3
The Development of the Monuments

Frances Healy, Jan Harding and Alex Bayliss

Look on this dust the living and the dead
Are in its atoms – present life and past
Are all its future

John Clare, The Churchyard

3.1 Patterns and themes

Jan Harding

The monuments of the earlier Neolithic in Britain display both dispersal and aggregation in their siting across the landscape. There are, on the one hand, many widely spaced long barrows, chambered tombs and causewayed enclosures, perhaps reflecting the mobile lifecycles of segmentary and scattered populations during the 4th millennium (J Harding 1995, 118–19). Set against this distribution is another distinctive pattern in which monuments cluster together in clearly defined complexes of sites. These foci – now well documented in the upper Thames catchment and the Midlands, to cite two of the better-researched areas – can consist of two or three long barrows, or, more rarely, a pair of causewayed enclosures, but usually incorporate a cursus along with a range of 4th millennium burial sites, enclosures and ring ditches (A Barclay and Hey 1999; Gibson and Loveday 1989; Last 1999; Loveday 1985; 1989; 1999; Malim 1999). They can be considered, in contrast to the isolated monuments, as concentrated embodiments of group history and sacred belief, even as 'ritual landscapes' (Thorpe 1984, 58) or places that 'symbolise the centralisation of newly emerging political structures' (J Harding 1995, 124). Raunds is one such complex, but unlike many others, it combines a long barrow with mounds and an avenue of far less usual form, all built along the valley floor early in the 4th millennium.

Despite the large number of Early Neolithic monument complexes, little is known about what they represent. A central question is whether they resulted from bursts or pulses of activity, in which a number of structural foci were created and used concurrently, or whether they were ongoing projects, with only a single monument in use at any one time. The question is all the more important because these processes reflect contrasting social dynamics. If a monument complex resulted from large-scale bursts of activity, in which complementary or alternative places were constructed, then it may represent the creation of a 'central place' for the articulation of new social identities and alliances, perhaps during periods of insecurity or rapid change. If, on the other hand, it resulted from successive small-scale episodes of construction, or the creation over the long term of individual foci for ritual and ceremony, then the monuments need represent no more than the cumulative labour of a single social group, as its members inscribed their own unique biography or identity into the landscape. The second possibility is particularly plausible if there does not appear to have been a preconceived intention or master plan behind the long-term development of the complex. These complexes thus 'offer a kind of narrative that is as close as prehistorians can come to writing a political history' (R Bradley 1993, 98). Yet such a narrative is only feasible when at least part of the sequential development of a complex has been established, and this has proved problematic, with notable exceptions such as Maxey and Etton in Cambridgeshire (French and Pryor 2005; Pryor *et al* 1985; Pryor 1998a), and Dorchester-on-Thames in Oxfordshire (Loveday 1999; Whittle *et al* 1992).

Many earlier Neolithic monument complexes also served as centres for ritual and ceremony during the 3rd and 2nd millennia. There are well-known cases where a henge and other related enclosures were built at an earlier ceremonial focus, the best-known being, again, Dorchester-on-Thames and Maxey and Etton. These complexes were also remodelled around the turn of the 3rd and 2nd millennia with the construction of round barrows (Loveday 1999, 49, table 5.1; Pryor *et al* 1985, fig 15),

a pattern that is repeated across the Midlands, East Anglia and the upper Thames catchment (Loveday 1989, 71–2; Malim 1999). But what is actually represented by these later phases of activity, including perhaps the construction at Raunds of the Cotton 'Henge', and then, during a more intensive period of building, at least twenty Early Bronze Age round barrows? Are we witnessing the continuity of tradition, a conscious commemoration of an earlier set of meanings using the architectural repertoire of the time? If so, does it suggest an unchanging political history or one that embraced change through continuity? Alternatively, do these later monuments indicate the invention of tradition, or what has been described as the effective reworking and transformation of earlier places in a conscious attempt to use the past to legitimise the new social order of the present (R Bradley 1987a, 3–4)?

These are all central questions for understanding the development of monument complexes, and they provide some of the thematic background to this chapter. The radiocarbon chronology (Panel 3.1; Table 3.1) forms the basis for the principal sections into which the chapter is divided, each section considering the development of the complex alongside some of the larger interpretative questions. The radiocarbon dates suggest two major phases of monument construction, the first of which was the building of the Long Mound, the Turf Mound, the Avenue and the Long Barrow in the early 4th millennium. Their appearance was preceded during the 5th millennium by occupation and

Panel 3.1 Chronology

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The chronological framework for this volume is founded on 98 radiocarbon dates obtained on samples from prehistoric contexts within the Raunds Area Project between 1989 and 1998. Their assessment, analysis and interpretation are documented in detail in Chapter SS6. The results are listed in Table 3.1 as conventional radiocarbon ages (Stuiver and Polach 1977) quoted in accordance with the international standard known as the Trondheim convention (Stuiver and Kra 1986).

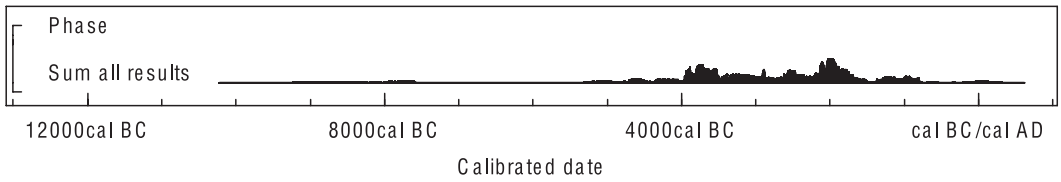
Calibration

The simple calibrations of these results, which relate the radiocarbon measurements directly to the calendrical time scale, are listed in Table 3.1, and are shown in graphs in black where the probability distributions are not constrained by other information (eg Panel 3.2), and in outline where they are (eg Figs 3.14, 3.31). All have been calculated using the dataset published by Stuiver *et al* (1998) and the computer program OxCal version 3.5 (Bronk Ramsey 1995; 1998; 2000). The calibrated date ranges cited in the text are those for 95% confidence. They are quoted in the form recommended by Mook (1986), with end points rounded outwards to ten years. The *estimated date ranges* quoted in italics are derived from the mathematical modelling of the archaeological chronology and are posterior density estimates. The ranges in normal type have been calculated according to the maximum intercept method of Stuiver and Reimer (1986). All other ranges are derived from the probability method (Stuiver and Reimer 1993). Weighted means have been taken from replicate measurements before calibration (Ward and Wilson 1978).

Analysis

The information available from the radiocarbon dates and the archaeological stratigraphy has been combined to provide estimates of the chronology of the individual monuments and of the landscape as a whole, like those represented graphically in the figures in this chapter. It should be emphasised that these estimates are often based on restricted evidence. This results from the limited choice of samples suitable for radiocarbon dating and from the stratigraphic isolation of almost all the monuments, which means that few dates can be constrained by others from earlier and later contexts.

A Bayesian approach has been adopted for the interpretation of the data (Buck *et al* 1996). The technique used is a form of Markov Chain Monte Carlo sampling and has been applied using the program OxCal version 3.5 (http://www.rlaha.ox.ac.uk/orau; Bronk Ramsey 1995; 1998; 2000), which uses a mixture of the Metropolis-Hastings algorithm and the more specific Gibbs



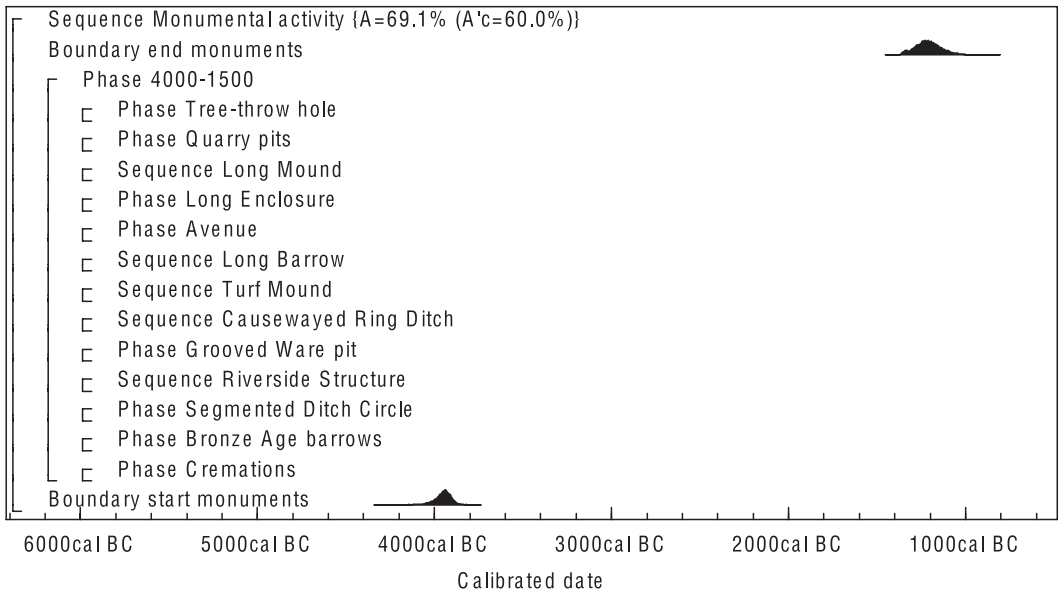
Sum of the probability distributions of the simple calibrated radiocarbon dates from the Raunds Area Prehistoric project. A weighted mean has been taken of replicate measurements before calibration (see Table 3.1). This distribution provides an estimate of the chronological distribution of the events dated by radiocarbon measurements.

sampler (Gilks *et al* 1996; Gelfand and Smith 1990). Details of the algorithms employed by this program are available from the on-line manual, and fully worked examples are given in the series of papers by Buck *et al* (1991; 1992), Buck, Litton *et al* (1994), and Buck, Christen *et al* (1994). The algorithms used in the models described below can be derived either from the structure shown in the second graph in this panel and the graphs in this chapter, or from the chronological query language files that are contained in the project archive.

It has been demonstrated that, when radiocarbon dates are constrained by relative dating information, there is a danger that the posterior density distributions may be spread evenly across plateaux in the calibration curve, irrespective of the actual age of the material dated (Steier and Rom 2000). This is because the statistical weight of a group of measurements naturally favours longer overall spans. This effect can be eliminated by imposing a uniform prior distribution on the spread of the dates while assuming that, within this distribution, the dates are independent and a random sample of a relatively constant level of human activity. This is the technique that has been employed in this analysis.

In this case the prior distribution is derived from the sum of the probability distributions of all the dated events (above). There are very few dated events before *c* 4000 Cal BC or after *c* 1500 Cal BC. Within this period, dated events are not distributed uniformly, but peak in the earlier fourth millennium and in the centuries around 2000 Cal BC. Despite this, the dated events which fall into this period have been modelled as if they were distributed uniformly (below). This does not in fact introduce any appreciable distortion, because the period is sufficiently long and the number of dated events sufficiently small that the model is robust against different assumptions about the distribution of dated events.

For example, the model shown in Figures 3.6 and 3.14, where the Long Mound is part of a uniformly distributed phase of activity running from 4000 to 1500 Cal BC, estimates that it was built in *3940–3780 Cal BC at 95% probability*. If this monument is placed instead within a uniformly distributed phase of events dated between 5000 and 2500 Cal BC, then this estimate is *3940–3780 Cal BC at 95% probability*, showing that the results rely more on data than assumptions.



Overall structure for the chronological model of activity dated to between c *4000 Cal BC and* c *1500 Cal BC from the Raunds Area Project. The component sections of this model are shown in detail in the other graphs in this Chapter and in Chapter SS6. The large square brackets down the left hand side of these figures, along with the OxCal keywords define the overall model exactly.*

Table 3.1 Radiocarbon age determinations

Site	*Sample reference*	*Phase*	*Context*	*Description*	*Laboratory number*	*$\delta^{13}C$ (‰)*	*Radiocarbon age (BP)*	*Weighted mean BP*	*Calibrated date range (95% confidence)*
'Upstream site' Irthlingborough island, SP 965 720	RS01			Organic silt on bed of palaeochannel	SRR-3604	-28.6	11395±55		11,850–11,100
'Upstream site' Irthlingborough island				Uppermost preserved organic fills of channel, base of which is dated by SRR-3604	SRR-3605	-28.5	9375±40		8790–8470 Cal BC
'Upstream site' Irthlingborough island	RS03			Rootwood of *Betula* sp or *Alnus glutinosa* growing into top of gravels, overlain by finer alluvium	SRR-3606	-28.9	5195±65		4230–3800 Cal BC
'Downstream site', SP 972 725	RS04			Well humified peat from top of eroded palaeochannel fill in cross-bedded gravel near base of floodplain sequence. 'Humic' carbon	SRR-3607a	-29.3	10870±55	10920±39 (T'=1.7, T'(5%)=3.8, ν=1)	11,200–10,700 Cal BC
'Downstream site'	RS04			As SRR-3067a. 'Humin' carbon	SRR-3607b	-29.7	10970±55		
'Downstream site'	RS07			Organic-rich sediment at base of eroded palaeochannel infill located within basal gravel units	SRR-3610	-29.7	12,420±60		13570–12180 Cal BC
'Downstream site'	RS05			Rootwood, possibly *Alnus glutinosa*, in disturbed upper layers of basal gravel unit	SRR-3808	-28.6	3840±50		2470–2140 Cal BC
Palaeochannel E, Irthlingborough island	AML 881264			Trench B141, peat from basal fills of channel	HAR-9243	-31.6	9370±170		9220–8260 Cal BC
Palaeochannel C, West Cotton	AML 881262			Peat containing wood and other plant macrofossils (NGR SP 975 728)	HAR-9241	-31.6	4300±150		3370–2470 Cal BC
Palaeochannel D, trench B139	AML 881263			Trench B139, peat from bed of West Cotton channel	HAR-9242	-29.9	1970±80		170 Cal BC – Cal AD 240
Treeholes	291-33044		62114	*Corylus/Alnus* charcoal (Gill Campbell) from top fill of treehole F62113 in trench B140	OxA-3058	-25.7	4700±80		3650–3340 Cal BC
Treeholes	291-33037		62127	Charcoal of short-lived species, ie not oak, etc (Gill Campbell) from upper fill of treehole F62126 in trench B140	OxA-3059	-26.6	6130±80		5300–4800 Cal BC
Treeholes	291-33047		62140	Charcoal of short-lived species (Gill Campbell) from bottom fill of treehole F62123 in trench B140	OxA-3057	-26.6	5370±80		4360–3980 Cal BC
Long Mound	WC85-S139	1	5460	*Quercus* sp charcoal from trunk fragments (Gill Campbell) within pit F5488 beneath W end of Long Mound	UB-3329	-24.8±0.2	5767±58		4780–4460 Cal BC
Long Mound	S27/2061	3.2	2061	Charcoal from mound. *Quercus* sp sapwood (Rowena Gale)	OxA-7940	-24.7	5035±30		3950–3710 Cal BC
Long Mound	WC85-S28	3.3	2062	*Quercus* sp charcoal (Gill Campbell) from 'plank' on surface of mound at east end	UB-3313	-26.1±0.2	4602±72		3630–3090 Cal BC
Long Mound	WC85-S127	4.2	5449	*Quercus* sp charcoal fragments from west end of gully cut into top of mound (Gill Campbell)	UB-3417	-24.60±0.2	4795±71		3710–3370 Cal BC

Long Mound	S25/990	4.3	990	*Quercus* sp sapwood charcoal (Rowena Gale) from charred stake in gully F938 cut into top of mound	OxA-7939	-24.9	5090±45		3980–3770 Cal BC
Long Mound	S26/990	4.3	990	Charred *Quercus* sp sapwood (Rowena Gale) from stake in gully F938 cut into top of mound	OxA-7951	-24.4	4970±50		3940–3640 Cal BC
Long Mound	WC85-S20	4.3	990	*Corylus/Alnus* charcoal from stake within east end of gully F938 cut into top of mound. 20 years' growth, rootlet penetration (Gill Campbell/ Mark Robinson)	UB-3324	-26.1±0.2	3883±58		2560–2140 Cal BC
Long Mound	WC85-S24	4.3	990	*Corylus/Alnus* charcoal, 10–20 years growth (Gill Campbell) from stake in east end of gully F938 cut into top of mound	UB-3320	-27.2±0.2	4417±75		3360–2880 Cal BC
Long Mound	WC85-850/5261		4.4.iN 5261	Tuber from 'quarry pit' F5263 alongside monument. *Arrhenatherum elatius* ssp *bulbosum* (Gill Campbell)	OxA-7944	-26.1	4750±45		3650–3370 Cal BC
Long Mound	WC85-874/5261		4.4.iN 5261	Charred hazelnut shell fragment from 'quarry pit' F5263 alongside monument. *Corylus* sp nut shell fragments (Gill Campbell)	OxA-7943	-23.9	4770±45		3650–3370 Cal BC
Long Mound	S133/5456	5	5456	*Quercus* sp sapwood charcoal (Rowena Gale) from group of charred wood fragments apparently burnt *in situ* in top of F5484 in disturbed area beneath W end of mound	OxA-7942	-24.2	3970±45		2620–2340 Cal BC
Long Mound	S136/5456	5	5456	*Quercus* sp sapwood charcoal (Rowena Gale) from group of charred wood fragments apparently burnt *in situ* in top of F5484 in disturbed area beneath W end of mound	OxA-7941	-23.7	4015±45		2830–2460 Cal BC
Long Mound	S134/5457	5	5457	*Quercus* sp sapwood charcoal (Rowena Gale) from group of charred wood fragments apparently burnt *in situ* in top of F5484 in disturbed area beneath W end of mound	OxA-7952	-24.8	3995±50		2660–2350 Cal BC
Avenue	291-99156		87502	Charred hazel nut shell (Gill Campbell) from F87501 of Avenue	OxA-7868	-24.4	4970±45		3940–3650 Cal BC
Avenue	291-99158		87507	Charred tubers (Gill Campbell) from F87506 of the southern Avenue	OxA-7867	-27.2	5325±50		4330–3990 Cal BC
Avenue	291-99251		87569	*Quercus* sp charcoal (Gill Campbell), recorded in field as single piece, *c* 100 mm × 60 mm, from F87566 of southern Avenue	GU-5319	-24.6	4990±110		4040–3530 Cal BC
Avenue	291-99228		87648	*Quercus* sp (Gill Campbell), recorded in field as single piece *c* 70mm × 60mm, from F87647 of southern avenue	GU-5318	-23.7	5090±60		4040–3710 Cal BC
Segmented Ditch Circle	291-91806	3	87580	Red deer antler (Simon Davis) from bottom fill of pit F87581 of Segmented Ditch Circle	GU-5317	-22.9	3560±70		2140–1690 Cal BC
Segmented Ditch Circle	291-91805	3	87640	Red deer antler (Simon Davis) from interface of primary and overlying fills in pit F87641 of Segmented Ditch Circle	GU-5316	-22.6	3570±70		2140–1690 Cal BC
Segmented Ditch Circle	291-99196	4	87556	Tuber from main fill of pit F87555. *Arrhenatherum elatius* spp *bulbosum* (Gill Campbell)	OxA-7907	-24.6	5750±45		4770–4460 Cal BC
Segmented Ditch Circle	291-99191	4	87560	Tuber from main fill of pit F87559. *Arrhenatherum elatius* spp *bulbosum* (Gill Campbell)	OxA-7958	-27.8	5455±70		4460–4050 Cal BC
Segmented Ditch Circle	291-99206	4	87595	*Corylus* sp nut shell fragment (Gill Campbell), one of two from cremation pit F87594	OxA-7906	-23.1	8715±60		8160–7590 Cal BC
Long barrow	233	1	233	Weathered human long bone from cist fill 233(1) (Angela Boyle)	OxA-5632	-20.2	4825±65	4823±50 (T'=0.0, T'(5%)=3.8, ν=1)	3710–3510 Cal BC
Long barrow	233	1	233	Weathered human long bone from cist fill 233(1) (Angela Boyle)	OxA-5633	-20.5	4820±80		

Site	*Sample reference*	*Phase*	*Context*	*Description*	*Laboratory number*	*δ13C (‰)*	*Radiocarbon age (BP)*	*Weighted mean BP*	*Calibrated date range (95% confidence)*
Long barrow	ST 239	1	239	?Cervus elaphus humerus (Simon Davis) from pit fill 239(1)	OxA-5551	-21.6	2655±55		910–760 Cal BC
Long barrow	ST128	2.2.i	226	Waterlogged seeds from top of organic ditch fill 226 in barrow quarry ditch 226. 12 species identified, submerged aquatics excluded (Mark Robinson)	OxA-3001	-26 assumed	4810±80		3760–3370 Cal BC
Long barrow	ST131	2.2.i	229	Waterlogged seeds at base of organic ditch fill. 13 species identified, submerged aquatics excluded (Mark Robinson)	OxA-3002	-26 assumed	4560±140		3650–2890 Cal BC
Long barrow	250, 32	2.2.i	226	*Quercus* sp woodchip from dump of woodworking debris within context 226, near bottom of southern barrow ditch, F303; toolmarks match worn edge of flint axe from same ditch. Quercus sp sapwood (Mark Robinson)	OxA-6406	-27.4	4960±45		3910–3640 Cal BC
Long barrow	250, 35	2.2.i	226	*Quercus* sp woodchip from dump of woodworking debris within context 226, near bottom of southern barrow ditch; toolmarks match worn edge of flint axe from same ditch. *Quercus* sp sapwood (Mark Robinson)	OxA-6405	-26.5	5005±50		3960–3660 Cal BC
Long barrow	ST140	2.2.i	226	Outer rings of *Quercus* sp plank (Mark Robinson) from within context 226, near bottom of southern barrow ditch, F303. Residue identified as sapwood by Rowena Gale	OxA-3003	-26 assumed	4790±90		3760–3360 Cal BC
Long barrow	168, 276	2.2.ii	168	*Alnus glutinosa* root cluster (Mark Robinson) growing into fills of southern barrow ditch F303	OxA-6403	-27	3610±80		2200–1740 Cal BC
Long barrow	185, 284	2.2.ii	168	*Alnus glutinosa* root cluster (Mark Robinson) growing into fills of southern barrow ditch F303	OxA-6404	-28.4	3685±65		2290–1880 Cal BC
Long barrow	Skel 130	3.2	130	Adult ?male human femur, tibia, fibula + pelvis (Angela Boyle) from burial	OxA-5549	-20.9	3665±45		2200–1890 Cal BC
Long barrow	Skel 131	3.2	131	Collagen from adult female human femur and tibia (Angela Boyle) from burial with Beaker	BM-2833	-21.4	3450±45		1890–1630 Cal BC
Long barrow	Skel 131	3.2	131	Disarticulated subadult humeral diaphysis (Angela Boyle) from same grave as articulated skeleton dated by BM-2833	OxA-5550	-21.8	3730±45		2290–1980 Cal BC
Long barrow	ST 126	3.3	208	*Quercus* sp charcoal (Mark Robinson) associated with cremation outside NE end of barrow	OxA-2989	-27.2	3320±80		1860–1420 Cal BC
Turf Mound	WC85-S98	3.2	6302	*Quercus* sp charcoal fragments (Gill Campbell) from gully F6303 cut into top of N end of mound, close to stake dated by UB-3314 and possibly derived from it	UB-3317	24.8±0.2	4873±56		3770–3530 Cal BC
Turf Mound	WC85-S99	3.2	6302	Charred *Quercus* sp stake *c* 80mm diameter (Gill Campbell) from gully F6303 cut into top of N end of mound	UB-3314	-24.1±0.2	4937±56		3910–3640 Cal BC
Turf Mound	S97/6302	3.2	6302	Charred *Corylus* root (Gill Campbell) from gully F6303 cut into the top of N end of mound	OxA-7945	-23.9	5035±35* double precision run		3950–3700 Cal BC
Turf Mound	S100/6361	3.2	6361	Charred *Corylus* root (Gill Campbell) from gully F6366 cut into top of N end of mound	OxA-7865	-24.3	4975±35* double precision run		3910–3660 Cal BC

Turf Mound	S90/6053	4.2	6053	*Corylus* sp charcoal (Gill Campbell) from 'plank' in pit F6047 under S end of mound	OxA-8017	-25.8	3920±30* double precision run	3895±21(T'=1.4, T'(5%)=3.8, ν=1)	2470–2290 Cal BC
Turf Mound	S90/6053	4.2	6053	*Corylus* sp charcoal (Gill Campbell) from 'plank' in pit F6047 under S end of mound	OxA-7947	25.7	3870±30* double precision run		
Long Enclosure	WC85-S32		2102	Proximal cattle tibia (Simon Davis) from primary fill of ditch, *c* 0.15 m above base,	UB-3308	-28.4±0.2	4278±156		3360–2460 Cal BC
Long Enclosure	WC85-S56		2102	Red deer antler rake within primary fill of ditch, *c* 0.10 m above base. Shed and worked antler (Simon Davis).	UB-3312	-23.5±0.2	4411±77		3360–2880 Cal BC
Causewayed Ring-ditch	291-33421		38317	*Alnus/Corylus* charcoal (Gill Campbell) from primary silt of N terminal	OxA-3055	-23.4	4480±70		3370–2910 Cal BC
Causewayed Ring-ditch	291-55374		38387	*Corylus* sp charcoal (Gill Campbell) from primary silt	OxA-7904	-23.8	4505±45		3370–3020 Cal BC
Causewayed Ring-ditch	291-55372		38100	Red deer antler tine (Simon Davis), part of fragmentary antler implement lying beside antler pick in recut in S terminal of ditch	OxA-3121	-23	4450±90		3490–2880 Cal BC
Minor features	291-33382		31821	Hazelnut shells (Gill Campbell) from fill of pit F31820, which contained Grooved Ware	OxA-3056	-24.3	4210±70		2920–2580 Cal BC
Riverside Structure	WC85-U7135		7135	*Corylus/Alnus* wood within gravel beneath brushwood (Gill Campbell).	UB-3419	-29.0±0.2	4268±32		2920–2870 Cal BC
Riverside Structure	WC85-S163		7141	*Fraxinus* wood from regularly laid poles at base of brushwood layer between W ends of main alder trunks. Outer rings available *c* 10 years (Gill Campbell)	UB-3321	-27.7±0.2	4062±54		2830–2340 Cal BC
Riverside Structure	WC85-S146		6765/ 7118	Wood from main trunk of Riverside structure. *Corylus/Alnus* type, ? >50 years (Gill Campbell)	UB-3319	-29.2±0.2	3990±54		2560–2140 Cal BC
Riverside Structure	WC 7109 CAS		7109	*Castor fiber* femur in deposits postdating Riverside Structure (U Albarella)	OxA-4740	-21.8	2900±60		1300–910 Cal BC
Barrow 1	291-6410	2.1	30476	Human bone from adult male (Janet Henderson) from primary Beaker burial in grave F30426	UB-3148	-21.0±0.2	3681±47		2200–1920 Cal BC
Barrow 1	291-11439	2.1	30467	*Quercus* sp sapwood (Rowena Gale) from chamber or coffin enclosing primary Beaker burial in grave F30426	OxA-7902	-25.1	3775±45		2400–2030 Cal BC
Barrow 1	291-35126	2.1	30481	Boar's tusk (Andrew Foxon), one of grave goods accompanying primary Beaker burial in grave F30426	OxA-4067	-22.4	4100±80		2890–2460 Cal BC
Barrow 1	291-34873R	2.2	30417	R aurochs second molar, ?upper (Simon Davis) from bone cairn overlying Beaker burial, forming part of same find as sample for OxA-2086, with other teeth and a horncore all from domestic cattle	OxA-2085	-21.0 assumed	4040±80		2880–2340 Cal BC
Barrow 1	291-34873L	2.2	30417	L aurochs second molar, ?upper (Simon Davis) from bone cairn overlying Beaker burial, forming part of same find as sample for OxA-2085, with other teeth and a horncore all from domestic cattle	OxA-2086	-21.0 assumed	3810±80		2470–1980 Cal BC
Barrow 1	291-34628R	2.2	30417	Upper R cattle molar (Simon Davis) from badly preserved skull in bone cairn overlying Beaker burial	OxA-2084	-21	3610±110		2290–1680 Cal BC
Barrow 1	291-35082R	2.2	30417	Upper R cattle molar (Simon Davis) from badly preserved skull in bone cairn overlying Beaker burial	OxA-2087	-21.0 assumed	3810±80		2470–1980 Cal BC

Site	*Sample reference*	*Phase*	*Context*	*Description*	*Laboratory number*	*δ13C (‰)*	*Radiocarbon age (BP)*	*Weighted mean BP*	*Calibrated date range (95% confidence)*
Barrow 1	291-6409	3.3	30470	Human bone of adult male (Janet Henderson) from secondary inhumation F30449	UB-3147	-22.1±0.2	3504±38		1940–1690 Cal BC
Barrow 1	291-6400	3.3	30018	Cremated bone from deposit F30017, combining ?male of 20–40 yr and child of *c* 13–14 yr (Simon Mays), accompanied by early Bronze Age urn, bronze dagger with horn hilt, antler pommel, bone pin	GrA-22378[1]		3520±40		1950–1730 Cal BC
Barrow 1	291-11076	8.3	30031	Charred *Arrhenatherum* tubers (Gill Campbell) from cremation F30030 cut into silted middle ditch	OxA-3089	-26 assumed	2950±50		1370–1000 Cal BC
Barrow 1	291-11256	8.3	30309	Indet tuber fragments (Gill Campbell) from lower fill of cremation pit F30307, outside outer ditch	OxA-7948	-25.4	3005±35		1390–1120 Cal BC
Barrow 3	291-33027	1	39107	*Quercus* sp charcoal (Gill Campbell) from fill of posthole F39107 cut into fill of pit F39102	OxA-3051	-22.9	3590±70		2140–1740 Cal BC
Barrow 3	291-33008	5.1	30738	*Rhamnus* catharticus charcoal (Gill Campbell) from spread in fill of second ditch	OxA-7903	-25.1	3650±45		2140–1880 Cal BC
Barrow 3	291-33008	5.1	30738	*Prunus* sp charcoal (Gill Campbell) from spread in fill of second ditch	OxA-7949	-24.5	3610±40		2130–1820 Cal BC
Barrow 4	291-33478		60315	Oak charcoal (Gill Campbell) from 'plank' within barrow mound	OxA-3053	-25.1	3530±70		2110–1680 Cal BC
Barrow 4	291-33467		60312	Charred tubers (Gill Campbell) from cremation in barrow mound	OxA-3052	-22.5	3450±70		1940–1530 Cal BC
Barrow 5	291-33308		47085	Highly burnt twigs (Gill Campbell) associated with cremation in F47087 between inner and outer ditches.	OxA-3054	-24.6	4460±70		3370–2910 Cal BC
Barrow 5	291-55243		47181	Tibia, large artiodactyl (Simon Davis) from pit F47168 cutting barrow mound.	OxA-7950	-21.3	3625±40	3633±37 (T'=0.3, T'(5%)=3.8, ν=1)	2140–1880 Cal BC
Barrow 5	291-55243		47181	Tibia, large artiodactyl (Simon Davis) from pit F47168 cutting barrow mound.	OxA-3120	-22.9	3680±100		
Barrow 6	WC85-U3390	1.1	3390	Disarticulated human bone from 2 adults (1 male, 1?male) (Simon Mays) in pit F3390 beneath Beaker burial	UB-3310	-21.1±0.2	4500±33		3360–3030 Cal BC
Barrow 6	WC85-F3259	1.2	3259	Human bone from adult male (Simon Mays) in central Beaker burial beneath barrow mound	UB-3311	-22.3±0.2	3608±41		2130–1820 Cal BC
Barrow 6	WC85-S47	7	3206	Charcoal fragments, oak mainly, no twiggy material (Gill Campbell) from cremation F3206 inserted into silted outer ditch	UB-3315	-27.0±0.2	3347±54		1750–1510 Cal BC
Barrow 6	S53 (3224)	7	3224	Pomoideae type charcoal (Gill Campbell) from stakehole in cremation pit F3219 cut into silted outer ditch.	OxA-7866	-23.9	3610±40		2130–1820 Cal BC
Barrow 9	Skel 747	1.1	750	Human femur, tibia, fibula (R+L) (Angela Boyle) from adult male inhumation in grave F727	OxA-5544	-21.1	3750±55	3688±35 (T'=2.2, T'(5%)=3.8, ν=1)	2200–1950 Cal BC
Barrow 9	Skel 747	1.1	750	Human femur, tibia, fibula (R+L) (Angela Boyle) from adult male inhumation in grave F727	OxA-5543	-21.4	3645±45		
Barrow 9	Skel 732	1.4	726	Human femur, tibia, fibula, radius ulna, humerus (R+L) (Angela Boyle) from child inhumation in grave F725	OxA-5547	-21.7	3495±40	3496±35 (T'=0.0, T'(5%)=3.8, ν=1)	1920–1690 Cal BC
Barrow 9	Skel 732	1.4	726	Human femur, tibia, fibula, radius, ulna, humerus (R+L) (Angela Boyle) from child inhumation in grave F725	OxA-5548	-21.6	3500±70		

Site	Sample reference	Phase	Context	Description	Laboratory number	$\delta^{13}C$ (‰)	Radiocarbon age (BP)	Weighted mean BP	Calibrated date range (95% confidence)
Barrow 9	Skel 737	1.4	730	Human femur, tibia, fibula (R+L) (Angela Boyle) from child inhumation in grave F729	OxA-5546	-21.1	3615±45	3657±30 (T'=1.5, T'(5%)=3.8, ν=1)	2140–1920 Cal BC
Barrow 9	Skel 737	1.4	730	Human femur, tibia, fibula (R+L) (Angela Boyle) from child inhumation in grave F729	OxA-5545	-21.4	3690±40		
Barrow 9	Skel 751	1.4	742	Human femora, humeri and tibia (Angela Boyle) bone from child inhumation accompanied by Beaker in grave F741	BM-2866	-21.6	3610±50		2140–1780 Cal BC
Field Systems, etc	291-80523		85061	Fraxinus sp charcoal (Gill Campbell) from posthole F85059 forming part of fenceline next to hut	GU-5320	-24.6	2990±50		1390–1040 Cal BC
Field Systems, etc	291-80522		85107	Triticum dicoccum grain (Gill Campbell) from top fill of posthole F85106 of fence associated with Bronze Age hut	OxA-7946	-21.4	2795±40		1050–830 Cal BC
Field Systems, etc	291-80522		85107	Triticum dicoccum grain (Gill Campbell) from top fill of posthole F85106 of fence associated with Bronze Age hut	OxA-7905	-22.8	2815±40		1110–830 Cal BC

[1]GrA-22378 was received after the chronological model was completed, and is not incorporated in it.

possible landscape clearance (3.2). This aspect of the evidence offers an insight into the Mesolithic–Neolithic transition. The following two sections include an account of more limited episodes of construction undertaken in the later fourth and the early 3rd millennium, including the construction of the Long Enclosure, the Causewayed Ring Ditch and perhaps the Southern Enclosure and the Cotton 'Henge' (3.3 and 3.4). The second major phase of monument construction included six dated round barrows built in the last quarter of the 3rd millennium and the first quarter of the 2nd millennium, and others that were almost certainly contemporary (3.5). The social implications of the resources needed to build the various monuments are considered for the entire period of construction in the valley (3.6), and the chapter concludes with a summary of later developments including the establishment of two systems of ditched droves and enclosures, which may have overlapped with the continued practice of cremation burial in and around the barrows, and a resurgence of ceremonial activity at some of the round barrows in the Romano-British period (3.7).

3.2 Hunter-gatherers and the first monuments

3.2.1 Introduction

Jan Harding

The validity of a chronometric fault line between a Mesolithic hunter-gatherer way of life and that of a more culturally elaborate Neolithic has been questioned. For those who emphasise continuity between the two periods, the novel package of Neolithic material culture, practices and ideology was adopted, and in part perhaps even developed, by hunter-gatherer communities that may themselves have become more socially and economically complex during the later Mesolithic (Bender 1978; R Bradley 1998, ch 2; Dennell 1983, ch 9; J Thomas 1996a, 127–33; Zvelebil 1989). These authors argue not so much for cultural succession as for the hybridisation of what had always been considered two incompatible ways of life. At the very least, they see a significant degree of economic overlap between the gathering and hunting of the Mesolithic, and the farming that traditionally constitutes the Neolithic (Dennell 1983, 189; Edwards and Hirons 1984; Entwistle and Grant 1989;

Moffett *et al* 1989; A Smith *et al* 1981; J Thomas 1999, 23–9; E Williams 1989, 518–19). Continuity of practice is also illustrated by the technological similarities of 5th and 4th millennium flint assemblages (Gardiner 1984, 17–19; Healy and Jacobi 1984; Holgate 1988, 111, 132; Jacobi 1982, 21–2; Pitts and Jacobi 1979, 171–3), and the recurrence of both in the same areas, even at the same locations, in regions as diverse and as widely separated as the East Anglian Fens (Hall and Coles 1994, 37, 41; Healy 1991, 132–5), the upper Thames catchment (Holgate 1988, fig 6.9), the Wear valley in County Durham (Young 1987, 32–6), and the Milfield Basin, Northumberland (Waddington 1999, figs 5.3, 6.3, appendix 6). In these circumstances, it is easy to see a persistence of traditional routines, including the seasonal rhythms of movement developed by previous generations (Edmonds *et al* 1999, 74). Historical continuity may have been at least as significant as cultural disjuncture in this period.

The pollen record certainly provides an abundance of evidence for landscape alteration on both sides of the conventional divide. During the later Mesolithic there were numerous small-scale episodes of forest clearance (Zvelebil 1994, 44–8). The concentration of such evidence in the uplands of northern and western England reflects the incidence of research on pollen-bearing sediments, but Mesolithic clearance also occurred across lowland Britain (Bell 1983, 142; J G Evans 1993, 150–51; Jacobi 1978, 83; Keef *et al* 1965; Rankine *et al* 1960), and may have been at least as frequent as in the uplands. During the Early Neolithic, clearance continued, and indeed became more widespread and intensive (J G Evans 1971, 65–8; 1975; Grigson 1981, 195; Mercer 1981a, xiii; Pryor 1988, 66; R W Smith 1984), and at the same time the landscape was altered as never before by the building of the first monuments. In some lowland pollen sequences the level of woodland cover remains fairly constant, with short-term fluctuations, from *c* 5000 Cal BC to *c* 3000 Cal BC or later, although there are changes in composition (most consistently the elm decline), and some cereal pollen appears. Examples include King's Pool, Stafford, and Hockham Mere and Diss Mere in Norfolk (Greig 1996, figs 2.8, 2.13, 2.14). In cases like these, the clearances of the later Mesolithic can be seen as part of a progressive historical development of purposeful land management, rather than as events that had little relevance to the following era.

Yet the likelihood of a continuous process of landscape modification, spanning both the later Mesolithic and the earlier Neolithic, is rarely entertained. One reason may be the ambiguity of the evidence from the 6th and 5th millennia. Many accept the association of charcoal and artefacts with increases in the pollen of light-demanding species as evidence that these episodes were both anthropogenic and purposeful (J G Evans *et al* 1988, 99, 102; Jacobi *et al* 1976, 315; Mellars 1976a; Mellars and Reinhardt 1978, 263–4; Simmons *et al* 1981, 104, 106; Simmons *et al* 1982, 58–62; C Williams 1985, 90–118, 128–34), but others have argued that the same effects are more likely to result from the opportunistic use and perhaps expansion of naturally occurring clearances (Boyd 1982a and 1982b; T Brown 1997; P Moore 1982; *see also* Edwards 1982). There is, in other words, no clear way of distinguishing between the natural and cultural causes of deforestation, and as a result, it is difficult to ascertain the extent of deliberate landscape management. But, by whatever processes, areas of heathland, grassland and moorland would have been established and exploited during this period, even if deliberate clearance was limited to the short-term prevention of regeneration. The result would have been a dynamic of human interaction with the landscape.

Then why are Mesolithic and Neolithic landscape modification rarely seen as a continuum? Much of the answer lies in the mutually exclusive forms of archaeological interpretation – or 'two quite distinct ways of thinking' – that characterise the study of these periods (J Thomas 1991b, 15; *see also* R Bradley 1998, 21; Mithen 1991; J Thomas 1988b, 59). Mesolithic clearance is seen as the work of hunter-gatherers who are seeking to optimise, without fundamentally altering, their subsistence practices. It is argued that strategic inroads into the tree cover improved the browse for wild herbivores, thereby controlling the natural productivity and movement of an important resource, while also encouraging the spread of useful understorey food plants (Jacobi *et al* 1976, 315–7; Mellars 1975, 53; Mellars 1976a; Mellars and Reinhardt 1978, 256, 260–61; Simmons *et al* 1981, 122; C Williams 1985, 82). Interpretation of Mesolithic clearance solely in terms of subsistence accords with a widespread minimal view of the period as

one of 'modest achievements' (Legge 1989, 224) that apparently 'led nowhere' (Rowley-Conwy 1986, 29), reflecting a wider belief that 'hunter-gatherers belong to nature' and do not therefore intervene and 'reorder the natural world' (R Bradley 1991, 135). Perceptions of earlier Neolithic deforestation are markedly different, despite the problems of defining 'when the Mesolithic ended and the Neolithic began' (Dennell 1983, 182). These transformations have been regarded as either the product of a sedentary mixed farming economy (eg Case 1969; Fowler 1981; Mercer 1981a), or as part of a developing ideology and set of practices by which nature was increasingly domesticated or controlled (R Bradley 1991, 135; Hodder 1990; J Thomas 1993, 388). The emphasis here is on the radical and deliberate alteration of the lived world. A distinction is made between places 'acted upon', which had accordingly become Neolithic, and the untamed natural landscape, a new conceptual order that was facilitated, celebrated and controlled by the long barrows, chambered cairns and causewayed enclosures, or what were themselves, monumental interventions into nature (Hodder 1990, ch 9).

With views of land clearance in the 5th and 4th millennia split between two contrasting mindsets and bodies of specialist knowledge, there is a need for an interpretative framework that links similar activities in both periods with long-term shifts in economic practice, spatial perception and belief systems. This provides the backdrop for the following discussion of the later Mesolithic and earliest Neolithic evidence from Raunds. While there is no evidence for deliberate clearance, patches of grassland existed along the valley bottom, and tree stumps were being burnt out in the 5th millennium. It is within these early clearings that, by the beginning of the 4th millennium, the first Neolithic flint and pottery occurred, closely followed by the earliest monuments.

