An Inland Bronze Age: Excavations at Striplands Farm, West Longstanton

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The findings are outlined from the excavation of a later Bronze Age settlement located well 'inland' – respectively, 5 and 7km away from the Ouse and Cam River Valleys, and 6km back from the fen-edge – at Longstanton, where it straddled the flanks of a gravel ridge running across the Cambridgeshire clay plain. While given its rather piecemeal exposure, the site offers few major insights concerning the period's settlement generally, it nevertheless reflects upon a number of crucial themes: the nature/chronology of 'heavy land' colonisation and when its pioneering occurred, the key role of water provisioning and, due to localised depositional survival, middening dynamics. As regards the latter, the site generated one of the region's largest later Bronze Age ceramic assemblages and, through waterlogged preservation of its deep-cut pit-wells, yielded an important group of wooden artefacts and other finds.

Lying between 6.5–8.5m OD and located at the interface between Ampthill Clay and Third Terrace gravels (TL 53033/26790), the *c.* 4ha site was first discovered in 2004 during evaluation fieldwork relating to the Northstowe New Town/West Longstanton development (Fig. 1; Evans & Mackay 2004 and Evans *et al.* 2008, 174–81).[1] It was then excavated between April and August of the following year (Patten & Evans 2005). Due variously to protected hedge-lines and the location of power-cables, the site was fractured into five main areas (A–E; Figs. 2 & 3), with the subdivided central block (B–D) – where the bulk of its prehistoric settlement lay – being the main exposure. At that time further trenching was undertaken, largely to determine the extent of its Bronze Age settlement, and this revealed still another large pit-well north of the cables that divided Areas D and E. Consequently, this area was targeted for geophysical survey (by Oxford Archaeotechnics), and in 2006 this resulted in the excavation of a *c.* 225sqm area focussed upon that feature (Area 1; Mackay & Knight 2007). In addition, a new trench was cut to target another possible anomaly, wherein a few associated minor settlement features were exposed (Area 2).[2]

Relating to the sale of the land, July 2009 saw the final stage of excavation along its southern road-side end (Area A; Fig. 2). Though primarily directed towards the completion of the dense Saxo-Norman/Early Medieval settlement features within that area, this also revealed the western side of a small Middle/later Iron Age enclosure (Hutton 2009). One of a number of such sites in the greater Longstanton area (Evans *et al.* 2008, 179, fig. 3.23), as its limited excavation only produced 38 sherds of that date (and its faunal assemblage only amounting to *c.* 50 bones) it need not further feature herein.

Directly associated with Area A's Saxo-Norman/Medieval settlement, both linearly arranged quarry pits and paddock/field boundaries extended throughout the four other areas; whereas a system of Romano-British ditches were confined to only the two northernmost exposures (Areas D & E). As this publication is not concerned with the Village's long-term development, the evidence of these periods need not detain us. This being said, one of its later-phase features is of interest. Located at the junction of what was evidently 'in' and out-field dividing ditches (Fig. 3), F.362 was a Saxo-Norman (Thetford Ware-associated) well. This waterlogged feature, aside from yielding a group of important wooden artefacts – a wheel felloe, cartside rail-top and a yoke – had very good pollen and, as will be shown below, by 'village analogy' this helps situate or inform our picture of the earlier, Bronze Age settlement.

Settlement Architecture and Organisation

Before considering the character of the later Bronze Age settlement-phase, it warrants mention that the site's flint assemblage attests to both Mesolithic/Early Neolithic and later Neolithic/Early Bronze Age background activity, albeit at a low/'incidental' density (see below); in addition, a single sherd of Beaker and four of Deverel Rimbury pottery were also recovered.

The basic components of the Bronze Age settlement were those now known to be common to the 'grammar' of the period's settlements. In the main, its extent would be marked by the distribution of its pit-wells over some 1.7ha (they clearly did not continue across the southern two-thirds of Area B and, beyond that, into Area A; Figs. 2 & 3). Lying, however, west beyond this, in Area E, were a four-poster granary (Structure

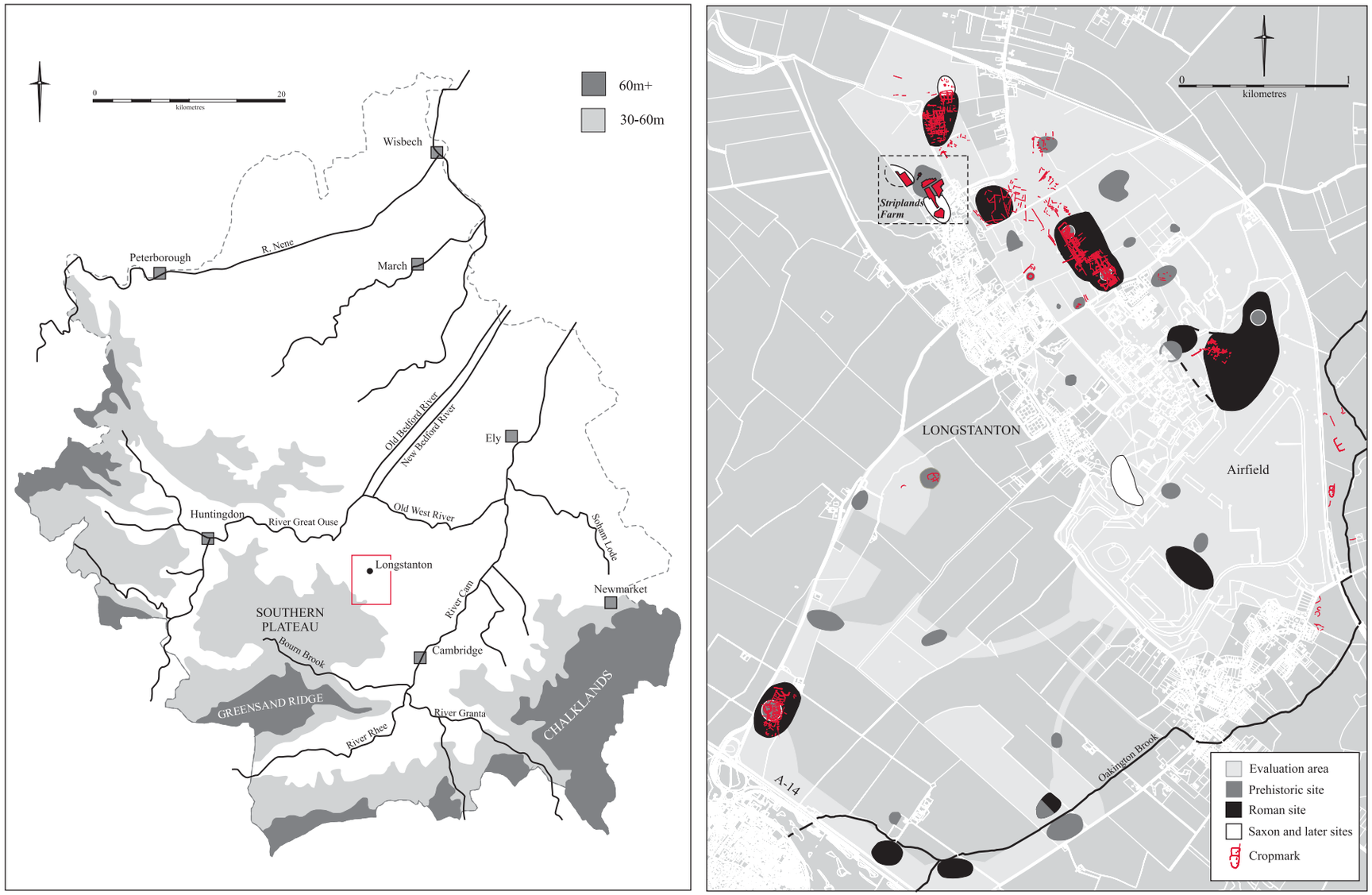


Figure 1. *Striplands Farm, West Longstanton, location maps with Northstowe/Longstanton evaluation sites indicated on detail right.*

