	Brown (10YR 4/3) friable silty loam (85088)	charcoal flecks
F85089	0.32	0.10	Shelving sides, rounded base	Brown (10YR 4/3) friable silty loam (85090)	charcoal flecks
F85091	0.54	0.10	Shelving sides, rounded base	Brown (10YR 4/4) friable silt loam fill (85092)	charcoal flecks
F85093	0.52	0.15	Shelving sides, rounded base	Dark brown (10YR 3/3) friable silty loam (85094)	Several small pieces of charcoal
F85127	0.23	0.10	Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable silty loam (85128)	
F85129	0.20	0.11	Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable silt loam (85130)	occasional charcoal fragments
Postholes in area of structure 157209					
F85051	0.65	0.31	Shelving sides, rounded base	Dark yellowish brown (10YR 4/6) friable sandy loam without inclusions (85052)	85052: 2 seeds orache, 1 vetch or tare, 1 medic or trefoil, 1 black bindweed, 1 dock, 1 bedstraw, 1 grass, 1 emmer wheat, 2 indeterminate cereals, glume bases of emmer, emmer or spelt and indeterminate wheat, from 30 l sample comprising half of layer
F85053	0.65	0.20	Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable sandy loam without inclusions (85054)	
F85055	0.41	0.10	Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable sandy loam without inclusions (87056)	
F85057	0.39	0.10	Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable sandy loam without inclusions (87508)	
F85059	0.40	0.28	U-profiled, containing remains of stake or post (85061) burnt <i>in situ</i> , with charcoal pressed into sides of feature	Very dark greyish brown friable sandy loam (85063) in base of feature, separated from post by lens of yellowish, sandy material within layer. Overlain by black (2.5YR N2/) friable sooty material (85064) under and surrounding post 85061 (which was described as 'large piece of burnt wood'), and apparently part of it. Al overlain by black (7.5 YR N2/) friable silty loam with burnt soil, stone and slag (85060)	85063: charcoal fragments; 85064: small charcoal fragments; 85061: large fragments of <i>Fraxinus</i> charcoal; 80560: 1 grain of emmer wheat, 1 emmer or spelt wheat glume base, 1 indeterminate glume base, from 17 l sample comprising all of layer. Layer recorded as containing >50% small charcoal fragments
F85065	0.25	0.09	Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable sandy loam with burnt stone fragments (85066)	charcoal flecks

<i>Ditch</i>	<i>Cut</i>	<i>Width (m)</i>	<i>Depth (m)</i>	<i>Stratigraphic relationships</i>	<i>Description</i>	<i>Fill(s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Artefacts</i>	<i>Charred material</i>	<i>¹⁴C</i>
F85067		0.30	0.08		Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable sandy loam with very few inclusions (85068)				charcoal flecks	
F85069		0.28	0.11		Shelving sides, rounded base	Brown (10YR 4/3) sandy loam without inclusions (85069)					
F85071					Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable sandy loam with very few inclusions (85072)				charcoal flecks	
F85073		0.28	0.10		Shelving sides, rounded base	Dark yellowish brown (10YR 3/4) friable sandy loam without inclusions					
F85075		0.42	0.09		Shelving sides, rounded base	Dark brown (10YR 3/3) friable silty loam with gravel, becoming clayey at bottom of fill (85076)					
F85077		0.42	0.09		Gently rounded profile in W, E side undercut	Dark greyish brown (10YR 4/2) plastic clayey silt (85097) overlain by lighter brown (10YR 4/3) friable silty loam (85078)				85097: occasional charcoal	
F85095		0.20	0.06		Shelving sides, rounded base	Brown (10YR 4/4) silty loam (85096)				charcoal flecks	
F85102		0.24	0.08		Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable silt loam mixed with redeposited sand (85103)					
F85104		0.20	0.16		Steep sides, almost pointed profile	Brown (10YR 4/3) friable silty loam with burnt stone (85105)					
F85106		0.48	0.14		U-profiled	Dark yellowish brown (10YR 4/4) friable silt loam (85108) overlain by black (10YR 2/1) friable silt with some burnt stone (85107)				85107: >600 grains, mainly of cleaned emmer wheat where identifiable, with small quantities of barley, spelt, and weeds, from 10 l sample comprising half of layer, also several fragments of charcoal	1050–830 cal BC (2795±40 BP; OxA-7946) and 1110–830 cal BC (2815±40 BP; OxA-7905) on 2 individual emmer grains
F85109		0.24	0.08		Shelving sides, rounded base	Dark brown (10YR 3/3) friable silty loam without inclusions (85110)					
F85111		0.24	0.05		Shelving sides, rounded base	Very dark greyish brown (10YR 3/2) friable silt loam (85112)					
F85113		0.44	0.07		Probably remains of a posthole. Cut by modern field drain	Dark yellowish brown (10YR 4/4) friable silt loam (85114)					
F85115		0.26	0.07		Shallow, ?posthole with rounded base	Brown (10YR 4/3) friable silt loam (85116)					
F85119		0.50	0.06		Shallow, ?posthole with rounded base	Dark brown (10YR 4/3) friable silt loam with sand and gravel (85120). Similar to fill of adjacent pit F85117					
F85121		0.32	0.06		Shallow possible posthole	Dark yellowish brown (10YR 4/4) friable silt loam (85122)					