3.2.2 The 5th millennium and before at Raunds

The earliest hint of a human presence in the area is a charred fragment of hazelnut shell dated to 8160–7590 Cal BC (8715±60 BP; OxA-7906) from the cremation burial of a probably male adult in a pit that lay within both the early 4th-millennium Avenue and the early 2nd-millennium Segmented Ditch Circle (Fig 3.87). The shell was undoubtedly redeposited in its context, but, unless it was burnt in a natural fire, it indicates that people were active here, however briefly, in the 8th millennium, when willow and hazel woodland, which had begun to develop in probably meadow-like conditions a thousand or more years before (Ch 2), may have become more prevalent. Artefacts attributable to the earlier Mesolithic are fairly scarce. There are several large, simple microliths, mainly obliquely blunted points and unclassifiable forms, and a few microburins from comparably large blades. A small number of core and flake axes has also been found, supplemented by fragments and edge resharpening flakes. Such artefacts were scattered from Redlands Farm northward along the terrace to West Cotton, where they were least infrequent (Ballin SS3.7.6). Typologically later Mesolithic lithics were more abundant, dating from a time when the valley bottom is likely to have been covered by mixed deciduous forest, including oak, lime, hazel and alder (Ch 2). There are abundant small, narrow-blade microliths, mainly edge-blunted points, scalene triangles and backed bladelets, with microburins of corresponding size, as well as microblades and the cores from which they were struck, burins, and a small selection of other retouched forms. A full, multi-functional assemblage seems to have been present. Lithics of the period were scattered the length of the terrace and concentrated, like the earlier material, at West Cotton, especially in the palaeosol beneath the Long Mound and in the turf of which it was built (Figs 3.1–2; Ballin SS3.7.6). The level of concentration in this area is reflected by the disparity between totals of 195 microliths from West Cotton and 20 from the rest of the excavated area.

As far as the evidence goes, treethrow holes began to be burnt out in the late 6th or early 5th millennium (Panel 3.2). Some burnt-out treeholes contained Mesolithic or possibly Mesolithic material, as in the north of the island (Panel 3.2), at the Avenue (3.2.3), and at the Southern Enclosure (3.3.2). The lower fill of a pit under the Long Mound (Fig 3.4: F5488) contained a flake, a blade and a microlith tip. A fire had been lit in the hollow at the top of the pit, reddening the upper fill and leaving comminuted charcoal, charcoal flecks and large pieces of charred oak, which must have burnt *in situ*, otherwise they would not have remained coherent. A sample from one of them is dated to 4780–4460 Cal BC

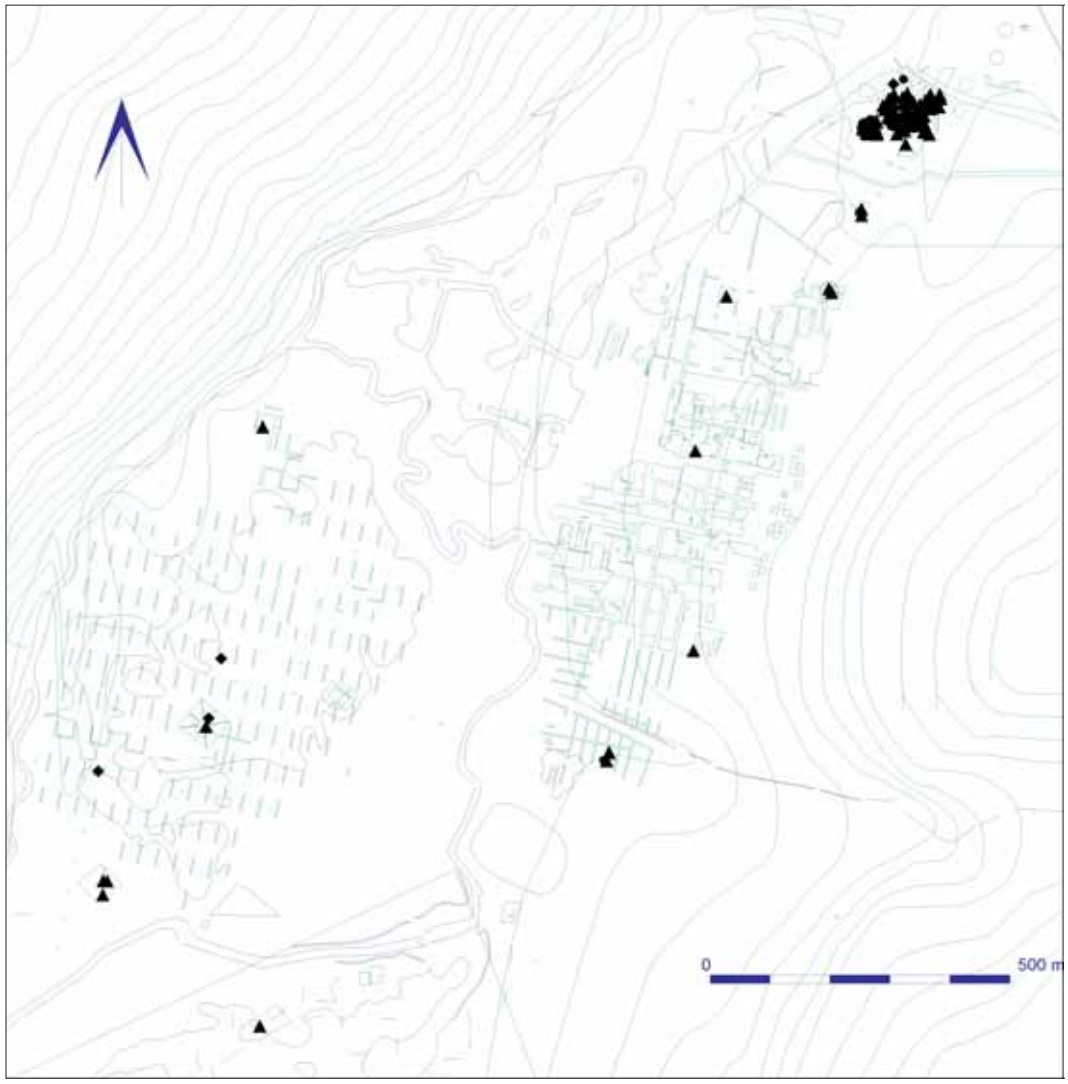


Figure 3.1
Distribution of microliths (triangles), burins (circles) and truncated pieces (lozenges). The water-courses and areas of water are modern ones, included to help locate the image in the landscape.

(5767±58 BP; UB-3329). Even if the oak was a few hundred years old when burnt, this event almost certainly occurred during the 5th millennium, and is likely to have been the work of those who made and used the Late Mesolithic artefacts concentrated at West Cotton.

Late Mesolithic industries remained current up to or into the early 4th millennium, on the evidence of reliably associated radiocarbon dates like those for short-life charcoal and hazelnut samples burnt in the same hearth as rod microliths at March Hill in the Pennines (Spikins 2002, 43), or for samples stratified below and above five rods and two other microliths found in such proximity as to suggest that they were hafted in a single weapon in the Fir Tree Field shaft, Dorset (M Allen and Green 1998; M Green 2000, 40–43). While currently exceptional, these dates suggest that an apparent gap of centuries between the latest perceptible Mesolithic and the earliest perceptible Neolithic in England (eg R Bradley 1984a, 8) may be illusory. The Fir Tree Field shaft is particularly significant because of its location in a lowland area that saw Early Neolithic activity, rather than in a potentially marginal area like the Pennines.

The quantity and range of artefacts at West Cotton, and their potential chronological diversity, suggest that the confluence of the brook and the Nene may have been frequented intermittently over hundreds or thousands of years. Earlier Neolithic pottery and lithics concentrated in the same area (Fig 3.5) show that this use persisted into the 4th millennium. These Neolithic artefact traditions were already current by the time the Long Mound and the north end of the Turf Mound were built. The most unambiguous instances of this are leaf

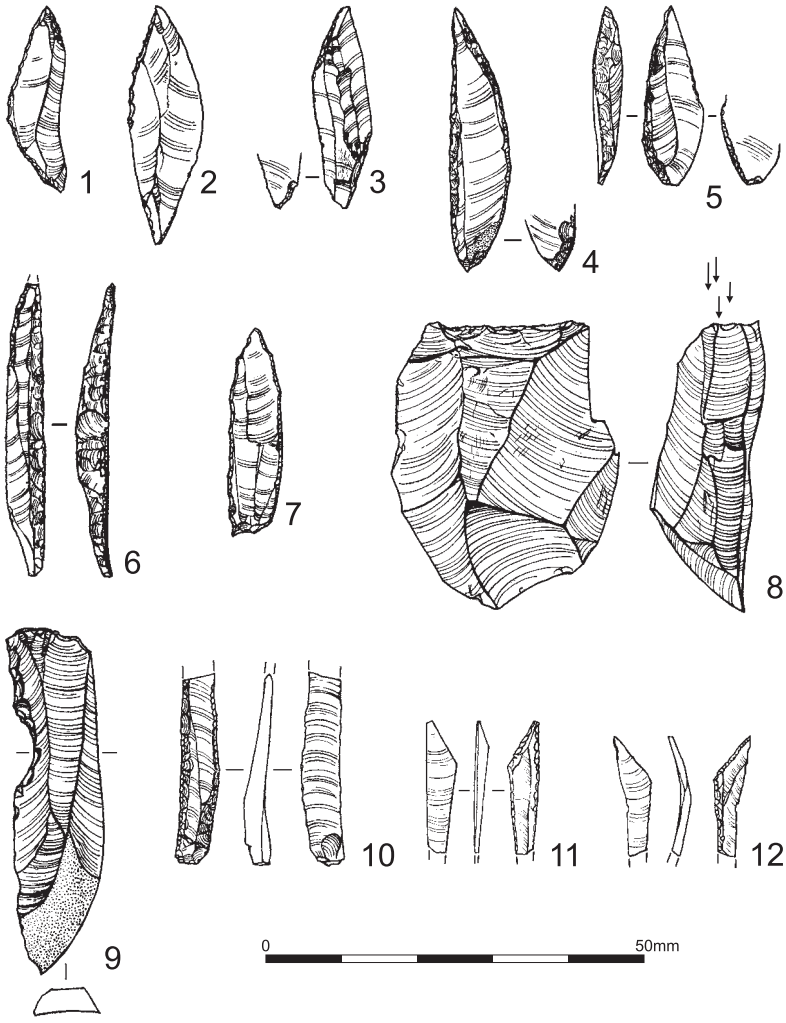


Figure 3.2
Mesolithic artefacts: 1–9 from the Long Mound, 10 from F87475 inside the Avenue, 11–12 from F87706 and F87720 near the Southern Enclosure.

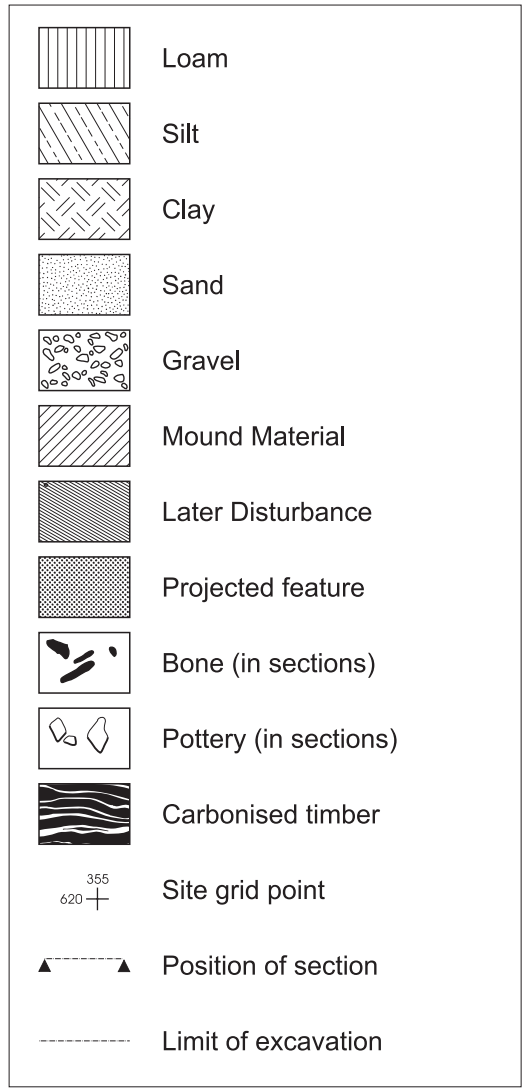


Figure 3.3
Principal plan and section conventions. Where other conventions are used they are keyed on individual illustrations.

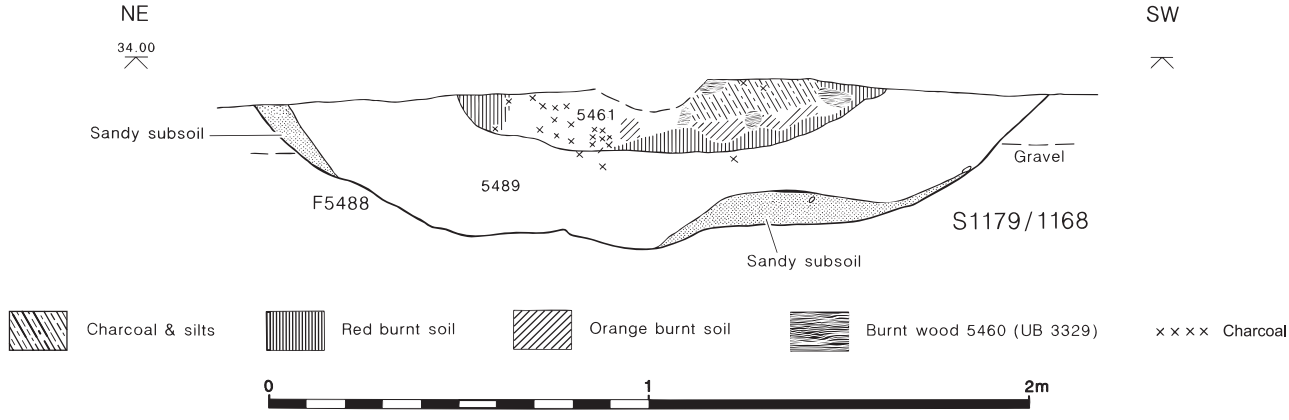


Figure 3.4
Section of F5488, beneath the west end of the Long Mound. Its location is shown in Figure 3.9.

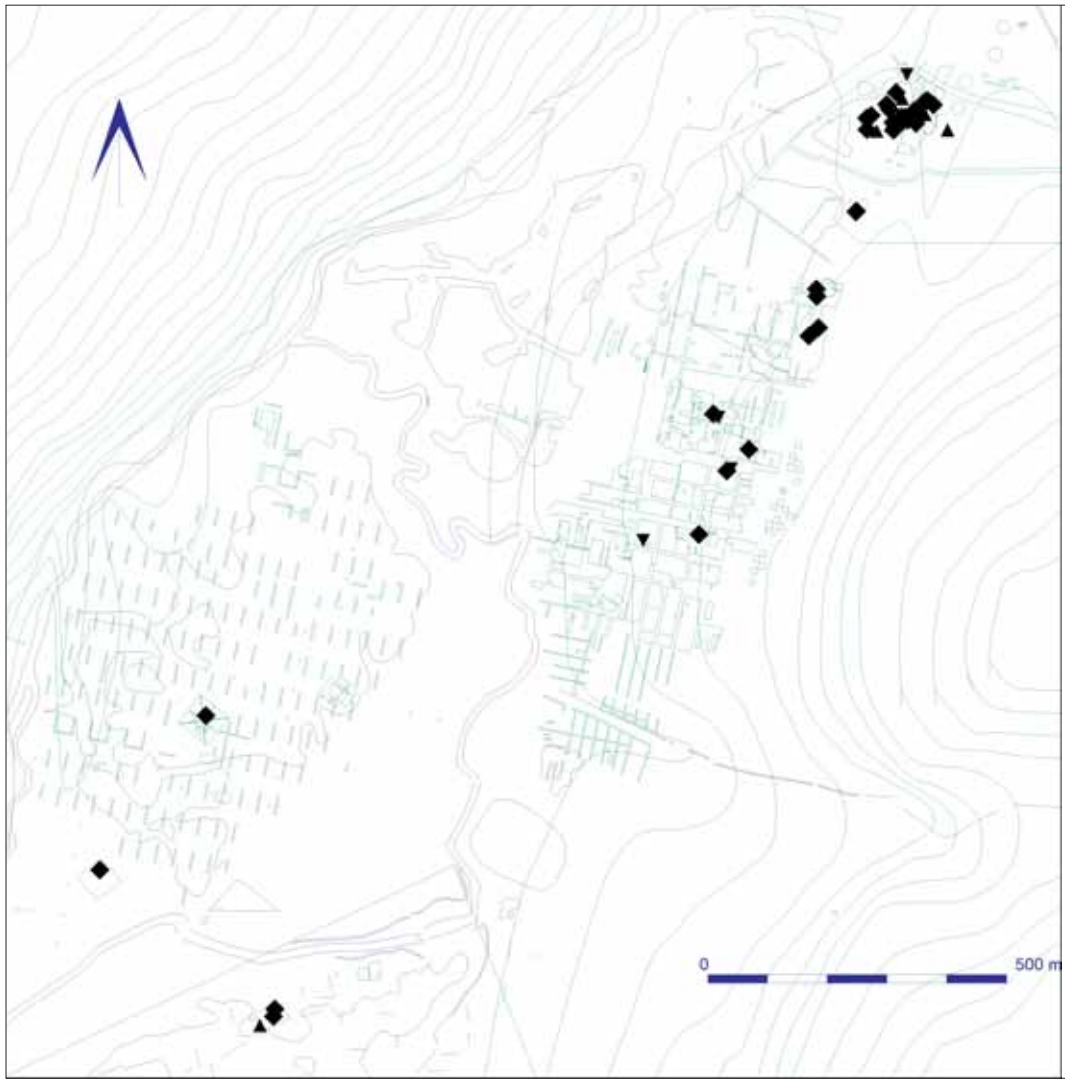


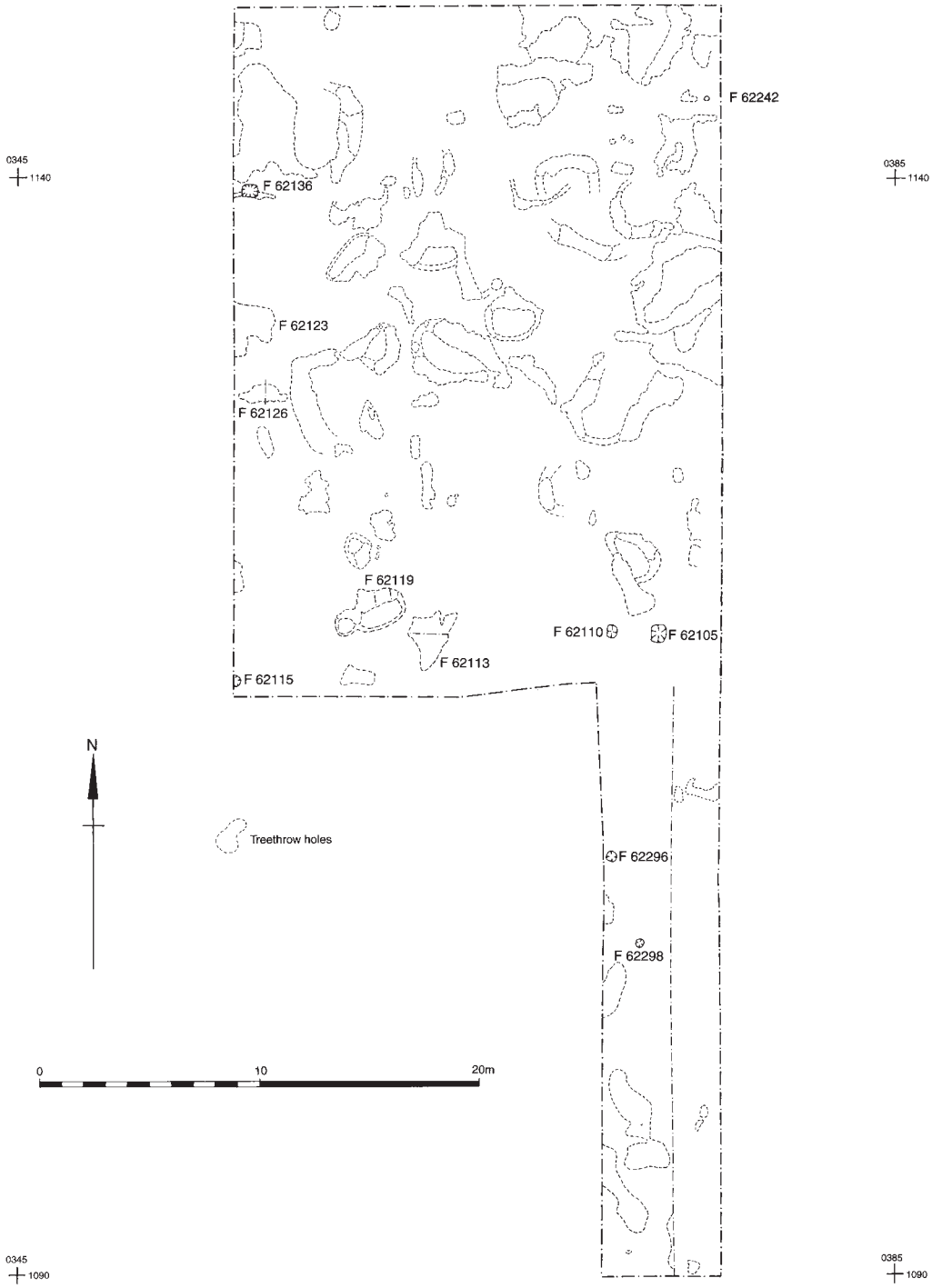
Figure 3.5
Distribution of leaf arrowheads (lozenges), ground flint axeheads or fragments of them (triangles) and stone axeheads or fragments of them (inverted triangles) in the excavated area. The watercourses and areas of water are modern ones, included to help locate the image in the landscape.

arrowheads in the body of the Long Mound and beneath the north end of the Turf Mound, and a small amount of Neolithic Bowl pottery incorporated in the Long Mound. Early Neolithic pottery and Mesolithic and Early Neolithic lithics also came from the site of Barrow 6, which was built close to the Long Mound at a much later date. An undated pit beneath the barrow bore some resemblance to F5488 in containing abundant charcoal fragments, apparently from twigs or thin branches (Fig 3.71: F3260), and an early date is also possible for another pit here (Fig 3.71: F3257), in which an exceptionally large flake and blade core of flint from the Chalk had been set with its platform horizontal.

Repeated use of the West Cotton confluence area contrasts with circumscribed single episodes on Irthlingborough island, one marked by a small assemblage knapped, used and discarded in a treethrow hole burnt out in the late 5th or early 4th millennium (Panel 3.2). Mesolithic and Early Neolithic lithics are rare on the island and Neolithic pottery is absent (Ballin SS3.7.6; Tomalin SS3.8.4). On the terrace, the picture is rather different. There is a thin and fairly continuous spread of Late Mesolithic lithics and Early Neolithic lithics and pottery, generally in later or superficial contexts. Within this thin spread, finds in prehistoric features include a bladelet and a flake in the hollows forming the Avenue, a fragmentary microlith in a tree hole within it (Fig 3.2: 10), a small scalene triangle in a pit central to and just outside the entrance to the Southern Enclosure, and another in a cluster of contemporary debitage in a burnt-out treehole next to it (Fig 3.2:

Panel 3.2. Treethrow holes in the north of Irthlingborough island

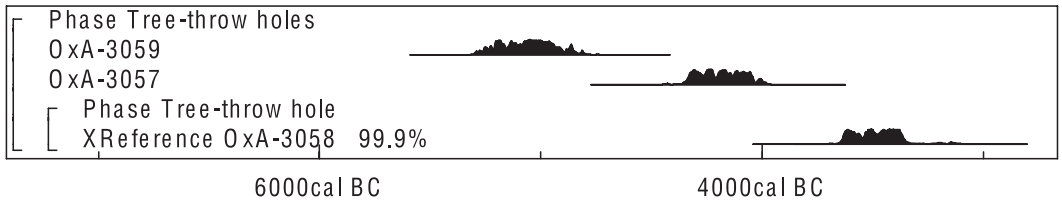
B140, an evaluation trench in the north of Irthlingborough island (Fig 1.5), was expanded so that a dense concentration of treethrow holes could be investigated. The trench was close to the Nene in one of the lowest-lying parts of the area, now less than 33m OD. It would have been lower still before alluviation (Brown and Keough 1992a, fig 4). Most of the treethrow holes had been burnt out, whether the trees that had grown in them had fallen by natural agencies or had been deliberately killed, for



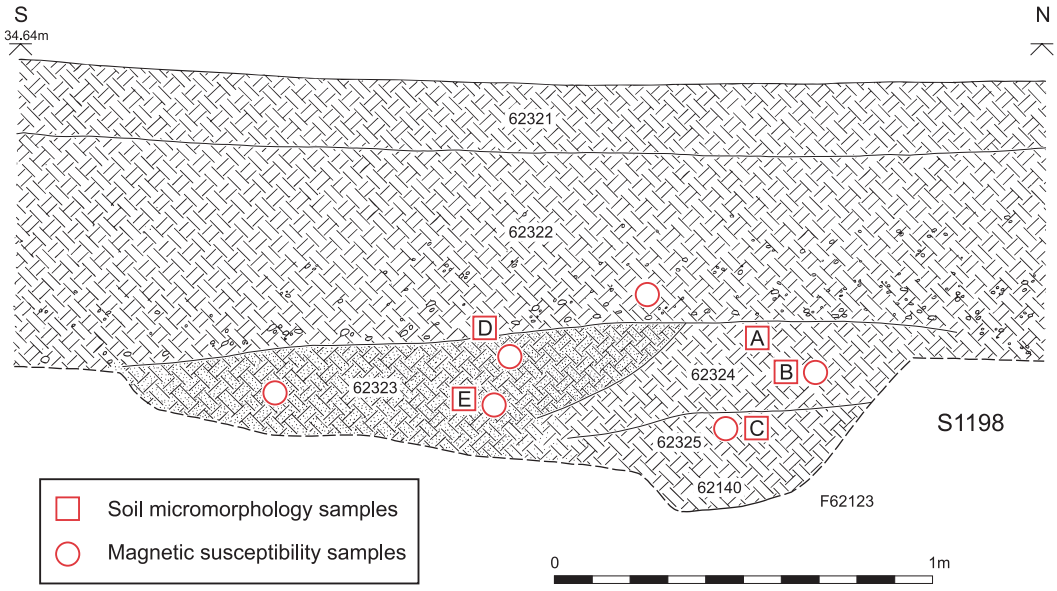
Plan of trench B140 [= Fig SS1.190].

example by ring-barking. Almost all contained fragments of burnt clayey soil. Charcoal survived badly, perhaps because of the wetting and drying and freezing and thawing induced by a fluctuating water table. Where identifiable, it was of hazel (Campbell SS4.5.2). The dated examples spanned a period from *c* 5300 to *c* 3330 Cal BC, counter to an interpretation of the whole group as resulting from a single windthrow (T Brown 1997, 141). The earliest was F62126, burnt out in the late 6th or early 5th millennium (OxA-3059). There was, exceptionally, no burnt clay in this feature. Burnt clay and charcoal were both present in F62132, where a comparable date is suggested by a fragmentary backed bladelet, found with a flake, a bladelet, and two small flint chips.

F62123 was burnt out in the late 5th or early 4th millennium (OxA-3057). In it was an assemblage of 97 pieces of struck flint, including refitting flakes and blades and small chips, both indicative of little displacement. A few were burnt, and 12 carried wear traces. A core had been used to chop wood; a flake and a blade to cut wood; another flake to whittle wood; two flakes and a hollow scraper to scrape wood; a notch to scrape soft antler or horn; three blades to cut meat; and a flake to cut or scrape fish (Grace SS3.7.4). Also present were a backed blade, a piercer, a denticulate, two further scrapers, a possible burin and a possible microburin (Ballin SS3.7.6). This small, spatially restricted, assemblage gives the impression of having been knapped and used on the spot in the course of a brief stay. A low frequency of cortical flakes indicates that cores were initially worked elsewhere. The generally large size of the blades suggests that microlith blanks were not among the intended products. The central hollow of F62123 was filled by a disrupted argillic brown earth forest soil, without the textural features that characterised the grazed grassland soils underlying the Neolithic and Bronze Age monuments. Its high organic content, and the fragmentation of the burnt clay in it, were consistent with gradual, natural infilling. Similar soils occurred in F62119, where phosphate levels were lower than in the soils beneath monuments, and in F62338 in trench B145, 30m to the south, where magnetic susceptibility was enhanced and there was less clay



Radiocarbon dates on samples from treethrow holes [= Fig SS6.3].



Section of F62123.

translocation than in the soils beneath the monuments (Macphail SS4.8.2). At the turn of the 4th and 3rd millennia too, dense alder carr was growing close to the Nene nearby, on A Brown's and Keough's 'upstream site' (Ch 2; A Brown and Keough 1992b, 194–5).

A different picture obtained in F62113, where hazel or alder charcoal from the heavily burnt upper fill was dated to the mid 4th millennium (OxA-3058). This tree seems to have been burnt out at a time when the soil had already been modified by people and animals, and when woodland was less prevalent (Macphail SS4.8). Here the burnt clay of the upper fill remained coherent, suggesting more rapid infilling, and the soil in the central hollow showed some of the same textural features as the grazed grassland soils beneath the monuments (Macphail SS4.8.2). There was a single charred cereal grain (Campbell SS4.5.2), a flint flake with a faceted butt and a burnt, cortical fragment from a broad blade (Ballin SS3.7.6). Fragments of charred onion couch grass and indeterminate tubers from F62311 (Campbell SS4.5.2) suggest that this tree also stood in grassland.

11–12; Ballin SS3.7.6). Late 5th-millennium dates, not all of them statistically consistent, for three separate samples of charred onion couch grass tuber from the Avenue and the Segmented Ditch Circle (Fig 3.17: *OxA-7867*; Fig 3.87: OxA-7907, -7938) show that rank, little-grazed grassland prevailed by then. This is the earliest dated instance of clearance, by whatever agency, in the area (Ch 2), at a time when at least part of the north of the island remained wooded (Panel 3.2).

Fieldwalking in the course of the Raunds Area Project yielded a far lower proportion of Mesolithic and Early Neolithic material, and artefacts of both periods were confined to valley-floor and valley-side locations. Mesolithic material was least infrequent just upstream from the excavated area at West Cotton, probably continuous with the concentration there (Fig 5.2; Humble 2006). There are many reasons why such material may have gone under-recognised in fieldwalking, not least the sometimes small size of contemporary concentrations of lithics compared with the extensive spreads of the 3rd and 2nd millennia, but the fact that it was found in specific kinds of location suggests that the scarcity was real and that the valley floor and sides may indeed have been the focus of activity. This corresponds to a wider concentration of Mesolithic sites and finds on light, well-drained soils along the sides of the Nene valley and in the Northamptonshire Uplands, a pattern replicated in other east Midlands river valleys (Myers 2001; G Phillips 2001). The varied geology and soils of the valley sides (Ch 1) would have provided a diversity of plant foods and organic and inorganic raw materials within a small catchment, and the river and floodplain would have been a source of fish, wildfowl, and material such as reeds and withies (Gibson 1995a). Less directly, permanent, linear clearings along the Nene and its tributaries would have provided conditions in which grasses, tubers and other understorey vegetation could flourish, and in which trees would fruit, making valleys and lakesides among the most productive lowland environments in the later Mesolithic, attractive to both animals and people (Spikins 1999, 110–11).

The Nene would have afforded ready communication through a potential territory extending from the Northamptonshire Uplands (and perhaps the upper Thames, over the watershed to the north-west) to the Fens, although the fenward part of that territory remains subvisible. The contrast between the recurrence of Mesolithic material along the Nene as far as Peterborough, for example at Orton Meadows, just upstream from the city (Mackreth forthcoming), and its scarcity farther downstream (Hall and Coles 1994, fig 15; Pryor 1984, 203) almost certainly reflects the fact that many sites of the period in the North Level are still covered by peat and other fenland deposits (French and Pryor 1992, 101–2).

3.2.3 The first monuments

In the first centuries of the 4th millennium, at least four monuments were built, marking the start of a process that would continue for more than two thousand years (Fig 3.6). These were the Long Mound, the Avenue, the northern part of the Turf Mound and the Long Barrow (Fig 1.4). A further ill-defined monument on the site later occupied by Barrows 7 and 8 may be of similar date.

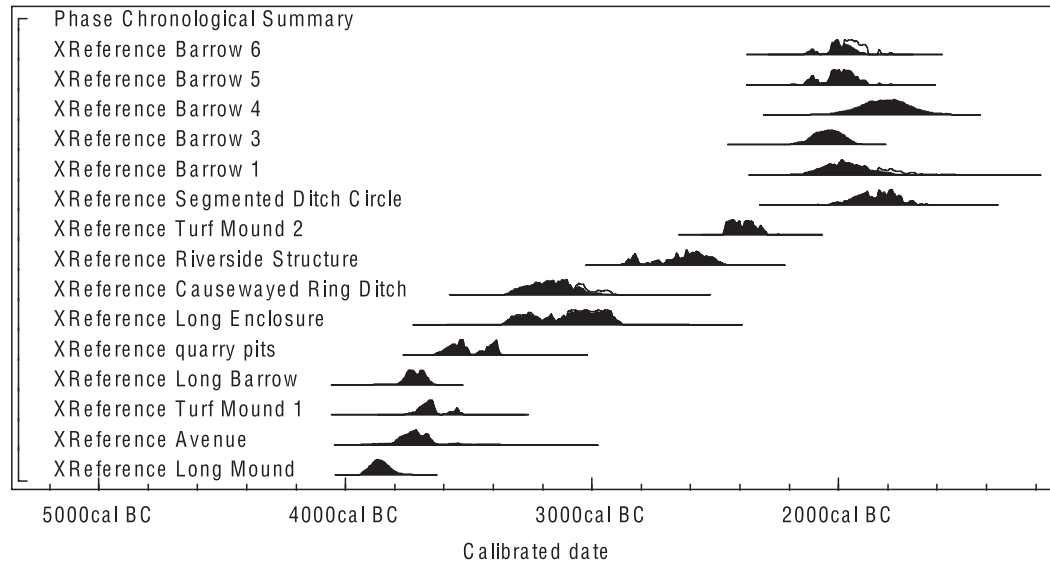


Figure 3.6
Probability distributions of construction dates of individual monuments, with a terminus ante quem *for the construction of Barrow 5. Each distribution represents the relative probability that an event occurred at some particular time. The distributions correspond to aspects of the model outlined in the graphs in this chapter. Distributions in outline are the results of simple radiocarbon calibration, solid ones are based on the chronological model used.*

The Long Mound, built *3940–3780 Cal BC?* (SS1.1)

Andy Chapman, Tony Baker, Dave Windell, Jo Woodiwiss

The Long Mound was discovered and investigated between 1985 and 1989, as its nature and extent were progressively revealed by the excavation of the medieval hamlet of West Cotton and machine-stripping in advance of quarrying. The complete monument was at least 135m long, and approximately half of it was fully excavated (Fig 3.7). The central area had been largely removed by later leat and stream channels, and a watching brief was maintained during the destruction of the western end during quarrying. The mound survived to between 0.25m and 0.80m high. Its fine, almost stone-free composition had led to extensive burrowing by rabbits, moles and worms. It had also been cut by later features, and its surface had been subjected to cultivation. There was thus ample scope for the introduction of later finds, especially small ones, into earlier contexts. These factors, and the dearth of dating evidence from some episodes, make the chronology of the monument problematic.

Pre-mound deposits and activity

Underlying soil and treeholes
The soil beneath the mound was a compacted, trampled, humic sandy loam. In it were at least eight treethrow holes (Figs 3.8–9). One, F2073 in the east-centre (Fig 3.8), contained a blade core, 14 flakes, 9 blades and a microlith. It lay at the centre of a small concentration of further Mesolithic material, within a thinner scatter of similar material in the subsoil at this end of the mound, where there was also a possible leaf arrowhead fragment (Ballin SS3.7.6).

Pits
In the west-centre two pits were cut into the pre-mound subsoil and sealed by the mound (Fig 3.9: F5488, F5691). F5488, with its 5th–millennium radiocarbon date, has already been described. The upper fill of F5691 contained fragmented charcoal and flecks of reddened sand, but there was no sign of the *in situ* burning of F5488. The only finds were two fragments of burnt bone from the lower fill. There was further burnt bone, along with charcoal flecks, burnt pebbles and charred hazelnut shell, in F2339, a small pit in the east-centre into which a stake of the substructure, described below, had been set. Also present were two grains of emmer or spelt wheat, one of free-threshing wheat and one of rye, of which at least the last two are likely to have been medieval intrusions. A few smaller pits with few or no finds may also have pre-dated the mound, including F5266 and F5269, which were both truncated by the inner edge of the north 'quarry pit' (Figs 3.9, 3.34).

The substructure
Stakeholes in the subsoil preserved the plan of a series of partitions. They survived to a depth of 100–160mm, sometimes just penetrating below the subsoil into the natural sand and gravel, and were generally

0.40–0.60m apart. The stakes would have been 70–110mm in diameter, tapering to blunt tips. They had decayed *in situ* with no trace of burning. In the west-centre, two rows of stakes parallel to the long axis of the mound, the southern of which was badly disturbed by burrows, flanked at least three transverse rows, each with a slight change in alignment towards the centre, which may reflect the former presence of an axial line, perhaps laid out in turves (Fig 3.9). This layout may have extended to the west end of the mound. The regular bays and the lateral rows suggest a framework for the earthen mound similar to those of some long barrows, as at South Street and Beckhampton Road in Wiltshire (Ashbee *et al* 1979), and to some stone long cairns, such as Hazleton North, Gloucestershire (Saville 1990, fig 46).

In the east-centre the plan was less regular and lacked surviving lateral rows. There were at least six unevenly spaced transverse rows. The north half of one was double, the two sides converging at one corner of a narrow bay (G), defined by this row, a short axial row and a transverse row recovered only to the south of the long axis (Fig 3.8). The plan here is open to many interpretations, including the possibility that at one stage bay G formed part of a free-standing structure, approached through a central gap in the most easterly transverse row along a compact, possible trampled clayey area (Fig 3.8: 5291). Small pits or postholes without finds or postpipes clustered at the south edge of the mound outside the apparent entrance to bay G (Fig 3.8: F5319, F5323, F5327, F5348, F5417, F5441, F5442) and at least one such feature pre-dated one of the stake rows (Fig 3.8: F5339). There were no stakeholes under the east end of the mound.

The size and spacing of the stakes would be compatible with hurdling. If so, the lengths of the shortest stake rows and the changes of alignment in some of the longer ones, may reflect individual panels that would have been 1.40–1.80m long, each supported by four stakes. The bays in the west-centre may have been three hurdles long and four hurdles wide, and bay G would have been one hurdle wide.

The mound

The mound tapered from east to west along its 135m length. In the western area it was *c* 14m wide, and at the eastern end it reached at least 18m, or possibly more, as the south

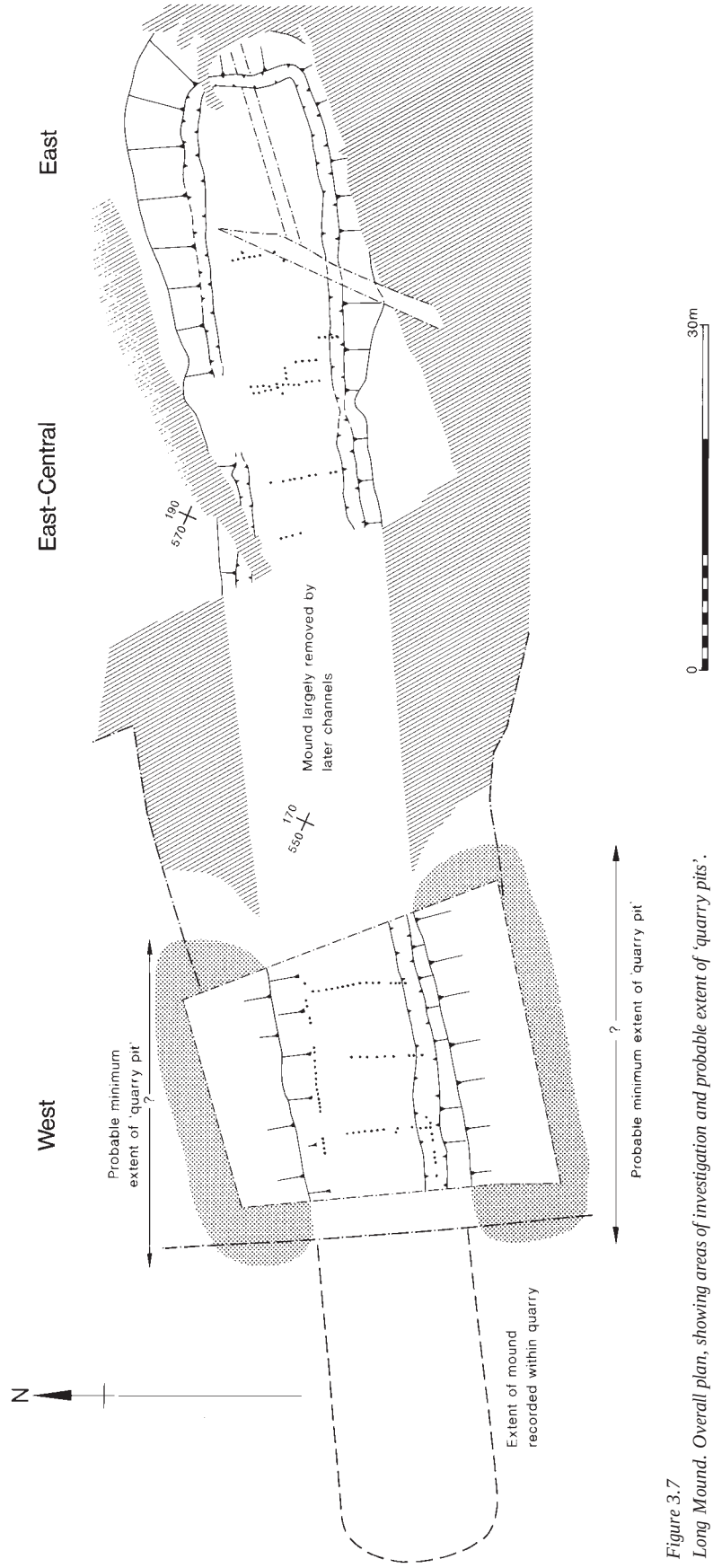


Figure 3.7
Long Mound. Overall plan, showing areas of investigation and probable extent of 'quarry pits'.