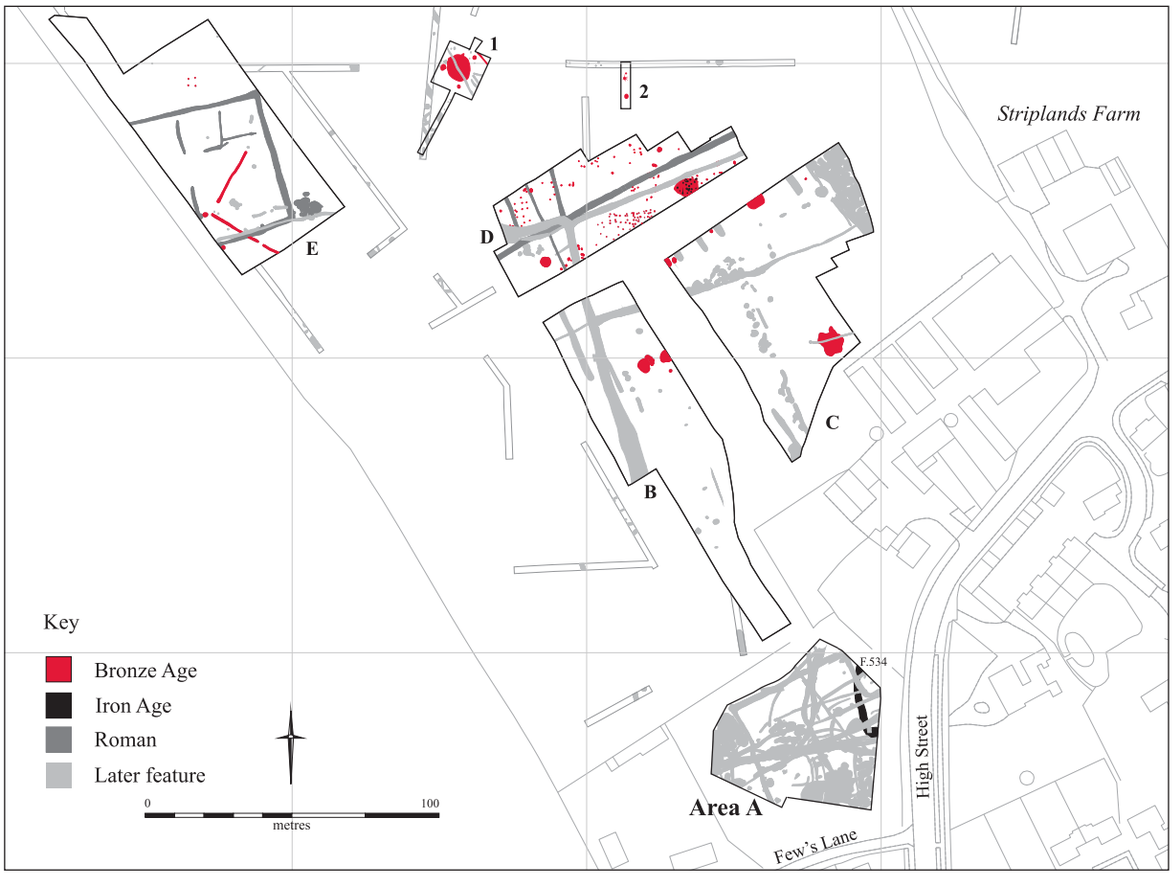


Figure 2. *Site Base-plan.*

I; 2.4 x 2.6m) and, also, the axes of an 'L'-shaped ditch paddock, with another possible ditch length (F.506) – only tentatively assigned as 'early' based on alignment (and not positive dating evidence) – exposed in Area 1. Given this, the settlement would then have extended over, at least, 2.7ha; it only being its southern limits that, at this time, we can be relatively assured of.

As marked by its array of posthole settings and small pits, the settlement's core clearly fell within Area D (Fig. 4), though it surely extended north of this point and beyond the line of the power cables. Amid the spread of such minor features within it, a series of structural configurations were distinguished. Least obvious, despite their designation as Structure III, was the posthole cluster around and within the upper profile of the large pit-well, F.210. Also apparent there was a possible ('-only') longhouse, Structure IV. Extending over 3.9 x 7.8m, this could be compared to similar settings found at both Barleycroft Farm and Tanholt Farm, Eyebury (see Evans *et al.* 2009, 51, 53–5, fig. 2.17). Also distinguished was a porched, 6m-diameter roundhouse (Structure II). This lay on the western side of a dense posthole spread, which clearly included a west/northwest-east/southeast oriented fence-line, and probably had other four-posters along its northern side. It is possible to identify other short 'fence-type' alignments and, on the whole, other less well-defined posthole settings surely occurred within that area.

In order to provide a sense of comparable context for the site's pits/wells, the same size-categories that were employed in the recent analyses of Fengate's Bronze Age settlements have been used (A–D; Evans *et al.* 2009, 70–2, 152, fig. 3.5 and table 4.9). As plotted in Fig. 5, they were generally quite large, with two-thirds of the site's 51 such features being greater than 1.4m across and more than 0.5m deep (Fig. 5). Of the total, 11 were more than 1.0m deep and, for our immediate purposes here, these have – if rather arbitrarily – been categorised as wells. As is apparent in Table 1, these features yielded the majority of the settlement's finds.

	Pits	Wells	Other Features	Total
Pottery	425 (5426g)	3867 (35280g)	25 (85g)	4317 (40791g)
Bone	1101 (4350g)	6363 (48060g)	116 (549g)	7580 (52959g)
Flint	13 (140g)	528 (4873g)	6 (6g)	547 (5019g)