F85123	0.34	0.07	Shelving sides, flat base	Brown (10YR 5/3) friable silt loam brown (85124)			
F85127	0.23	0.10	Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable silty loam (85128)			
F85133	0.65	0.35	Steep sides, rounded base, deeper to W	Mainly dark greyish brown (10YR 4/2) silty loam but with blotches of light brown silt and orange sand (85134)			
F85135	0.40	0.14	Shelving sides, flat base	Very dark greyish brown (10YR 3/2) friable silty loam (85136)			
F85137	0.20	0.08	Shelving sides, flat base	Brown (10YR 4/3) friable silt loam (81318)			
F85139	0.40	0.06	Oval in plan. Could be remains of a double posthole or small pit	Dark yellowish brown (10YR 4/4) friable silt loam			
F85141	0.30	0.18	Steep sides, rounded base	Dark yellowish brown (10YR 4/4) friable silt loam			
F87601	0.42	0.25	Steep sides, flat base	Mixed dark brown (10YR 3/3) and dark yellowish brown (10YR 4/4) friable silt loam and sand fill. Upper part dark brown and silty, lower lighter sand with 7% small-medium stones (87600)	*	Flake charcoal flecks	
F87611	0.38	0.26	Steep sides, almost flat base	Dark brown (10YR 4/3) quite plastic, gritty sandy clay loam with 3% very small stones (87610)			
F87615	0.24	0.07	Shelving sides, rounded base	Dark yellowish brown (10YR 4/4) friable sandy silt loam with 1% very small stones (87614)			
F87617	0.32	0.10	Steep sides, flat base	Dark brown (10YR 3/3) plastic clay loam with 1% very small stones (87616)		<1% charcoal flecks	
F87619	0.36	0.22	Steep sides, almost flat base	Dark brown (10YR 3/3) plastic silty clay loam with 1% very small stones (87618)		Flake	
F87621	0.31	0.17	Steep sides, flat base	Dark brown (10YR 4/3) plastic silty loam with 1% very small stones		<1% charcoal flecks	
Pits near structure 157209							
F85117	0.70	0.10	Possibly truncated bottom of pit. Shallow, gently rounded	Dark brown (10YR 4/3) friable silt loam with gravel (85118)			
F85131	0.64	0.16	Irregular, sub-circular cut with flattish bottom except for what hole in E half	Brown (10YR 5/3) friable silt mixed with natural sand (85132)			
F85145	0.75	0.07	Possibly bottom of a pit. Oval, shallow, with sides sloping to a rounded bottom.	Dark greyish brown (10YR 3/2) friable silt fill (85146)			
F87603	0.32	0.12	Bottom of pit or posthole. Shelving sides, rounded base	Dark brown (10YR 4/3) slightly plastic silty loam with 1% very small stones (87604)			
F87607	0.84	0.52	Pit. Steep sides, slightly rounded base	Very dark greyish brown (10YR 3/2) plastic silty clay loam with 1% very small stones. Possibly scorched (87606)			