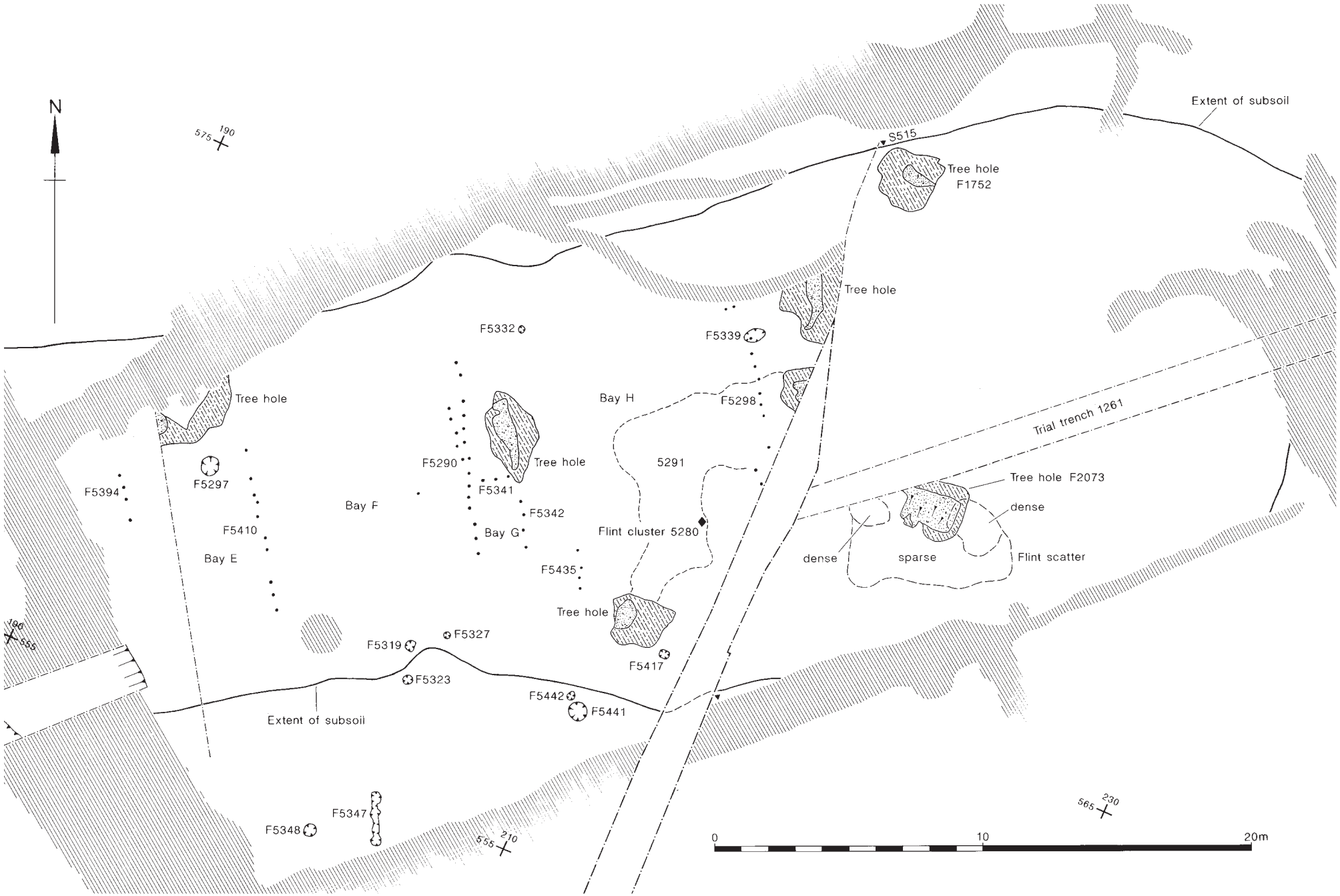


Figure 3.8
Long Mound. Plan of surface and features beneath east end.

Figure 3.9
Long Mound. Plan of surface and features beneath west end.

side here was truncated by later ditches. It survived to 0.50m high in the west, where there was the least amount of later disturbance, and 0.80m in the east. It was lowest, only 0.25m, in the east-central area, over the more irregular part of the substructure. There was no obvious later disturbance to account for this, and it is likely that the mound was genuinely low across this area, perhaps reflecting the diverse construction of the monument. The bulk of the entire mound was a fairly homogeneous grey-brown sandy loam with few inclusions, interpreted as turf or turf and topsoil.

The east end

Micromorphological analysis of a section through the east end showed that it was built of turves cut from rather more humic soils than that under the mound. These incorporated finely fragmented charcoal and were locally compacted and heavily worked by worms (Macphail SS4.8.2). The absence of any substructure from the easternmost 20m or so of the mound suggests that it was built separately, although it is impossible to tell whether there was any time difference in the construction of the two parts of the monument, let alone the sequence in which they may have been built. The turf (and perhaps the earth) from which the east end was built may have come from a different source from that of the rest of the mound, as it contained over a thousand pieces of mixed Mesolithic and earlier Neolithic struck flint – more than double the quantity from the remainder of the monument, the fully excavated part of which amounted to more than twice the volume of the east end (Ballin SS3.7.6). The turf of the east end also contained a few small, abraded sherds in fabrics compatible with local Neolithic Bowl pottery, and a few animal bone fragments, among which only the long bone of a medium-sized bird and a caprine tooth fragment were identifiable (Baker SS4.6.4). There were a few macroscopic charcoal fragments, as well as the microscopic charcoal in the turves, and samples contained small amounts of charred plant remains, including hazelnut shell, stinking mayweed, brome grass, onion couch grass, campion, dock, barley, emmer or spelt wheat, free-threshing wheat, indeterminate wheat and indeterminate cereal. The stinking mayweed and free-threshing wheat are likely to be Saxon or medieval intrusions (Campbell SS4.5.3).

The centre and west

In the area of the substructure, the mound seems to have been built of turves piled in the bays, perhaps revetted by hurdles supported by the lateral stake rows. A darker, more compact area at the base of the mound in the west-centre contained a concentration of struck flint, and its two straight edges approximately corresponded to the limits of the westernmost surviving bay, suggesting that turves from a distinctive source had been stacked there (Fig 3.9: 5681). A Neolithic Bowl rim sherd (Tomalin SS3.8.4: P26) came from this part of the mound, and another may have done so (Tomalin SS3.8.4: P27). The provenance of a further Bowl rim and two crumbs of rusticated Beaker is even more uncertain, as their context straddled the unclear boundary between the edge of the mound and the artefact-rich upper fills of the probably later southern 'quarry pit'. Also in the centre and west of the mound were over 500 pieces of mixed Mesolithic and earlier Neolithic struck flint (Ballin SS3.7.6), unidentifiable animal bone fragments and comminuted charcoal.

Refurbishment?

On the surface of both sides of the mound in the west-centre, and of the south side only in the east, was a layer of dark brown loam with a slightly higher gravel content than the rest of the mound (Fig 3.11: 5722; Fig 3.12: 2065). This may have been an addition to the mound, following weathering or slumping, that had subsequently been ploughed from the top of the mound. It included a small amount of struck flint of similar character to that from earlier contexts, some charcoal and, at the east end, a length of carbonised oak, perhaps a plank, 0.85m long by 0.16m wide and 0.15m thick (Fig 3.13: 2062).

The gully

Following the deposition of this material, a peripheral gully was cut into the surface of the mound, sometimes extending into the palaeosol beneath it. It may well have surrounded the entire mound top, although it was not detectable in a short length of the east-centre where the mound was at its lowest, or on the north side of the west end (Figs 3.7, 3.10, 3.34). It was filled with dark brown sandy loam that was similar to, and probably derived from, the mound material. This was, however, unevenly intermingled with patches and mottles of reddened and

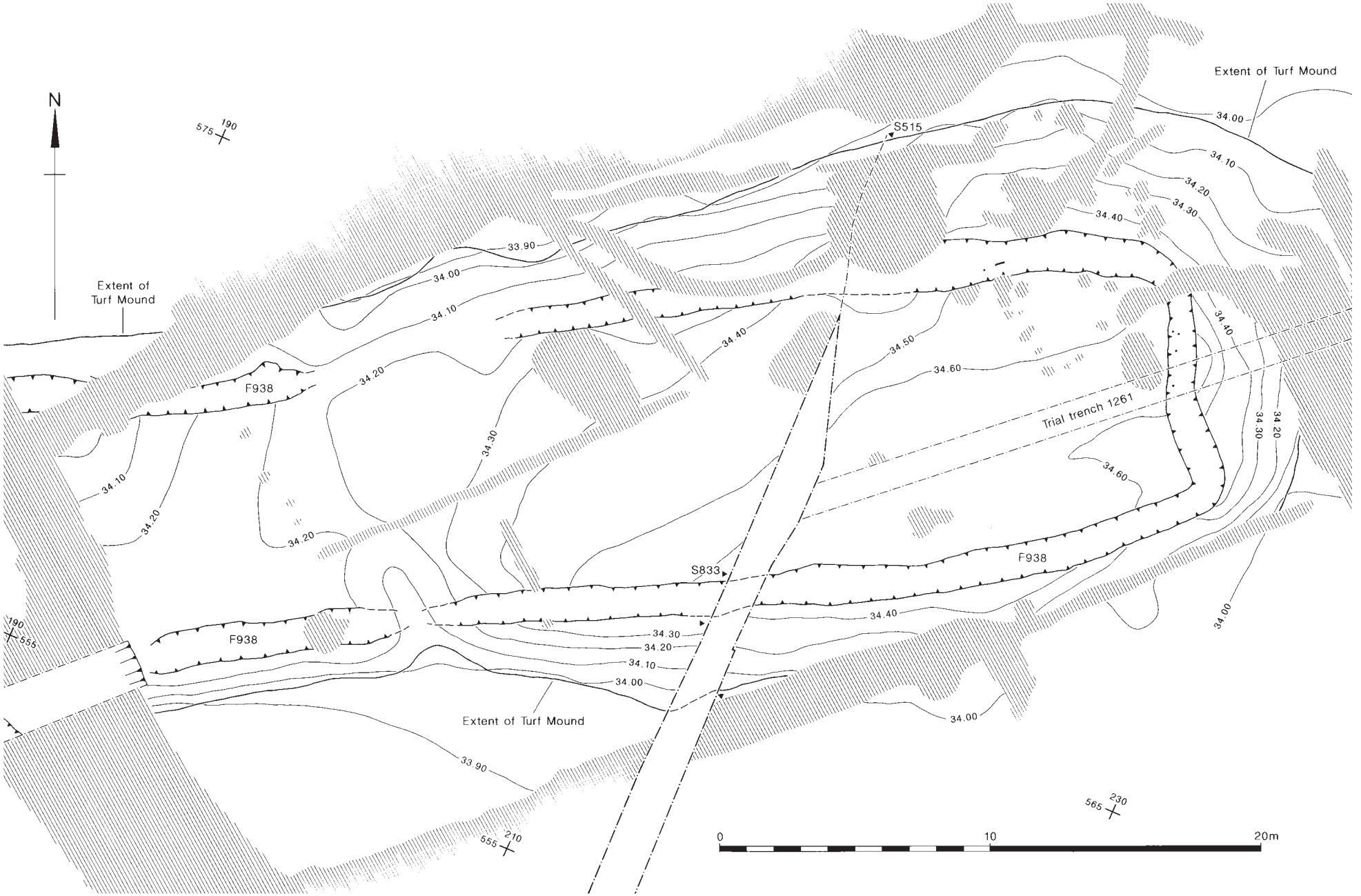


Figure 3.10
Long Mound. Plan of east end, showing gully (F938) and extent of later disturbances (hatched).

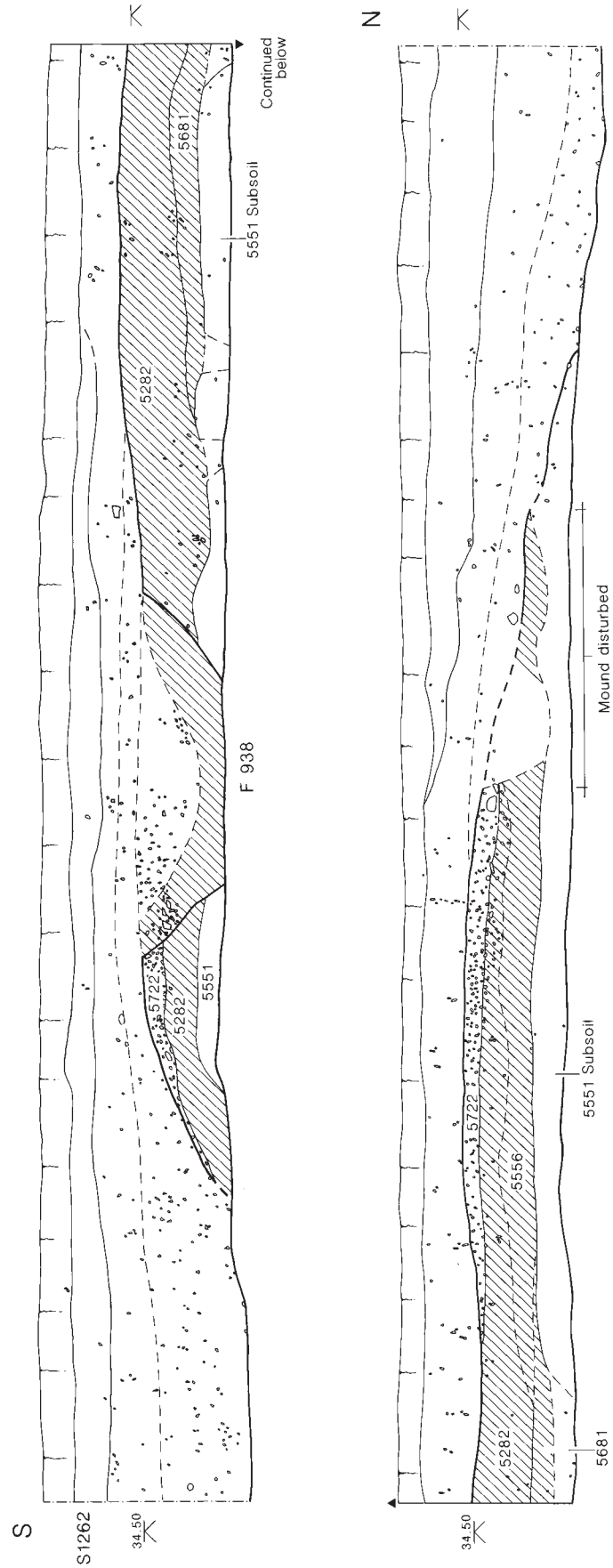


Figure 3.11
Long Mound. Transverse section through west end.

blackened soil that contained comminuted charcoal, charcoal fragments, and occasional reddened pebbles (Fig 3.12). There was no clear evidence of burning *in situ*. The combination of charred wood and both burnt and unburnt earth suggests that the wood, and some of the surface on which it was burnt, were piled into the gully. 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 ruled out, as there was no burnt earth and very little macroscopic charcoal in the body of the mound. The burnt material might, for example, have derived from a demolished structure, or from an episode of land clearance. At the east end it often occurred through the depth of the fills and seemed to have been deposited on successive occasions, sometime in localised recuts (Fig 3.12), while in the east-centre and west it was more superficial, with some charcoal in the lower fill but no reddened soil.

The greatest concentration of burnt material was in the eastern end and in the adjacent parts of the north and south sides. It was here, and only here, that there were recognisable charred stakes, approximately 80mm in diameter and surviving to some 240mm in length (Fig 3.13). It is not clear whether they were deposited with the rest of the fill or inserted into it and subsequently burnt. The latter seems more likely, as most were vertical or near-vertical, although they were neither regularly spaced nor regularly aligned. Artefacts from the gully consisted mainly of Mesolithic and Early Neolithic struck flint, which was almost certainly derived from the mound, as it was concentrated at the eastern end, like similar material in the mound itself. The seven sherds from the gully were all small and abraded and included two crumbs, possibly of Beaker, and a fragment, possibly from a Middle Bronze Age lid (Tomalin SS3.8.4). A sample from the east end contained charred chickweed, fat hen, petty spurge, black bindweed, onion couch grass, indeterminate grass and tetraploid wheat (Campbell SS4.5.3). Proximity to the overlying cultivation horizon, and the small size of the sherds and seeds concerned, may account for the presence of post-Neolithic material. Four stakes found within a space of two metres have yielded disparate radiocarbon dates, spanning 1,500 years. These bedevil the task of dating the mound and are discussed below. It is uncertain whether the

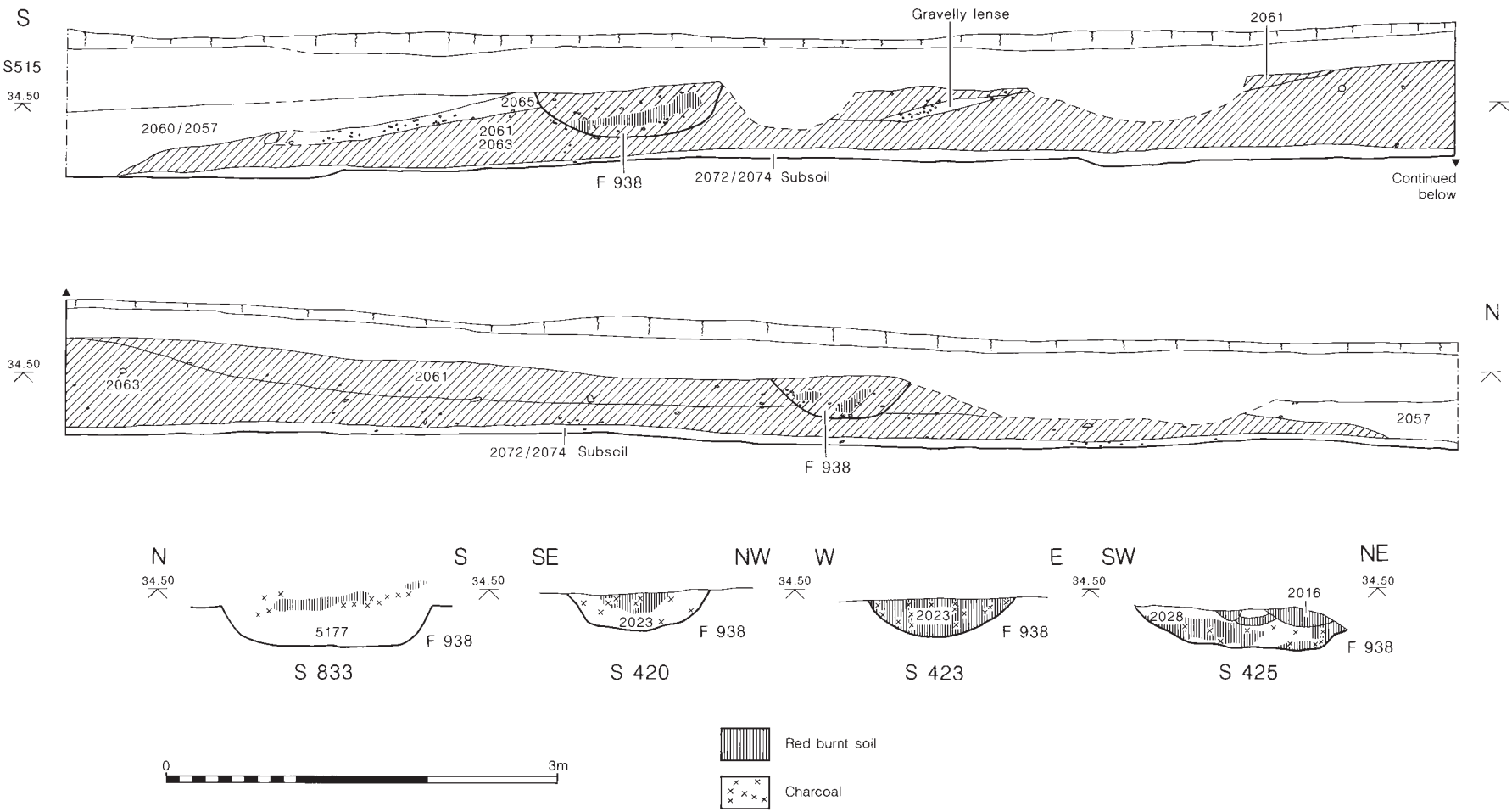


Figure 3.12
Long Mound. Oblique section through east end, and transverse sections of the gully.

gully was infilled in the early 3rd millennium or, like the 'quarry pits' described in section 3.3.2, in the mid-3rd millennium.

Dating (Fig 3.14)

Although the finds assemblage from the Long Mound is by far the largest from any monument in the area, its chronological value is diminished by the derived character of almost all of it; the fine, soft matrix of the mound, which was highly permeable to burrowing (whether by earthworms, rabbits or moles); disturbance by later cultivation and feature-cutting; and the difficulty of distinguishing *in situ* from eroded mound material.

A lower limit can be established. The 5th-millennium date for oak burnt in the top of F5488 (Fig 3.14: *UB-3329*) provides a *terminus post quem* for the construction of the west and central parts of the mound, in which there was at least one fragment of Neolithic Bowl pottery. A potentially much

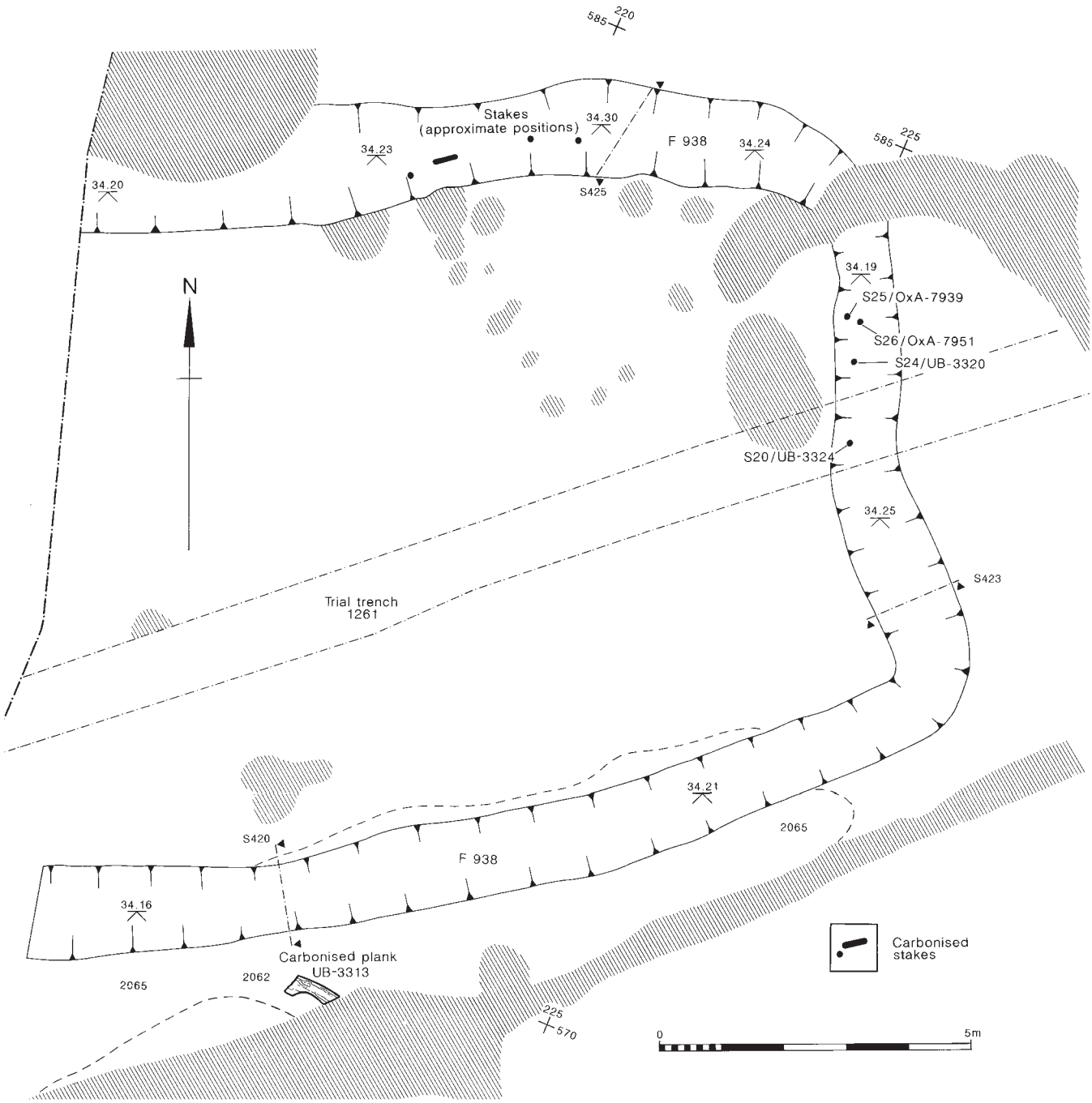


Figure 3.13
Long Mound. Plan of east end showing carbonised plank, gully and stakes in gully.

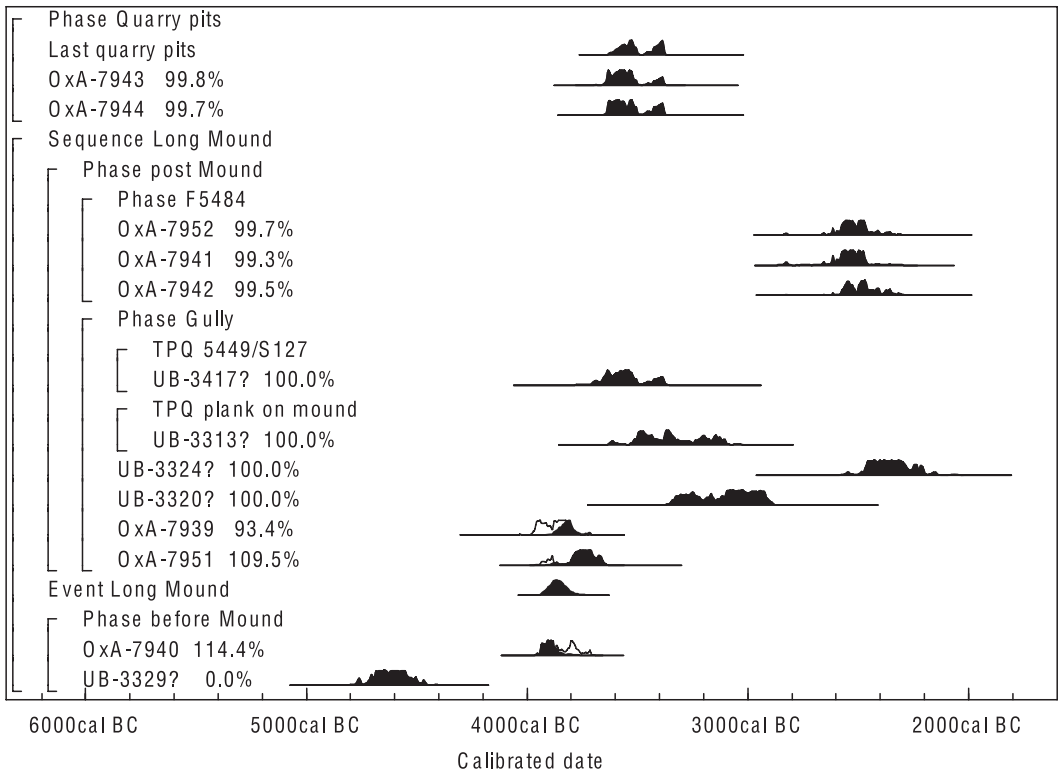
closer *terminus post quem* for the differently constructed east end of the mound is provided by an early 4th-millennium date (Fig 3.14: *OxA-7940*) on a single fragment of oak sapwood incorporated in its structure.

Beyond this point, the exercise becomes problematic. There are six dates on samples from contexts immediately post-dating the mound. The charred plank associated with possible refurbishment provided a measurement that calibrates to the 4th millennium (Fig 3.14: *UB-3313*). Unfortunately, it consisted of oak charcoal of unknown maturity so this measurement cannot be used as a *terminus ante quem* for the construction. As it was a plank, it may also have come from an earlier structure. The five measurements from the gully are not statistically consistent, and their calibrated ranges cover well over a thousand years (Fig 3.14: *OxA-7939*, *-7951*; *UB-3320*, *-3324*, *-3417*). One, UB-3417, was made on a bulked sample of oak charcoal of unknown maturity, which may have predated the context and may have included material of varying ages. The others were all, on the face of it, likely to be of the same age as the gully fills, being made on short-lived charcoal from charred stakes more-or-less vertical in the gully fills and in close proximity to each other (Fig 3.13). It is these samples, however, that provide the earliest and the latest dates from the gully. If they were burnt *in situ* after insertion, this would account for their remaining identifiable as coherent, single pieces of wood. Otherwise, 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.

Figure 3.14

Probability distributions of dates from the Long Mound and related features. Each distribution represents the relative probability that an event occurred at a particular time. For each radiocarbon date, two distributions have been plotted: one in outline, which is the result of simple radiocarbon calibration, and a solid one based on the chronological model used; the 'event' associated with, for example, OxA-7939, *is the growth of the wood that was carbonised and dated. The other distributions correspond to aspects of the model. For example, the distribution* 'Long Mound' *is the estimated date for the construction of the monument, which must have been built at a point between the latest of the features sealed by the mound and before the earliest stakes that were driven into it. Measurements followed by a question mark have been excluded from the model for reasons explained in the text, and are simple calibrated dates (Stuiver and Reimer 1993).*

The distributions represented are: UB-3329 charred Quercus *sp trunk fragments from F5488;* OxA-7940 Quercus *sp sapwood charcoal from east end of mound;* OxA-7951 *and* -7939 Quercus *sp sapwood charcoal from stakes set in gully cut into top of mound; UB-3320 and -3324* Corylus/Alnus *charcoal from stakes set in gully cut into top of mound; UB-3313* Quercus *sp charcoal from 'plank' on east end of mound; UB-3417* Quercus *sp charcoal from west end of gully;* OxA-7941, -7942, *and* -7952 Quercus *sp sapwood from wood burnt* in situ *on top of pit F5484;* OxA-7944 *and* -7943 *tuber and charred hazelnut shell from primary layer in F5263 in base of northern 'quarry pit'.*



On the premise that a context dates to the latest material recovered from it, UB-3324 dates the gully. In this case, it is possible that the gully was not cut until *2500–2190 Cal BC at 94% probability* (UB-3324), and that the construction of the mound could have occurred at any point during the fourth or the earlier 3rd millennium. However, this interpretation calls for a source of already-old early 4th-millennium wood. If this was waterlogged, it would have to have been burnt, perhaps with other material, before the charcoal and some of the burnt earth from beneath it was incorporated in the gully. If it was already burnt, the burnt wood, and perhaps the burnt earth too, would have to have been preserved (burial being the only obvious means), exhumed, and redeployed when the gully was filled.

Closer examination of the samples prompts a third, simpler interpretation. The two measurements on single fragments of oak sapwood are statistically consistent and are rather earlier than all three conventional dates (Fig 3.14: *OxA-7939, -7951*). The conventional dates are widely scattered (Fig 3.14: UB-3320, -3324), which may suggest that the samples contained material of differing ages. This may have been the case, as each consisted of more than a single fragment of charcoal, although apparently from individual stakes of hazel or alder of up to 20 years growth. That for UB-3324, although broken, appeared to consist of a single piece of wood; that for UB-3320 consisted of many fragments, less obviously from a single object. Rootlet penetration was particularly noted in the sample for UB-3324 and it may be no coincidence that this provided the latest date. The stakes stood in fills that contained much charred material and directly underlay Saxon and medieval soils, so that intrusive as well as redeposited charcoal could easily have been present, especially given the level of worm, mole and rabbit activity in the soft, fine-grained deposits. It is pertinent that charred cereal grains of varieties likely to have derived from overlying Saxon and medieval contexts were found below and in the mound. It is thus possible that the conventional samples included some fragments derived from overlying deposits, while the AMS (Acelerator Mass Spectrometry) results on single sapwood fragments are reliable measurements on *in situ* stakes in the gully. In this case, the estimated date of construction for the mound, based on the three oak sapwood dates (OxA-7939, -7940, -7951) would be *3940–3780 Cal BC at 95% probability*, and the gully may have been used for a relatively short period of time in the early 4th millennium. This is the option incorporated in the model and represented in Figures 3.6 and 3.14.

A third possibility is that stakes were inserted into the gully and burnt at intervals over more than a thousand years, starting in the early 4th millennium (Fig 3.14: *OxA-7939, -7951*), perhaps at the same time as smaller quantities of burnt material were added to the east end (Fig 3.12: S425). In this case, the estimated construction date of the mound would remain unchanged at *3940–3780 Cal BC at 95% probability*, but this practice would have persisted until *2500–2190 Cal BC at 94% probability* (UB-3324). If this sample was contaminated by rootlet penetration (*see* above), then the activity might have lasted only until *3350–2900 Cal BC at 95% probability* (UB-3320). Such timespans are compatible with the presence of 3rd- and 2nd-millennium pottery on and around the mound (3.5.2), but would call for the survival of a single practice over as much as 50 generations.

The Avenue, built *3860–3620 Cal BC* (SS1.2)

Aidan Allan, Stéphane Rault, Jon Humble

The Avenue was exposed in 1992 during the stripping of topsoil in advance of gravel quarrying and fieldwork designed to recover additional evidence of the 2nd-millennium Field Systems. It consisted of two rows of approximately parallel ditches and hollows 60m long and 7–9m apart (Fig 3.15). There was something of a break between the south-western end, which included four ditch segments, and the north-east end, which was made up of one ditch segment and approximately 16 smaller features and had a slightly different orientation. The south-west terminal was formed by two shallow ditches with an entrance between their two butts. The north-east terminal was formed of small, irregular features, none of which was excavated. Excavation was selective, and concentrated on the south-west end, where the ditches were cut by the later Segmented Ditch Circle.

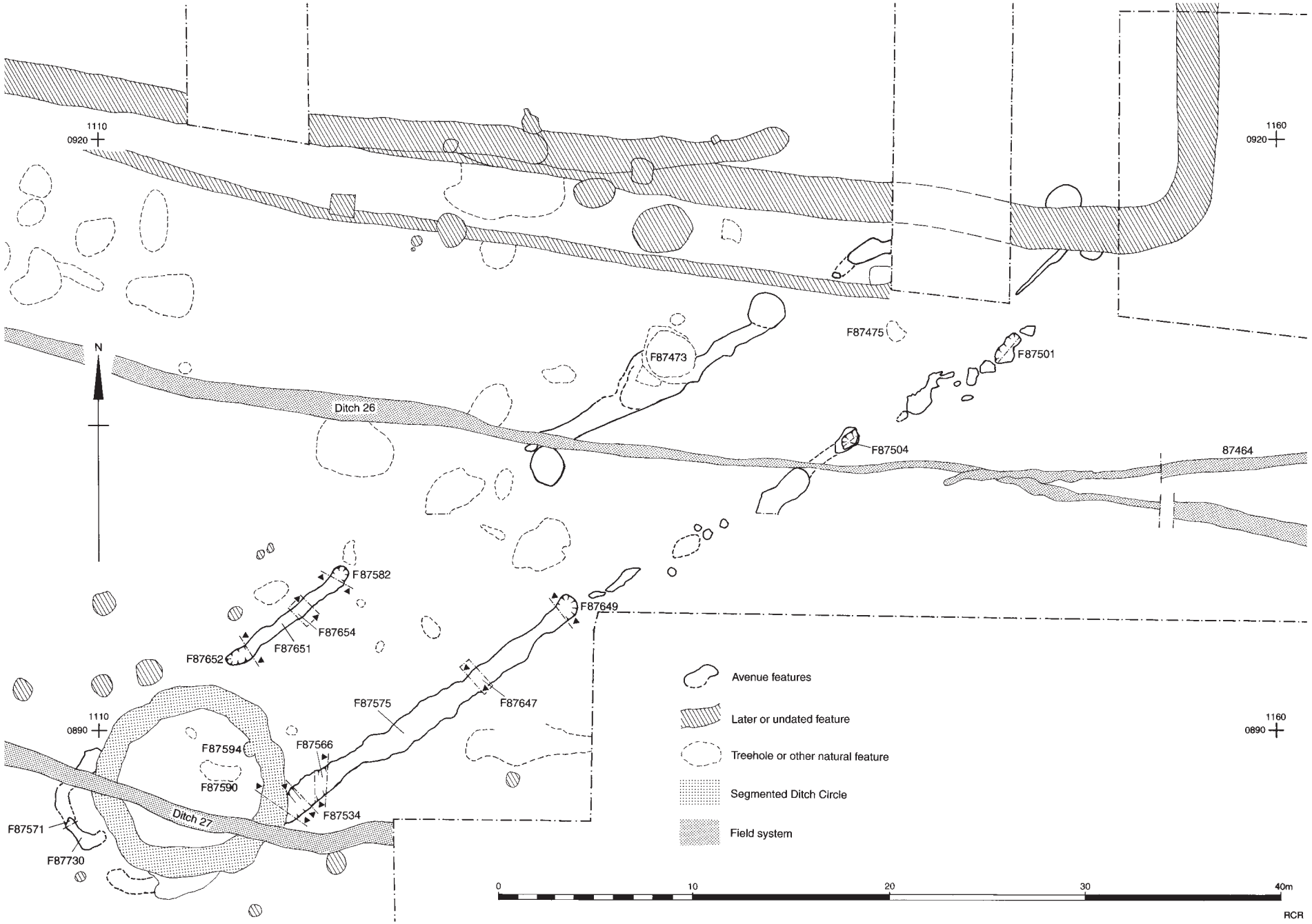


Figure 3.15 Avenue. Plan.

The ditches and hollows were slight, at most 0.60m deep and often less. Their edges were difficult to define, the fills frequently merging with the surrounding natural sands and gravels. The almost stone-free clay-loam fills were often characterised by varying quantities of burnt soil, charcoal, and charred plant remains, although burnt material was not ubiquitous. Oak charcoal was abundant, and the diverse charred plant remains included onion couch grass tubers, hazelnut shell and a few possibly intrusive grains of emmer or spelt wheat and indeterminate cereal. Where the Segmented Ditch Circle cut the Avenue, charred material and burnt earth were far more prevalent in the south side of the later monument ditch than in the north, suggesting that the southern ditch segment may have run continuously to the terminal. Some of this material had been burnt *in situ*. There was a patch of burnt clay in the top of the north-east butt of F87651. In F87575, close to the intersection with the Segmented Ditch Circle, a subcircular patch of reddened earth (87568) was cupped in a blackened matrix (87569), with a solid fragment of oak charcoal surviving at the interface of the two (Fig 3.16: F87566). This suggests that a fire was lit in the partly filled ditch, high temperatures at the centre destroying organic material and reddening the soil, and lower temperatures around the edge producing a halo of blackened earth and charcoal. Enhanced magnetic susceptibility in both layers confirmed burning *in situ* (Macphail SS4.8.2). An almost identical section was recorded 10m to the north-east in the same ditch segment (Fig 3.16: F87647).

Finds other than charred plant remains amounted to some 40 animal bone fragments, none of which was attributable to species, a flint flake, and a broken flint bladelet. A fragmentary microlith came from a treehole on the central axis of the monument (Fig 3.15: F87475). An adult male cremation burial, in a pit within the Segmented Ditch Circle (Fig 3.15: F87594), was on the midline of the Avenue but eccentric to the Circle and may conceivably relate to the earlier monument. A redeposited 9th- or 8th-millennium hazelnut from it (Fig 3.87: OxA-7906; 3.2.2) would accord as well with an earlier as with a later date.

At the time of excavation, the irregular plans of the segments and hollows, and the frequency in them of burnt material, led to their interpretation as treeholes or shrubholes. The sections are not, however, consistent with this, tending to display regular stratigraphy rather than the evanescent, merging, interleaved fills characteristic of treethrow holes (Fig 3.16). Small trees or shrubs may perhaps have been planted in the features and burnt standing, after they had died (or been killed), but

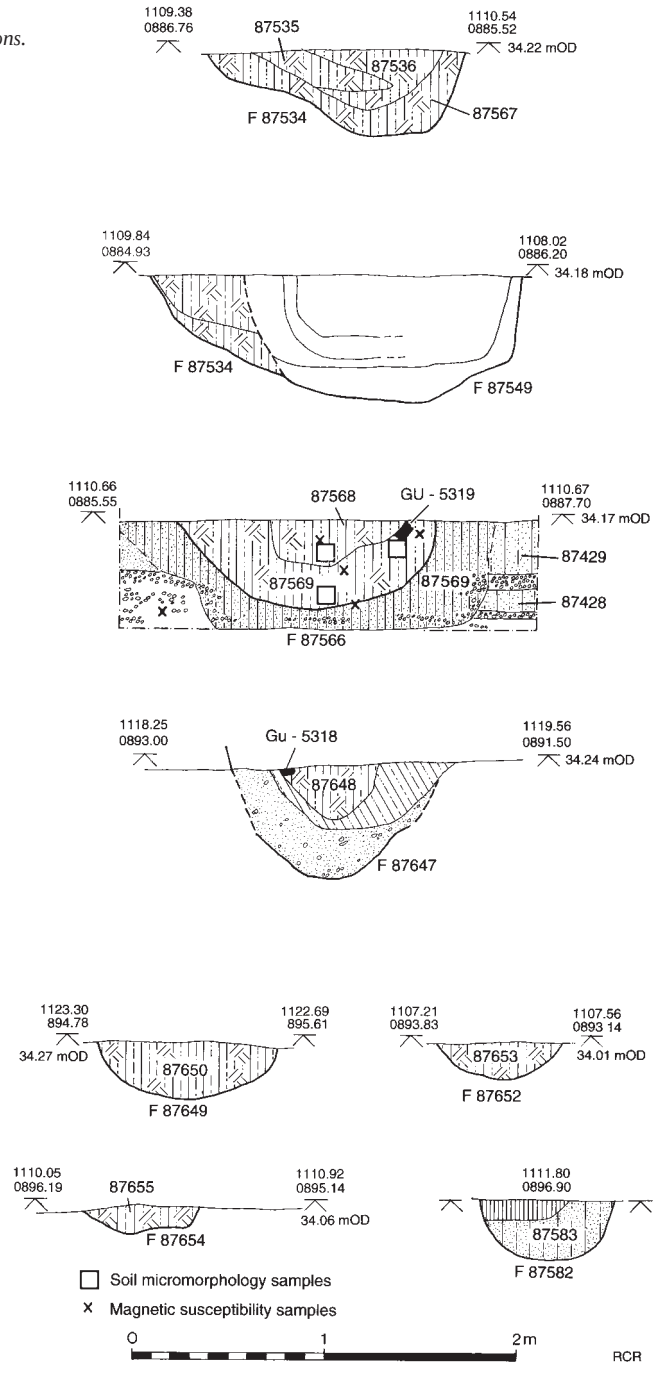


Figure 3.16
Avenue. Sections.

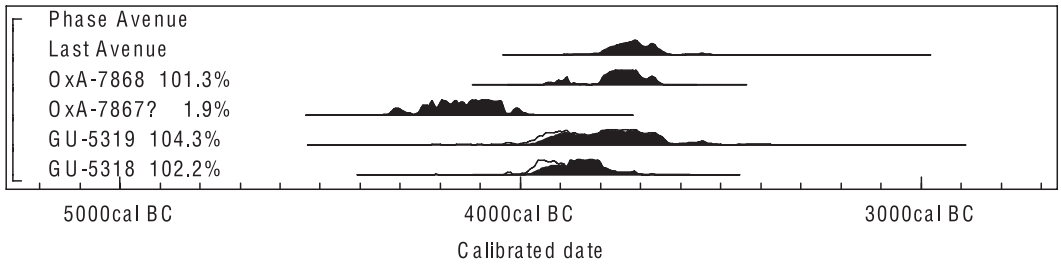


Figure 3.17
Probability distributions of dates from the Avenue. The format is identical to that of Figure 3.14.
The distributions represented are: GU-5318 Quercus *sp charcoal from F87647;* GU-5319 Quercus *sp charcoal from F87566; OxA-7867 charred tubers from F87506;* OxA-7868 *charred hazelnut shell from F87501.*

they do not seem to have fallen. A short life would be consistent with the backfilling implicit in largely homogeneous fills, which show little or no trace of natural silting.