Table 1. *Artefact frequency by feature-type*

Of the site's wells, having depths in excess of 1.3m,

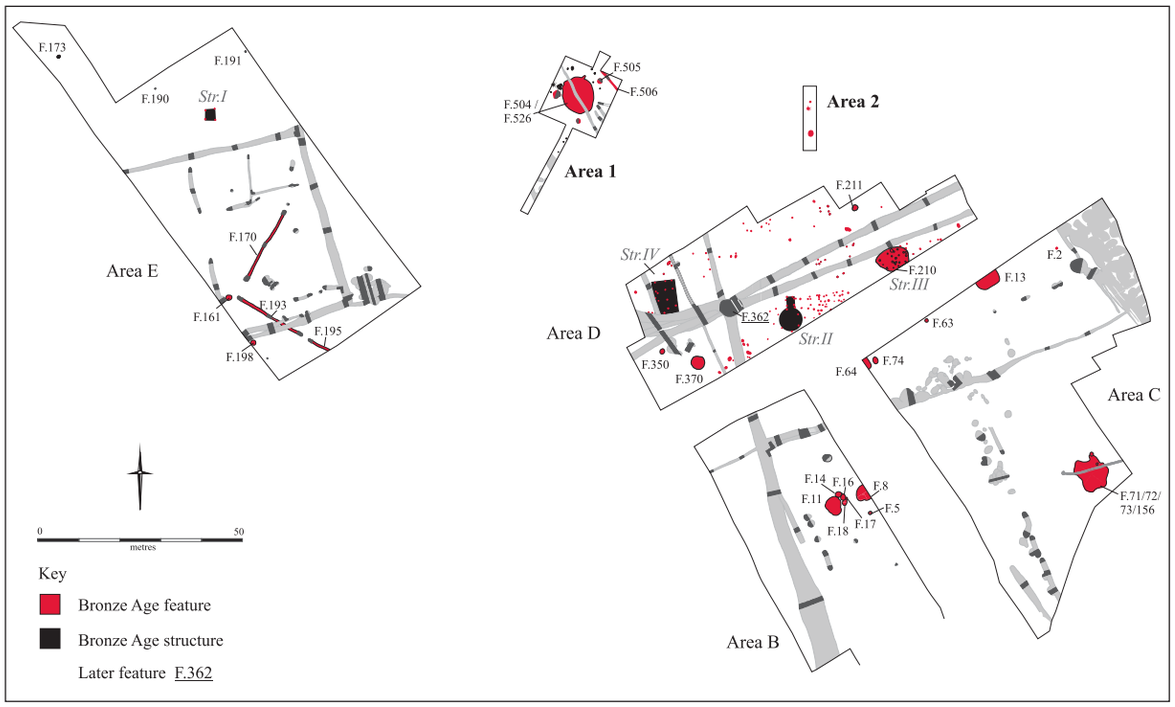


Figure 3. *Base-plan (detail), Bronze Age Settlement Features.*

five were extensively waterlogged. These also yielded the majority of its non-organic finds, with the vast bulk deriving from the midden deposits within the upper profiles of F.210 and F.504/526 (Table 2).

It is appropriate that the salient characteristics of the highlighted features be presented in some detail:

F.13 (Figs. 3 & 6): Some 6.0m wide, while this could not be completely exposed it was excavated to its full depth of 1.35m. It had steep sides with a gradual break of slope to a concave base on the eastern side, with sharp, almost right-angled breaks of slope on the southern and western sides. A distinct step and flattened area was also present in the northeast base of the feature at 0.7m depth. Into this had been set a horizontal log, retained in position by a series of vertical stakes, probably creating an access-staging point into the well. Of the feature's seven fills, the uppermost consisted primarily of dark grey clayey sand, with the mid and lower deposits composed of light grey sandy clays grading to waterlogged blue or black sandy silts. Though the wooden items were recovered from the basal fills, pottery was only retrieved from the upper two deposits; a large occipital and left parietal human skull fragments also occurred within the lower of these fills.

F.71–73/F.156 (Figs. 3, 6 & 22): This initially appeared as an irregular-shaped feature, *c.* 9.25m long and 7.0m wide. Excavation identified four distinct features/re-cuts. The earliest, F.156, was severely truncated and survived to a depth of 0.65m; having steep sides (the southeastern undercut) and a uniformly flat base, it contained a grey-green silt. This was succeeded by F.72, *c.* 1.9m in diameter and 1.0m deep. Also severely truncated, F.72 had a near-vertical northern side, steep sides on the southern edge and a flat base. Its fills consisted of sandy redeposited natural 'slump', blue-grey silty clay and a dark brown organic-rich deposit; the latter two contained waterlogged wood, including a log ladder. Truncating both these features was F.71, *c.* 5.2m in diameter and 1.3m deep, which had steep sides and an uneven/flat base.

F. No.	Width (m)	Length (m)	Depth (m)	Pottery	Bone	Flint	Burnt Flint	Wooden Artefacts
13	6.05	-	1.35	40 (26g)	147 (1459g)	7 (89g)	-	Bark box
71-3/156	7.0	9.25	1.53	30 (293g)	1004 (15644g)	20 (258g)	1 (42g)	2 Axe hafts Withy 1 LL
210 *Midden*	5.2	7.25	2.6	1102 (12325g) *1088 (12234g)*	1684 (13194g) *1543 (11353g)*	25 (181g) *23 (174g)*	49 (824g) *49 (824g)*	3 LL (+ forked 'lift'/ladder)
370	3.25	3.5	2.15	40 (372g)	83 (237g)	1 (9g)	-	1 Axe haft 1 LL
504/526 *Midden*	7.25	8.5	3.00	2499 (21000g) *2483 (20882g)*	3284 (17935g) *2340 (7611g)*	458 (4319g) *403 (3436g)*	890 (11722g) *855 (10468g)*	Trough 5 LL
Total				**3711**	**6202**	**511**	**940**	

Table 2. *Waterlogged pit-well assemblages ('LL' indicates log ladder).*

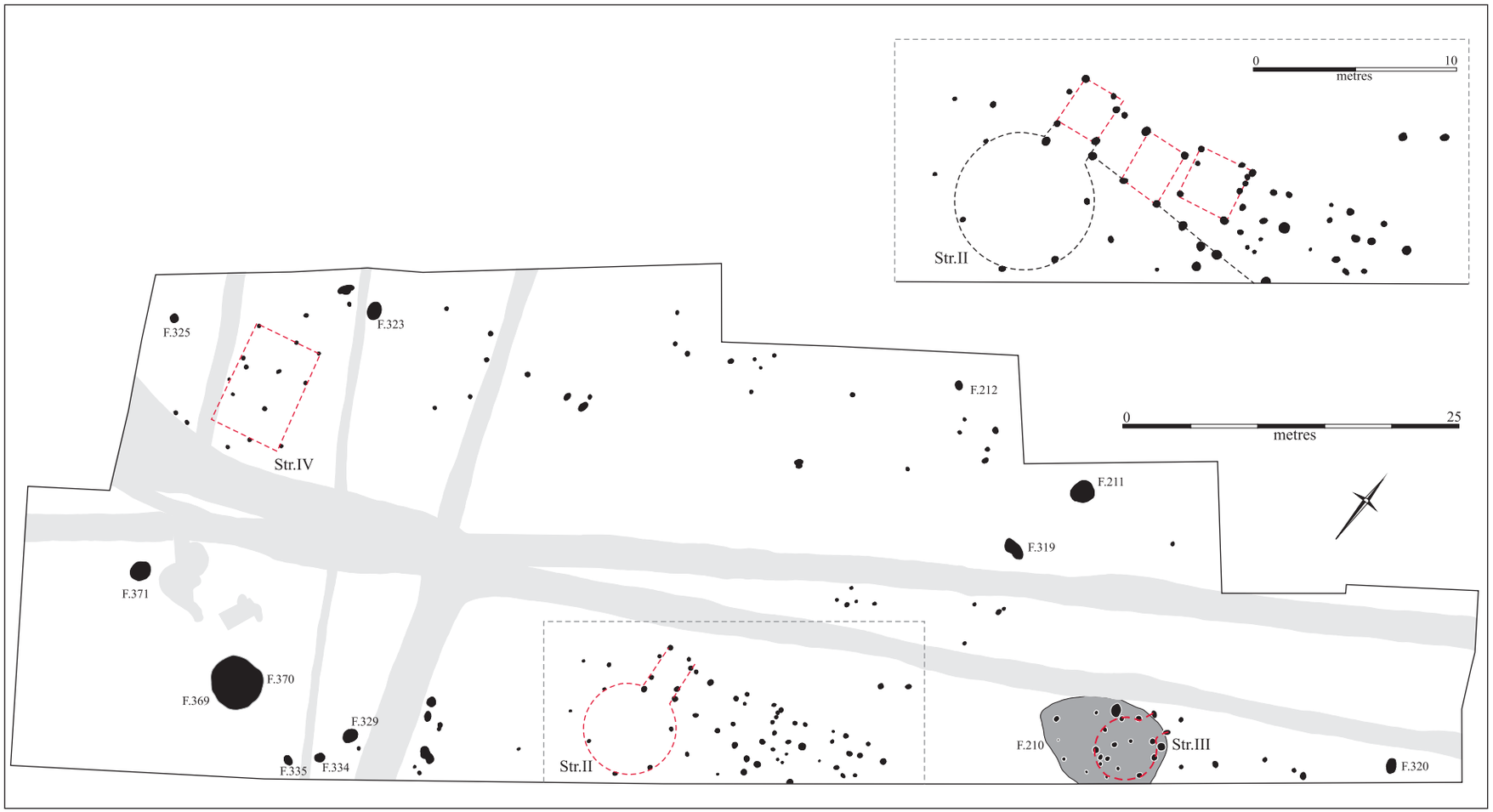


Figure 4. *Base-plan, Area A, with possible four-poster settings indicated on inset.*