<i>Ditch</i>	<i>Cut</i>	<i>Width (m)</i>	<i>Depth (m)</i>	<i>Stratigraphic relationships</i>	<i>Description</i>	<i>Fill(s)</i>	<i>Human remains</i>	<i>Animal bone</i>	<i>Artefacts</i>	<i>Charred material</i>	<i>¹⁴C</i>
Ditch 87464											
F87465	0.29	0.12		Probably cut F87459	Shelving sides, flat base	Dark yellowish brown (10YR 3/4) gritty, slightly plastic sandy clay loam with burnt stone and less than 1% very small stones (87466)			Flake		
F87467	0.45	0.20			Shelving sides, flat base	Dark yellowish brown (10YR 3/4) gritty, slightly plastic sandy clay loam with 1% large stones (87468)			2 fragments/ 1g ?Beaker (E) 4 flakes, blade		
Pit row 15794											
F87430	0.78	0.21			Roughly rectangular with flat base and steep sides	Dark brown (with yellowish brown mottling) sandy clay loam with about 1% very small stones (87431)				Charcoal flecks	
F87432	0.81	0.12			Roughly rectangular, shallow with flat base and vertical sides	Very dark brown sandy clay loam with yellowish brown mottling and 1% small stones (87433)				Charcoal flecks	
F87434	0.76	0.14			Roughly rectangular, shallow with steep sides and flat base	Dark brown sandy clay loam with occasional small patches of burnt clay (87435)				Charcoal flecks	
F87436	0.91	0.08			Relatively long, roughly rectangular cut with steep sides and a flat base	Very dark brown sandy clay loam with 1% very small stones (87437)				Charcoal flecks	
F87438	0.66	0.05			Relatively shallow, roughly rectangular, with steep sides and flat base	Dark yellowish brown sandy clay loam with less than 1% very small stones (87439)				Charcoal flecks	
F87440	0.80	0.08			Roughly rectangular cut with steep sides and a slightly convex base (latter probably due to possible root disturbance at westernmost edge)	Dark brown sandy clay loam with 1% very small stones (87441)				Charcoal flecks	
F87442	0.79	0.08			Roughly rectangular, shallow cut with steep sides and a flat base	Dark brown sandy clay loam with less than 1% small stones (87443)				Charcoal flecks	
F87444	0.89	0.10			Relatively long, roughly rectangular cut. E steep, W less so (at about 45 degrees to the vertical)	Dark brown sandy clay loam containing with very small and infrequent patches of burnt clay (87445)			Flake	Charcoal flecks	
F87446	0.52	0.20			Roughly circular cut with a flat base, relatively deep. S edge about 80 degrees from horizontal, N edge almost vertical. Rounded and deeper than the other cuts	Dark yellowish brown sandy clay loam with less than 1% very small stones (87447)				Charcoal flecks	
Redlands Farm ditches and gulleys											
F442	0.40	0.35		Clipped E side of structure 701 and may have removed 1 posthole	Shelving sides, rounded base	Yellow-brown silty loam with gravel, quartz and flint (441)			1 small sherd Roman grey ware		

F637				Shelving sides, flat bottom	Light brown sandy silt (638)	
F658					Brown sandy silt with gravel and limestone (659)	1 small sherd Roman grey ware
F672	0.75	0.28		Shelving sides, rounded base	Brown sandy silty clay loam (673)	
F674	1.40	0.30		Irregular profile, generally shelving sides, rounded base	Orange-brown sandy silty loam with occasional pebbles (675)	
F676	0.50	0.19	Cut by F687	Shelving sides	Orange-brown sandy silt loam with occasional gravel (677)	
F684	0.50	0.20	Cut by F687	1 steep side, 1 shelving side, flat to rounded base	Orange brown sandy silt loam (685)	
F687	0.80	0.22	Cut F676, F684	Shelving sides, rounded base	Orange-brown sandy silt (689)	
F695	0.83	0.09	On line of F676 & F684, but much wider and shallower	Minimal profile	Brown sandy silt (696)	
Redlands Farm structure 701						
F625	0.59	0.30		Shelving sides, almost flat base	Grey-brown silty sand with limestone packing (626)	
F629	0.55	0.39		Vertical sides, flat base	Grey-brown sandy silt with limestone packing (630)	
F645	0.60	0.26	Angled towards F647	Steep sides, rounded base	Brown silty sand with limestone packing (646)	
F647	0.40	0.11	Next to F645	Steep sides, fairly flat base	Grey-brown sandy silt with limestone (648)	
F666	0.50	0.20		Shelving sides, rounded base	Grey sandy silt with clay inclusions and limestone packing (667)	
F668	0.41	0.20		Steep sides, almost flat base	Dark brown-grey sandy silt with occasional gravel (669)	
F704	0.40	0.12		Fairly steep sides, flat base	Dark brown sandy silt with some limestone (705)	

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