Dating (Fig 3.17)

Two single pieces of charred oak from identical positions in different parts of F87575 yielded statistically consistent dates in the early 4th millennium (Fig 3.17: *GU-5318, -5319*), and a third consistent measurement was provided by a charred hazelnut shell from F87501, one of the small hollows (Fig 3.17: *OxA-7868*). These three measurements provide an estimated date of *3860–3620 Cal BC at 92% probability*. If the monument was indeed short-lived, this may have been be close to the time of its construction.

There are also three 5th-millennium measurements on charred onion couch grass tubers: one from F87506, a hollow in the north-east part of the southern alignment that was quarried away before it could be planned (Fig 3.17: OxA-7867); and two others redeposited in the main fills of the Segmented Ditch Circle (Fig 3.87: OxA-7907, -7938). They are not statistically consistent, but do reflect human activity, as well as the presence of little-grazed grassland. They may either relate to vegetation-burning prior to the construction of the monument, or indicate a 5th-millennium origin for the Avenue itself, the 4th-millennium material relating to its latest use or destruction.

The north part of the Turf Mound, built *3750–3520 Cal BC* (SS1.3)

Andy Chapman, Tony Baker, Dave Windell, Jo Woodiwiss

The Turf Mound lay 110m south of the Long Mound on the same low gravel terrace, and consisted of a slightly elongated, unditched mound built early in the 4th millennium, onto the southern tail of which a ditched, subcircular mound was built in the 3rd millennium. It was sectioned in a trial trench in 1986, but its character and extent were recognised only during the stripping of topsoil in advance of gravel extraction the following year. Much of the monument was thus recorded in salvage conditions. The only fully excavated area was on the quarry edge (Fig 3.18). 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 (Fig 3.19). Because of these circumstances, a full understanding of the development of the monument is not possible.

Pre-mound features and activity

Within the pre-mound soil was a small amount of struck flint, including a microlith, which was slightly concentrated towards the centre of the mound. South of the centre was a treethrow hole, in the top of which were over 20 pieces of struck flint, including two leaf arrowheads. Three small features that may have been pits or postholes – one of which contained charcoal flecks – were observed below the mound in the quarry area.

The north mound

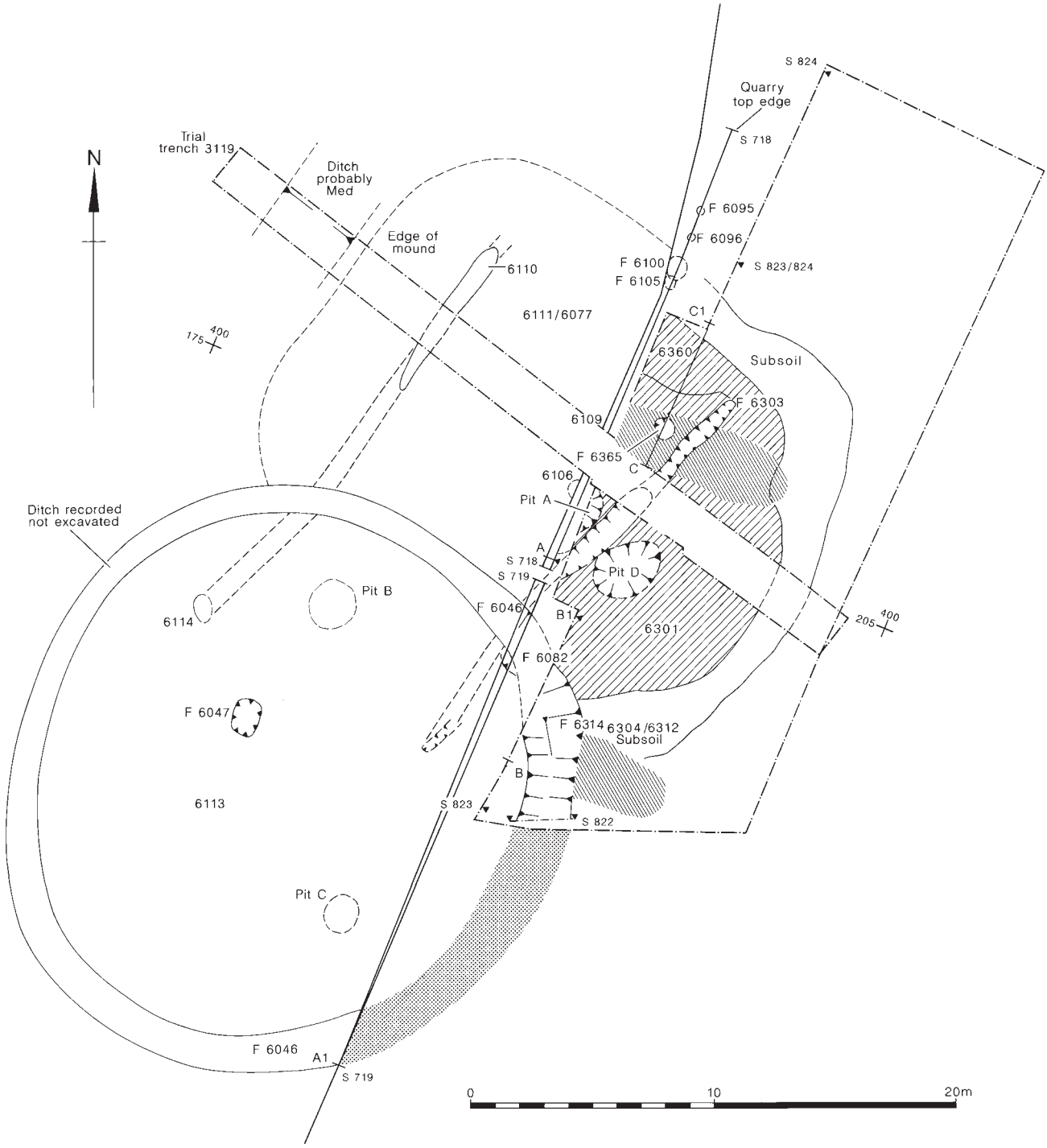
The mound, as it survived, measured *c* 23.50m from south-east to north-west and *c* 25m south-west to north-east. It was, however, truncated to the north-west by a medieval ditch and to the south-west by a medieval plough furrow, so that, if it had been symmetrical, it might have been *c* 27m wide and as much as 30m long. It survived to a maximum height of 0.50m between the two gullies.

It was built of a compact, homogeneous, dark grey-brown sandy loam with virtually no inclusions apart from a scattering of charcoal flecks, and was therefore probably of turf or turf and topsoil construction, although no evidence of individual turves was observed (Fig 3.20: 6301). Its make-up was very similar to that of the mound later built onto it to the south, and that of the Long Mound and the primary mound of Barrow 6, all of which were built of turf (Macphail SS4.2). Like the other monu-

ments, it was prey to worm, animal and root disturbance. The upper 0.20m of the mound between the two gullies (Fig 3.20: 6360) was a darker grey and contained more frequent charcoal flecks, including some small pieces of charcoal, perhaps reflecting a second episode of construction.

Within the mound was a sparse flint scatter, including four microliths as well as material of either Mesolithic or earlier Neolithic character. Pottery from the mound consists of small, eroded fragments. Eleven sherds/52g are of indeterminate form but in mainly flint-tempered fabrics compatible with those of Neolithic Bowl from elsewhere in the area. Thirty Beaker fragments and one Roman one are smaller and more abraded than these and are likely to have been intrusive, having been found in or near either a retrospectively defined pit (Fig 3.19: pit D) or two medieval plough furrows that cut the mound.

Figure 3.18
Turf Mound. Overall plan.



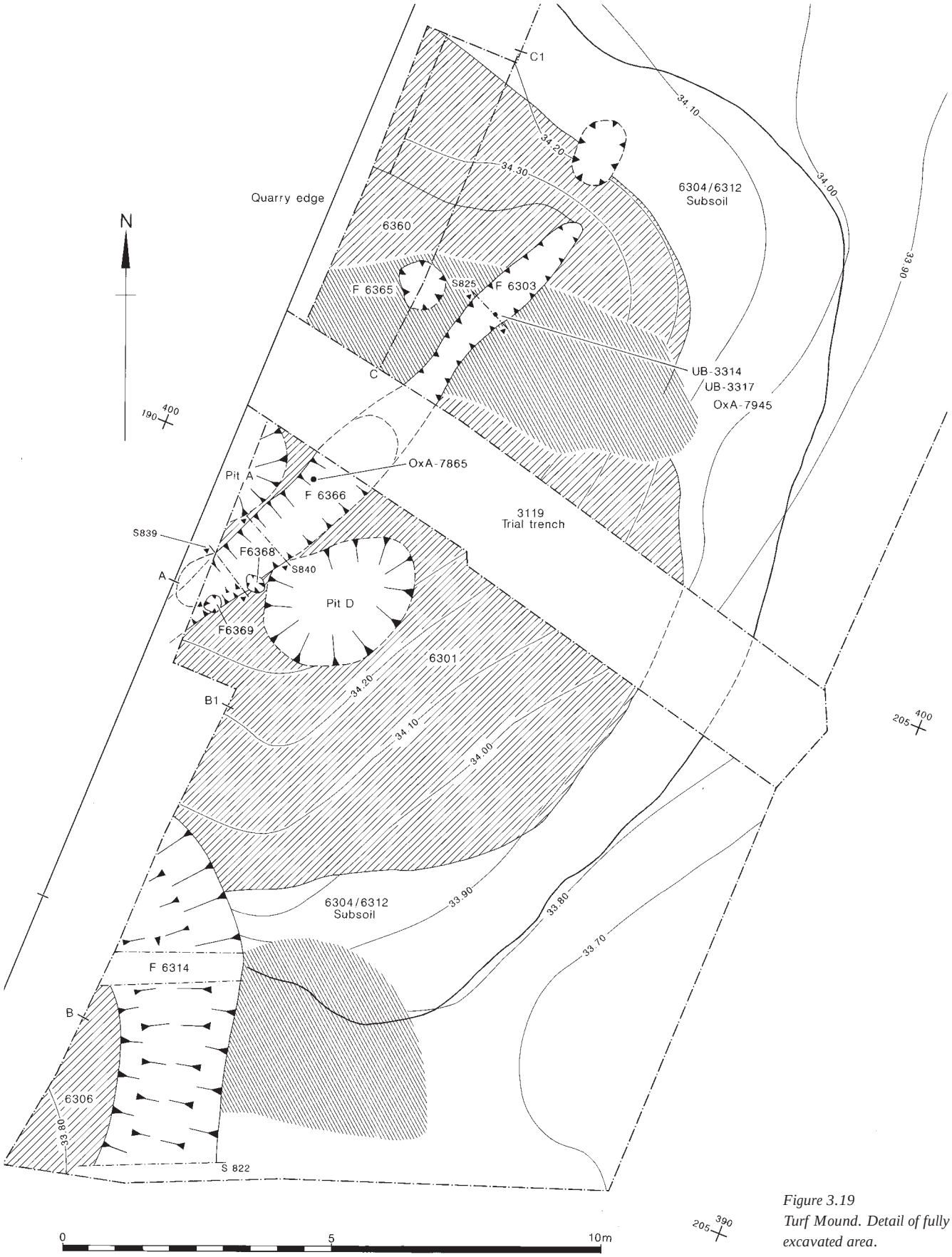


Figure 3.19
Turf Mound. Detail of fully excavated area.

The gullies

Two parallel gullies were cut into the top of the mound along its long axis. 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 is uncertain.

The western gully (Fig 3.18: F6110, F6114?) was sectioned only in the original trial trench, where it was up to 1m wide and 0.55m deep and cut through the mound (here *c* 0.30m high) into the underlying deposits. It was recorded in plan for a length of *c* 7m, and was filled with dark grey-brown loam, heavily mottled with reddened sand and containing frequent charcoal flecks and

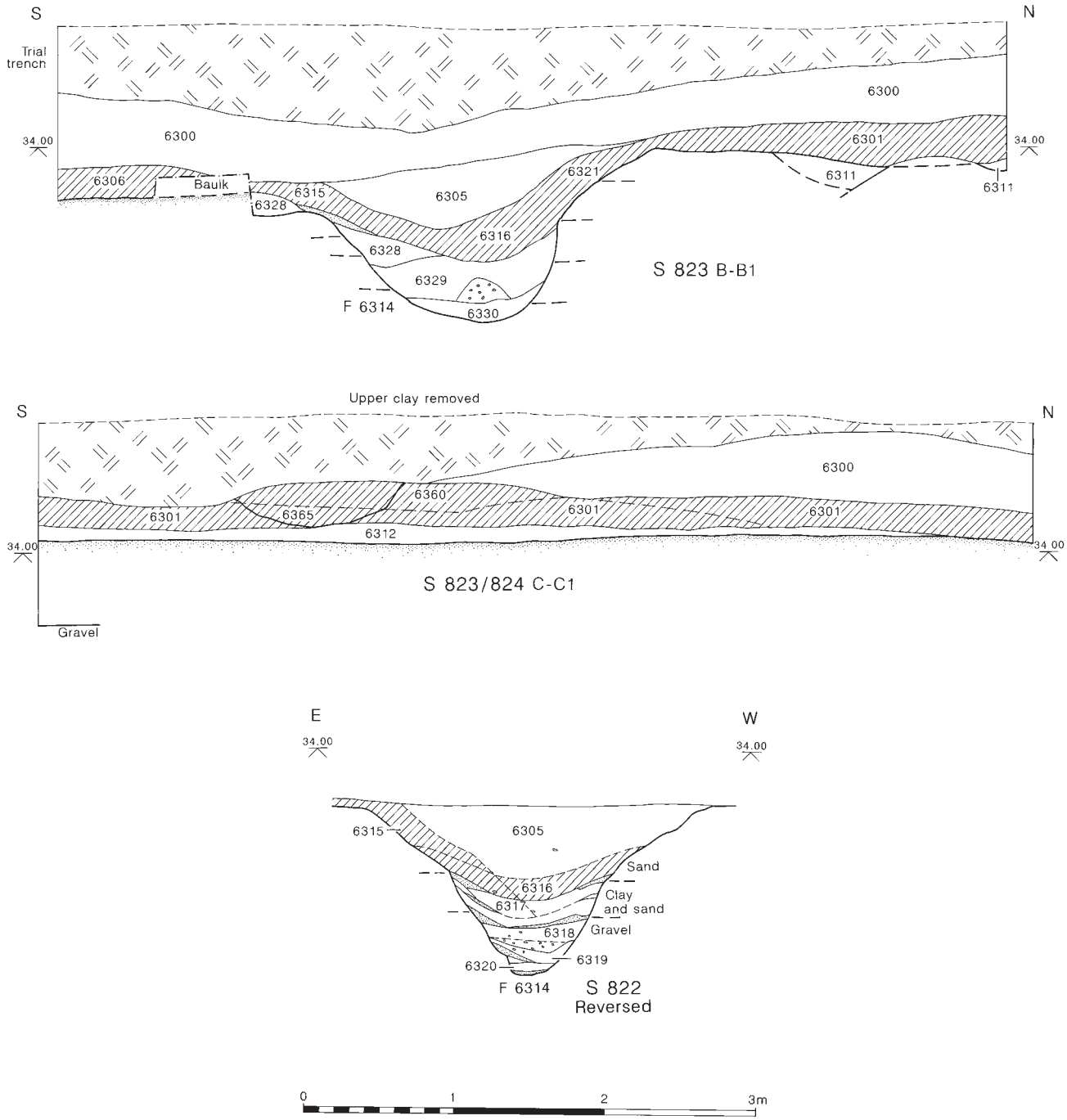


Figure 3.20
Turf Mound. Sections B–B1, C–C1 and S822.

numerous small pieces of charcoal. Evidence for a southward continuation of this gully is slight. There was a faint discontinuity in line with F6110 at the northern edge of the ditch of the south mound, and 7m to the south of this a 0.60m diameter patch of dark loam containing reddened sand and charcoal was observed during machine removal of the south mound, slightly out of line with F6110 (Fig 3.18: F6114). The gully may have continued this far, with a total length of at least 19.50m and a slightly bowed plan.

The eastern gully (Fig 3.19) was also recorded in the section of the original trial trench, and a further 8.50m of it were subsequently excavated. It continued south beyond the fully 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* 19.50m. The original cut extended through the mound into the underlying deposits, and was probably between 0.60m and 0.80m wide. The surviving fill (Fig 3.21: 6367) was a dark grey-brown to dark brown sandy loam with frequent charcoal flecking and some small mottles of reddened sand. A band of blackened sand with charcoal ran along the east side against two postholes. The north posthole (Fig 3.21: F6368) was 0.35m deep and tapered from 0.30m in diameter at the top to 0.15m at the base. The fill was indistinguishable from the general gully fill. The southern posthole (Fig 3.21: 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. Following machine removal of the south mound, a short length of gully was located cutting into the underlying soil and terminating to the south in a convincing butt end. There was a brief opportunity to partially excavate the butt end, which was *c* 0.40m wide and *c* 0.30m deep and with a fill of dark grey sandy silt containing frequent

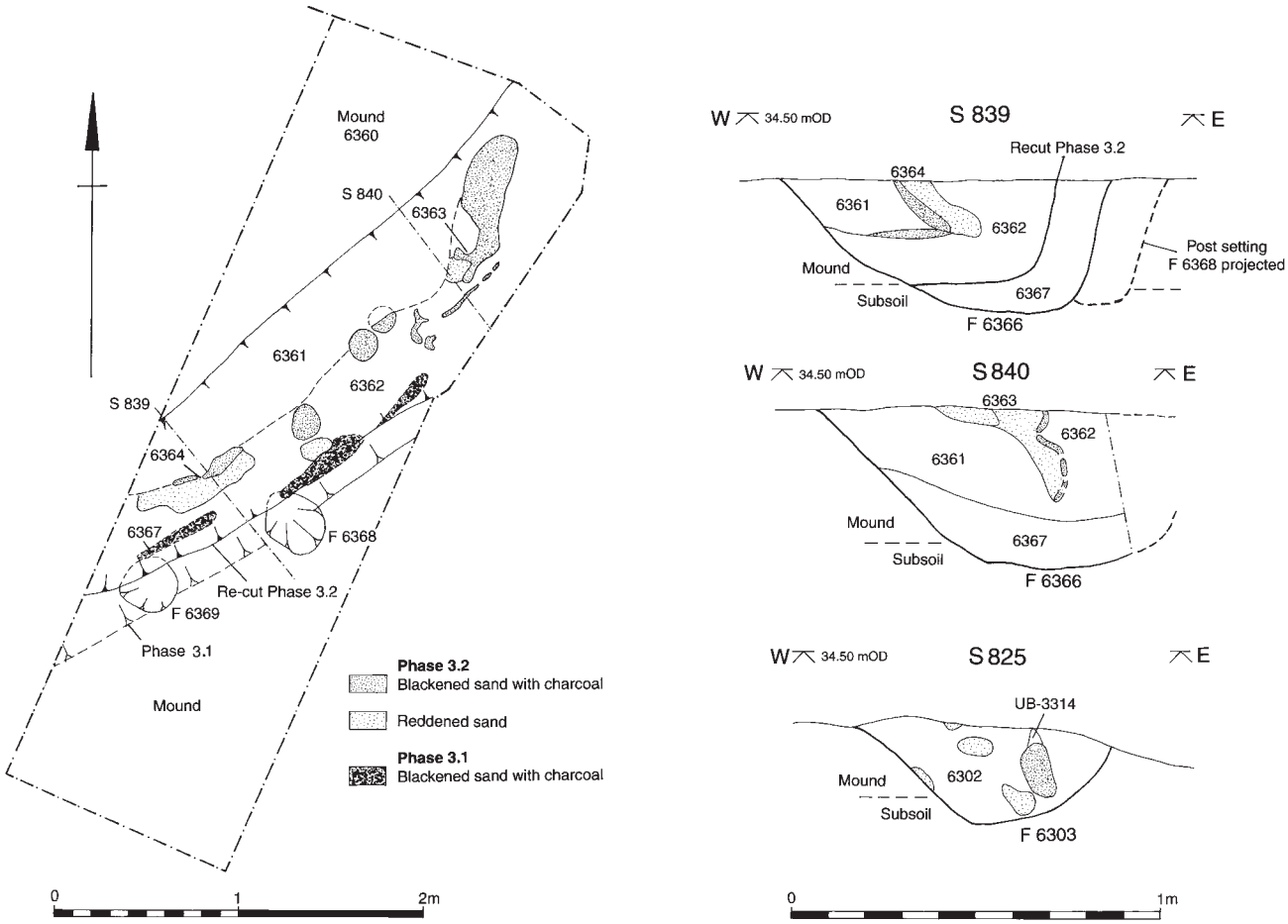


Figure 3.21
Turf Mound. Plan and sections of eastern gully.

charcoal flecks and some reddened sand. It is believed that the gully excavated north of the trial trench was part of the recut described below. If so, the original gully would have been *c* 14m long.

A recut of the eastern gully (Fig 3.19: F6366) was 0.30m deep and 0.75m wide to the south of the trial trench and probably 0.90m wide to the north. In general, the fill was a medium brown to grey-brown sandy loam with charcoal flecking. There was a central row of linear or roughly circular patches of blackened sand with charcoal that continued downwards for 0.15m to 0.25m. Where the blackened sand and charcoal was best-preserved it formed a thin, sharply defined band, in which the grain of much of the charcoal was aligned along the length of the feature. The blackened sand and charcoal lay directly against reddened sand, and both tended to merge into the fill of the south-east side of the gully, which also contained charcoal and was generally tinged red (Fig 3.21: 6362). The fill of the north-west side was generally lighter in colour and contained less charcoal and little reddened sand (Fig 3.21: 6361). Single, small eroded Beaker sherds from 6362 were both found near the edge of pit D and are likely to relate to it.

The fills of the gully to the north of the trial trench (Fig 3.19: F6303) were similar to those of the recut to the south. It is therefore tentatively equated with the recut, the original gully probably having either ended in the area of the trial trench or been totally removed by the recut. The gully here was up to 0.70m wide and 0.39m deep, and cut through the surviving mound, extending from 0.10m to 0.15m into the underlying deposits. Rapid shallowing at the surviving northern end indicated that it had originally continued for perhaps only another 0.50m. The gully was filled with dark grey-brown to near black sandy loam with scattered patches of reddened loam and reddened sand occurring as blocks or mottles up to 200mm^2 and *c* 50mm thick, in addition to a general scatter of charcoal, with concentrations frequently present immediately against the blocks of reddened sand (Fig 3.21: 6302). There was also a single large block of charred oak, which appeared to be part of a stake. It was 80mm in diameter and was well preserved to a height of 150mm. Above this it was poorly preserved for a further 50mm (Fig 3.21: S825). In 6302 were three joining sherds/13g in a quartz sand-tempered fabric, possibly of Neolithic Bowl.

The fills of the recut and, to a lesser extent, the fills and two post sockets of the original gully, suggest that these features held fences supported at intervals by small posts. The sinuous but roughly linear spreads of blackened sand with charcoal (Fig 3.21) may be interpreted as the carbonised remains of thin woodwork, most probably wattle-work, which was burnt *in situ*. The penetration of this burning through the gully backfill may be due to the loose weaving of the wattle-work, which would have allowed oxygen in and thereby permitted combustion even of the buried base of the fence. 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 and 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. Similar burnt fills in the less thoroughly investigated western gully indicate that it too held a fence or fences that had been burnt *in situ*.

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. 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, although it should be noted that, in both cases, there is little confirmatory evidence for a continuation of the gullies into the southern half of the mound.

Dating (Fig 3.22)

Four samples from the recut of the eastern gully were dated, one from context 6361 to the south of the trial trench (Fig 3.22: *OxA-6361*) and three from context 6302 to the north (Fig 3.22: *OxA-7945*, *UB-3314*, *UB-3317*). All four are statistically consistent. The sample for UB-3314 was the tip of an

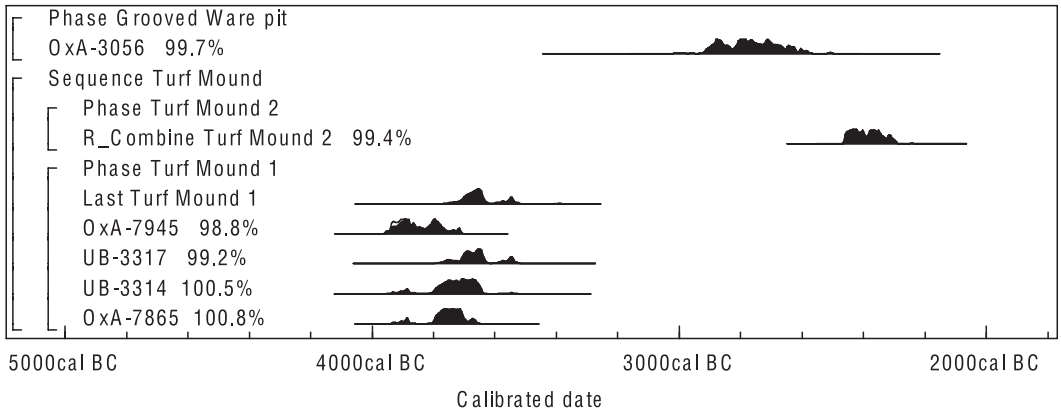


Figure 3.22
Probability distributions of dates from the Turf Mound and Grooved Ware pit (F31820). The format is identical to that of Figure 3.14.

The distributions represented are: OxA-7865 *charred* Corylus *root from gully F6366;* UB-3314 *charred* Quercus *sp stake in gully F6303;* UB-3317 Quercus *sp charcoal in gully F6303;* OxA-7945 *charred* Corylus *root from gully F6366;* Turf Mound 2 *(OxA-7947, -8017)* Corylus *sp charcoal from 'plank' in pit F6047 under S end of mound;* OxA-3056 *charred hazelnut shells from pit F31820.*

oak stake that had burnt *in situ* and occupied a circular stakehole *c* 80mm 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 measurements strongly suggests that the real age of the second fence in the eastern gully is likely to be close to its estimated date of *3750–3620 Cal BC at 77% probability* or *3600–3520 Cal BC at 18% probability*. The intervals between the construction of the mound and the cutting of the two successive pairs of gullies can only be guessed at. Even if they were negligible, the northern part of the Turf Mound must have been one of the earliest monuments in the area.

The Long Barrow, built *3800–3640 Cal BC* (SS1.4)

Philippa Bradley

The Long Barrow lay on a small, low, gravel island in the floodplain, overlooking a low-lying area (Fig 1.4). It had been built in an area of lightly grazed grassland, soon after the clearance of woodland, which survived nearby (2.2.3), and was aligned south-west/north-east, with the wider, higher end to the north-east (Fig 3.23). It was partly covered by alluvium, and the south-west end had been largely destroyed by later ploughing.

Pre-barrow activity

The barrow was built over a decalcified brown earth soil, which had possibly been trampled by stock and had its phosphate level enhanced by animal droppings (Macphail SS4.8.1). The pre-mound soil was reasonably preserved under the higher north-east and central parts of the barrow. Within it was a small number of flakes, blades and blade-like flakes as well as a serrated flake and an end scraper, all apparently of earlier Neolithic technology. There were also several treethrow holes, in which were a few flint flakes, a fragment of charred onion couch grass tuber, and ash (*Fraxinus*) charcoal.

Primary barrow features

The façade

A massive timber façade must have been a freestanding structure before the barrow was built, as it was replaced by the revetment of the barrow mound. The façade stood in a trench transverse to the long axis of the monument, up to 1.30m deep, and 1.80m wide at the top narrowing to 0.40m at the base. Its butts turned through approximately a right angle to end in relatively shallow, narrow terminals. It would originally have been fairly steep-sided with a slightly undulating base (Fig 3.26: F161). This feature was filled with a series of brown sandy silts with varying amounts of gravel. Post sockets along the length of the base were between 0.58m and 0.85m deep and subcircular or oval in plan, with maximum horizontal dimensions of between 0.90m and 1.20m. The fill patterns indicate that the posts were removed and that the trench was left to silt up naturally before the mound revetment was cut into it.

The cist

A linear, trench-like cist (Figs 3.23–25: F213) was built on the old land surface approximately 7.5m from the lower, plough-damaged south-west end of the barrow. It was aligned on the long axis of the monument and had been placed slightly off-centre. Four to six courses of limestone blocks survived to a height of 0.20m. The base was lined with limestone slabs with a maximum dimension of 0.40m. In the lower greyish-brown silty clay loam fill (Fig 3.24: 233) were small, weathered fragments of a single,

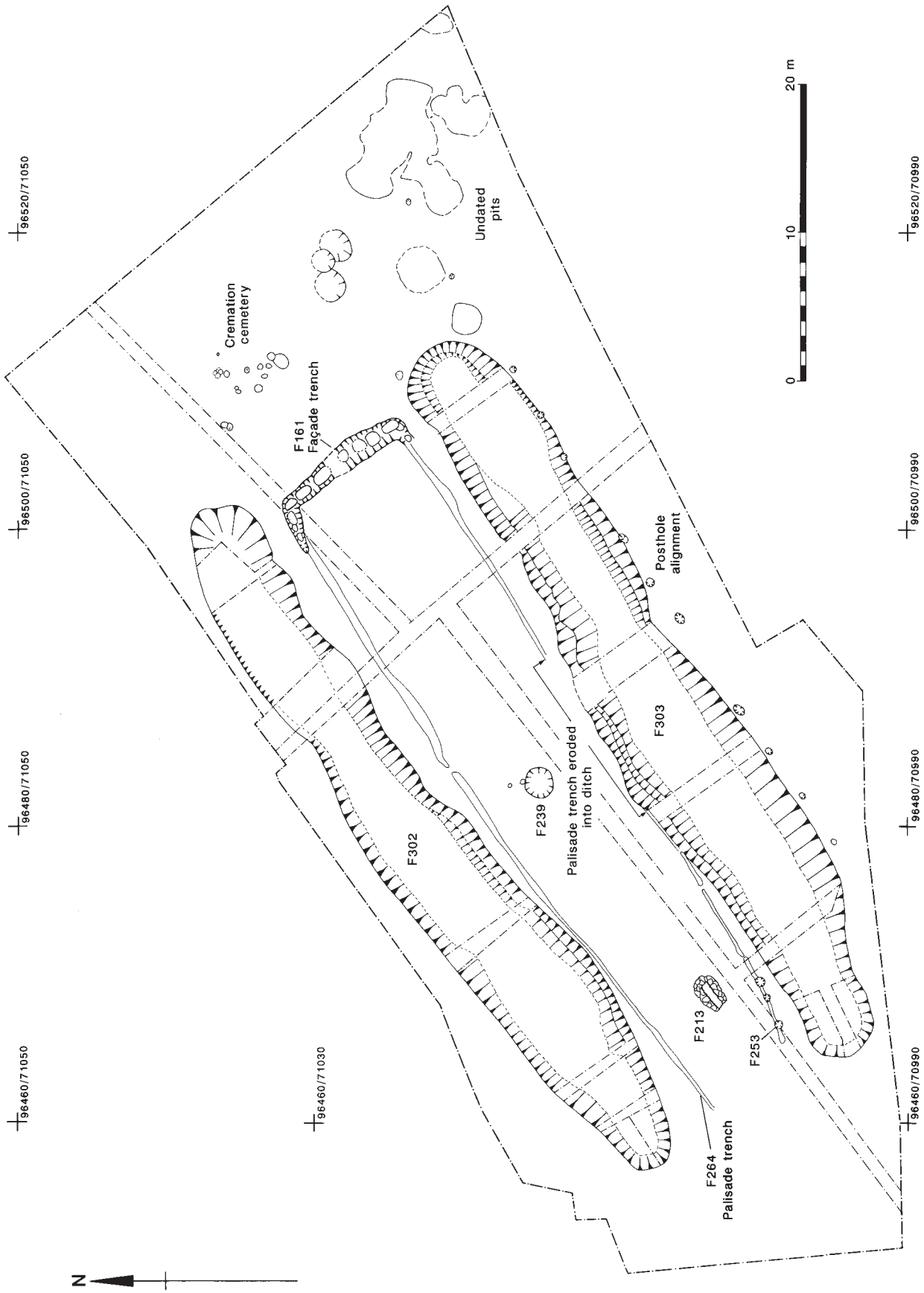
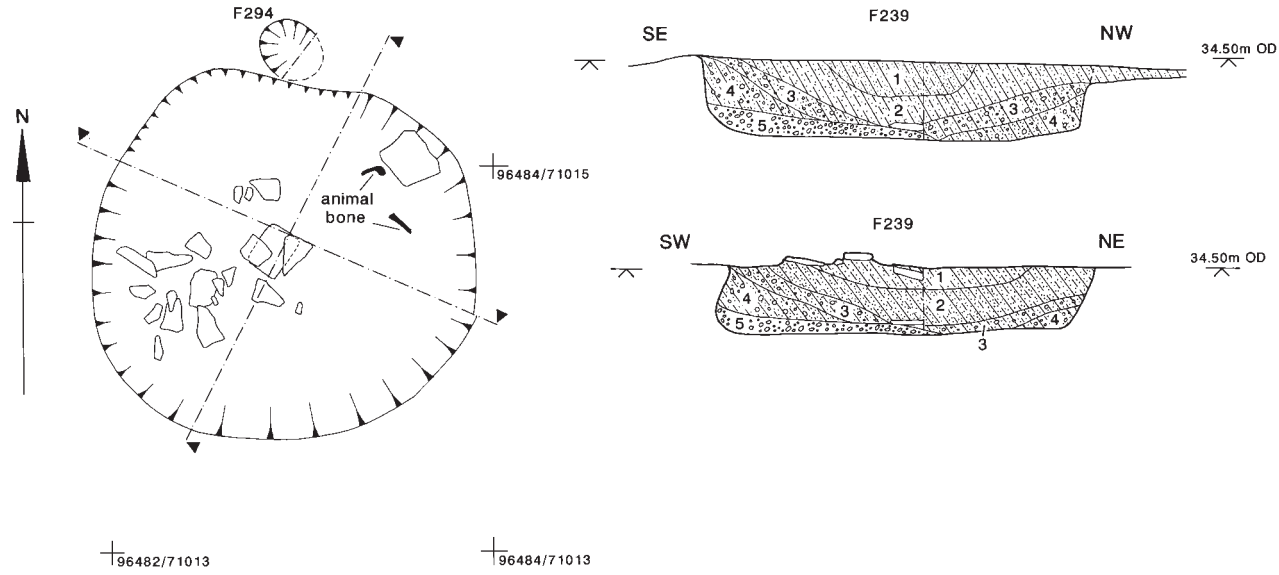


Figure 3.23
Long Barrow. Overall plan.



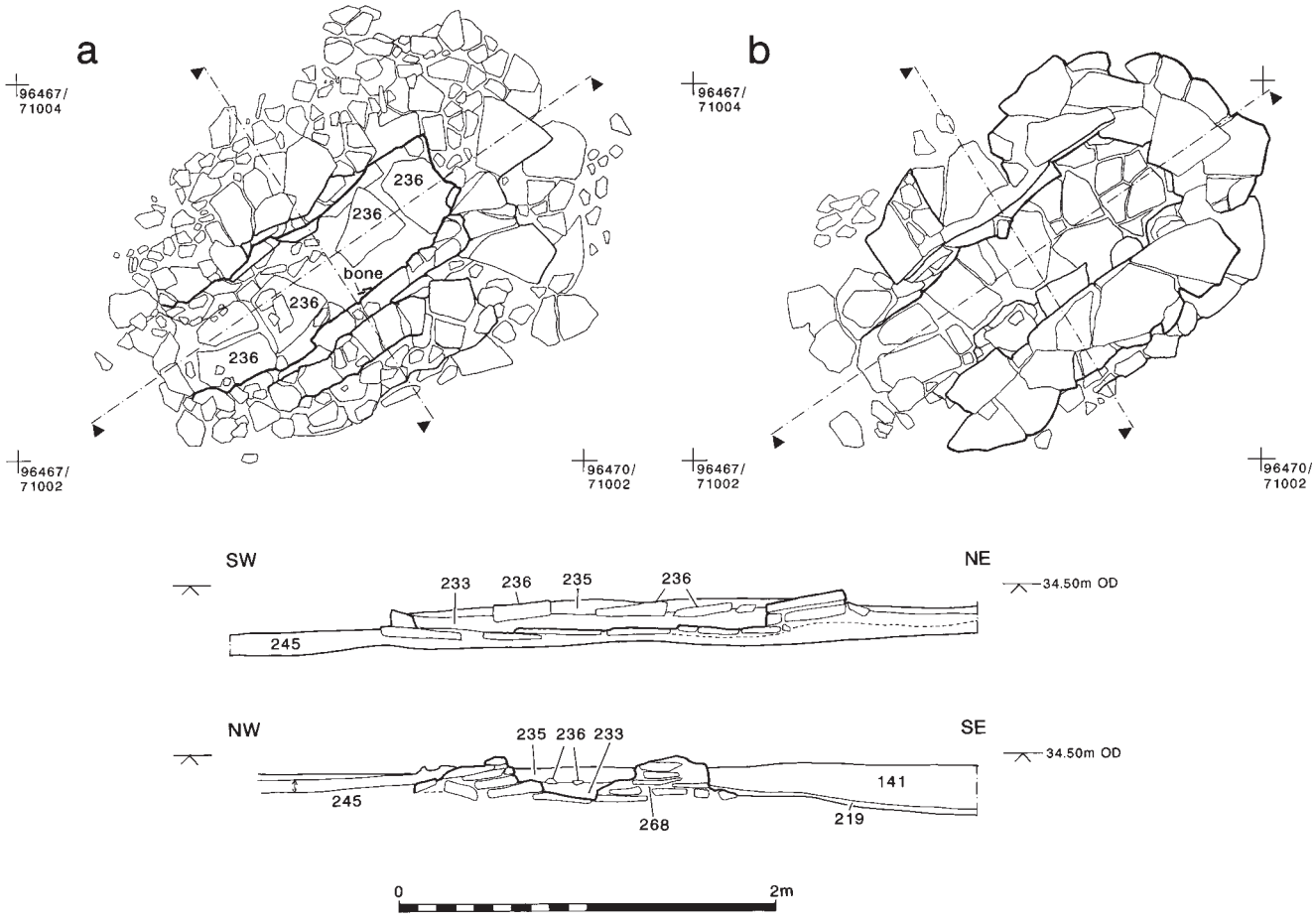


Figure 3.24
Long Barrow. Pit F239 (top) and cist F213 (below).

Figure 3.25
Long Barrow. Cist F213 (photo Oxford Archaeology).

probably human, long bone; fragments of unidentified animal bone and an unidentified charred cereal grain were also present. On the surface of 233 were several large subrectangular limestone blocks, which appear to have been carefully placed (Fig 3.24: 236). It was impossible to tell whether a scatter of limestone above and around the cist derived from a small surmounting cairn or from its upper walls. The position of the cist towards the rear rather than the front of the barrow is unusual. The way in which the south-west end seems to have been left open, and the presence of so little human bone, may together indicate that human remains were both placed in and removed from it. Location in the low end of the mound would certainly have rendered it more readily accessible.

Pit F239

Pit F239 lay close to the centre of the barrow, 15m north-east of the cist (Figs 3.23–24). This location, and the fact that it was cut through the old ground surface into the natural sand and gravel, suggest that it was a primary feature, although in this case the heterogeneous finds from it must have been introduced, perhaps at the time of extensive animal disturbance to the north-east side of the pit. It was filled with reddish and grey-brown sandy silt loams with more gravel in layers 4 and 5, probably the primary silting of the pit, than in the overlying layers 3, 2 and 1. A scatter of limestone blocks in the upper fill and around the top of the pit may have been the remnant of a cairn.

The finds that came from layers 3, 2 and 1 and the possibly dispersed cairn may all have resulted from the same episode of disturbance. In layer 3 was a red deer humerus dated to 910–760 Cal BC (2655±55 BP; OxA-5551). In layer 2 was a stylistically late Beaker sherd, and a large, possibly Early Mesolithic, edge-blunted point microlith. From the upper fills there were also two cores and a flake, all corticated. The introduction of a deer humerus is unlikely to have been fortuitous and might suggest the scavenging of a deer carcass by a fox, unless human agency was also involved. A possible posthole may have just cut the edge of pit F239 or may have had no relationship with it at all (Fig 3.24: F294).

The barrow

The palisade

The palisade trench was found at the north-east end of the barrow and along the sides (Fig 3.23). It was impossible to tell whether it originally continued around the south-west end. A berm, originally perhaps two metres wide, separated the palisade trench from the edges of the ditches, except near the centre of the south-east ditch, where erosion of the inner edge had removed a 13m length of the palisade trench (Fig 3.23). It was a narrow trench, approximately 0.40m wide and up to 0.60m deep, generally with vertical sides and a rounded base. Postholes and postpipes survived discontinuously. Their spacing is unclear, and the posts may have been joined by planks or hurdles. Some postpipes in the mound material sloped outwards at approximately 20° from vertical, presumably forced outward by the collapsing, eroding mound (Fig 3.27). The upper part of the mound also appears to have been contained by turf blocks against its inner edge (Fig 3.27: 280/1–2, 281). It is not clear whether these blocks were placed along the whole length of the palisade.

The ditches

The ditches survived to a maximum depth of 1.60m. The butts were very regular, almost semicircular in plan, and they may have been dug as separate features at the end of each ditch length. A slight kink in both ditches towards the front of the barrow might suggest that the barrow was extended at some stage in its construction, but the underlying natural sand here was much softer than the surrounding gravel, so that these irregularities are likely to have been caused by differential erosion.