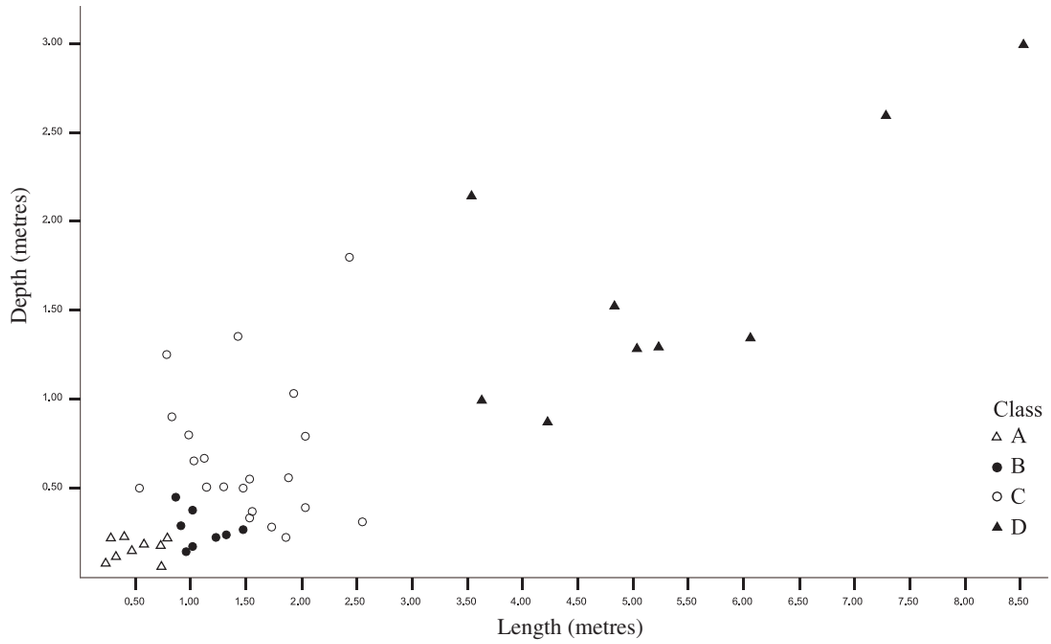


Figure 5. *Bronze Age Pit Dimensions Plot.*

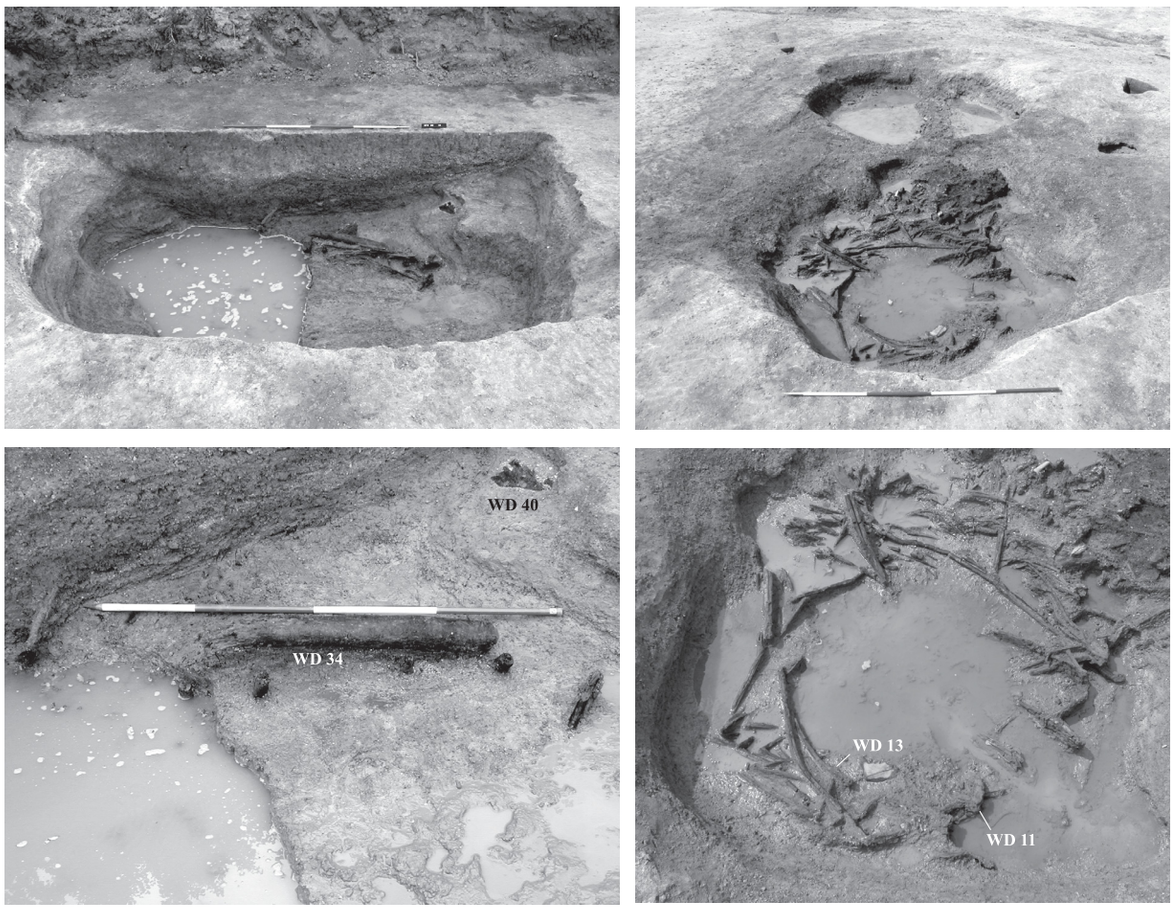


Figure 6. *Pit-well Imagery (I): left, F.13, general shot (top) and, below, detail of revetment/staging, with the bark box/step (WD40)* in situ *in upper right corner (see Fig. 17); right, F.71-3/156, with detail of basal timbers below. See also* ***Plate 1****.*

It contained eight fills, the majority of the pottery and bone was recovered from the upper two, with two cow skulls also found near the top, seemingly placed to 'face' outwards. In the main, its deposits were light to mid blue-grey clay silt, grey sandy silt with occasional gravel and light grey clay; secondary and basal fills were dark brown to grey sandy silts, blue-grey silty sand and grey silt. Its secondary basal fill was of special note, containing a large quantity of worked wood cuttings (including axe hafts), the majority dumped on the northern side of the feature; five pierced freshwater mussels were also recovered (Fig. 20). Abutting the northern edge of F.71 was pit-well F.73, *c.* 4.2m in diameter and 0.89m deep, with steep sides and a flat base; the upper three fills were contiguous with those of F.71, with the remaining deposits consisting of light grey or blue silty sand with moderate gravel and slumped natural at the northern end, and from which no finds were recovered.