The primary fills consisted of shallow depths of rapidly weathered sandy and clayey

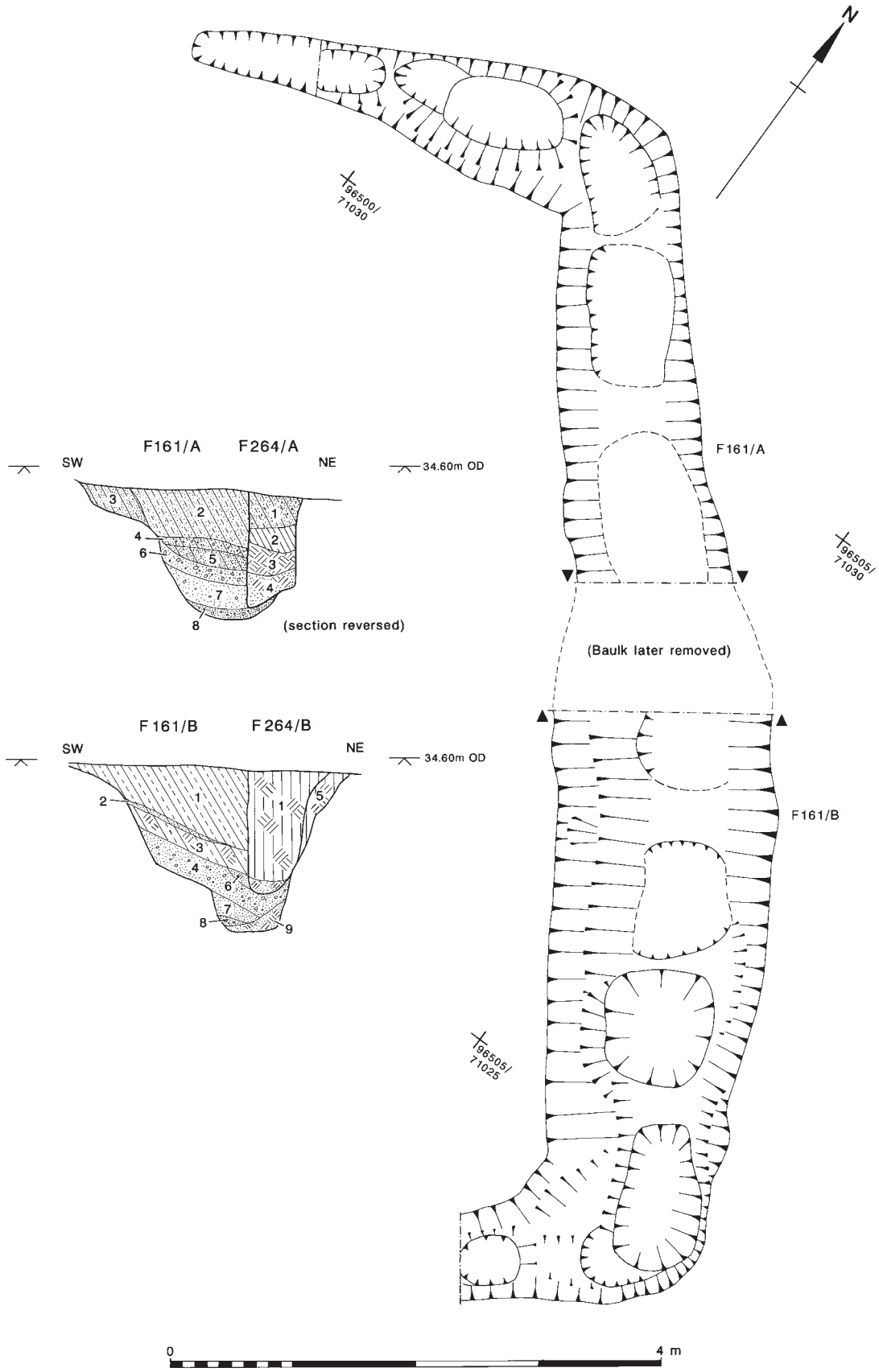


Figure 3.26
Long Barrow. Facade trench (F161) cut by later palisade trench (F264).

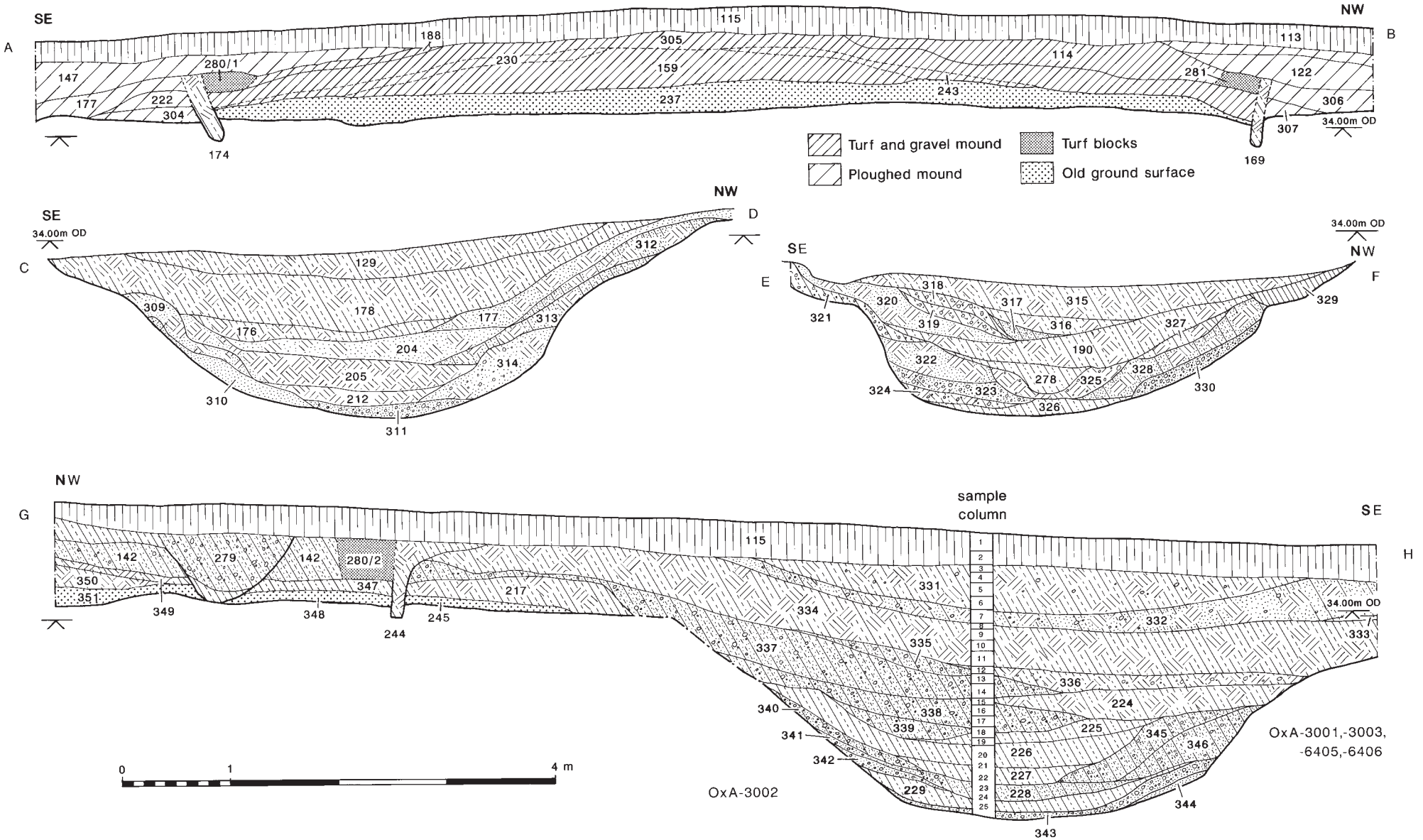


Figure 3.27
Long Barrow. Sections through mound and ditches.

Figure 3.28
Long Barrow. Bone, antler and waterlogged wood in north-east butt of north-west ditch (upper); waterlogged wood in south-east ditch (lower).

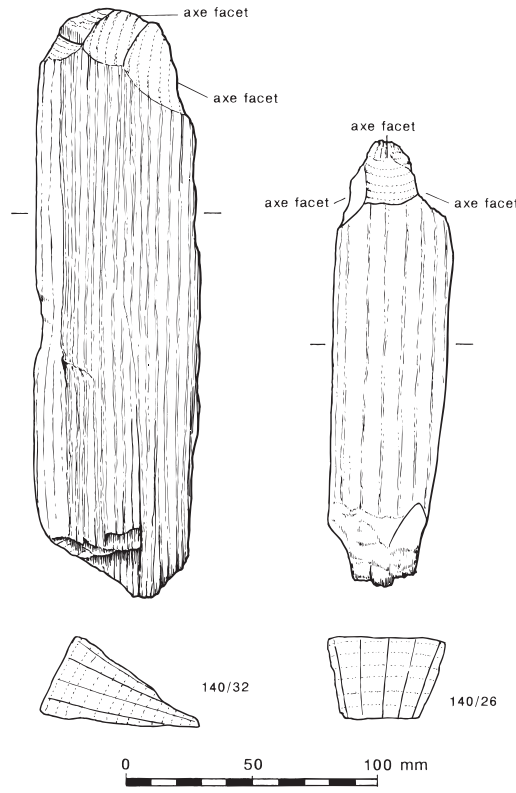
gravels. Once the ditches had stabilised, waterlogged deposits built up in both (Fig 3.27: 205, 212, 226–229, 278). Pollen and rich assemblages of insect and plant remains were recovered from some of the waterlogged layers. These show that when the ditches became stable they were filled with stagnant water, which was well-vegetated with aquatic plants. Waterlogged plant and insect remains included dung beetles and other species characteristic of lightly grazed grassland, and the pollen was dominated by grasses. At the same time, recent clearance and nearby long-established woodland were reflected by other aspects of the pollen spectrum and by some plants and insects (Ch 2).

There were three concentrations of waterlogged wood just above the primary fills. Wood, animal bone, and a cut-marked shed red deer antler had been placed in the north-east butt of the north-west ditch (Fig 3.28, inset), while two groups of woodworking debris lay side-by-side in the centre of the south-east ditch (Fig 3.28). The wood consisted largely of small offcuts, woodchips and pieces of bark, likely to be debris from the construction of the revetment (Panel 3.3). Many pieces had clear toolmarks, some of which fitted a heavily worn flint axe found approximately 1m above the wood in the south-east ditch.

Panel 3.3. Woodworking at the Long Barrow *Maisie Taylor and Philippa Bradley*

Water had stood in the bases of the ditches flanking the Long Barrow since very soon after their construction, the date of which is estimated as *3800–3640 Cal BC at 95% probability*. As well as the plant and insect remains described in Panel 2.2, the waterlogged layers contained debris from woodworking, which almost certainly derived from the construction of the timber revetment of the mound. A few pieces of roundwood had been placed with antler and animal bone in and near the north-east butt of the north-west ditch, but woodworking debris of all sizes was concentrated towards the centre of the south-east ditch. A few short plank-like pieces were noted during the excavation but had fragmented badly by the time of analysis more than five years later. One, which was radiocarbon-dated, was of oak (Table 3.1). Fifty-eight fragments of all kinds were retrieved, mainly of oak, with some Pomoideae and hazel. Most were woodchips, roundwood and bark. Bark fragments were generally less than 10mm thick, and quite large, several being over 300mm long. This suggests that they were deliberately removed, because naturally shed bark generally takes the form of thicker, corkier, smaller plates. The largest piece of bark was from a lime tree, not otherwise identified among the wood from the ditches, and may reflect the use of lime bast (the inner bark) for cord- and rope-production, a purpose which it has served until recent times.

Roundwood and woodchips lay in distinct, adjoining clusters in the south-east ditch, as though derived from separate episodes (Fig 3.28). Some of the roundwood had been coppiced, and there were two possible fragments of coppice stools. The few pieces of larger roundwood (ie those that were not twigs) seemed to be between 13 and 35mm in diameter, suited to wattle rather than basketry. Clustered south-west of the roundwood were woodchips like the two illustrated here, by-products of axing or adzing. The facets ran at

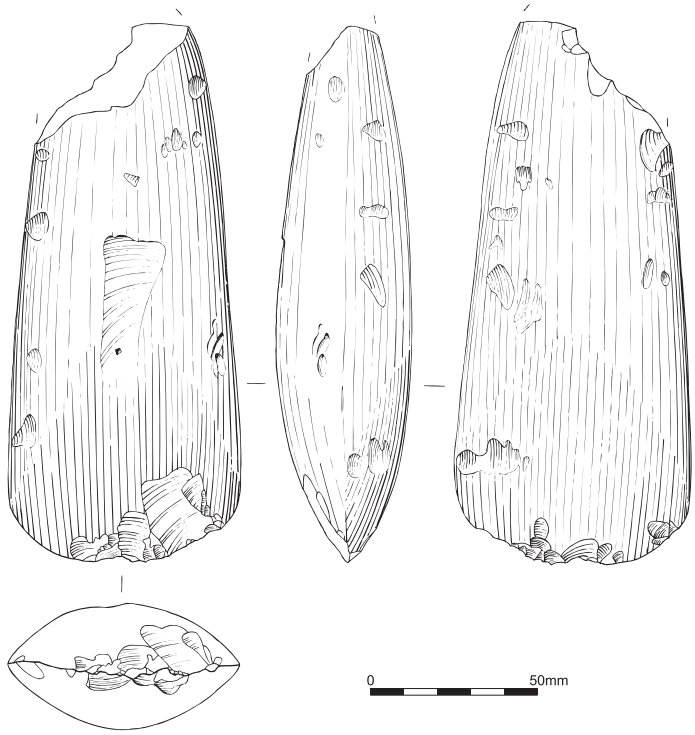


Wood chips cut radially (140/32) and tangentially (140/26) to the parent timber.

various angles to the grain, and they were all very 'chunky', features paralleled in woodchips produced during experimental tree-felling with stone axes (Jørgensen 1985). Some derived from shaping posts and stakes from roundwood up to 100mm or more in diameter. Timbers in this size range might have formed the uprights of the revetment.

Several woodchips preserved the characteristically dished facets produced by flint or stone axes, which do not bite into wood as sharply as a metal tool. Ten oak chips, all from relatively small wood, had facets that fitted the cutting edge of the flint axehead illustrated here, which was found about 1m higher up in the fills of the south-east ditch. The axehead fits the facets exactly, down to the details of the edge-damage, and it is reasonable to conclude that it was used to build the barrow and then left or deliberately buried there, perhaps incorporated in the mound from which it later eroded into the ditch. Sapwood from two of the woodchips which fitted the axe has been dated to the early fourth millennium (Fig 3.31: *250/35*, *250/32*). The cutting edge of the axe is heavily worn, and a flake seems to have been removed from its surface while the axe was being used rather than during manufacture. Experimental work with flint and stone axes has shown that flakes or blades often detach from the surface of the tool on breakage (Olausson 1983, 43, fig 14). The wear on this axehead is not entirely consistent with Olausson's experimental results, perhaps reflecting the difference between the ragged state of the chips then worked and the more skillfully cut Neolithic fragments from the Long Barrow ditches. Numerous scars at the cutting edge seem to indicate that it was used for quite some time without re-sharpening (Olausson 1983, 42, table 6). From the experimental results Olausson concluded that stone axes were used for heavy work whilst flint ones were chosen for finer work (Olausson 1983, 58), which would accord with the fit between the axehead from the Long Barrow and some of the smaller woodchips.

The revetment might thus have been built of contiguous, dressed uprights, or of spaced uprights linked by hurdles, planks or both.



(Top) Flint axe fitting cut-mark on woodchip from ditch base (photo Francis Pryor).

(Centre and bottom) Drawing and photograph of flint axehead from upper fills of the south-east Long Barrow ditch (photo: Francis Pryor).

Figure 3.29 (opposite) Long Barrow. Comparative plans of façades (top) and palisade trenches (below).

The mound

The mound was approximately 50m long and survived to a maximum height of 0.60m at the north-east end; its original height has been estimated at between 1.10m and 1.70m. It was built of dumped gravel and layers of reddish-brown sandy silt loam with yellow mottles, interpreted as turf. Some surviving turf was recorded at the north-east end of the pre-mound ground surface. Gravel banks probably indicate differential dumping, and there appeared to be a division along the centre of the mound, with turf construction to the north-west and gravel dumping to the south-east, although there was no evidence for bays like those in the Long Mound, or those in the South Street and Beckhampton Road long barrows in Wiltshire (Ashbee *et al* 1979). Finds from the mound comprised a weathered, probably adult human long bone 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.

The affinities of the monument (Figs 3.29–30)

The form of the façade can be paralleled at several sites (Kinnes 1992, 232, fig 2.4.4), but perhaps most closely at Haddenham, Cambridgeshire (Hodder and Shand 1988, 351, fig 3), and Streethouse, Cleveland (Vyner 1984, 165, fig 9). The height of the façade can be estimated at a maximum of 2.50m and substantial posts with diameters of 1.20–0.90m were used. The split-timber and turf construction of the palisade is fairly standard and can be paralleled at a number of sites, including Kilham, Yorkshire; Fussell's Lodge, Wiltshire; and Willerby Wold, Yorkshire (Kinnes 1992, 231, fig 2.4.3). The form and position of the cist are difficult to match exactly. Several sites provide fairly close parallels, among them Wayland's Smithy 1, Oxfordshire; Lochhill, Solway; Kilham, Yorkshire; and Dalladies, Kincardineshire (Kinnes 1992, 186, 206, 201–2, 208; *see* Kinnes 1992, 229, fig 2.4.1 for a comparison of chamber forms). However, the majority of the examples cited are larger than the Redlands Farm structure. There are also wider affinities with long cairns, linear crematoria and continental mortuary structures (Kinnes 1992, 211, fig 1E.1, 203, fig 1D.25, 243; Gebauer 1988, 47, fig 6).

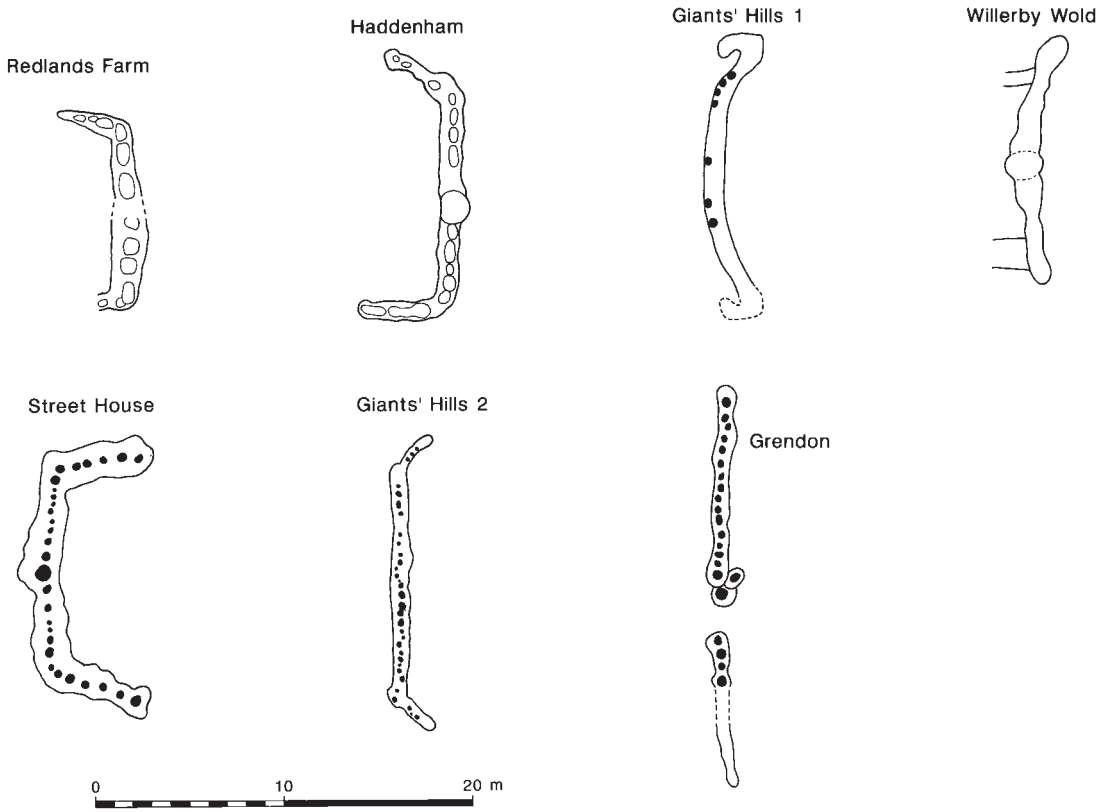
Dating (Fig 3.31)

The façade remains undated. As it preceded the mound revetment and would have stood for an unknown period before the mound was built, the construction date estimated here is a minimum one.

Two dates on one of the fragments of possibly human bone from the cist (Fig 3.31: *R_Combine cist*) are statistically consistent. The cist was built on the old land surface and so probably pre-dated the mound, although so little of the mound survived at this point that certainty is impossible. Waterlogged fills immediately above the primary silts of the ditches are bracketed by measurements on seeds from the lowest and topmost layers (Fig 3.31: *OxA-3001*, -3002). A plank and woodchips, almost certainly generated during the construction of the wooden revetment of the mound (Fig 3.31: *ST140, 250/35, 250/32*) were preserved in the same layer as the sample for OxA-3001. The dated woodchip samples were of sapwood, but none retained bark.

In the model for the chronology of the Long Barrow, the probability distributions of the dates of the woodchips are shifted by an estimate of the number of sapwood rings that were missing from the dated samples, according to Hillam *et al* (1987). This has the effect of making the calibrated dates slightly younger than they otherwise would be (Fig. 3.1: *Prior ST140, Prior 250/35, Prior 250/32*). This model estimates that the construction of the long barrow occurred in *3800–3640 Cal BC at 95% probability*.

The index of agreement for bone from the cist (A=12.9%) is rather low. This may be a statistical outlier, or the bone may in fact postdate the mound if the cist remained accessible after the mound was built. The measurement from OxA-3002 is not in agreement with the stratigraphic position of this sample. As the results from the woodchips, plank and macrofossils from context 226 are so consistent, it seems most likely that OxA-3002 does not provide an accurate date for the context from which it was recovered. The most plausible explanation for this is that some or all of the dated seeds were intrusive. A possible mechanism for intrusion is provided by the Beaker-age alder roots dated by *OxA-6403* and *-6404* (Fig 3.31), which grew down into the waterlogged deposits. There is no evidence of laboratory contamination, although this cannot be entirely excluded because the sample was very small, as evidenced by the large error term on the measurement.


Redlands Farm
Haddenham
Giants' Hills 1
Willerby Wold
Street House
Giants' Hills 2
Grendon
0
10
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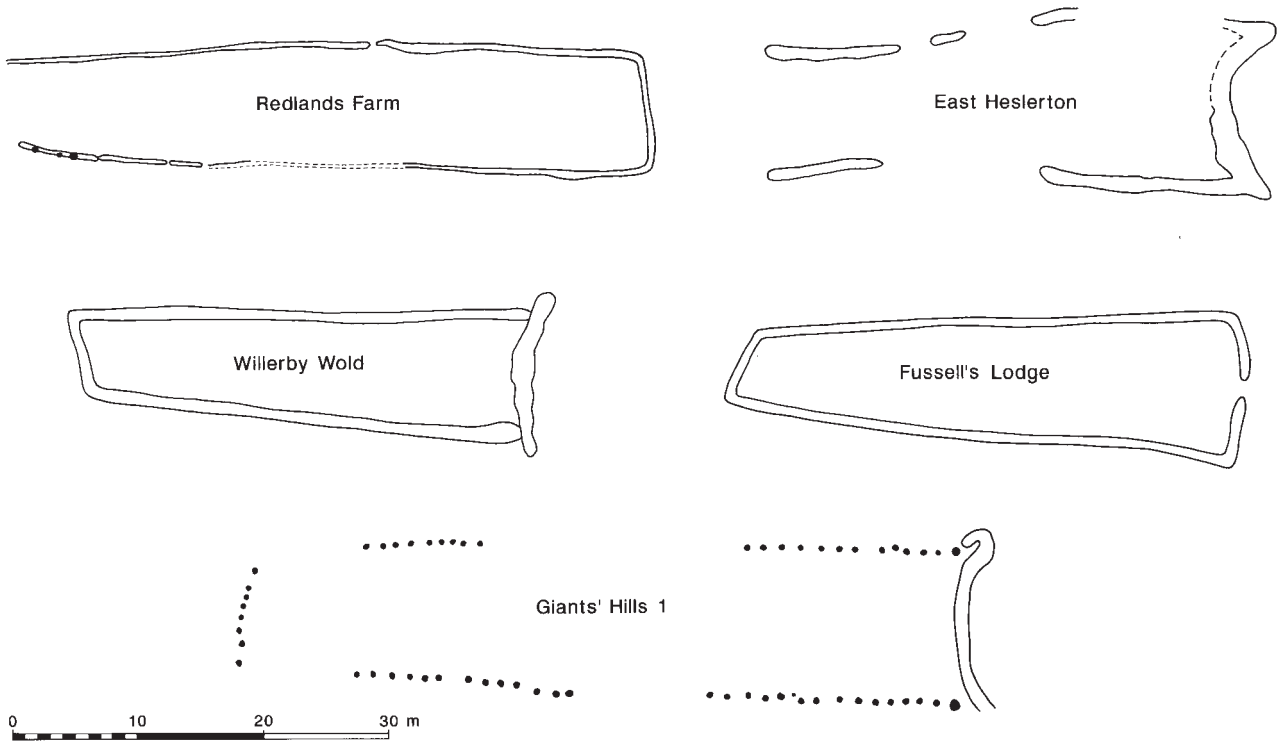
Redlands Farm
East Heslerton
Willerby Wold
Fussell's Lodge
Giants' Hills 1
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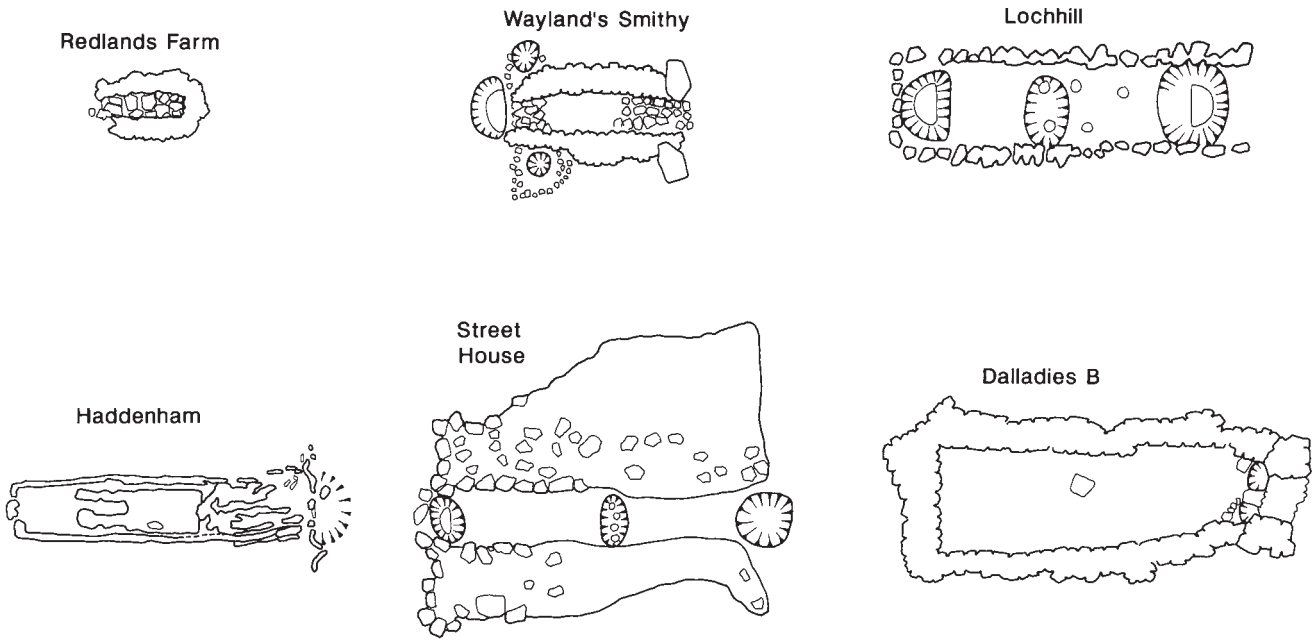


Figure 3.30 (above) Long Barrow. Comparative plans of cists, chambers and other central features.

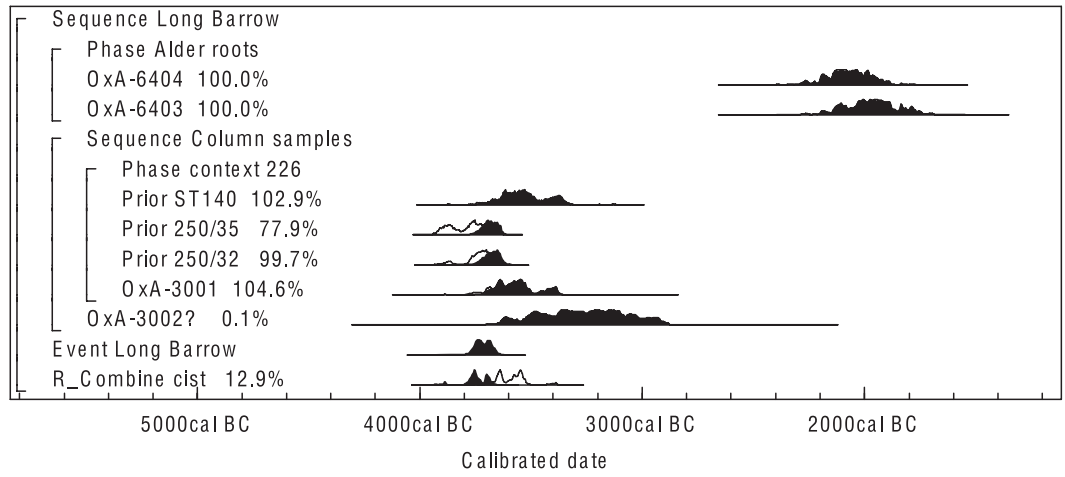


Figure 3.31 (right) Probability distributions of dates from the Long Barrow. The format is identical to that of Figure 3.14.

The distributions represented are: cist *(OxA-5632 and -5633) weathered human longbone from cist F233; OxA-3002 waterlogged seeds in layer 229;* OxA-3001 *waterlogged seeds in layer 226;* 250/32 *(OxA-6406) and* 250/35 *(OxA-6405)* Quercus *sp sapwood from woodchips in layer 226;* ST140 *(OxA-3003) outer rings of* Quercus *sp plank in layer 226,* OxA-6403 *and* -6404 Alnus glutinosa *roots growing into ditch fills.*

Figure 3.32 (opposite) Barrows 7 and 8. Plan, sections of outer ditch of Barrow 7, detail of grave F2000.

Barrows 7 and 8 (SS1.18-1.19)

Angela Boyle

The investigation of two Bronze Age round barrows, which stood side-by-side to the south of Irthlingborough island, provided hints of a further Early Neolithic monument or monuments (Fig 3.32). The record is limited because after the character of the barrows had been determined by limited excavation it was decided to preserve them *in situ*. Apparent mound material, in the form of red-brown sandy clay loam, extended beyond a small ring ditch surrounding a cremation burial in Barrow 8 and beyond the excavated area. It may have equated to deposits excavated in evaluation Trench 10 to the south (Fig 3.32) and to a deposit cut by the ring ditch of Barrow 7.

Within the ring ditch of Barrow 7, but eccentric to it and on a different alignment to an excavated grave probably of Early Bronze Age date (F2000), was a subrectangular feature flanked by two slightly bowed linear ones (Fig 3.32: F2005, F2002, F2006). A section through the north butt of F2002 showed it to have been 0.94m wide and 0.13m deep, with steep sides and a flattish base, with a single red-brown sandy silt fill with gravel inclusions. F2005 and F2006

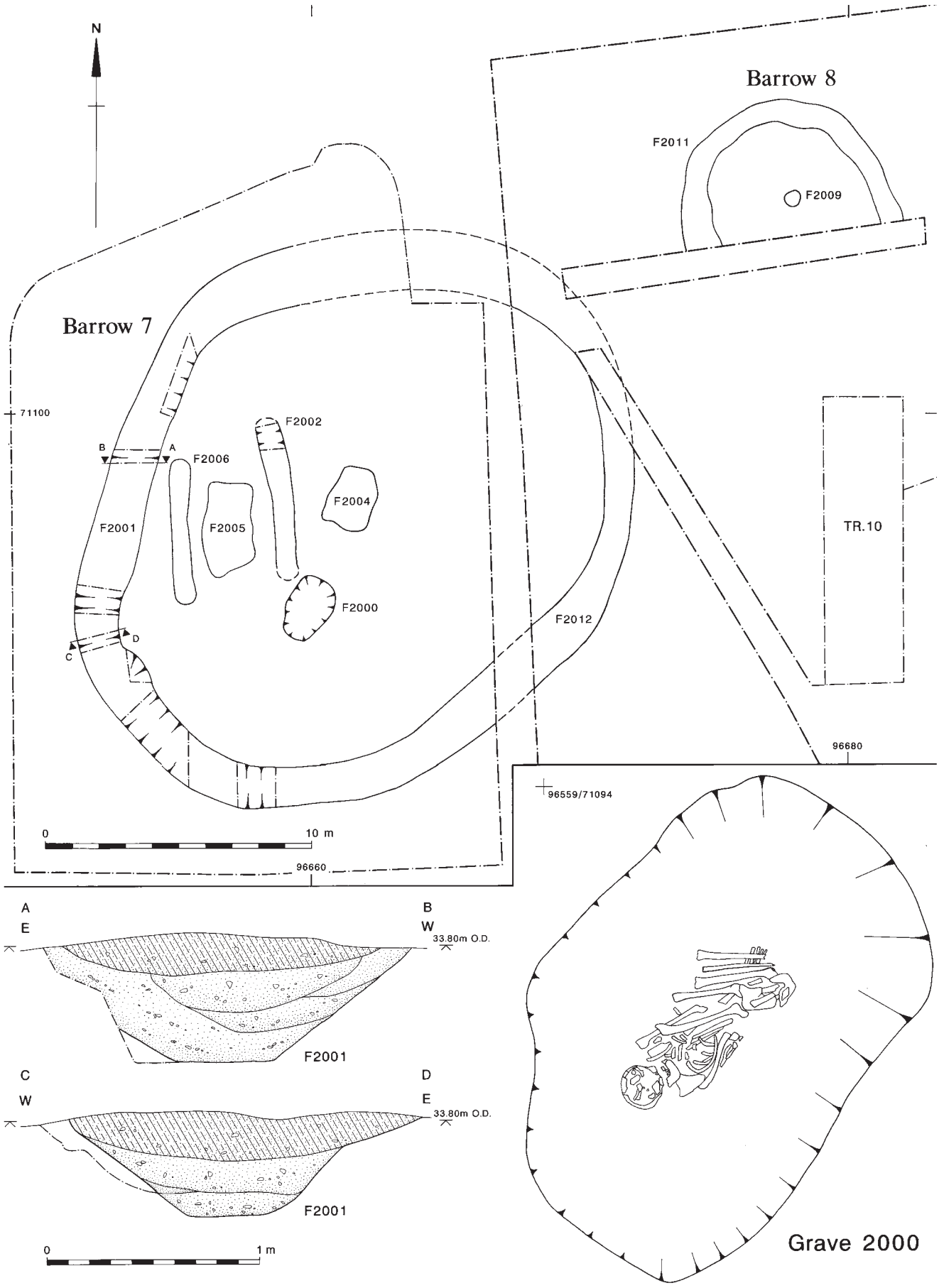

N
Barrow 8
F2011
F2009
Barrow 7
71100
B
A
F2002
F2006
F2004
F2001
F2005
F2000
D
C
F2012
TR.10
96680
96559/71094
0
10 m
96660
A
E
B
W
33.80m O.D.
F2001
C
W
D
E
33.80m O.D.
F2001
0
1 m
Grave 2000

Figure 3.33
Barrow 7. Plan of possibly Neolithic features compared with plan of early or middle Neolithic burial monument at New Wintles, Oxfordshire.

were not excavated. The plan of the three features, however, recalls the linear zones that, in myriad forms, define many Neolithic burial deposits (Kinnes 1992, 85–6). A comparable Early or Middle Neolithic monument was excavated at New Wintles Farm, Eynsham, Oxfordshire (Fig 3.33; Kenward 1982; Kinnes 1979, 22). Here a small, discontinuous ovoid ditched enclosure surrounded two irregular, almost parallel inner ditches of comparable size, shape and shallowness to the Barrow 7 ones, with an axial pit at each end, two pits cut into one of the inner ditches, and a further pit between the inner and outer ditches. Finds from the inner ditches included a burnt child's skull fragment; finds from the pits included Abingdon Ware, a sherd in a fabric like that of local Peterborough Ware, cremated human bone and a setting of Cornbrash or Forest Marble.

3.2.4 Discussion

Jan Harding

Social innovation and change

The available radiocarbon evidence indicates vegetation burning at different times during the later Mesolithic. A treethrow hole was burnt out in the late 6th or early 5th millennium, the charred tubers from the Avenue date to the second half of the 5th millennium, and a further treethrow hole, associated with a small blade-based flint assemblage, was burnt out in the late 5th or early 4th millennium. None of these dated samples is directly associated with the typologically later Mesolithic material concentrated at West Cotton and present across much of the landscape, but if vegetation-burning was unconnected to the lithics it would be necessary to postulate that they were the work of an otherwise invisible population. It seems more plausible that both were generated by the same people, their activities resulting in localised clearance. A patch of grassland at the site of the Avenue was in existence during the second half of the 5th millennium, either before or soon after the construction of the monument. Clearings also preceded the construction of the other early monuments, although none was demonstrably as early as at the Avenue. These possibly dated to the late 5th or early 4th millennium and were associated with livestock, which was presumably domesticated, and morphologically Neolithic artefacts, such as the leaf arrowheads and Bowl pottery in the body of the Long Mound and the leaf arrowheads beneath the Turf Mound.

There is a correlation between the volume of evidence for pre-monument activity and the duration and intensity of pre-monument clearance. At the Avenue, where there were virtually no artefacts or food remains, the upper fills retained characteristics of forest soils, implying recent clearance. At the same time, the volume of oak charcoal in the ditches suggests that timber was readily available, and onion couch grass tubers indicate that local areas of grassland were only lightly grazed. Similarly, the Long Barrow, where there was little cultural material under or in the mound, was built in a recently cleared

area with woodland nearby, which doubtless provided the substantial amount of wood used in its construction. By contrast, at West Cotton, where there is the strongest record of earlier activity, there is a case for longer-established grassland. The soil beneath the Long Mound had already begun to become acidified and 7000 to 8000m^2 of turf was cut to build the main part of the monument. The composition and condition of the material in the turves and soil built into the Long Mound reflect exposure and degradation for some time before the monument was built: there was comminuted, often microscopic charcoal; rare bone and pottery, generally so fragmented as to be unidentifiable; and abundant lithics. All of this suggests longer-established clearance here than at the other early monuments, with the connotation of new developments being initiated at an existing local focus, with new clearings made for the subsequently built monuments. A link between clearance and monument-building is also suggested by negative evidence at Wollaston, 10km upstream from Raunds, where no monuments were built in the Neolithic, although pits were dug, and where woodland was cleared only during the Bronze Age (Meadows 1995).

If the estimated construction date of *3940–3780 Cal BC at 95% probability* for the Long Mound is accepted, then stock-keeping, pottery and the use of single-piece arrowheads were locally present before then, during the currency of typologically Mesolithic artefacts (3.2.2). This has implications for understanding the Mesolithic–Neolithic transition, of which the most significant is the apparent lack of a chronological hiatus between these two periods. The possibility of a 5th millennium date for the Avenue is of interest when the form of this monument is considered (Fig 3.15). The site is difficult to parallel in Britain, but it bears a generic resemblance to the 5th-millennium linear monuments of north-western France, particularly those with Cerny associations in the Paris basin and Normandy (Delor *et al* 1997; Duhamel *et al* 1997; Kinnes 1999; Kirk 1998; Mordant 1997). These sites are diverse and, unlike the Avenue, generally surrounded axial inhumations; yet it is possible to match the Avenue's plan, its size, the near-absence of finds, and even the shallowness of its features, among these numerous French examples. In other words, it is plausible that the first built structure at Raunds referenced some of the earliest known Neolithic monuments constructed immediately to the west of the Danubian cultural area from which, it is claimed, they drew their original inspiration (R Bradley 1996; 1998, ch 3; Hodder 1984; 1990, 149–56), a possibility enhanced by the construction of long monuments over the sites of Bandkeramik longhouses at Balloy (Mordant 1997). If so, the Avenue may have acted as a 'founder monument', deliberately invoking the ancestry and exotic character of 'becoming' Neolithic.

This process of innovation may have gathered momentum during the first quarter of the 4th millennium, as the local landscape was substantially altered with the construction of the Long Mound, the Turf Mound and the Long Barrow. The closeness of their radiocarbon dates suggest that the lives of those occupying the valley may have been completely transformed within, at the very most, a couple of centuries. This kind of timescale seems the more plausible when considered from a wider perspective. In the absence of a recent synthesis, an inspection of the available information suggests that reliably associated dates for the earliest British monuments – almost all of them from long barrows and long cairns – are extremely rare before 3900 Cal BC, although several of the monuments were built on sites that had already seen Neolithic activity (Saville 1990, 253–5). The rapid inception of monument-building, which questions the view that the Mesolithic–Neolithic transition was a gradual transformation (Schulting 2000, 32), is complemented by indications of a dietary change, in which terrestrial proteins seem to have replaced marine ones, even in coastal areas, before the end of the 5th millennium (Bonsall *et al* 2002, 12–13, fig 3; M Richards and Hedges 1999; Schulting and Richards 2000; 2002a; 2002b). There is considerable disagreement about the speed and extent of this dietary transformation (Hedges 2003; Lidén *et al* 2003; Milner *et al* 2003), but, if it did occur widely and quickly, then practical reasons for it are difficult to envisage, as they are for several of the other apparently disconnected innovations of the time. There is no obvious functional link between an abandonment of fish and other seafood, the keeping of flocks and herds, the cultivation of crops, the building of monumental structures, the transportation of artefacts over distances well beyond practical need, the manufacture of pottery and some new lithic artefact forms, and an upsurge in the deposition of human remains in caves (Chamberlain 1996). Such radical change, combined with a traditional

flint-working technology and often the continued use of the same living sites (3.2.1), could be comprehensible in the context of new beliefs and social values (R Bradley 1993, 16–17; 1998, 33–4; Hodder 1990; J Thomas 1988b, 63–5; 1996a, 123–40). These material transformations may have accompanied the spread across north-western Europe of a family of ideologies that were quickly adopted. It is certainly pertinent that the record of the Danish shell middens defines a timespan of 100 radiocarbon years for the transition from formally Mesolithic to formally Neolithic material culture, yet with substantial continuity in the subsistence base (Andersen 2000, 376).