F.210 (Figs. 4, 7 & 8): This was 7.25m long and a minimum of 5.2m wide, and was excavated to a depth of 2.6m. It sides sloped gradually from the top, and then broke sharply into near-vertical sides in the western and northern sectors to a flat base. A distinct sloping basal 'ledge' (*c.* 1.6m diam.) was present in the northeastern quadrant, which had traces of wattle revetting, consisting of horizontal rods woven around a series of vertical stakes (grouped in threes); a fragment of an earlier log ladder was found in slumped deposits behind the revetting. On abandonment, a fragment of tree-trunk and a further log ladder were discarded within this revetted-ledge area. Having 14 distinct fills and slumped horizons, these mainly consisted of light brown to grey-orange sandy clay near the top, to dark orange sandy and blue-grey silty clay towards the middle; in its lower profile/base were dark grey clays (some with a silt component) and sandy clays with organic material. Only a relatively minor quantity of finds were recovered from the lower horizons, the vast majority of its finds being retrieved from 0.5m thick dark

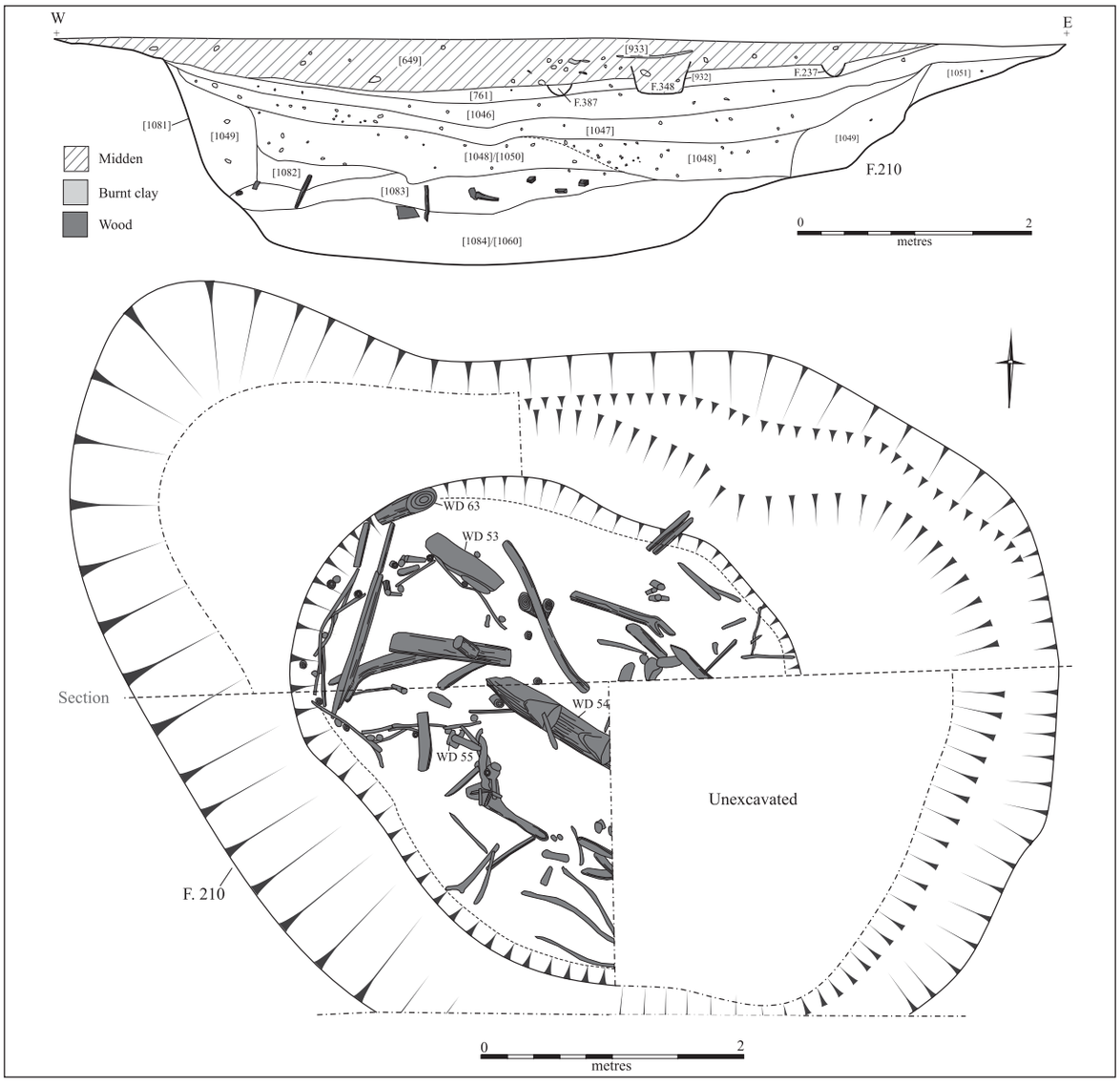


Figure 7. *F.210, Plan and Section.*

Figure 8. *Pit-well Imagery (II): left, F.210, with Structure III postholes revealed in its top following excavation of midden horizon (top) and, below, timber in base; right, F.504/526, initial midden strata quadrant-sample grid (top) and, below, excavation in progress with the construction of Longstanton's B1050 bypass-road looming behind.*

brown-grey silt midden layer that sealed the entire feature. It was upon the removal of this horizon that the postholes of Structure III were exposed, but as is apparent within its section (Fig. 7), these clearly had been inserted 'within' it.

F.370 (Fig. 4): This 2.15m deep sub-circular feature (3.50 x 3.25m) possessed initially shallow-sloping sides, with sharp breaks of slope down to uneven, very steep sides and an irregular base. It had grey or brown sandy silt fills with some organic material, and a rich black-brown basal deposit with much well-preserved organic material, including a log ladder and axe haft. Of the pottery and bone, the vast majority was recovered from the upper fills, although a small amount of pottery was also retrieved from the same deposit as the afore-mentioned wooden artefacts.

F.504/526 (Figs. 3, 8–10): This large oval-shaped watering-hole was 7.25m wide, 8.5m long and up to 3m deep. Initially a *c.* 2m wide pit or well (F.530; only the lowermost 0.4m survived), this was sub-rectangular in shape and had steep to near-vertical sides and a flat base. Its dark and mid grey sandy clay fill contained the remains of a collapsed wooden tripod structure constructed from three worked logs, two with mortises. Truncated in the southeast quadrant by F.526, this 2.4 x 1.9m and 1.75m deep feature penetrated below the watertable. It had steep to near-vertical irregular sides on the southeastern side, with a shallow slope and sharp break of slope down to a near-vertical edge in the northwest and a flat base. Shaft-like in appearance, the lower fills were difficult to excavate due to flooding; the fills consisting of pale grey to silver sandy silts interrupted by lenses of dark black-brown organic silts. Within the fills were clumps of preserved leaf matter, three log ladders and a small quantity of animal bone. Located immediately to the northwest of F.526 was F.525. One metre in diameter and surviving to a depth of *c.* 0.5m, this had a rounded base, steep sides and also contained a log ladder, positioned centrally to give access from the northwestern aspect, whilst the northeastern edge was pierced by a small wooden stake; it was filled with a dark grey-brown gritty clay silt. Situated on the northern side of the main feature was a severely truncated circular pit F.531, 0.5m in diameter and 0.5m deep, and from which no finds were forthcoming. A single, 'boggy' spread ([1265]) sealed these earlier re-cuts and consisted of preserved fragments of small branches and twigs; found within its matrix were both a crudely worked wooden trough and the articulated front legs of a wild boar. This was covered by a 0.35m thick horizon of iron-panned orange clay ([1275]), sealing the lower waterlogged deposits. Feature 517, some 0.8m in diameter and 0.9m deep with vertical sides and rounded base, cut into the waterlogged deposit, exposing the stake in F.525. This, in turn, was sealed by a capping deposit ([1208]). Composed of homogenous dark grey and black clay silt with an ashy texture, this also