But what mechanisms or tensions were behind such an abrupt 'horizon' of change? It has been argued that the economic intensification, long-distance exchange networks and symbolic elaboration documented for the hunter-gatherers of Atlantic Europe during the 5th and 4th millennia were all part of a general process of increasing social complexity (R Bradley 1993, 14–17; 1998, ch 2; J Thomas 1988b; Tilley 1996, ch 1; Whittle 1996, 195–210) – a process that created a society all too eager to adopt or rework some of the ideas, practices and material culture of neighbouring farming groups. While there is much to commend such a viewpoint, it is noticeable how this apparent desire for ever more social complexity is simply assumed to have been innate to these communities. Furthermore, little is said about the social trauma associated with transformation. These are significant limitations to understanding the Mesolithic–Neolithic transition, particularly when we note the possibility that innovation among hunter-gatherers may have resulted in social contradiction with traditional beliefs. Is it possible to witness the disappearance of old certainties and the emergence of a nascent, and unstable, 'world order'? And did this fragility on the eve of the 4th millennium ensure that society was susceptible to the external influence of 'Neolithic' groups, unable to resist the subversion, insurgence, and 'system-change' that followed? These questions suggest an alternative framework for understanding the beginning of the 4th millennium. And this framework, with its reference to a faltering cosmology, may also suggest why the construction of monuments – places that were dedicated to the gods, spirits and ancestors of local populations – constituted such an important part of 'becoming' Neolithic.

The early monuments

The first monuments at Raunds may have therefore been broadly contemporary with the formative development of a 'new' society. The poignancy and efficacy of these sites during a period of fundamental change are certainly comprehensible if we consider them as both enlivening and assuring to those engaged in their construction and use. On the one hand, these early monuments could, at least initially, possess the qualities of strangeness, originality and novelty. They were the conscious manifestation of individuals who, through the very act of building, were combined in renegotiating their beliefs or world view. The creation of the monuments engendered novel insights, new possibilities and transformative potential. But this process was only possible because the sites were also strangely familiar and assuring, built, as they were, in previously occupied clearings. Indeed, their physical form directly engaged with the materiality of these places, incorporating their turf, earth, wood and, perhaps most importantly, the relics of past human occupation. The monuments offered, in other words, the thread of continuity between past and present generations, a sense of familiarity and assurance that enabled people to expose, unmask or demystify beliefs previously taken for granted. As such, they were not only the foundation upon which a new ideology was created, but, to quote Sherratt (1995), were quite literally 'instruments of conversion'.

But if these early monuments provided a common focus, or sequence of public symbols, around which people could unite, then this process was partly mediated by the ancestry of these symbols. That the Avenue may deliberately reference the monuments of continental Europe has already been noted, but a similar conclusion is possible for the Long Mound and north part of the Turf Mound. Although the former had some of the characteristics of a bank barrow and employed a constructional technique common to some long barrows and long cairns, both of these sites were, like the Avenue, of unusual form. However, the general inspiration behind their construction may be partly understandable if we return to consider developments in continental Europe. It has been suggested that both the Kujavian long barrows of central Poland and the Cerny burial monuments of north-western France may have derived their form

from abandoned and derelict Bandkeramik longhouses, whose collapsed mounds of debris they would have closely resembled (R Bradley 1996; 1998, ch 3; Hodder 1984; 1990, 149–56). These monuments, which cluster together like the longhouses, quite literally represent 'villages of the dead' (J Thomas 1996a, 131). While such a derivation would certainly be inappropriate for the monuments at Raunds – given their geographical distance, later date and lack of burial remains – it may be apt to consider these sites as drawing upon a flexible heritage of material resources, techniques and meanings whose origins lay across the North Sea, for the Long Mound and Turf Mound also consisted of closely sited low and elongated mounds. This is not to argue for the direct transfer of ideas from the continent, or even to suggest that the community at Raunds would be aware of developments outside their own social 'homeworld', but to emphasise that the builders and users of these monuments deliberately invoked the 'otherness' or sacred ancestry of their public symbols by employing the resources of a world that was, quite simply, beyond their own existence. As such, the monuments symbolised the novelty and attractiveness of the newly emerging cosmology.

It may therefore be appropriate to consider the Avenue, Long Mound and the northern part of the Turf Mound as belonging to a 'primary' phase, lasting 300 years or so, of exceptional and diverse monument construction. This could even be described as a period of experimentation prior to the establishment of more rigid norms and rules, as also illustrated by the construction of the trapezoid enclosure at Godmanchester, Cambridgeshire, another unusual monument perhaps built early in the 4th millennium (McAvoy 2000). Although different in form, the three monuments at Raunds possess some important similarities. None produced any evidence for the deliberate deposition of cultural material, with the only artefacts and food remains being incorporated as part of the turves and soil from which the monuments were built. Two of these monuments may have also been the product of episodic activity. There is the possibility that the eastern end of the Long Mound was built separately and the site produced evidence for a possible episode of mound refurbishment. Gullies were also cut into the mound tops of both the Long Mound and the north part of the Turf Mound, although there is no reason why these did not immediately follow the completion of the earthworks. But perhaps the most striking similarity between these three monuments is that they ended with episodes of burning. The ditches and hollows of the Avenue were full of oak charcoal and charred plant material, at least some of it burnt in the ditch tops. Two successive pairs of fences in the top of the Turf Mound were burnt *in situ*, as were stakes in the gully in the top of the Long Mound, although the jumbled mass of burnt wood and earth seems to have been shovelled or tipped into the gully.

The only monument without a burning episode is the Long Barrow. There is no reason to assume that it was anything but broadly contemporary with the other early sites, although it is the only one to clearly correspond to a widespread monument type, incorporating constructional elements from a widely used repertoire (Figs 3.29–30), and a common structural history, in which façades were dismantled or destroyed before mounds were built (J Thomas 1999, 134). If these observations suggest that the meaning of the Long Barrow may have differed from those of the other monuments, then this is emphasised when we consider that it is the only monument, with the possible exception of the early phase of Barrows 7 and 8, to have been even marginally funerary. The lack of any burial or structure under the higher, wider end, and the small amount of human bone remaining in a potentially accessible cist at the tail of the mound, suggest that the monument figured in the circulation of human remains rather than in their final deposition. This role may certainly account for why the monument witnessed a complex sequence of construction, including the building of a façade, and probably also the cist, prior to the erection of the mound, while the incorporation of a weathered, probably adult human long bone fragment, and an adult metatarsal fragment into the mound, suggest that human remains were already in circulation by the time the barrow was built. It is plausible, in other words, that the Long Barrow was the product of a very different set of priorities and assumptions, part of the mortuary cycle undertaken by the local community. If so, this may explain why it was sited upstream from the other early monuments and why it was without a burning episode, suggesting, perhaps, that its significance extended beyond those acts of social renegotiation implicit in the other monuments.

3.3 The mid to late 4th millennium

3.3.1 Introduction

Jan Harding

To label the whole of the 4th millennium as 'earlier' Neolithic is to obscure important changes and innovations that occurred in the course of it, largely through a reworking of earlier material culture and practices. The role of some causewayed enclosures may have significantly altered as their perimeters were modified by recutting, rebuilding and the addition of earthworks, perhaps indicating the appropriation of these sites by sectional interests (Edmonds 1999, 138–40; J Harding 1995, 122–3). Related to these transformations were shifts in funerary tradition, particularly the development of new long barrow designs and a suggested rise in the importance ascribed to articulated burial (J Harding 1999, 34–5; J Thomas 1999, 140–42). Peterborough Ware developed from the Bowl tradition from as early as 3400 Cal BC (Gibson and Kinnes 1997), a diversification that may have 'allowed separate contexts, locations, activities and persons to be differentiated' (J Thomas 1999, 111). The most striking innovation was the construction of new monument types, most conspicuously cursus monuments and allied rectilinear enclosures, from about 3500 Cal BC – a tradition that was to continue until the end of the millennium (J Harding and A Barclay 1999). These monuments, which have been connected to a concern with linear movement (Last 1999, 90; J Thomas 1999, 52–3; Tilley 1994, 173–200), were often grouped together into foci, each perhaps representing 'new possibilities for inclusion and exclusion, new forms of knowledge and ideas to which only some could have access' (Edmonds 1999, 141). For all their novelty, these too had roots in the foregoing centuries, extending the principle of linearity embedded in the design of earlier long barrows and bank barrows. Taken together, the evidence indicates a need to split the 4th millennium into distinct phases, or, at the very least, to distinguish between an 'Early' and 'Middle' Neolithic.

The changes that distinguished the Middle Neolithic from the Early Neolithic varied from region to region, differences that must have been partly dependent on the social trajectory of individual areas in the first few centuries of the 4th millennium. Cursus monuments are a case in point. While they are well represented in the upper Thames catchment and the east Midlands, they are few and far between east of the Fens (A Barclay and Hey 1999; Last 1999; Malim 1999). Indeed, variability is evident at a more local level, as in the river valleys of the east Midlands, where there is a contrast between the Welland and the Ouse, each with cursus complexes, and the Nene, which has, as yet, produced no definite example of this monument type (Last 1999, fig 8.1). The complexity of social process in the second half of the 4th millennium is evident at Raunds, where the Long Mound and the Long Barrow remained foci of activity, and where a number of new enclosures were built, including the Long Enclosure and Causewayed Ring Ditch.

3.3.2 Continuity and new monuments

'Quarry pits' at the Long Mound, dug *3620–3490 Cal BC (59% probability)* or *3460–3370 Cal BC (37% probability)* (SS1.1)

Andy Chapman, Tony Baker, Dave Windell, Jo Woodiwiss

Hollows 0.35–0.50m deep were cut either side of the western part of the Long Mound, down to the surface of the calcareous gravels, which were here overlain by a layer of gravel in sandy clay. The outer and western edges of these 'quarry pits' extended beyond the area available for excavation. Both were at least 20m long and 7m wide (Figs 3.7, 3.34–5). They did not relate to the construction of the mound, as the sandy subsoil and gravel and sandy clay, which would have been extracted from them, were not matched in its make-up, even in the slightly more gravelly loam applied to its surface before the gully was cut. The upcast from the hollows may have formed external banks.

The base of the northern 'quarry pit'

In the base of the northern hollow there were three adjacent shallow features (Fig 3.34: F5260, F5257+F5258, F5263). In F5260 there were only charcoal flecks and a single flint flake. The other two contained over 50 sherds of Ebbsfleet-style Peterborough Ware and plain Bowl (Tomalin SS3.8.4) with a small flint industry charac-

Figure 3.34
Long Mound. Plan of west end, showing 'quarry pits', gully and contour plot of mound surface.

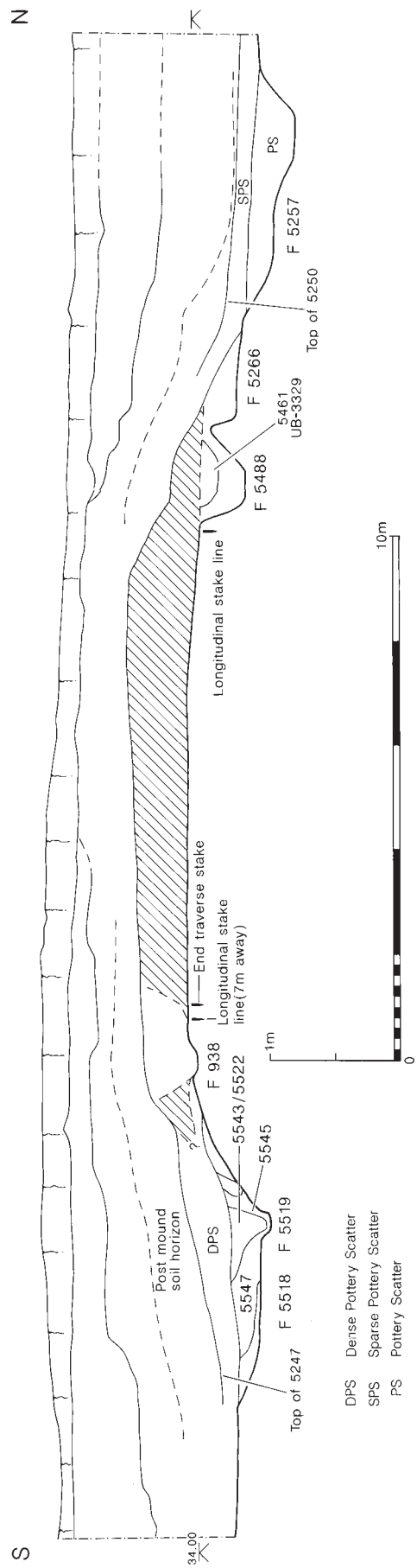


Figure 3.35
Long Mound. Composite section through west end, showing F5488 and quarry pits.

terised by macroblades and a chisel arrowhead (Ballin SS3.7.6; Fig 3.36). In F5263 there were also charred plant remains and badly degraded animal bone. There was a single intrusive crumb of Beaker.

Dating (Fig 3.14)

Some of the Ebbsfleet Ware in F5263 came from a layer against and primary to one side of the feature. This was a mottled dark brown sandy silt with frequent flecks of charcoal and occasional burnt pebbles, from which a fragment of charred hazelnut shell was dated to 3650–3370 Cal BC (4770±45 BP; OxA-7943), and a fragment of onion couch grass tuber to 3650–3370 Cal BC (4750±45 BP; OxA-7944). The layer seemed to be a coherent deposit, and the short-life samples on which OxA-7943 and -7944 were made make them likely to have been close in age to their context. This is supported by the fact that the measurements are statistically consistent. The date of F5263 is therefore estimated at *3620–3490 Cal BC at 59% probability* or *3460–3370 at 37% probability*. This is the only dating evidence for the excavation of the 'quarry pits'. Whether they pre- or post-dated the cutting of the gully into the top of the mound depends on the date of that event (3.2.3).

The base of the southern 'quarry pit'

In the base of the southern hollow, away from the mound, was F5549, a small circular pit with steep sides and a rounded base. Calcined bone from an infant (Mays SS4.7.3) was loosely scattered through the fill, with flecks of oak charcoal, a charred onion couch grass tuber fragment and a vetch or tare seed (Campbell SS4.5.3). There were also an indeterminate crumb of pottery, two slightly burnt flint flakes, a core, a core fragment, a blade and a chip. The flakes may have been burnt during the cremation. If the southern 'quarry pit' was dug at the same time as the northern one, then the cremation deposit in F5549 may date to the mid-4th millennium, unless it was cut through the main, upper fill of the hollow.

Closer to the mound were two irregular, convoluted features (Fig 3.34: F5518, F5531) of a different nature to those in the northern hollow. Both were, at least in part, natural disturbances, possibly the base of a treehole dug out when the hollow was excavated. Most of the original fills of these features were removed by a recut (Fig 3.35).

The secondary fills of the Long Barrow ditches (SS1.4)

Philippa Bradley

By the time a little over half a metre of silts had accumulated in the waterlogged bottoms of the Long Barrow ditches (Fig 3.27), the grazed clearing in which the barrow had been built, and probably the mound itself, were recolonised by scrubby woodland, on the evidence of the pollen, plant macrofossils and insects from the top of the waterlogged fills (Wiltshire SS4.2; Robinson SS4.3). Radiocarbon measurements on three samples from context 226, the topmost waterlogged layer, show that this occurred before the middle of the 4th millennium (Fig 3.31: *ST140, 250/35, 250/32*).

Above the limit of waterlogging, the ditches silted gradually and naturally. As silting proceeded, artefacts and animal bone were deposited in the ditches, especially in the north-east butts, at the higher, wider 'front' end of the mound. The 68 sherds/226g of pottery are almost all of Peterborough Ware, including sherds of

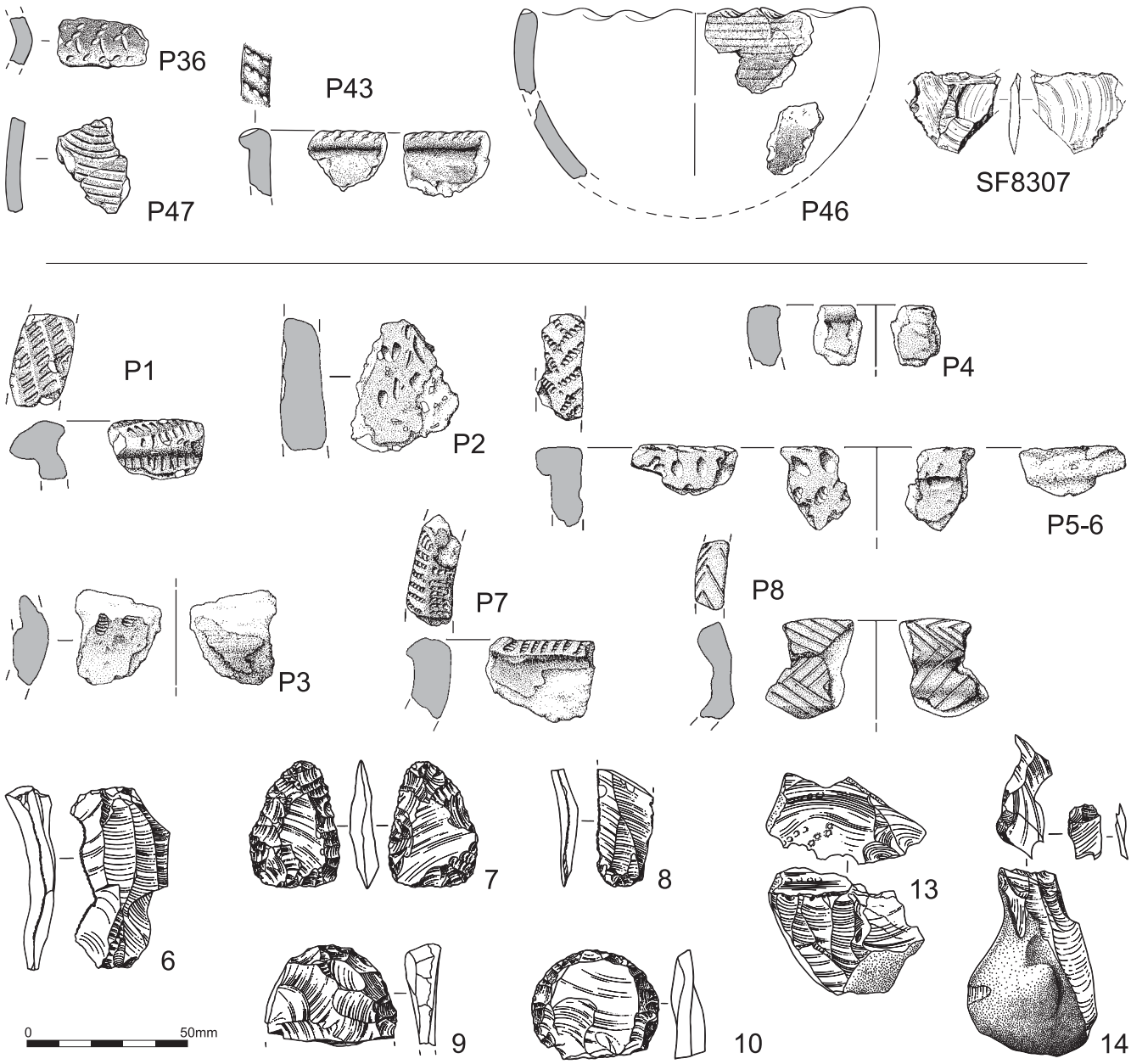


Figure 3.36
Artefacts from F5257 and F5263 at the base of the north 'quarry pit' of the Long Mound (above the line) and from the secondary fills of the Long Barrow ditches (below the line).

Mortlake and Fengate affinities as well as Ebbsfleet Ware. While some rims were elaborately decorated, there was almost no trace of the all-over decoration frequent in the style (Fig 3.36; A Barclay SS3.8.3). Over 400 pieces of struck flint evidenced the production of flakes from largely multiplatform cores, with a fairly low level of controlled blade production. Two flakes refitting to a core suggest that this took place nearby. Two Levallois-like cores may reflect the manufacture of blanks for transverse arrowheads. Finished implements include scrapers, serrated blades and a leaf-shaped arrowhead (Fig 3.36; P Bradley SS3.7.5). Eighteen identifiable fragments of animal bone were dominated by cattle (Davis SS4.6.3). Pottery was concentrated in the butt of the north-west ditch and lithics and animal bone in the butt of the south-east ditch (Figs 3.37–39). Possible localised recuts were noted in both ditches.

Posthole

A large posthole (Fig 3.108: F203=F206) lay close to the axial line of the barrow and 5m beyond its north-east end. It was cut by a pit containing a cremation burial in a Middle Bronze Age urn, but its date is otherwise uncertain. If a Peterborough Ware sherd from the cremation pit derived from the posthole it might relate it to the deposition of material in the barrow ditches. Alternatively, an indeterminate shell- and grog-tempered Late Neolithic or Early Bronze Age sherd from the posthole itself may point to a rather later date. As both sherds together have a combined weight of less than 10g, the potential for intrusion or redeposition is considerable.

The Long Enclosure, built *3350–2890 Cal BC* (SS1.5)

Andy Chapman, Tony Baker, Dave Windell, Jo Woodiwiss

The Long Enclosure extended the south-west/north-east alignment of the earlier, northern part of the Turf Mound, and its north-east end converged with that of the Long Mound (Fig 1.4). As with the Long Mound, the extent of the enclosure gradually became apparent as the overlying Saxon levels were excavated. The ditch and the interior were truncated, especially by leats and channels that ran across the monument some 30m from the north-east terminal. The northernmost 26m lay inside the area of total excavation and was investigated most fully (Fig 3.40). Beyond this area, the sides and south terminal were located by machine-cut trial trenches. A natural stream channel cutting across the south end may have been active in the Neolithic (Panel 2.1), in which case the enclosure would have straddled the stream, unless the ditch sectioned in the southernmost trench was unrelated to it. If that ditch was indeed part of the enclosure, the whole monument would have been 117m long. The only internal features were natural ones, probably treeholes.

The unweathered ditch base was narrow, flat-bottomed and steep-sided (Fig 3.42: S534, S549, S581; Fig 3.43: S480, S580, S536), suggesting that, when first cut, it would have been 1.20 to 1.30m deep and 1.50 to 1.70m wide at ground level, allowing for a loss of *c* 0.30m from the prehistoric ground surface. Dimensions were comparable in all the sections, except for the putative southern terminal where the ditch survived to only *c* 0.30m deep. This was at least in part the result of more severe truncation, as the level of its base was within the range for the ditch sections further north, and the earthy secondary silts present elsewhere had been almost entirely removed (Fig 3.43: S526).

In the clean primary silts were a red deer antler ‘rake’, 0.10m above the ditch base in context 2102 in the east side (Fig 3.43: S536); a cattle tibia fragment in the same layer, also in the east side, about 0.15m above the base; and, in the north side, a cattle radius fragment in context 2126, 0.05m above the base (Fig 3.42: S534). Otherwise the only finds were a flint blade and seven flakes. Near the centre of the northern terminal a small pit with a charcoal-flecked fill was cut through the primary silts, just penetrating the natural sand and gravel (Fig 3.41: F2163). A possible localised recut through the primary silts in the western side may reflect the cleaning-out of the ditch after a collapse represented by an outward bow of the edge in the area of S554 (Fig 3.41).

In the secondary silts, asymmetry, probably reflecting the erosion of internal banks, occurred only *c* 10m or more back from the northern terminal (Fig 3.42: S581; Fig 3.43: S580, S536), indicating that the banks had stopped short of it (Fig 3.41). Earthy secondary fills were darker where they were covered by apparent bank material, as in S580 in Figure 3.43, suggesting that they incorporated humic material other than the adjacent turf and topsoil – perhaps a turf

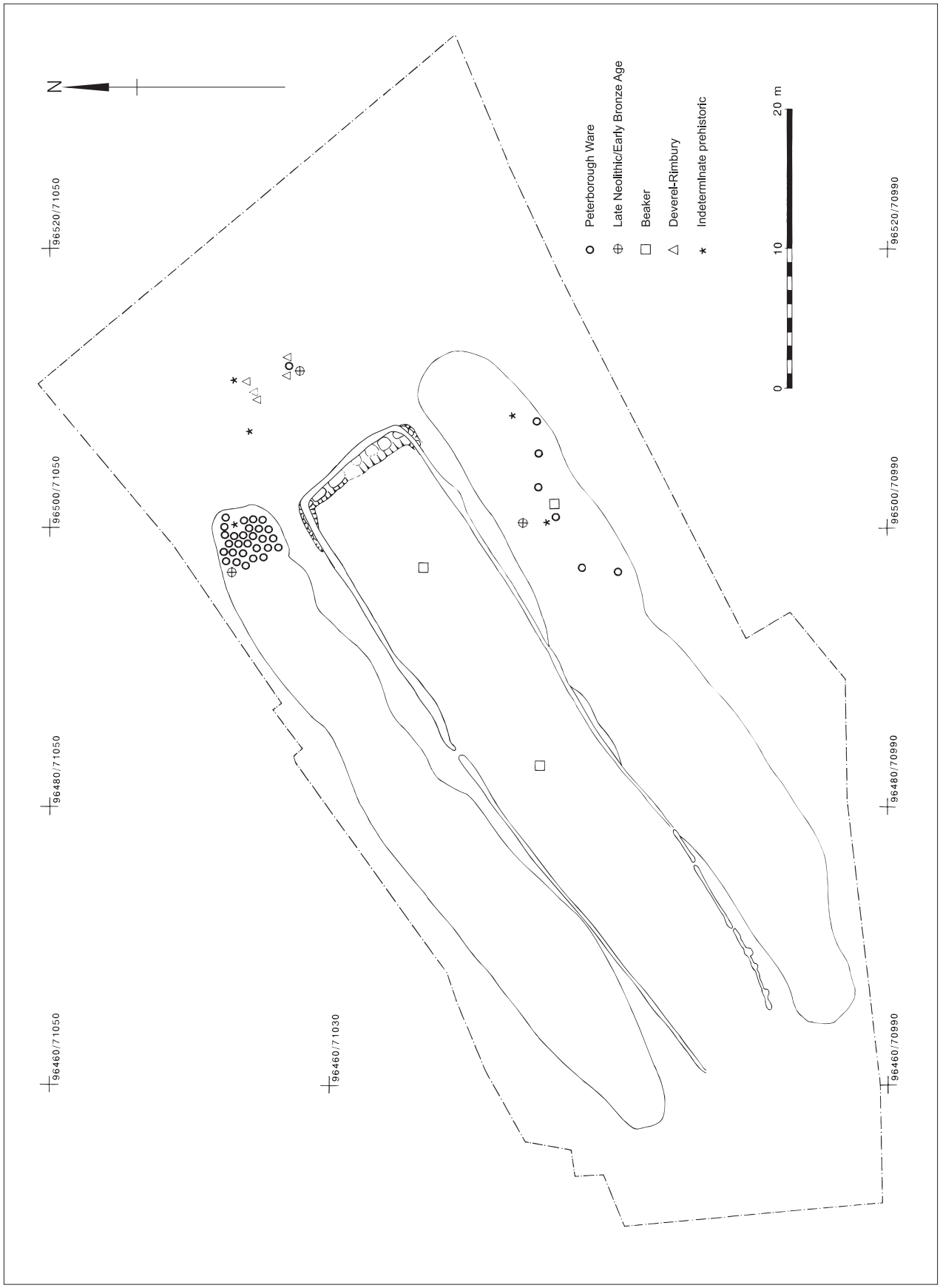


Figure 3.37
Long Barrow. Distribution of prehistoric pottery.

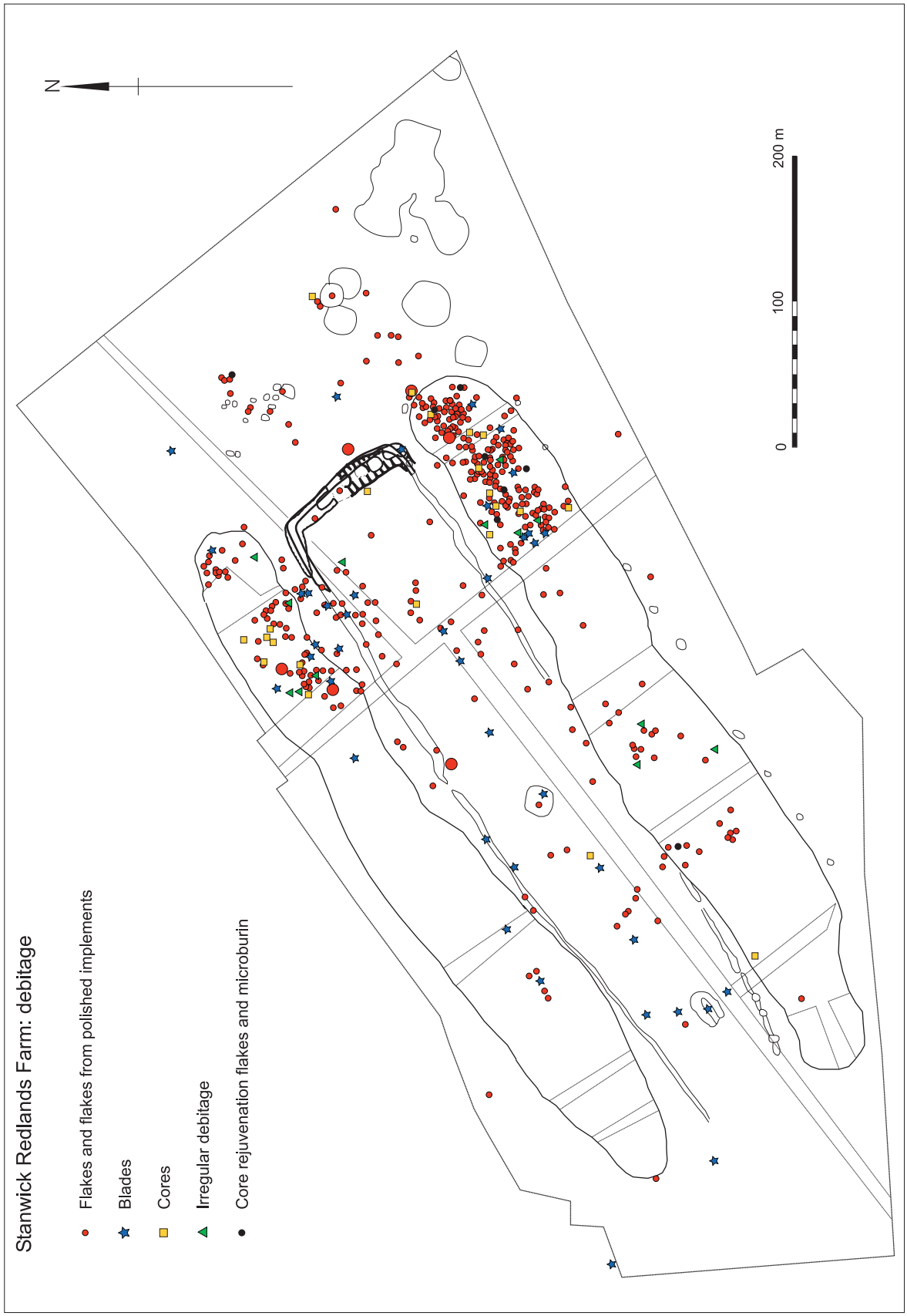


Figure 3.38
Long Barrow. Distribution of flint debitage.

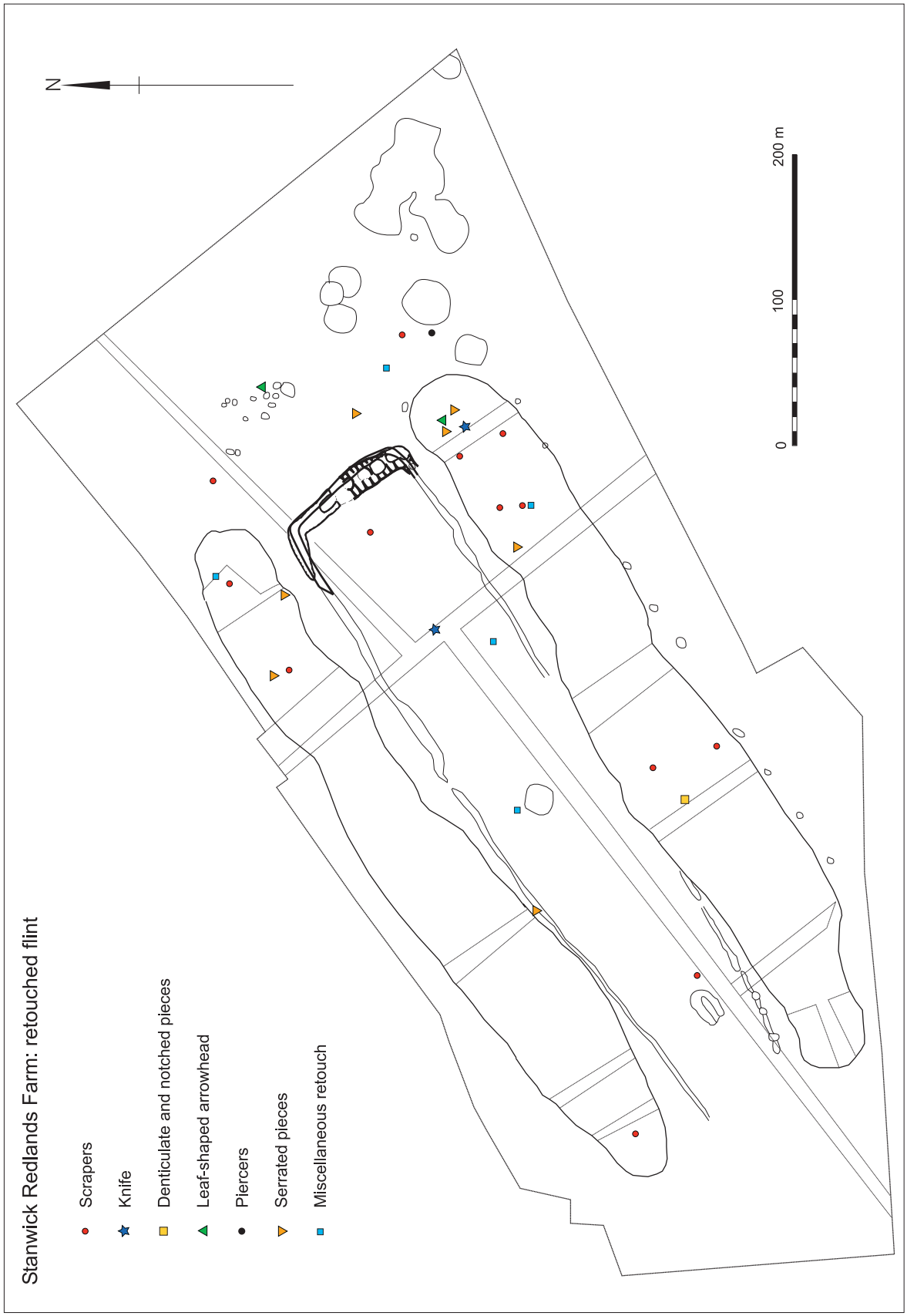


Figure 3.39
Long Barrow. Distribution of retouched flint implement.

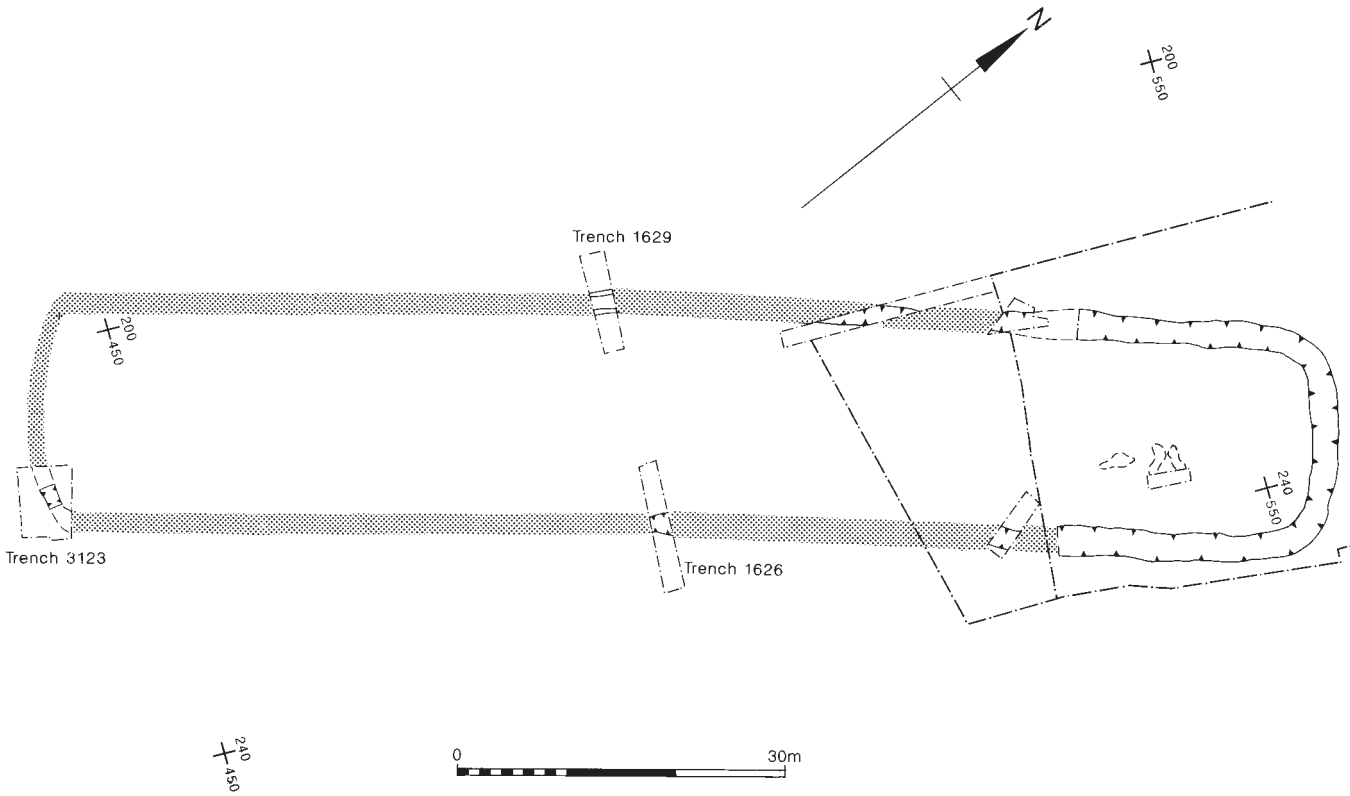


Figure 3.40
Long Enclosure. Overall plan.

revetment. Finds remained scarce. A small quantity of struck flint may 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). For at least 6m of the west side of the ditch, between S548 and S581, the secondary fills were truncated by a recut (Fig 3.42: S581, filled by context 2134), which suggested that it had been cleaned out when virtually full of eroded bank material.

Dating (Fig 3.44)

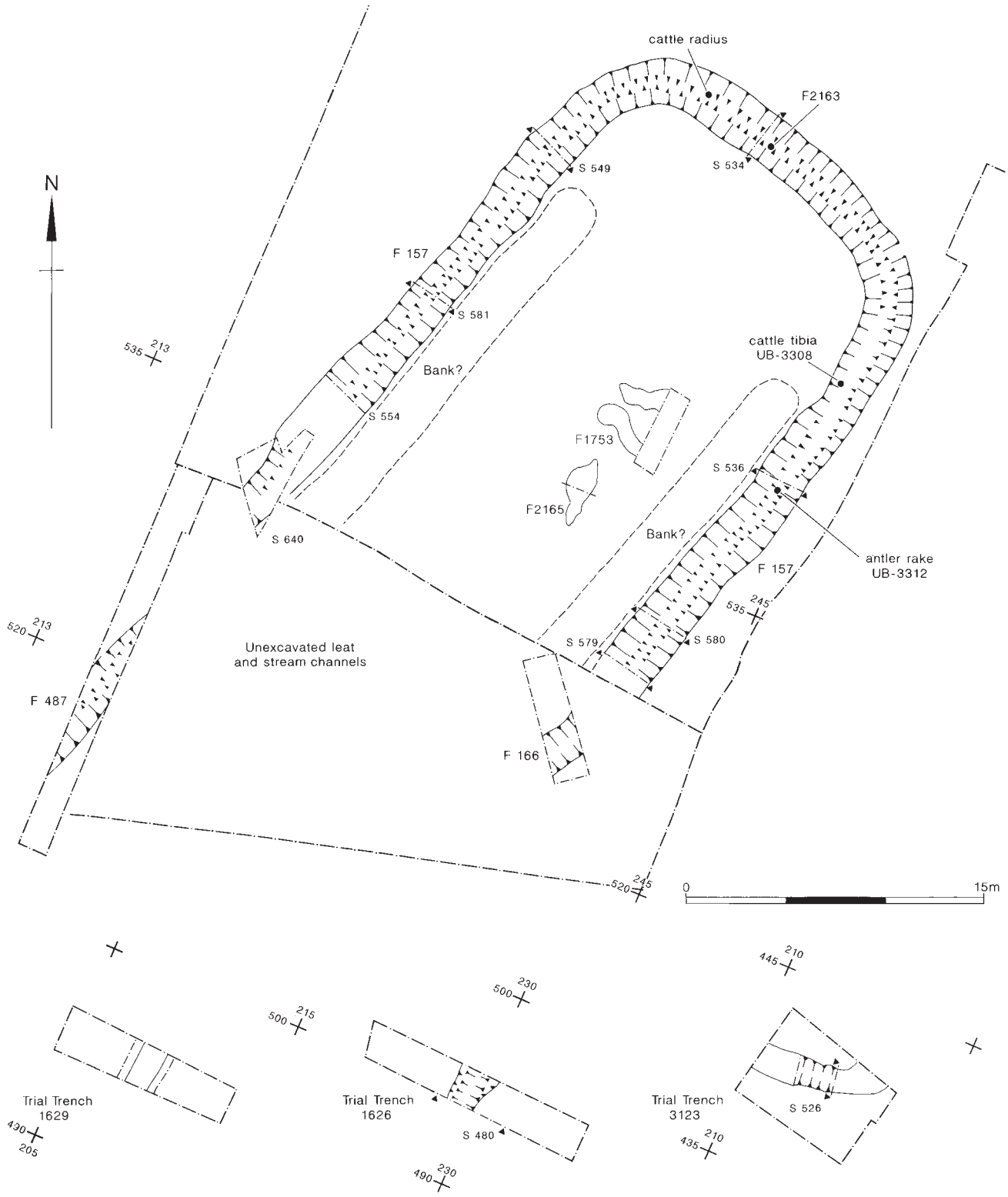
The antler 'rake' from the primary fill is dated to 3360–2880 Cal BC (4411±77 BP; UB-3312) and the cattle tibia fragment from the same context to 3360–2460 Cal BC (4278±156 BP; UB-3308). The two measurements are statistically consistent. It seems probable that the antler was used to build the enclosure, in which case it is likely to be close in age to its construction. For this reason, and because of the large error term on UB-3308, which was a very small sample, UB-3312 is preferred as a more robust estimate for the date of construction. This is *3350–2890 Cal BC at 95% probability*.

The Causewayed Ring Ditch, built *3340–3020 Cal BC* (SS1.6)

Aidan Allan, Stéphane Rault, Jon Humble

The Causewayed Ring Ditch lay on the terrace some 250m south of the Long Enclosure. It enclosed an area 21m north-south by 23m east-west, interrupted to the west by a 3m-wide causeway flanked by rounded terminals (Fig 3.45). The ditch was generally 2.60m wide and 1.50m to 1.70m deep, with a base no more than 0.20m to 0.30m wide, except in the terminals, where the bottom was wider and flatter. In the north and south-east of the circuit there was a slot 0.20m wide by 0.30m deep in the ditch base (Figs 3.47–8). As not all the ditch was excavated, the extent of this feature is unknown.