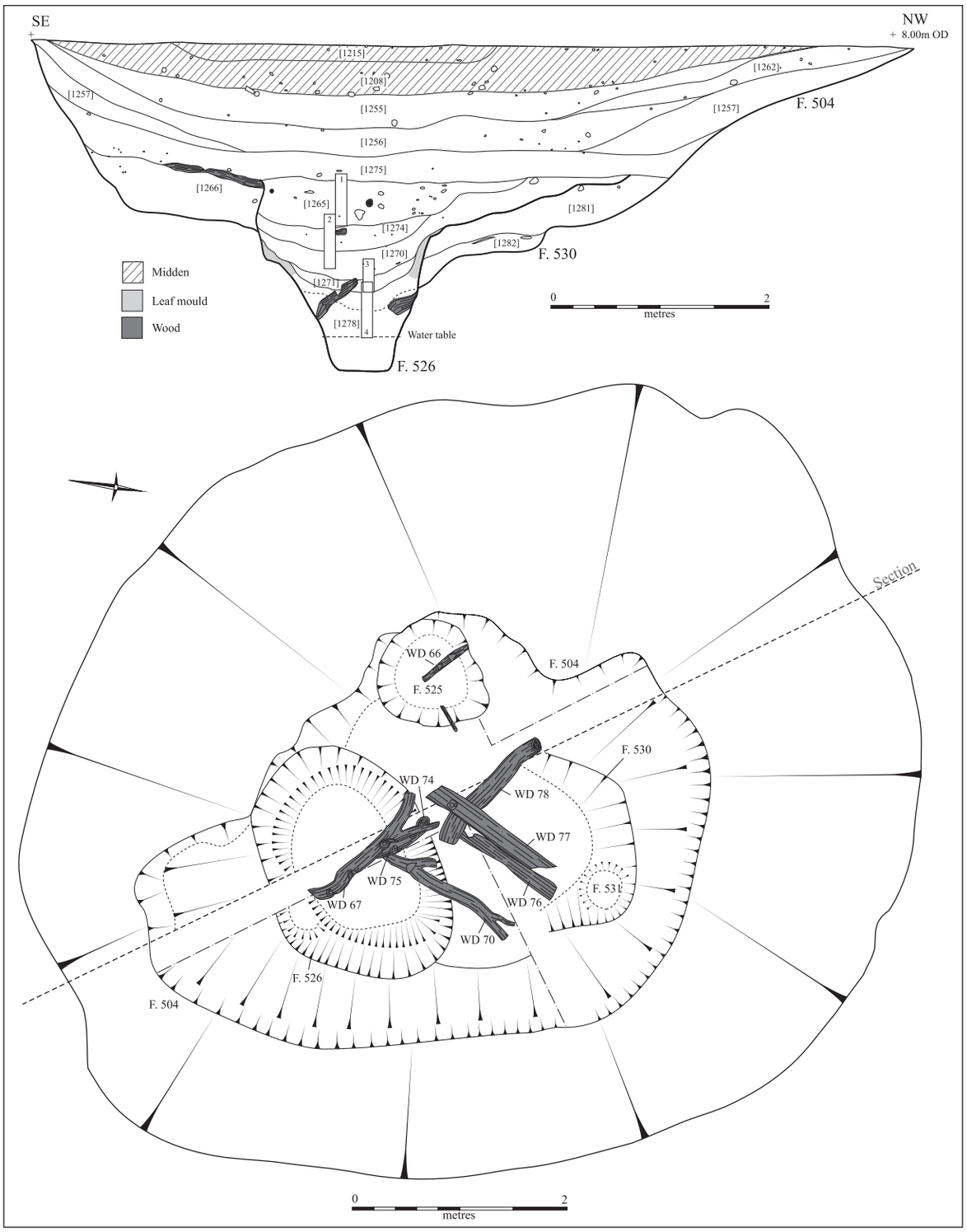


Figure 9. *F.504/526, Plan and Section.*

covered lower fills of mid yellow grey-brown clay-silts (containing a fragment of saddle quern and a possible rubbing stone) and from it was recovered great quantities of the pottery, animal bone, flint and burnt flint, fired clay and stone.

Only two other features otherwise warrant notice. Located along the northern edge of Area C (southwest of F.13; Fig. 3), F.63 was a circular pit, *c.* 0.85m across and 0.45m deep, with vertical sides and a flat base. It had two dark sandy clay-matrix fills, the upper

Figure 10. *F.504/526 Wood* in situ.

including a 0.12m thick lens of charcoal and much burnt stone. A distinct collection of finds appeared deposited within it: a collapsed, largely complete pottery vessel (see Brudenell, below), a large loomweight and a saddle quern fragment. The other feature of note, a cremation (F.2), also occurred within the same area (Fig. 3). Set in a *c.* 0.45m diameter pit (0.23m deep), this had 225g of white-burnt/-calcined human bone fragments. As reported upon by Dodwell, their small size (most 10–20mm) precluded identification beyond 'sub-adult/adult'. Interestingly, food remains offerings may have been part of its rite and, possibly resonating with pit-well F.71's mussel shell necklace, fragments of shell were also recovered from this feature (the only other context in which such shells occurred; see de Vareilles below).

Of the settlement's broader depositional patterning, virtually no finds were forthcoming from the

post-built structures within Area D (apart from those of Structure III associated with F.210's midden) and only very little Bronze Age material was present in residual status from the later-phase features there. This was in some contrast to Area E, where a higher density of prehistoric material occurred: 70 fragments of bone within the ditches of the 'L'-shaped paddock and some 50 sherds of pottery in its Romano-British and Saxo-Norman features. This, on the one hand, might attest to another, more westerly settlement focus, but which lacked accompanying post-built houses. On the other hand, its somewhat higher general-area finds density could actually reflect settlement-marginal activity, which evidently was not subject to formal middening; whereas most of the material relating to Area D's occupation went directly into organised middens (and subsequently redeposited within F.210; see e.g. McOmish 1996, Needham & Spence 1997, Brudenell & Cooper 2008 and Sharples 2010, 52–3 concerning the period's middening dynamics generally).

As shown in Fig. 11, the two pit-wells' middens were both hand-excavated in metre-squares; however, in the case of F.504, only the southern half was entirely dug in this manner, the northern only being tested by single metre-units in the centre of each quadrant on that side (and, otherwise, hand-dug *en masse*). The so-recovered densities were high: more than 100 bone fragments and sherds per metre in the case of F.210 and, for F.504, the highest values were in excess of 250 per metre.