Primary silts were slight or absent. The only finds were of charred wood: a right-angled roundwood fragment of hazel or alder in the north terminal and a straight length of roundwood *c* 0.50m long and 0.05m in diameter, perhaps pointed, in the north of the circuit, close to a charred right-angled hazel roundwood fragment (Fig 3.46). The overlying fills were either undifferentiated (eg Fig 3.48: S1459), or consisted of substantial deposits of gravel



overlain by sand or of sand overlain by gravel (Figs 3.47–8). These look more like backfill than natural silting. They were very clean, no silting patterns were visible, and the variable sequence of sand and gravel could reflect the vagaries of backfilling, whether with unstructured spoil or the substance of an original earthwork. The only find from them was a single flint blade. The ditch differs from those of the other

Figure 3.41
Long Enclosure. North end and trial trenches 1629 (west side), 1626 (east side) and 3123 (south end).

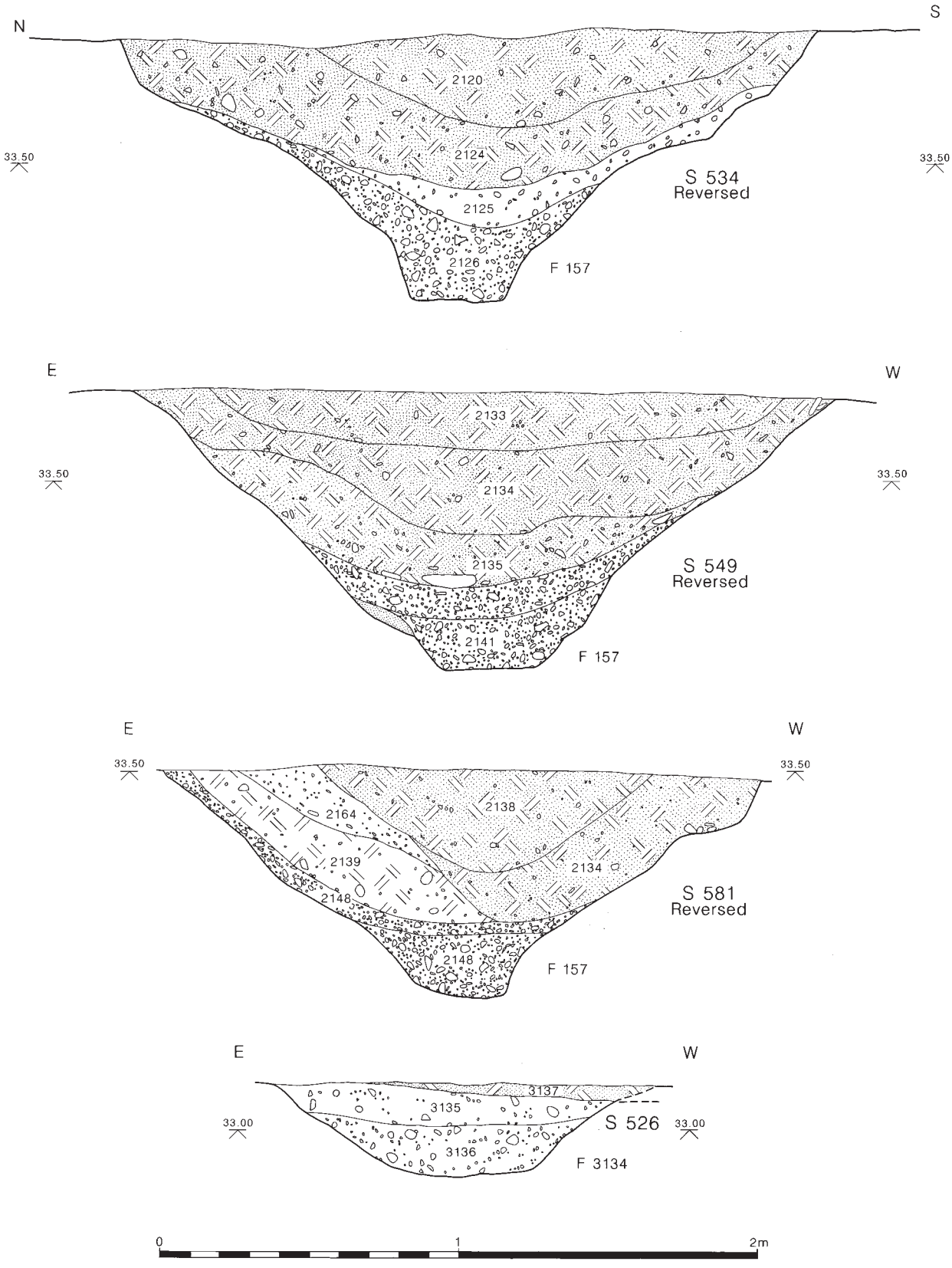


Figure 3.42
Long Enclosure. Sections through north end (S534), west side (S549, S581) and south end (S526).

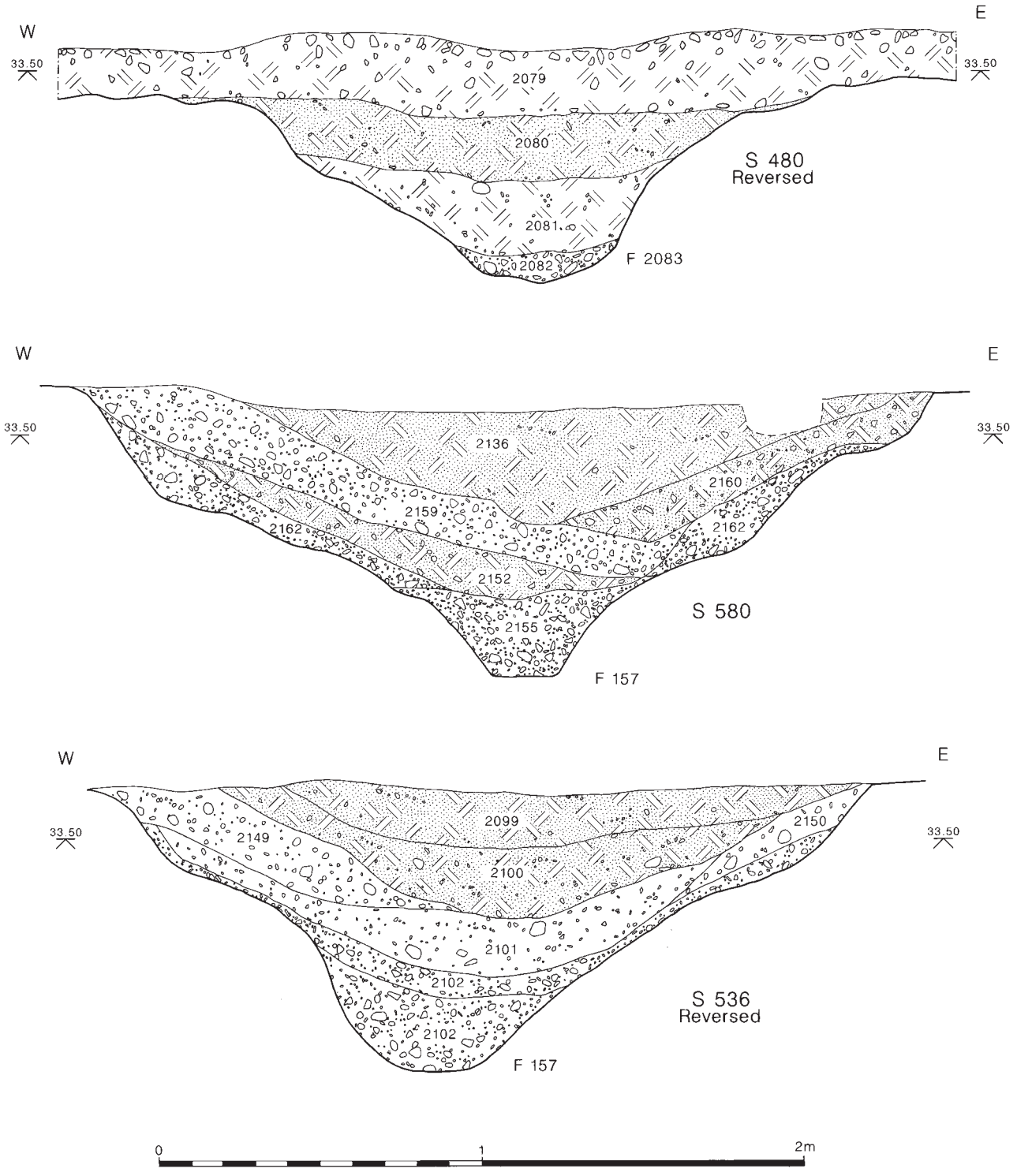


Figure 3.43
Long Enclosure. Sections through east side (S480, S580, S536).

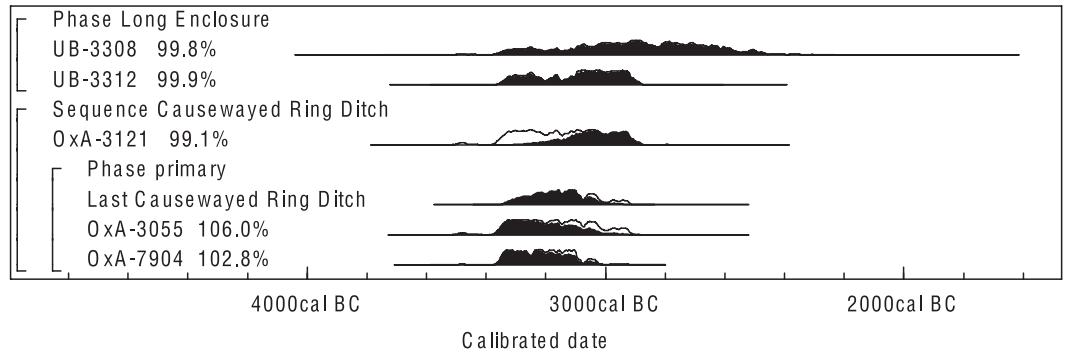


Figure 3.44
Probability distributions of dates from the Long Enclosure and Causewayed Ring Ditch. The format is identical to that of Figure 3.14

The distributions represented are: OxA-7904 *and* -3055 Corylus *sp or* Corylus/Alnus *charcoal from the primary silt of the Causewayed Ring Ditch;* OxA-3121 red deer antler tine *from recut in Causewayed Ring Ditch;* UB-3312 *red deer antler rake from primary fill of Long Enclosure;* UB-3308 *cattle tibia fragment from primary fill of Long Enclosure.*

monuments in its V-profile and the intermittent slot in its base, which suggest that it had a distinctive history. The slot could have held timbers and the V-profile could have resulted from their having been dug out before the ditch was backfilled.

The relatively shallow hollow at the top of the apparent backfill was filled with fine, dark earthy silts, the surrounding topsoil. Artefacts were slightly less infrequent, amounting to a minute sherd in a possibly Neolithic fabric, two flakes and two blades and, in one section, a little charcoal. This horizon was truncated by a continuous, irregular recut, between 1m and 2.60m wide and 0.30m and 0.60m deep. An antler pick and another fragmentary antler implement lay together on the base of the recut in the south terminal (Figs 3.45). The dark, loamy fills of the recut were differentiated only by a greater frequency of gravel in the lower layers (Figs 3.47–8). The lower fill in section 38105, in the south of the circuit (Fig 3.47: 38110) was exceptional. It was a very dark greyish brown, almost black, silty loam with many small white pebbles. 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 taken through this layer 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). The origin of this localised mollusc-rich deposit remains a mystery. It was exceptionally calcareous by the standards of the area as a whole. 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.

It is not possible to identify any internal features that definitely related to the monument. Postholes within it formed no regular pattern and seemed to be part of a wider scatter of largely Early Iron Age features, some of which cut the fully silted ditch and some of which formed four-post structures (Fig 3.45). Finds from three of them may relate to the monument. There was a small Neolithic Bowl rim fragment in posthole F38039, which was cut into the completely silted ditch near the south terminal, a minute fragment of fired clay in posthole F38041, cut into the north terminal, and six sherds/20g, probably from a Neolithic Bowl, in posthole F38199, just inside the north side of the causeway. A small, undated post-built structure 5m east of the ring-ditch (Fig 3.45) may be another aspect of this later activity, although its proximity to the long axis of the monument may suggest a connection.

Dating (Fig 3.44)

The charred hazel or alder fragment from the north terminal is dated to 3370–2910 Cal BC (4480±70 BP; OxA-3055), and the right-angled hazel fragment from the north of the circuit to 3370–3020 Cal BC (4505±45 BP; OxA-7904). Both came from just above the base of the ditch and were short-lived, single-entity samples. The two measurements are statistically consistent, as is the date of 3490–2880 Cal BC (4450±90 BP; OxA-3121) for the antler implement, which lay with an antler pick on the base of the recut, which it may plausibly have been used to dig. The short interval that this indicates between construction and recut is consistent with the backfilling argued above. The construction date of the ring ditch is estimated as *3340–3020 Cal BC at 95% probability.* Provided that the recut was synchro-

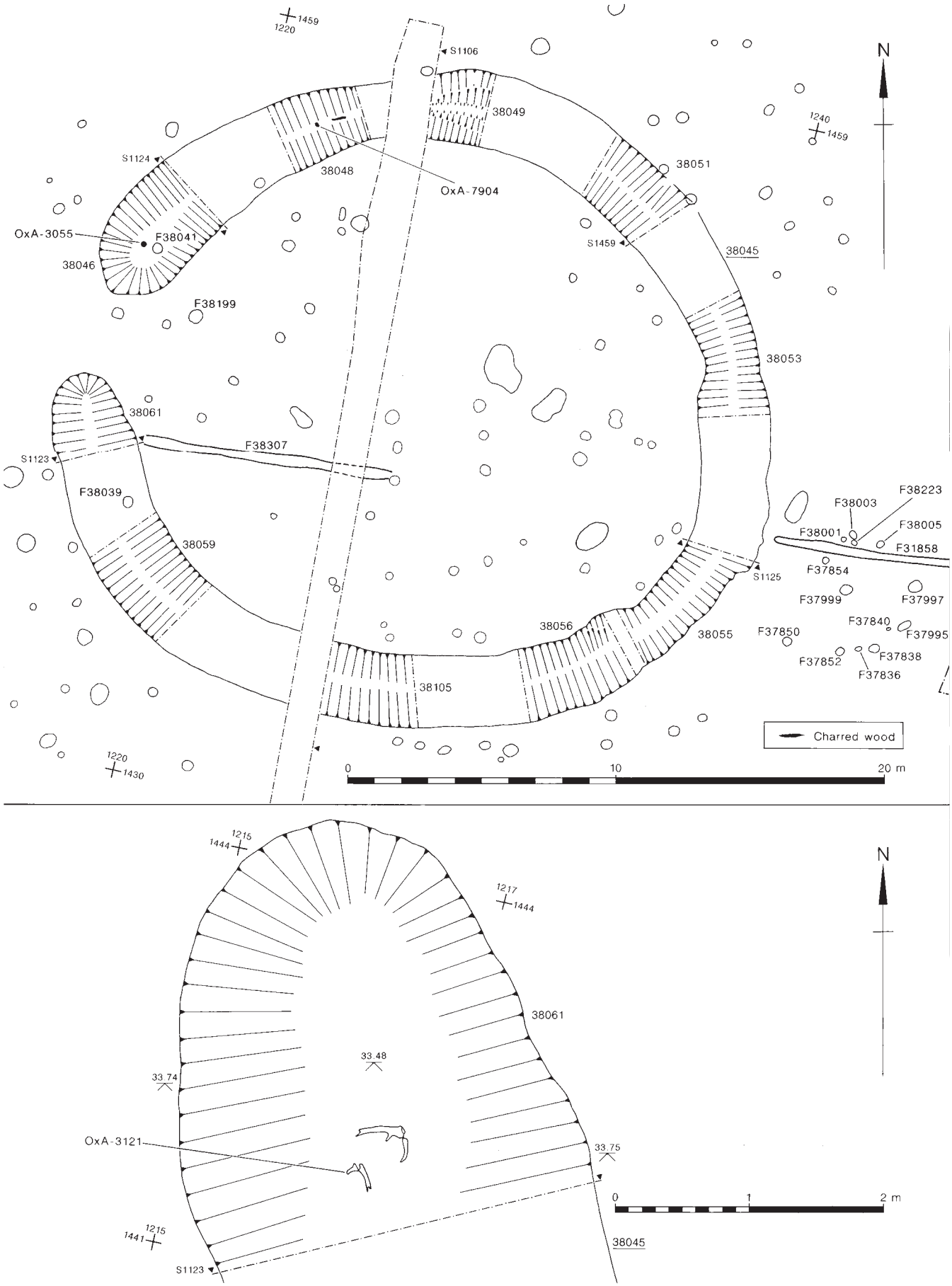


Figure 3.45
Causewayed Ring Ditch. Overall plan (top) and detail of antler in base of recut in south butt (bottom).

Figure 3.46
Causewayed Ring Ditch. Charred wood 55373 (L) and 55374 (R) on base of section 38049, from north (photo English Heritage).

nous around the circuit, OxA-3121 is a *terminus post quem* for the progression from open conditions to woodland evidenced by the molluscs.

The slot in the ditch base might have held a slight, close-set timber circle, like that in a causewayed ring ditch of similar diameter recorded during salvage excavation at Barnack, Cambridgeshire (Mackreth and O'Neil 1979). Alternatively, it might reflect revetment of the ditch sides, as in small hengiform monuments at site 4, City Farm, Hanborough (Case *et al* 1965, 22–32) and Gravelly Guy, Stanton Harcourt (A Barclay *et al* 1995, 83–8, fig 45; Lambrick and Allen 2004), 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, extremely 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 charred wood on the ditch base might have been a remnant of whatever structure formerly stood there.

The Southern Enclosure (SS1.7)

Frances Blore and Frances Healy

The enclosure (Fig 3.49) lay in the extreme south of the Stanwick excavation area, some 200m from the Avenue, separated from it by a small stream (Fig 1.4) thought likely to have been flowing in the early Holocene (Panel 2.1). The enclosure ran beyond the excavated area into land that was already largely quarried. If any of the enclosure survives it can do so only in short fragments. Only the excavated part 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 Systems, and was excavated more fully the following year. The enclosure and all but one of the pits and postholes within and around it remain undated.

Pre-monument activity

One treehole (Fig 3.49: F87682) contained three flakes, a broad blade and a bladelet, as well as oak charcoal, a barley grain and some onion couch grass tuber fragments. In another (Fig 3.49: F87706) was a larger diagnostically Late Mesolithic assemblage including a scalene triangle microlith, a microburin and a microblade core, as well as flakes and microblades (Ballin SS3.7.6). Charred hazelnut shell fragments and charcoal were present and most of the lithics were burnt, probably when the tree itself was burnt out. A second scalene triangle came from a pit outside the enclosure entrance.

The enclosure

The enclosure had parallel sides, 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. Sandy silts survived at the bases and sides of the ditch, truncated by a series of recuts, some more confidently defined than others, all made after it had fully silted (Fig 3.50). The recuts seem to have silted naturally, with sandy primary fills in some of the lower ones, and predominantly earthy fills up the sequence. The only finds from the ditch were two flint flakes from one of the middle fills of the east butt (Fig 3.50: 87668) and a couple of fragments of charred onion couch grass tuber from an uncertain context.

The topmost fills of a 5m length of the west ditch and a 22m length of the east ditch were sheets of burnt silty clay (Fig 3.49), which progressed from a bright orange-red at the surface (Fig 3.50: 87545) through purplish red (Fig 3.50: 87546) to light brownish grey (Fig 3.50: 87547). These three layers are likely to reflect a decreasing exposure to heat of the same clayey material, rather than distinct deposits. The downward colour changes could reflect the decreasing availability of oxygen and lower temperatures in more deeply buried parts of the fill. This and the continuous, plate-like form of the clay indicates that it was burnt *in situ*, as does enhanced magnetic susceptibility, greatest at the surface, decreasing down the profile, and persisting into the apparently unburnt fills. Apart from dubious 'very occasional' charcoal in 87548, which may in fact have

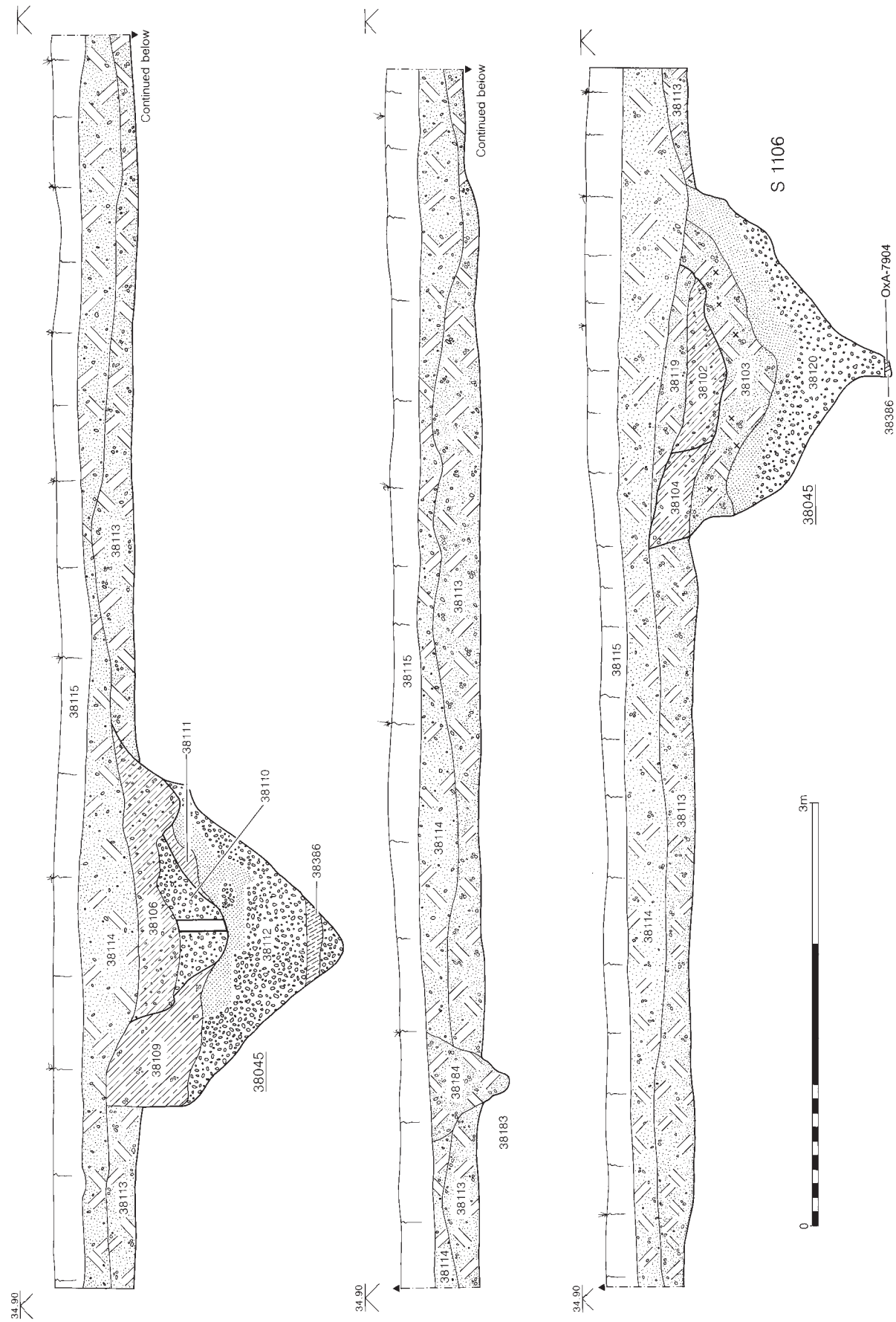


Figure 3.47
Causewayed Ring Ditch. South-north section across monument.

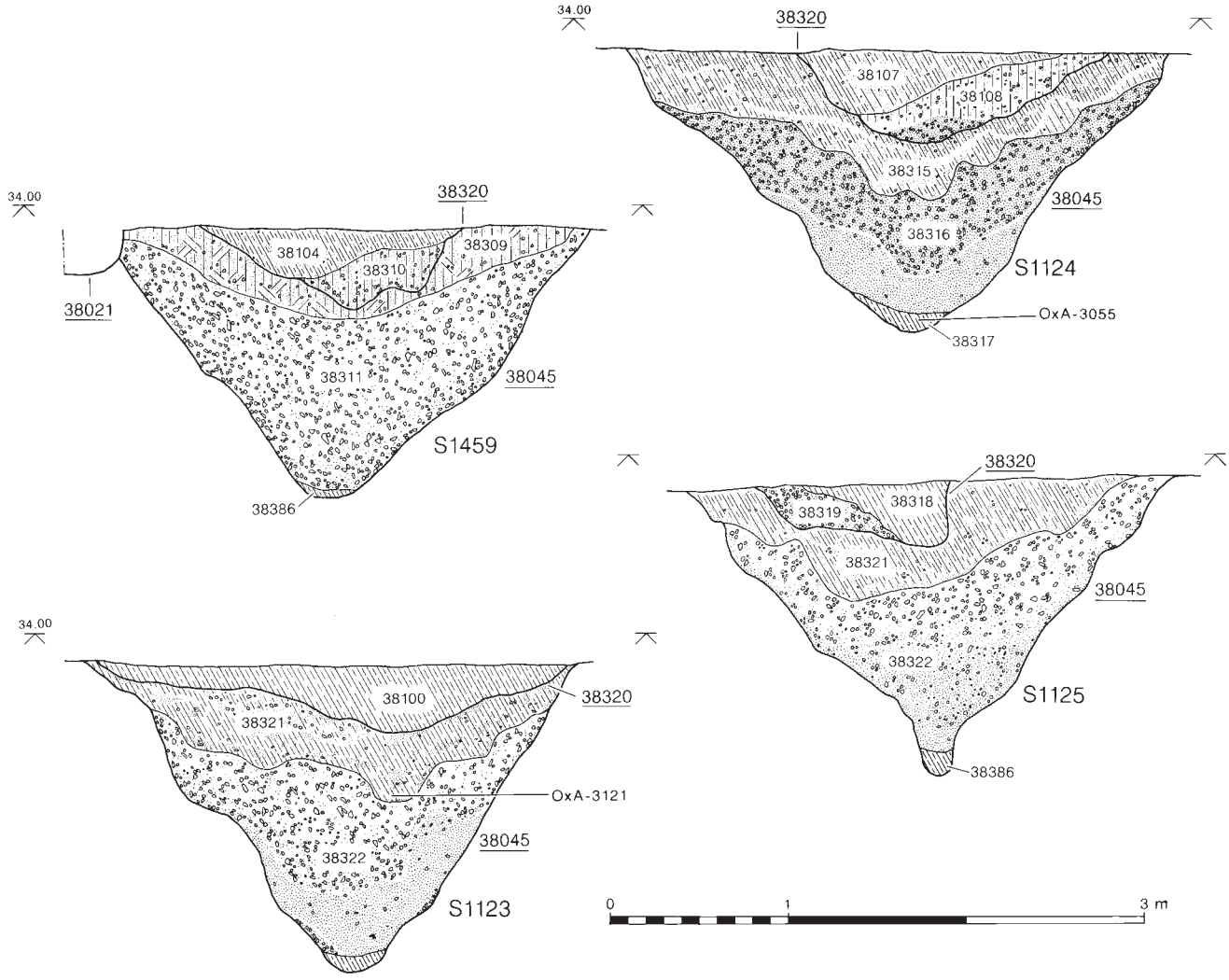


Figure 3.48
Causewayed Ring Ditch. Sections.

been pan, all three were without charcoal, ash or other organic material. The ragged plans of the clay patches and the way in which the lower, reduced layers were exposed at the edges indicate that they were the remnant of a more extensive deposit. The surviving patches in the ditch tops combine with another on the surface of F87758, a pit on the central axis of the enclosure (Fig 3.49), to suggest that this deposit may have been continuous across the enclosure, over an area of at least 50m^2. If, like the rest of the area, the site of the enclosure was cultivated in the 1st millennia BC and AD, a more extensive deposit, unprotected by the hollows of the ditch tops and of F87758, could have been broken up, dispersed and, ultimately, incorporated into the soil. The genesis of the burnt clay is problematic. One possible mechanism would be a vegetation fire so hot as to scorch the soil, the base of which slumped down into the ditch tops. An attempt at archaeomagnetic dating of this material was unsuccessful.

Pits and postholes

At least eight pits were excavated. Only one, F87688, contained pottery: a decorated neck sherd, probably from a Collared Urn, and two indeterminate sand-tempered crumbs. The remaining finds were two flint flakes, a long-bone fragment from a large mammal, charcoal and a grain of free-threshing wheat. Three pits lay on the long axis of the enclosure: F87758, with its patch of burnt clay, F87724, which was without finds, and F87720 in the entrance, with a flint flake, a scalene triangle microlith, and several fragments of charred onion couch grass tuber. Finds from the other pits were minimal or non-existent: small amounts of struck flint; animal bone fragments, the only identifiable one of which was a cattle tooth;

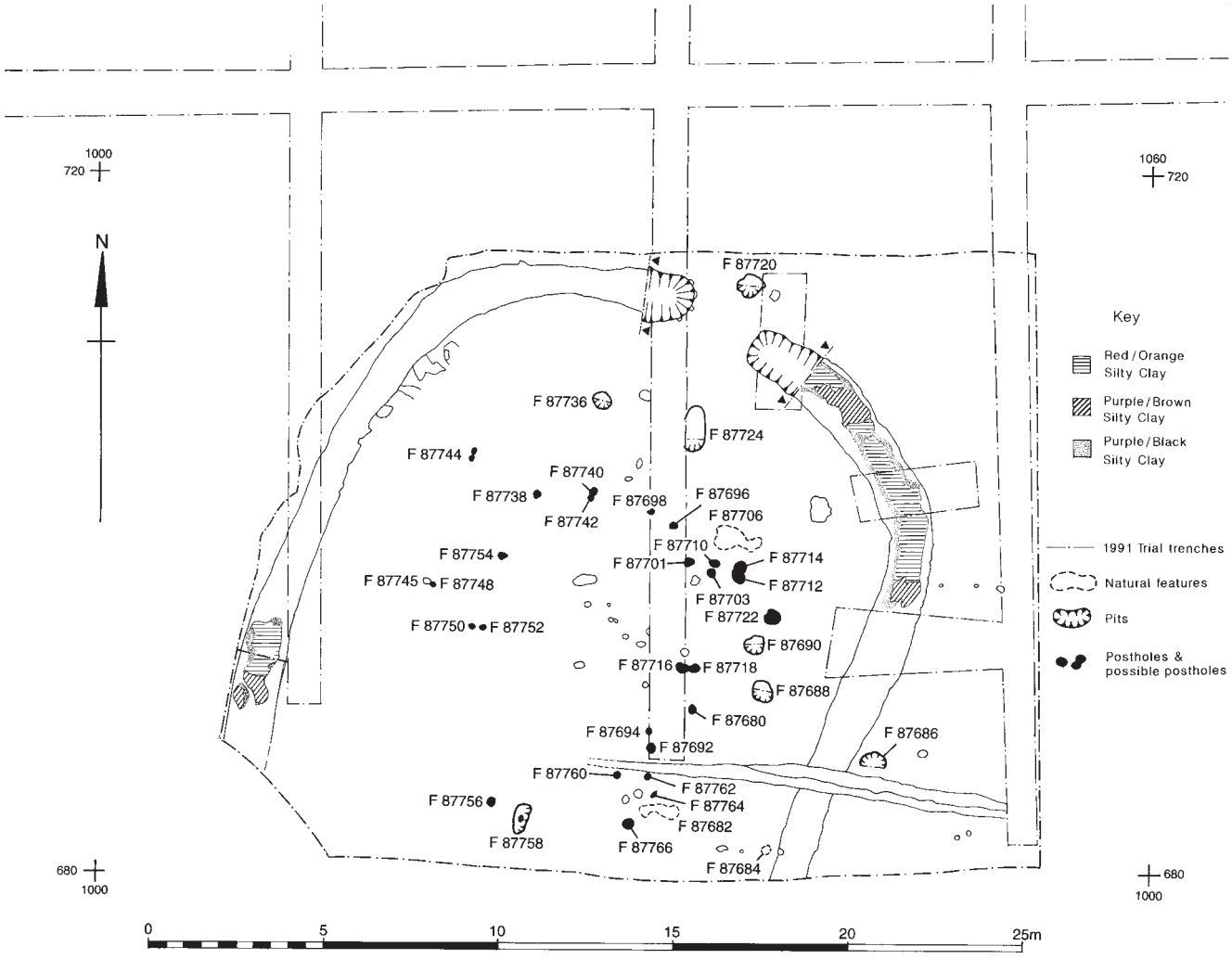


Figure 3.49
Southern Enclosure. Plan.

charcoal; charred hazelnut shell; further charred onion couch grass tuber; and further free-threshing wheat. Their only salient feature was the presence of burnt material. There were substantial amounts of charcoal in F87736, where most of the struck flint was burnt, and many charcoal fragments and flecks were contained in F87758, with its patch of *in situ* burnt clay.

Some of the more than twenty postholes contained burnt material. A post seemed to have burnt in F87754 and there were conspicuous amounts of oak charcoal in the topmost fill of F87698, as well as in F87701, F87703, F87736 and F87760, in the last case associated with burnt bone, including a caprine scapula fragment, and burnt flint, including now-missing scrapers described as 'Neolithic in style'. The only other finds were a few flint flakes, further charcoal, charred hazelnut shell, a charred sloe stone and an indeterminate cereal grain.

A ragged row of postholes ran parallel to the east side of the enclosure and approximately 8m inside it, from F87714 in the north-west to F87766 in the south-east (Fig 3.49). Double or closely paired postholes tended to cluster near the centre of the excavated area, and two pairs of these (Fig 3.49: F87703+F87710 and F87712+F87714) were closely spaced and parallel to each other. In two cases double postholes were made up of two successive, intersecting sockets (Fig 3.49: F87712+F87714, F87716+F87718), which suggests that others may represent the replacement of a single post with a slight shift of location.

Function and date

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,

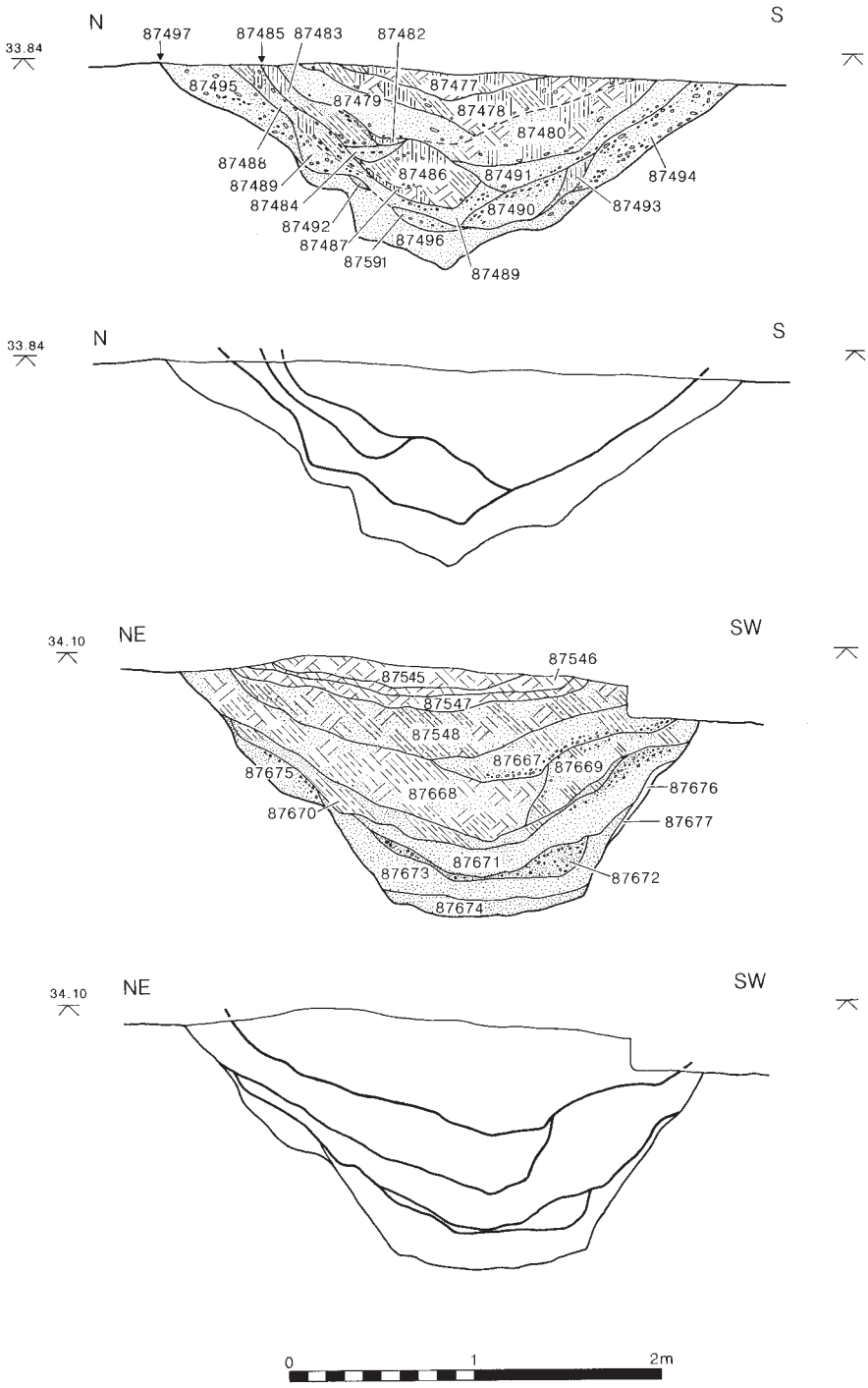


Figure 3.50
Southern Enclosure. Sections through the ditch butts. The outline drawing beneath each section shows definite and possible recuts.

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 width of that bank. If F87688, the only feature dated to the Early Bronze Age, is disregarded, the gap widens to more than 5m.

The total lack of food remains and the almost total lack of artefacts and organic material 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 cursus monuments and in shorter subrectangular enclosures such as the 'long mortuary enclosure' at Brampton, Cambridgeshire (Malim 1999, 80–83); the long enclosure (site VIII) cut by the cursus at Dorchester-on-Thames, Oxfordshire (Whittle *et al* 1992, 148–52); and the late 3rd-millennium Long Enclosure a kilometre or so to the north, from which it differs in having a more rounded terminal with a central entrance and in being more frequently recut. The 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 1998a, 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 1.4).

The scant tally of artefacts from the pits and postholes would be compatible with such a date, and the charred plant remains would particularly fit a Neolithic date (Moffett *et al* 1989). A grain and a rachis fragment of free-threshing wheat (one of them from F87688, with its Early Bronze Age sherd) constitute the only argument against a Neolithic or Early Bronze Age date for the features. Later cereal varieties were, however, recovered from 4th- or 3rd-millennium contexts elsewhere in the area, notably under the Long Mound, so that they could well have been intrusive here. Onion couch grass tubers occurred in many Neolithic and Bronze Age contexts in the area, and were rare in Iron Age and later ones, almost certainly a reflection of the variety thriving in undisturbed, little-grazed grassland (Robinson Ch 2). In the particular circumstances of this site, the burnt tubers and other burnt material in the features may have been tangible remnants of the event in which the tops of the ditch fills were fired.

Monument-building beyond the valley?

Another undated monument, the Cotton 'Henge', may have been built at this time, a few hundred metres from the West Cotton monuments, up the valley of Cotton Brook (Fig 1.4). Although it has been interpreted as a henge monument and is described in

the context of the 3rd millennium below (3.4), its plan (Fig 3.62), together with the possibility that there was once a mound within the inner ditch, would be consistent with its having been a round barrow surrounded by an enclosure, like the late 4th/early 3rd-millennium Cal BC burial site of Duggleby Howe in Yorkshire (Kinnes *et al* 1983).

Burials outside the monuments (SS1.16, SS1.22)

The cremation burial cut into the base of the south 'quarry pit' of the Long Mound is not the only one that might date to the 4th millennium. Charred twigs from an adult cremation burial cut into the berm between the inner and outer ditches of Barrow 5 (Fig 3.51: F47087) are dated to 3370–2910 Cal BC (4460±70 BP; OxA-3054). The twigs were so highly burnt as to be unidentifiable, raising the possibility that already old charcoal had been reburnt on the pyre (Campbell SS4.5.4), but a Neolithic date is not out of the question. The pit would have lain on an alignment formed by the more-or-less contemporary Long Enclosure and Causewayed Ring Ditch and the long-built north part of the Turf Mound (Fig 3.64). A flint fabricator, flake and blade may have been deliberate inclusions, as they were all burnt.

An intriguing find from a superficial context on the terrace is a fragmentary macehead of banded amphibolite, possibly from the south-western peninsula (Fig 3.52; Humble *et al* SS3.7.1: AOR 95592.). Such artefacts are rare. The cracks that criss-cross it show that it has been burnt. Given that maceheads of banded rock were placed with Neolithic cremation burials at Stonehenge and Dorchester-on-Thames, burnt in the latter case (D Clarke *et al* 1985, ill 7.14; Cleal *et al* 1995, 394–5, pl 8.1), it is possible that the Stanwick macehead might also have formed part of a cremation deposit that was subsequently disturbed. Its location, however, in what may have been a Romano-British iron-working area where there was much burnt material, heightens the possibility that it may have been burnt more recently.

A late 4th-millennium date is certain for a male about 25 years old, and a possible male of uncertain age, both buried in a disarticulated and incomplete state beneath the primary Beaker grave of Barrow 6 (Fig 3.53), as they are directly dated to *3360–3090 Cal BC at 95% probability* (4500±33 BP; Fig 3.68: *UB-3310*). The only find from the pit (Fig 3.72: F3390) was an indeterminate crumb of pottery. There was an interval of about a thousand years between the deaths of these individuals and that of the young man buried above them. It is impossible to tell where their remains had originally lain before they were stacked in the pit, or when they were placed there, although an empty, grave-sized feature under the barrow mound could have held two corpses (Fig 3.71: F3384). Whether or not they were originally buried there, the site of Barrow 6 was the scene of various acts before the barrow was built, including the construction of a small ironstone setting (Fig 3.71: F3256) and the excavation and filling of at least three small pits (Fig 3.71: F3257, F3260, F3388) and a possible post-hole (Fig 3.71: F239). The 5th- or early 4th-millennium date suggested above (3.2.2) for F3260 and F3257 is conjectural.