Another point should be raised concerning the pit-wells' artefact assemblages and that is the disproportionate representation of both worked and burnt flint within F.504 in the north. This must essentially relate to the recovery of earlier ceramics from that area of the site alone, which included a probable Beaker sherd from F.504 itself and four small Deverel Rimbury sherds from pit F.505 within the same trench. This would suggest that the traces of earlier/Middle Bronze Age occupation had been scraped up from the ground surface, mixed with later Bronze Age ceramics and redeposited within that feature.

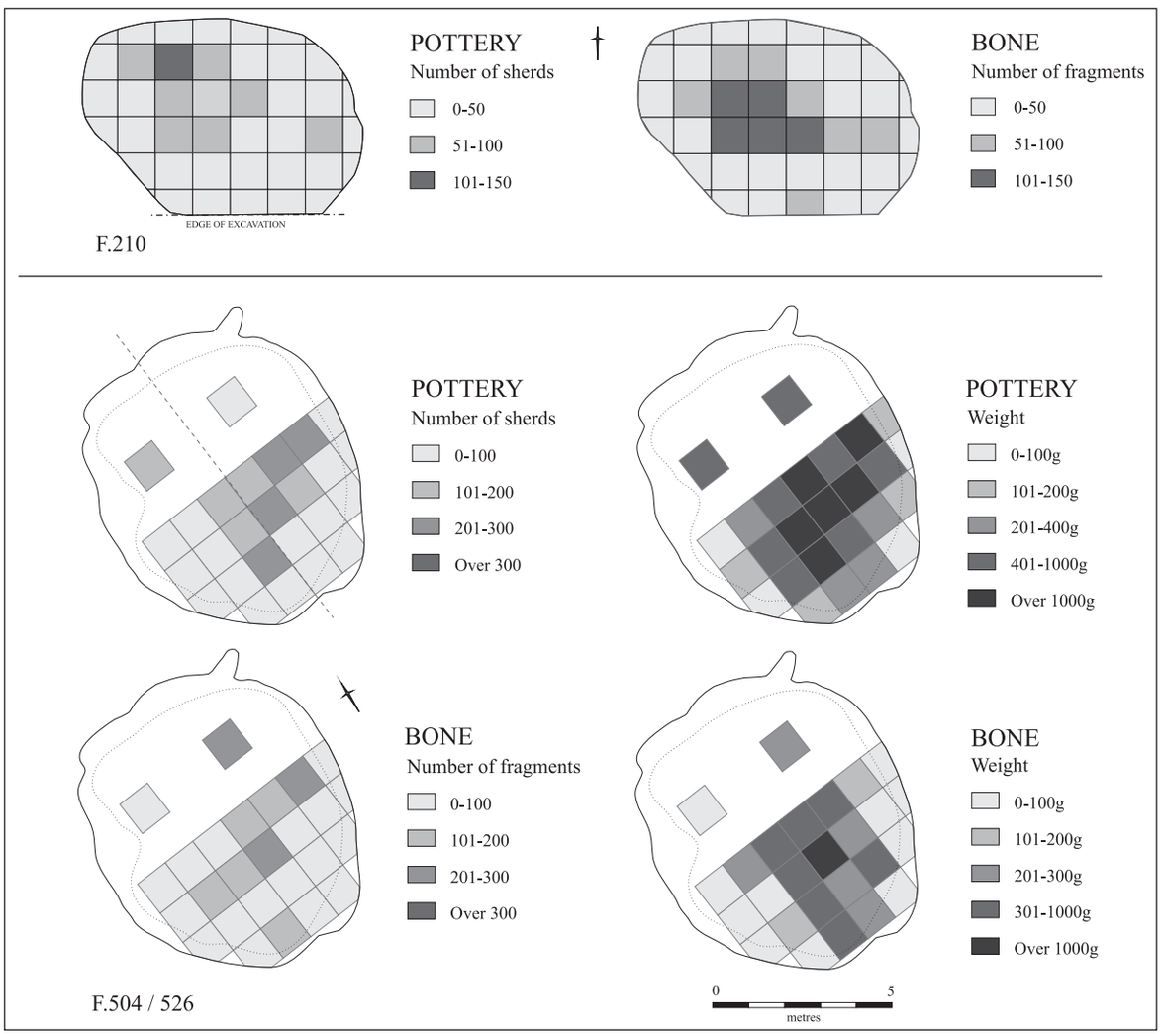


Figure 11. *Midden Deposit Densities (F.210 & F.504/526).*

Before proceeding, some general remarks concerning the role and operation of such pit-wells are necessary. Though some comparable features are known in later Neolithic/earlier Bronze Age contexts (e.g. Webley & Hiller 2009), large pit-wells/watering-holes seem essentially a Middle/later Bronze Age phenomenon.[3] Found on almost every 'fieldsystem-landscape' within the region (see Yates 2007, 82-100 and Evans *et al.* 2009, 42–66 for overview), they deserve to be counted amongst the great 'inventions' of later prehistory as they facilitated permanent settlement in diverse locales. Without them, as is still the case in, for example, much of sub-Saharan Africa today, daily water would still have been achieved through routine tasking – fetching water from natural springs, brooks, ponds or rivers – or, otherwise, settlements would have had have been sited immediately beside these sources (i.e. tolerating low damp-ground conditions). This is as true for animals as humans, for without such watering-hole wells stock would daily have been driven to water.

Although dependent upon their proximity to contemporary settlement, on their abandonment these usually large features can be backfilled with a rich array of often waterlogged materials arising from their immediate usage/function, and the domestic matrix of their associated households. In fact, given that Bronze Age house-evidence is often slight – amounting to only a scattering of postholes – in terms of 'closed' material culture assemblages, Middle/later Bronze Age pit-wells can be considered as near-equivalent substantive 'period packages' as eavesgully-surrounded Middle Iron Age roundhouses.

As to the operation of such pit-wells, unsurprisingly, the site's features display variety. On the one hand, there is F.210's wattling and F.13's single stake-set log. Against this, on the other hand, F.504/526 showed no real evidence of any revetting *per se*, but as further outlined by Taylor below, its wooden artefacts – variously, large trimmed forked branches and mortised timbers – could suggest a 'mechanical' means to take water (Fig. 10). This may have been due to the much greater depth and steep-sided form of F.526, which extended for more than a metre below the base of the originally broad, F.504 version. In fact, by its profile it is the F.526 well-form that is unusual and actually seems almost akin to later types, such as the much deeper, often box frame-revetted constructions of Romano-British times, and which clearly required mechanical means to lift water out. In contrast, most later Bronze Age wells were obviously 'broad' (i.e. not steep-sided) and, frequently recut, this usually resulted in irregularly stepped profiles.