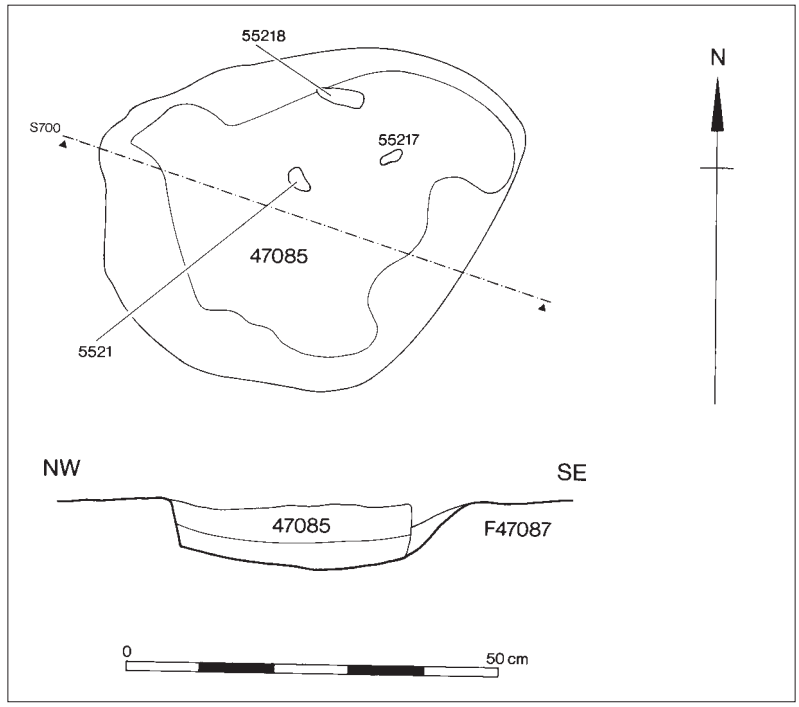


Figure 3.51 (above) Barrow 5. Cremation in F47087.

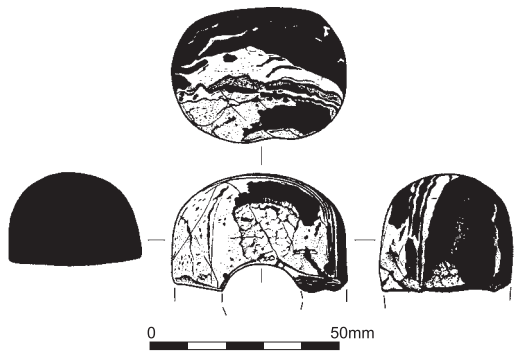


Figure 3.52 Burnt, fragmentary macehead of banded amphibolite (AOR 95592), found in a superficial context in the Stanwick Iron Age and Roman settlement.

Figure 3.53
Barrow 6. Disarticulated remains of two adults in F3390 (photo Northamptonshire County Council).

Other activity

Beyond the two foci of Long Mound and the Long Barrow, Peterborough Ware was confined to two sherds from Barrow 6, next to the Long Mound, two from post-prehistoric contexts at the Turf Mound, and another from near the Causewayed Ring Ditch (Tomalin SS3.8.4: P31, P50–P53). Small quantities of plain Bowl from West Cotton and further south along the terrace, often in superficial contexts, could reflect activity at almost any time during the 4th millennium. The concentration of struck flint at West Cotton, and its thinner extension southward along the terrace, may include material of the later 4th millennium as well as earlier periods. A baseline for comparison is provided by the Peterborough Ware-associated industry from a settlement at Ecton, 16km upstream (W Moore and Williams 1975, 19–26). Its salient characteristics can be summarised as a tendency to multi-platform flaking, with some core preparation and core rejuvenation, a lower level of blade production than in early 4th-millennium industries, the reworking of ground flint axes, and a range of finished implements including large scrapers, borers, chisel arrowheads and serrated flakes. These characteristics are matched in the smaller assemblages from the secondary silts of the Long Barrow ditches, and F5257 and F5263 in the base of the north 'quarry pit' of the Long Mound. Although chisel arrowheads are lacking from the Long Barrow, Levallois-like cores, which would have produced the blanks for them, are present. All these traits recur among the unstratified and redeposited material from elsewhere in the area. However, they are all shared with earlier and, to an extent, later industries. The closest approximation to a specific Peterborough Ware association is the chisel arrowhead, which is most frequently associated with Peterborough Ware (H Green 1980, 235) and with Grooved Ware of the Clacton and Woodlands substyles (H Green 1980, 235–6; Manby 1974, 84). The frequency of chisel arrowheads, especially on the terrace (Panel 3.5), suggests that a significant part of the redeposited struck flint from this zone may also date to the mid- or late 4th millennium, although earlier and later material is also present (Ballin SS3.7.6). The almost total absence of chisel arrowheads from the island may correspondingly suggest that contemporary activity there was restricted.

3.3.3 Discussion

The earlier monuments at Raunds had probably lost some of their original importance before the middle of the 4th millennium. The lifespans of most of them had ended in episodes of burning, while the Long Barrow and its surrounding clearing had been recolonised by scrubby woodland. They were not, however, completely abandoned, as the Long Mound and the Long Barrow continued to be foci for activity, the tangible evidence for which is the Peterborough Ware, struck flint and animal bone placed in hollows newly cut at the sides of the Long Mound and in the existing Long Barrow ditches, in the latter case with a marked distinction between the materials placed in each butt (Figs 3.37–9).

The activity was complemented, perhaps even followed, by the construction of new monuments. These are likely to have been built on open ground, as the location of the Long Enclosure, and perhaps the Causewayed Ring Ditch, in relation to the Turf Mound and the Long Mound would call for clear lines of sight (Figs 1.4, 3.64). These monuments did not perpetuate the idiosyncratic design of the earliest sites. The Long Enclosure and the Causewayed Ring Ditch were comparable with numerous other earthworks of the period. The form and dimensions of the Long Enclosure place it at the smaller end of a spectrum of 4th-millennium rectilinear earthwork enclosures, ranging from cursus monuments up to several kilometres long, to 'long enclosures' or 'oblong ditches' seldom exceeding 150 metres (J Harding and Barclay 1999, 1; Loveday 1999, 58, 74). Its paucity of finds is typical of such monuments and its date lies towards the

recent end of the range for them (A Barclay and Bayliss 1999, fig 2.7). The incompletely defined and even more sterile Southern Enclosure could also have been built in the later 4th millennium. Enclosures of comparable size and plan to both recur in monument complexes on the gravel terraces of midland rivers and of the upper Thames catchment (A Barclay and Hey 1999; Loveday 1989; Malim 1999; 2000; Oswald 1967; Pryor *et al* 1985, figs 3, 15). They are, however, scarce in the Nene valley. Two possible exceptions are subrectangular enclosures at Grendon, measuring respectively 86m by 17m, and 116m by 27m. The first was without finds, but pre-dated an Iron Age enclosure and had a fill more like those of Early Bronze Age ring ditches on the site than those of later features (Gibson 1995a, 28; Jackson 1995, 13, fig 8); the second was almost equally devoid of finds, but enclosed a single pit, which contained Neolithic Bowl pottery and a flint flake (Last 2005, 339–340). A further possible exception is a square-ended cropmark enclosure measuring 30m by at least 130m at Hardingstone, on the outskirts of Northampton (Northamptonshire SMR ap_id 044800020001). Whatever the status of these three sites, there is a marked distinction between the scarcity of monuments like the Long and Southern Enclosures in the Nene valley, and their frequency in the Great Ouse valley, where they are a recurrent element in the monument complexes strung along the terraces (Malim 2000, 81).

The form and date of the Causewayed Ring Ditch ally it to an heterogeneous but recognisable tradition of small hengiform monuments, most extensively investigated and perhaps most abundantly represented at Dorchester-on-Thames (Atkinson *et al* 1951; Whittle *et al* 1992), but present in many monument complexes of the Midlands and the upper Thames, as at Barford, on the Warwickshire Avon (Oswald 1967); Maxey and Barnack on the lower Welland (Pryor *et al* 1985, 302–3; French and Pryor 2005); and Goldington on the Great Ouse (Mustoe 1988). Their frequency in the south-east Midlands and the upper Thames catchment is reflected in the contrast between distributions of 'mini-henges' and segmented ditch rings, of which there are clusters in both areas, and larger 'classic and probable henge monuments', of which there are few (A Harding with Lee 1987, figs 23–4). Loveday (1989, 71–7) argues convincingly for a distinction in the location, associations and, to some extent, date of the two groups. He points out that small hengiform monuments were consistently built in 'Barford type' complexes (monument groups including at least three forms from a repertoire of cursus monuments, long enclosures, hengiforms and ring ditches), in which most of the pottery was Bowl and Peterborough Ware and in which many elements were built in the 4th rather than the early 3rd millennium, while henges tended to be built at new centres and in the 3rd millennium. The date of the Causewayed Ring Ditch and its proximity to linear monuments, at two of which Peterborough Ware was used, tend to reinforce this pattern, although small hengiforms continued to be built into the 3rd millennium, such as ring ditch 611 at Barrow Hills, Radley, Oxfordshire (A Barclay and Halpin 1999, 35–44), and even during the 2nd millennium, as in the case of the Segmented Ditch Circle at Raunds.

The two later 4th-millennium individuals eventually buried beneath a Beaker grave in Barrow 6, and the two possibly coeval cremation burials at the Long Mound and Barrow 5 (3.3.2), are reminders of how little is known about later 4th-millennium funerary practice. Most burials of the period may be identifiable only when dated, even where they were made in such a way as to survive into modern times, as in the case of the broadly contemporary simple inhumations from the upper Thames catchment (J Thomas 1999, 187–8). The range of rites that may have been practised in the east Midlands is expanded by the date of 3650–2900 Cal BC (4530±130 BP; OxA-4553) for the skeleton of a young adult female buried prone and crouched at one side of an ovoid grave surrounded by a square ditch at Willington, Bedfordshire, east of the Octagon Farm monument complex, accompanied by a red deer antler chopped off above the coronet, with a broken chert flake and crumbs of indeterminate pottery in the fill (Dawson 1996, 4–11).

3.4 The early to mid-3rd millennium

3.4.1 Introduction

Jan Harding

The widespread appearance of new material culture in the first few centuries of the 3rd millennium suggests a phase of profound social change. These innovations include the

emergence of Grooved Ware and the building of the first 'classic' henges (J Harding 2003, ch 1). Yet the social processes behind this horizon of change are poorly understood. An influential argument has linked these developments with a marked increase in centralisation, the result of which was a Late Neolithic landscape of bounded territorial units or chiefdoms (Earle 1991; Renfrew 1973). These interpretations assume that a single process of political evolution was responsible for the innovations of this period. By contrast, others have emphasised the fragmentation of social development during the early 3rd millennium. R Bradley (1984b, ch 3) refers to the development of alternative discourses in different parts of the British Isles for the expression of social power, and the use of prestige objects to 'build bridges' between different regional systems. J Thomas (1996a, 178–81) goes even further in emphasising the fragmentary character of Late Neolithic society, envisaging the emergence of heterogeneous and overlapping practices. He suggests that a 'decline of the universal principle of ancestry, in which all forms of social authority devolved according to lines of kinship, was matched by the emergence of multiple sources of power and its authentication' (J Thomas 1996a, 181).

The transformations at the beginning of the 3rd millennium created landscapes that were markedly different from those of the later 4th millennium. Late Neolithic lithic scatters are generally larger and denser (R Bradley 1987b; Edmonds 1987), while many henge monuments were sited away from earlier cursus complexes, perhaps suggesting the establishment of new monumental foci (J Harding 1995, 128–31). Similar disjuncture and change are evident at Raunds in the first few centuries of the 3rd millennium.

3.4.2 Abandonment and change

The woodland regeneration evidenced by the molluscs from the recut in the Causewayed Ring Ditch occurred at the start of an apparent lull in activity, during which only one securely dated structure was built on the valley bottom – a timber platform, itself surrounded by trees, on the bank of the Nene at West Cotton. Palaeoenvironmental evidence for the late 4th and early 3rd millennia is confined to these two sites and to a palaeochannel section a little downstream from West Cotton. It is unclear whether this evidence reflects more widespread regeneration or simply a shift in the vegetational mosaic that Robinson envisages for the whole of the Neolithic, which would have been made up of relatively small clearances; grazed park woodland; abandoned clearances in various stages of scrub to woodland succession; and some relatively undisturbed woodland (2.2.3). An isolated pit was broadly contemporary with the structure, and the Ditched Enclosure at West Cotton may date from either the 3rd millennium or the early 2nd. The Cotton 'Henge', a little-investigated enclosure some 700m east of the Ditched Enclosure and the other West Cotton monuments, may have been a Late Neolithic monument, as may a now-destroyed circular enclosure on the terrace.

The dating of dispersed features and artefacts in this period is very approximate, and is based largely on the chronologies of contemporary pottery styles. These are: Grooved Ware, which came into use alongside Peterborough Ware in southern Britain early in the 3rd millennium and persisted almost to its end; and Beaker, some of which may represent activity prior to the construction of the Raunds barrows, as the tradition persisted, at first concurrently with Grooved Ware, from the mid-3rd millennium to the mid-2nd (Garwood 1999a; Kinnes *et al* 1991; Needham 1996, fig 2; J Thomas 1999, fig 5.10).

It may have been at this time that extensive rather than restricted flint scatters began to accumulate on the well-drained soils of the valley sides (Fig 1.4). These were identified in the course of the fieldwalking survey that formed part of the Raunds Area Project (Humble 2006). They are all dominated by broad flakes and the debris of their production, which could date from the 3rd millennium. However, some aspects of the technology, such as high frequencies of unclassifiable cores and non-bulbar fragments, would be more characteristic of the 2nd millennium. The composition of the diagnostic forms also suggests a substantial full Bronze Age component. The combined total for the chisel and oblique arrowheads of the later Neolithic and the barbed-and-tanged arrowheads of the Early Bronze Age is even lower than the exiguous total for the leaf arrowheads of the Early Neolithic. Scrapers tend to be large, with few 'thumbnail' forms, and, together with denticulates, borers and notches, dominate the retouched element. The collection as a whole has much in common with the excavated knapping scatters that post-dated Barrows 1 and 3 (Ballin SS3.7.6).

The Riverside Structure, built *2870–2470 Cal BC* (SS1.8)

Andy Chapman, Tony Baker, Dave Windell, Jo Woodiwiss

A platform – largely of alder, with Pomoideae, hazel, oak and ash – was built at the edge of what was then one of the main channels of the Nene, close to the West Cotton monuments (Fig 3.54, 3.55). The combined evidence of pollen and waterlogged plant and insect remains points to substantial woodland cover, including an alder-lined river bank, with some open areas (Ch 2). Only the east end of the structure was defined; its westward extent remains unknown. In the gravel of the underlying river bank were mixed deposits of clay, sand and gravel, some containing wood. They included a lens of clay and sand with tightly packed wood debris (context 7135), which was sealed within a sequence of clean gravels. Silts against the bank contained wood debris and a few animal bones. Among them were an intact alder rootball (Fig 3.55: 7380/7381) and a hollow (Fig 3.55: F7375–6), which may have been the tree-hole from which the rootball came.

The base of the structure was formed of tightly compressed brushwood with some larger branches and lengths of trunk, all mainly of alder, interspersed with lenses of clay and silt. Although the wood was generally disordered, larger pieces at the base of the layer tended to be more-or-less at right angles to the river. These included several straight ash poles about one metre long and some lengths of alder branch, all lying roughly parallel to each other.

An inner and an outer alder trunk (Figs 3.55, 3.57: 7118, 7119) were partly embedded in the surface of the brushwood layer, roughly parallel to each other. Axe marks survived on the outer trunk (Fig 3.56), and there were more doubtful ones on the inner trunk. The absence of side branches from these two trunks, and from smaller trunks in the structure, indicates that they had been stripped off. Two oak stakes, one driven into each trunk, appeared to be part of the structure, but later proved to have been used in the Saxon period to secure flax retting at the side of the river (Fig 3.55). Insect remains from the body of the platform suggest rather slower-flowing water than is indicated by those from below it, perhaps because the platform was blocking the stream.

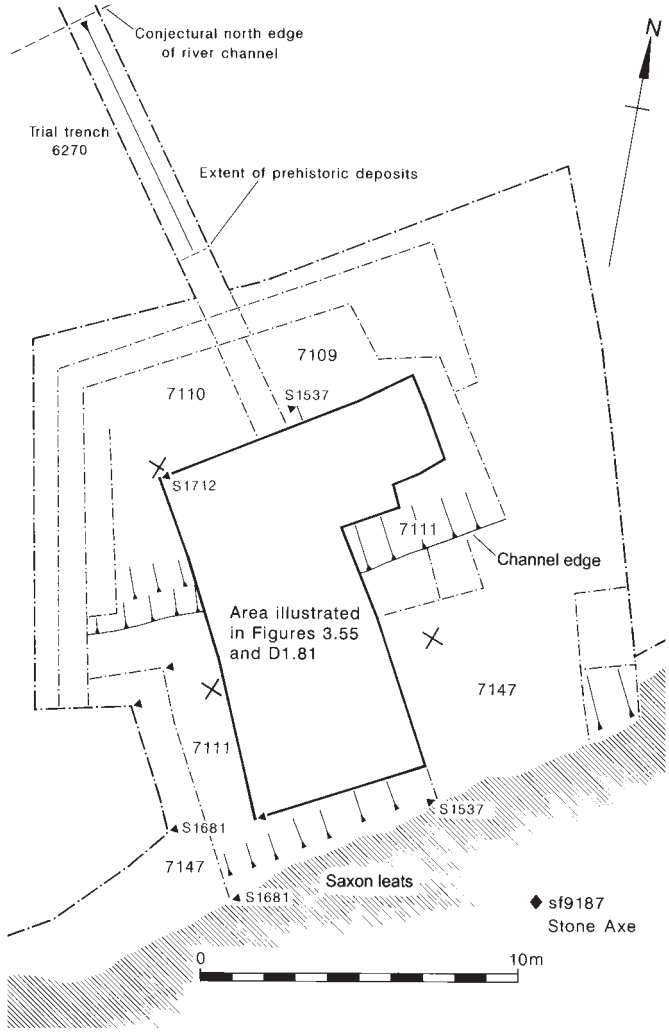


Figure 3.54
Riverside Structure. Excavated area, location of sections and location of stone axe.

Between the trunks, the brushwood layer was overlain by patchy sands, gravels and clays, above which was an almost solid mass of brushwood in a grey silty matrix (Fig 3.57: 7112), near the surface of which was a substantial Pomoideae branch (Fig 3.55: 7116) and a length of alder trunk (Fig 3.55: 7115). Between the inner trunk and the river edge was a very mixed and disturbed layer with variable densities of wood in a sand and gravel matrix (Fig 3.57: 7112, 7367). Its genesis is uncertain. It may have been the upper part of the platform, disturbed by the river; it may have been material washed in when the water was flowing strong and fast. This is significant because in the upper part of context 7367 there were over 100 bone fragments, far denser and more abundant than the few scattered through preceding deposits. The bone had undergone considerable attrition. Weathering, battering, rounding of the edges and fine scratches – probably from

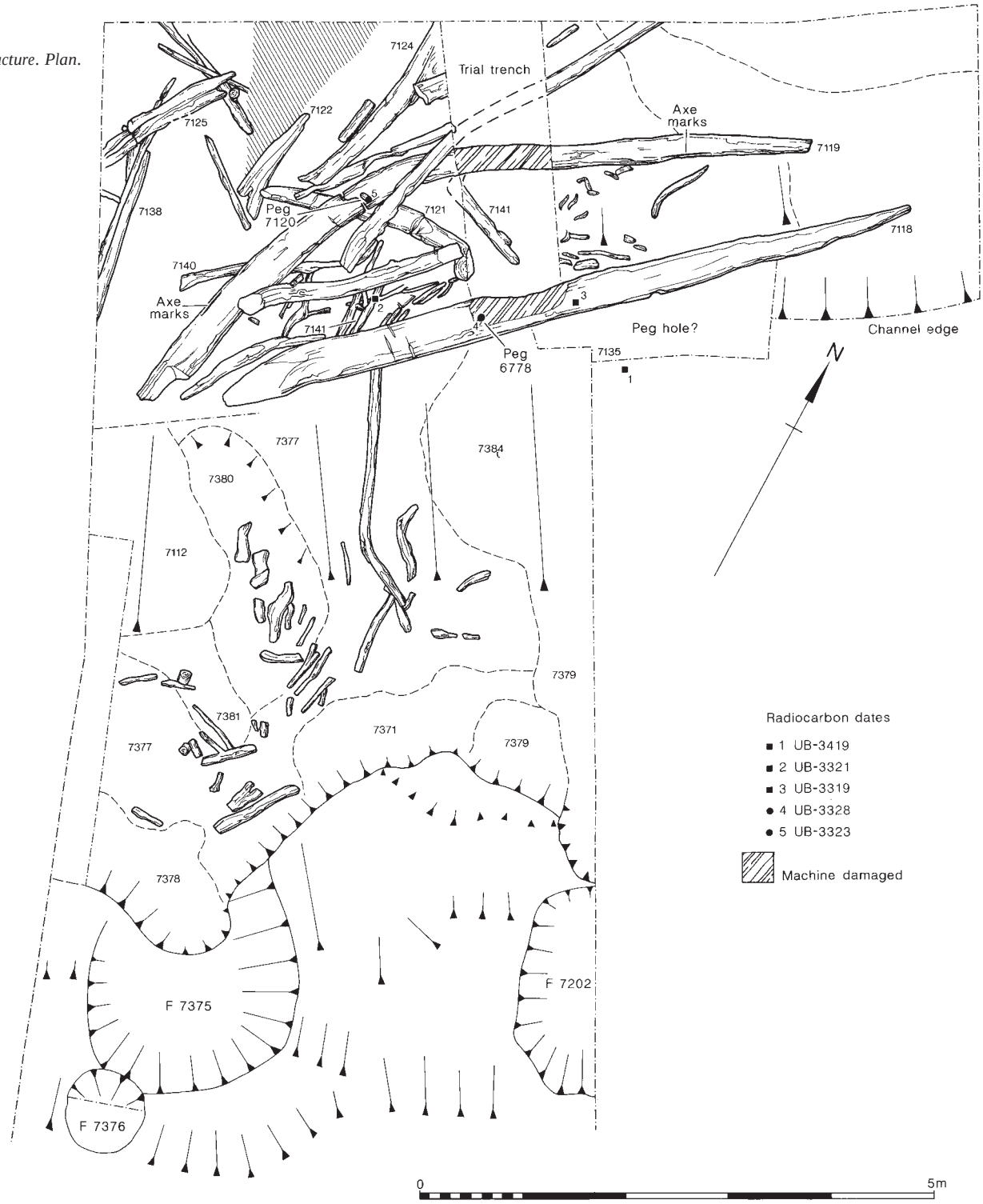


Figure 3.55
Riverside Structure. Plan.

abrasion against grit, stones or branches – are all common. Furthermore, while all areas of the skeleton are present, the most frequent elements are robust, and small bones are absent. The assemblage is dominated by domestic cattle, most of them immature, with small quantities of pig, caprine, equid, red deer, water bird, and perhaps aurochs (Baker SS4.6.4). There are also two adult human femur shaft fragments, one dog-gnawed (Mays SS4.7.2).

Beyond the outer trunk, the edges of the platform were water-disturbed and infiltrated by sands and clays. A decayed, possibly

displaced, alder trunk, overlying the deposits described so far, appeared to have been quartered and a series of parallel grooves survived 0.40–0.95m near its lower, western end (Fig 3.55: 7117). Outside the area between the inner and outer trunks, the uppermost wood layers, including the bone deposit, were sealed by a layer of slightly silty grey clay with a small amount of wood debris (Fig 3.57: 7130/7354). The plant and insect remains from this sediment suggest a catchment of relatively lightly grazed grassland (Ch 2). Above it was a localised spread of sand and sandstone chips (7206), which was similar to, but not continuous with, the upper fill of a pit higher up the bank (Fig 3.55: F7202), suggesting that the two might have been deposited at the same time. Both contained small quantities of animal bone in comparable condition and of comparable composition to those from context 7367. A layer of light grey silt with gravel, which sealed the pit and the clay layer, contained a third adult human femur shaft (Mays SS4.7.2).

Dating (Fig 3.58)

A stratigraphic sequence is formed by dates on a sample of hazel or alder from the underlying gravels (Fig 3.58: *UB-3419)*, an ash pole from the base of the structure (Fig 3.58: *UB-3321*), and the inner alder trunk (Fig 3.58: *UB-3319*). The estimated date for the construction of the structure is *2870–2800 Cal BC at 13% probability* or *2760–2470 Cal BC at 82% probability*. In addition, there are optical susceptibility luminescence dates of 3300–2370 BC (2850±240 BC; IRSL-792c) for the sediment next to the structure, and of 2100–1260 BC (1680±210 BC; IRSL-792d) for the overlying clay layer with its evidence for lightly grazed grassland (Ch 2; Rees-Jones 1995, 82–5).

Form, function and history

The alder root ball and possible treehole underlying the structure could represent the felling of an alder to provide some of the brushwood and main timbers, followed by digging out the rootball and dragging it down the river bank to prevent regrowth. While the level of the river in the 3rd millennium is unknown, the excavated part of the structure must have been under water almost continuously since it was built, otherwise it would not have survived. This may indicate that its upper part was originally above water but was submerged relatively soon after construction; or that it supported a superstructure, the former presence of which may be reflected by the absence of the Bronze Age clay layer between the two main trunks; or that it was always below water. Difficulties of interpretation are compounded by its unknown westward extent, and by uncertainty as to how far lenses of sand, gravel and clay above the lower brushwood were water-laid and how far they were deliberately dumped, perhaps to prevent brushwood from being washed away.

It is also difficult to judge whether the disturbed sand, gravel and brushwood layer between the inner trunk and the bank (7367), with its abraded animal and human bone, was reworked by water *in situ*, or was deposited by a high, fast-flowing river. Whatever its history, this deposit post-dated the construction of the platform and pre-dated the deposition of the Bronze Age clay layer. The bones reflect the deposition of human and animal remains in the river, whether here or upstream. No artefacts were recovered from this or any other context.

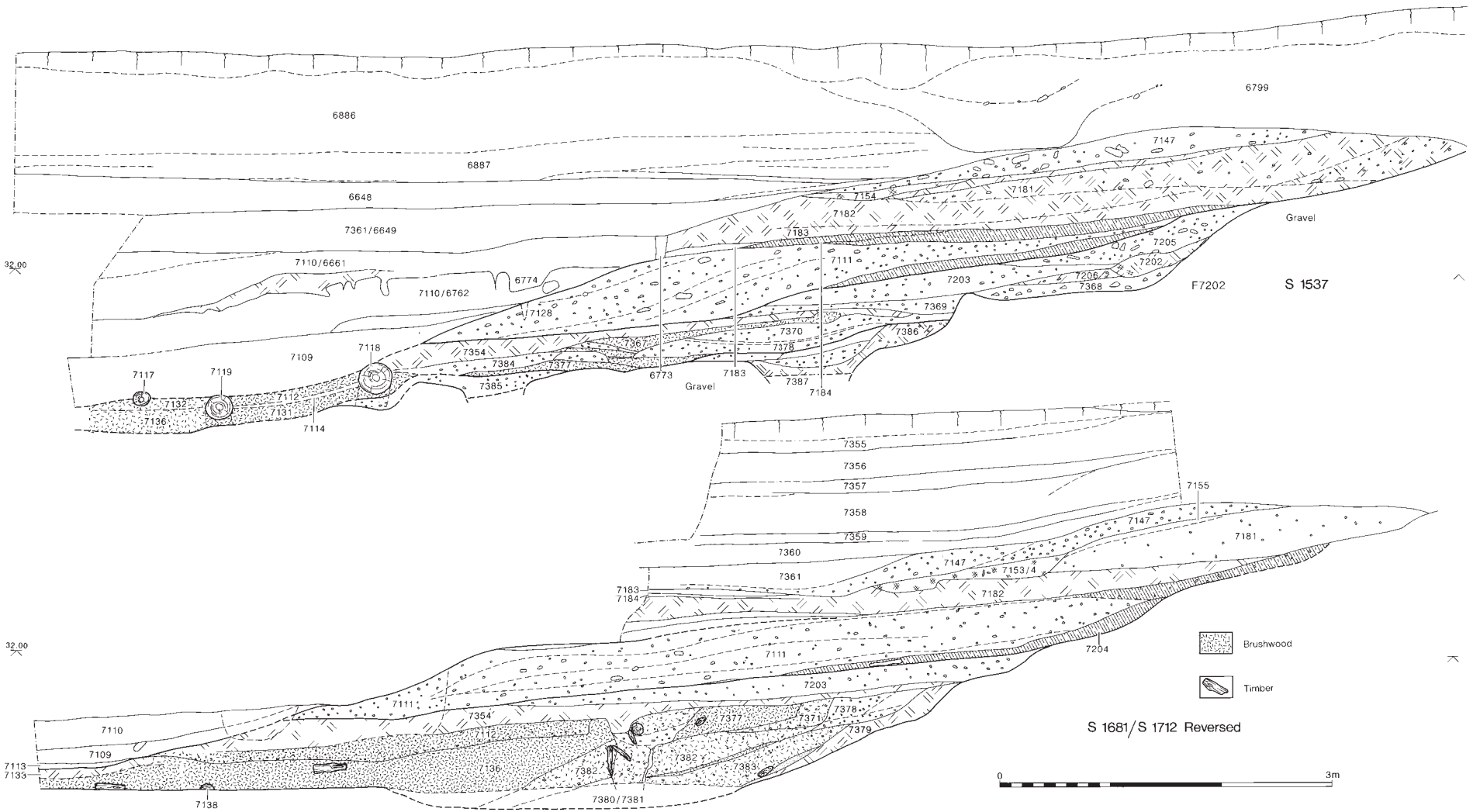
Figure 3.56
Riverside Structure. Axe marks on the outer main alder trunk (photo Northamptonshire County Council).

The Ditched Enclosure (SS1.9)

Andy Chapman, Tony Baker, Dave Windell, Jo Woodiwiss

This monument may have been built in the 3rd millennium. Only its west side was within the excavated area. It lay on the same axis as the Long Enclosure and the Turf Mound and shared their south-west/north-east orientation. The plan of the excavated part (Fig 3.59) and the results of geophysical survey (Fig 3.65; Payne SS5) suggest that it was ovoid. A ring ditch, known only from geophysical survey, lay immediately to the east. No internal features were identified. There was no sign of an entrance and the bank was internal, on the evidence of both the ditch fills and the breaks

Figure 3.57
Riverside Structure. Composite sections.



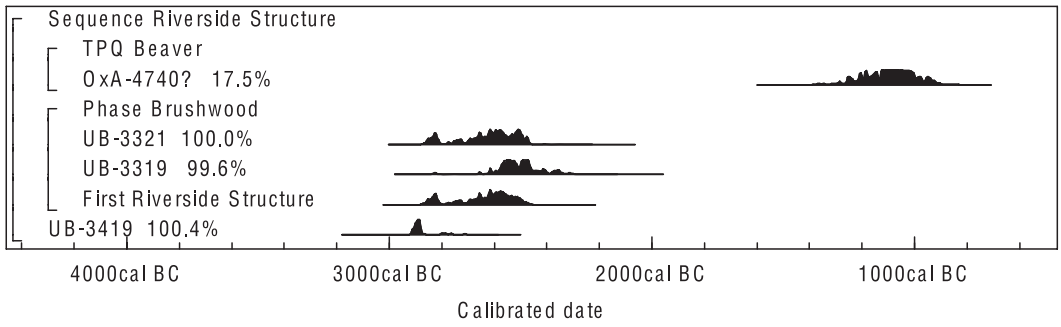


Figure 3.58
Probability distributions of dates from the Riverside Structure and a disarticulated femur of Castor fiber *recovered from a deposit of Saxon date. The format is identical to that of Figure 3.14.*

The distributions represented are: UB-3419 Corylus/Alnus *wood in gravel beneath Riverside Structure,* UB-3321 Fraxinus *poles at base of Riverside Structure;* UB-3319 Corylus/Alnus *wood from main trunk of Riverside Structure;* OxA-4740 Castor fiber *femur.*

left to accommodate it in the subsequently cut outer ditch of Barrow 6 (Figs 3.59–60). There were no finds from the primary sand and gravel silts, and only a small Grooved Ware rim sherd (Fig 3.61) and a fragment of fired clay from the sandy loam secondary silts. Once these had accumulated, leaving the ditch a shallow hollow about 0.30m deep, the outer ditch of Barrow 6 was cut through the west side of the enclosure.

Dating

A *terminus ante quem* for the construction of the enclosure is provided by a date of *2030–1870 Cal BC at 89% probability* for short-life charcoal from a cremation burial cut into the secondary fills of the outer ditch of Barrow 6, which was cut through the enclosure ditch (Fig 3.68: *OxA-7866*). The interval between the construction of the enclosure and the burial is a matter of guesswork. The Grooved Ware sherd in the secondary silts may have been either contemporary with them or redeposited. If it was contemporary, and the enclosure was built in the 3rd millennium, it is difficult to understand why its ditch contained virtually no artefacts, as the first mound of Barrow 6, less than 5m away, was built of artefact-rich turf and topsoil, presumably from the immediate area. This suggests that the enclosure may have been built later, after turf and topsoil had been removed to form the barrow mound, at an estimated date of *2140–2080 Cal BC at 14% probability* or *2050–1890 at 82% probability* (Fig 3.68). Alternatively, the barrow mound may not have been built of contemporary turf and topsoil at all, but of material from the Long Mound, which would account for an otherwise unexplained dip in the surface of the east-centre of the mound (3.2.3).

The Cotton 'Henge' (SS1.10)

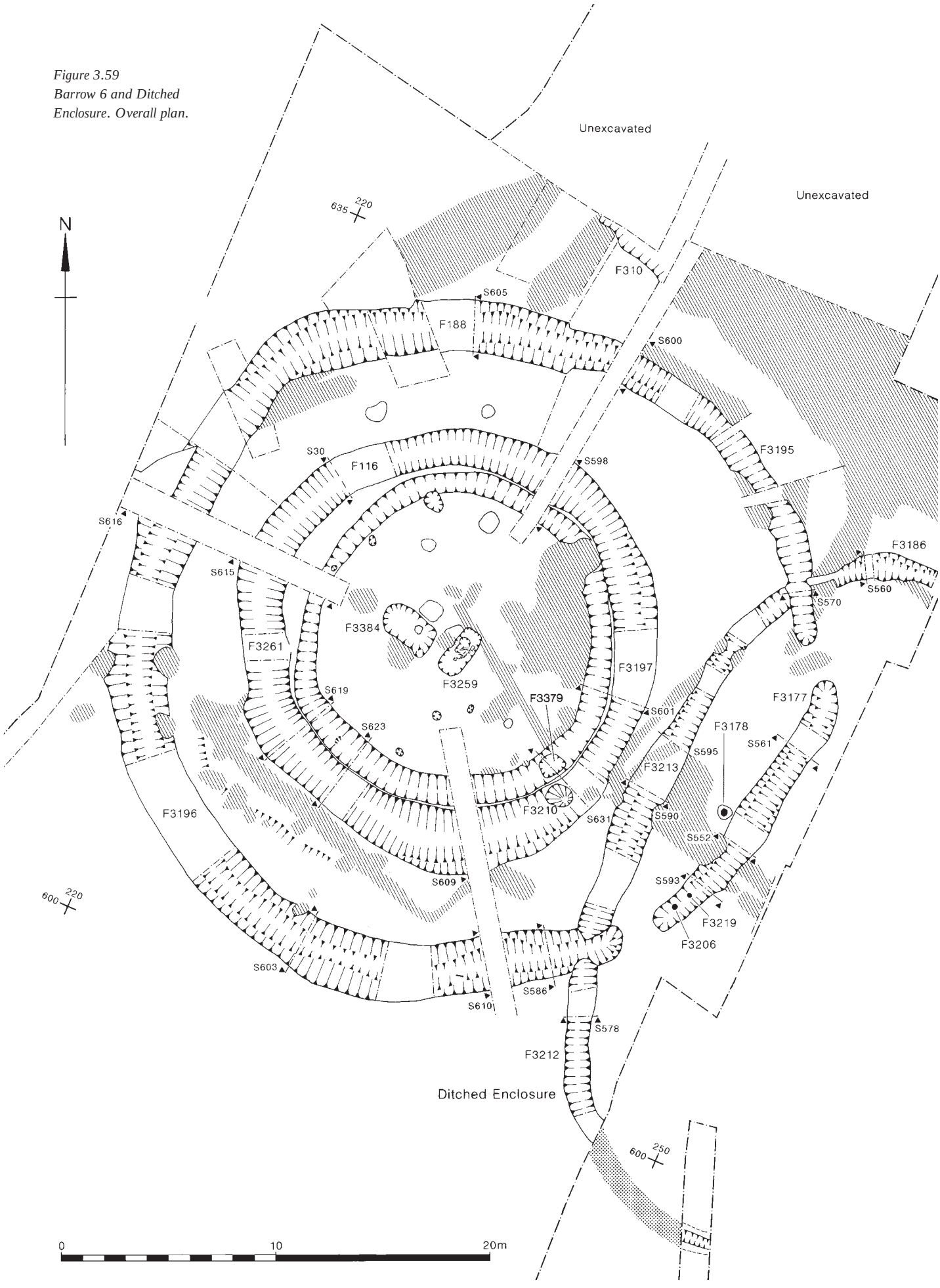
Aidan Allan, Stéphane Rault, Jon Humble

The site lies approximately 700m up the valley of the Cotton Brook from the cluster of monuments at West Cotton, on a south-facing slope at 47–51m OD and, fortuitously or not, is on the long axis of the Long Mound and intervisible with it (Fig 1.4). It was first identified as a cropmark and consists of two irregular, almost concentric ditches, both slightly elliptical, with a shared long axis running south-east/north-west and respective approximate diameters of 70m and 20m. There is no perceptible entrance, geophysical survey having confirmed that two apparent breaks in the north of the outer circuit were the result of a field boundary (Fig 3.62). Evaluation was undertaken in 1993 (Humble 1994). It lies within the most extensive concentration of struck flint identified in the Raunds area survey, a band of material running for at least 1km along the valley side (Fig 5.1; Humble 2006).

A magnetic susceptibility survey yielded generally low readings inside the monument and considerably higher ones 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 SS5). This accorded with varying frequencies of gravel recorded in test pits hand-excavated along the length of Trench 1, which ran from the centre of the monument through both ditches. Peaks occurred in the centre and both inside and outside the outer ditch (Fig 3.62). These may be evidence for former earthworks; they may also have been the product of later cultivation, as there were traces of ridge and furrow and the present land use is arable. There was no hint in the ditch fills of either internal or external earthworks.

The inner ditch was flat-bottomed and had silted naturally (Fig 3.62: S35), possibly following some cleaning-out of the primary silt. The fills were very clean, the only finds being a core fragment, a flake and a crumb of possibly prehistoric pottery from the upper fill. The outer ditch varied from flat-bottomed to V-profiled, the V-profile coinciding with

Figure 3.59
Barrow 6 and Ditched Enclosure. Overall plan.



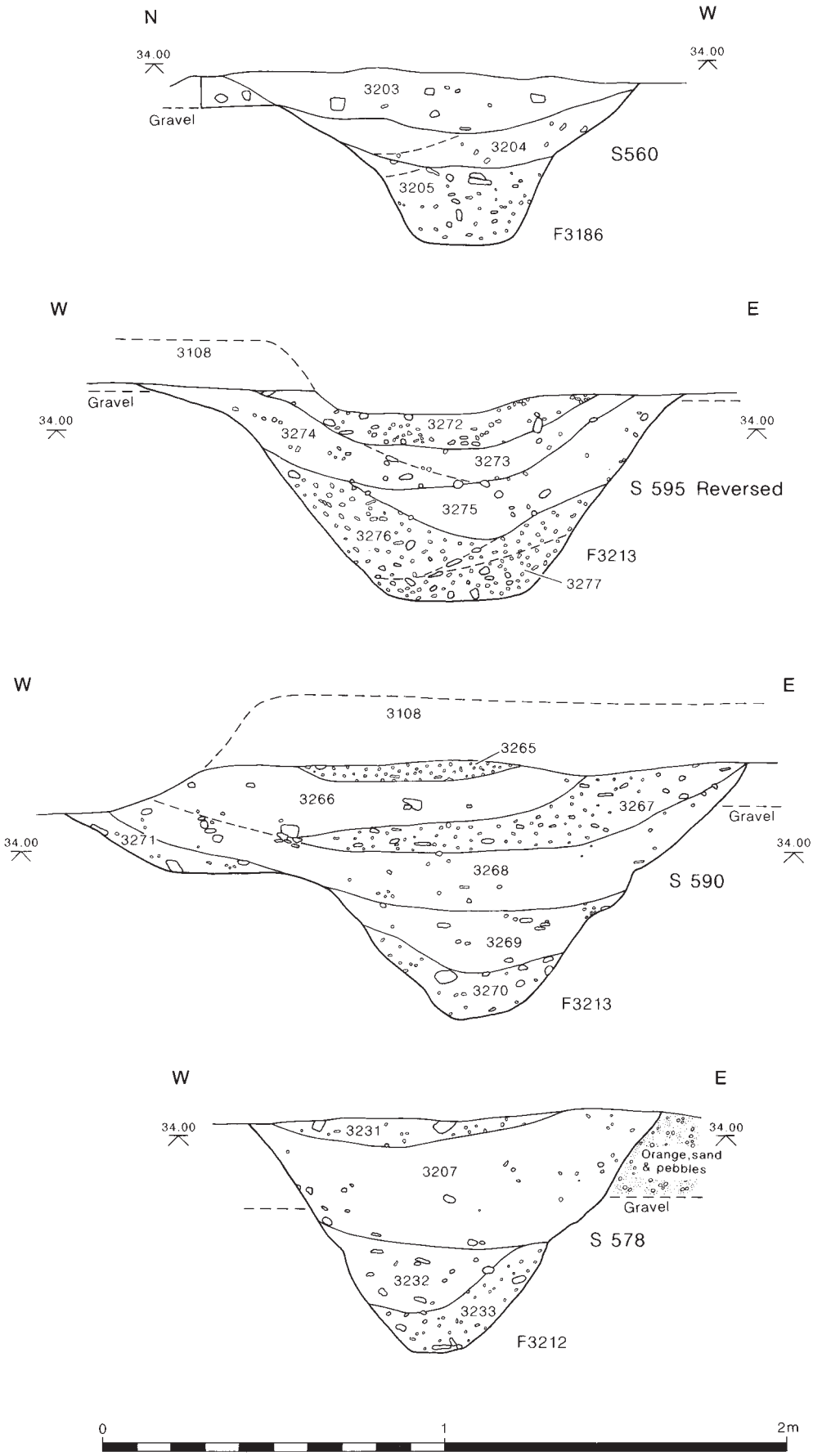


Figure 3.60
Ditched Enclosure. Ditch sections.