In this capacity, the arrangement of F.13 seems to have been the most commonplace. Essentially amounting to little more than a horizontally pegged timber (Fig. 6), while such settings would have surely held back accumulated basal 'muck', at the same time they would have provided a staging against/on which an individual could have supported themselves while obtaining water; in that case, the 'staging level' was achieved by the distinct bark-lined step on its eastern side (which appears to have been a reused 'box'; WD40, see below). Instances of pegged 'staging' well-settings have recently been found associated with both Langtoft and Thorney's fieldsystems (Hutton 2008a & b; Mudd & Pears 2008, 33–47); particularly, a 'door-step' access-entry arrangement in one of the latter's features (Daniel 2009, 50, fig. 3.43). The crucial point is that it appears that you would have actually clambered into the pit-wells to get water, either negotiating passage directly down their sides or gained them *via* log ladders (alternatively, of course, a roped bucket could have always been tossed in from above and two such buckets were recovered from Thorney's features; Mudd & Pears 2008, 52, fig. 32; Daniel 2009, 114–7, fig. 5.1). As opposed to 'waterhole pits', 'ponds' have also been distinguished within Thorney's Bronze Age landscape; presumed to respectively relate to human and stock-watering sources, the latter are generally larger and held to have had direct ramp-access down the broader slopes of one of their sides (Daniel 2009, 46–51, figs. 3.40–.44; Mudd & Pears 2008, 39 & 46, figs. 27 & 34).[4]

Dating Evidence

The settlement's dating presented something of a dilemma. On the one hand, the depth of accumulated infill within pit-wells F.504/526 and F.210 prior to the deposition of their respective midden-cappings suggested considerable time-depth. Yet, on the other hand, aside from the site's few Beaker and Deverel Rimbury sherds, only Late Bronze Age wares were recovered from them and which – albeit in low numbers – also occurred at depth within the pit-wells' profiles. It was in an effort to resolve this that a robust series of radiocarbon samples were submitted, with the following dates achieved:

1) Beta-280343 (SFW05-[136]/F.13) – 2850±40BP/1120–910 cal. BC
2) Beta-280344 (SFW05-[468]/F.71) – 3600±40BP/2110–2100 and 2040–1880 cal. BC
3) Beta-280345 (SFW05-[649]/F.210) – 2680±40BP/910–790 cal. BC
4) Beta-280346 (SFW05-[1062]/F.210) – 2800±40BP/1040–840 cal. BC
5) Beta-280347 (SFW05-[1009]/F.370) – 2800±40BP/1040–840 cal. BC
6) Beta-280349 (SFW06-[1282]/F.530) – 2990±40BP/1380–1330 and 1330–1120 cal. BC
7) Beta-286572 (SFW06-[1208]/F.504) – 2870±40BP/1190–1140 and 1140–920 cal. BC.

In addition, one other sample, from F.504 ([1208]; Beta-280348), was submitted; unfortunately, its animal bone failed to yield sufficient collagen for a result. Otherwise, all of the dates are considered 'acceptable', apart from the second, Beta-280344, from F.71. Unlike the others, which derived from either charred cereal remains or wood (with Beta-286572 from food residues on a sherd), that was the only other animal bone sample and clearly it has produced an assay some

600–500 years too young. That said, while not coming from where the Beaker/Deverel Rimbury sherds were recovered, it is certainly possible that this bone was 'old' and of residual status within the later pit-well (i.e. relates to the landscape's Early Bronze Age background). Therefore, excluding it as an 'outlier' and starting with the F.530 sample (from the primary basal-form of F.504/526), they suggest that the site's 'well-related' occupation began in 13/12th centuries BC and continued until, at least, the 9th century, with the brunt of its usage probably spanning the later 11th through to the 9th centuries BC; the majority of the pottery probably deriving from the end of this span (see Brudenell, below).

Material Culture

Due to restrictions of space, only the most relevant artefact assemblages – pottery and wood – are reported in detail, with the remainder of the settlement's Bronze Age finds only being summarised.

Late Bronze Age Pottery
Matt Brudenell

A substantial quantity of Late Bronze Age pottery was recovered, totalling 4153 sherds (41079g), with a mean sherd weight of 9.9g. To date this is the largest group of Late Bronze Age Plainware PDR (Post-Deverel Rimbury) pottery published from Cambridgeshire, and represents a regionally important assemblage in direct association with a series of high precision Accelerator Mass Spectrometry (AMS) radiocarbon dates. For regional ceramic studies, the two most important groups are unquestionably those deriving from the artefact-rich 'midden' dumps capping fills of pit-wells F.210 and F.504. Accounting for some 79% of the total assemblage (by weight), these deposits are deservedly the focus of this report, with the rest of the feature-groups receiving only summary treatment. All the pottery has, however, been fully recorded following the recommendations laid out by the Prehistoric Ceramic Research Group (PCRG 1997), and is further detailed in the author's doctoral thesis (in prep.).

Assemblage Characteristics
The comparatively wide range of Late Bronze Age fabrics identified reflects the site's location within a locally diverse geological landscape, in which potters could have had access to a variety of potential clay sources and tempering inclusions. As is however characteristic of PDR ceramic tradition in this part of Cambridgeshire and much of Eastern England, crushed burnt flint was the favoured ingredient in fabric recipes; the grade and density varying along the spectrum of coarse to fine and common to sparse, linked largely to the quality of the ware and vessel size. By weight, 75% of the pottery had burnt flint inclusions (F1–F6); dominant amongst which was coarseware Fabric F1 (Table 3). Shelly wares, probably deriving from the local Ampthill or Kimmeridge Clay sources, accounted for 12% of the pottery (9% shell; 2% shell and sand; 1% shell and burnt flint). The remaining 13% was shared amongst the 'minor fabric' groups with grog (<1%), quartz sand (2%), quartz/quartzite (2%), or a combination of grog and flint (3%), flint and chalk (<1%), and flint, quartz/quartzite and grog (5%).

Burnt Flint Fabrics
F1: Moderate–common medium and coarse burnt flint (mainly 2–4mm in size). The clay matrix can also contain rare, sparse or moderate sand, and some sherds possibly contain glauconitic inclusions
F2: Sparse medium and coarse burnt flint (mainly 2–4mm size); clay matrix as in F1
F3: Moderate–common medium burnt flint (mainly 1–2mm in size); clay matrix as in F1
F4: Sparse medium burnt flint (mainly 1–2mm size); clay matrix as in F1
F5: Moderate–common fine burnt flint (<1.5mm); clay matrix as in F1
F6: Rare–sparse fine burnt flint (<1.5mm); clay matrix as in F1
F: Generic category for sherds with burnt flint inclusions too small to assign to a numbered fabric group

Burnt Flint and Chalk Fabrics
FCH1: Sparse–moderate medium flint (mainly 1–2mm) and sparse medium and coarse chalk (1–3mm)

Burnt Flint, Quartz/Quartzite and Grog Fabrics
FQIG1: Sparse–moderate fine burnt flint, quartz/quartzite and grog (<1.5mm) in a slightly sandy clay matrix

Grog Fabrics
G1: Sparse–common medium to coarse grog (1–3mm) in a slightly sandy clay matrix

Grog and Burnt Flint Fabrics
GF1: Sparse–moderate medium to coarse grog (1–3mm) and sparse to moderate medium and/or coarse flint (1–4mm) in a slightly sandy clay matrix
GF2: Moderate–common fine grog (<1.5mm) and sparse to moderate medium flint (1–2mm) in a slightly sandy clay matrix

Quartz Sand Fabrics
Q1: Sparse quartz sand
Q2: Moderate–common quartz sand; some quite abrasive. The clay matrix may contain rare mica
Q3: Moderate quartz sand and sparse linear voids from burnt out vegetable matter

Quartz/Quartzite Fabrics
QI1: Moderate–common medium and coarse quartz/quartzite (mainly 2–4mm in size). The clay matrix can also contain sparse or moderate sand, and sparse mica flecking
QI2: Moderate–common medium quartz/quartzite (mainly 1–2mm in size); clay matrix as in QI1
QI3: Sparse–moderate medium and coarse quartz/quartzite (mainly 2–4mm in size); clay matrix as in QI1

Shell Fabrics
S1: Moderate–common medium to coarse shell (mainly 2–4mm)
S2: Spare–common medium shell (mainly 1–2mm)
S3: Spare–common fine shell (<1.5mm)
S: Generic category for sherds with shell inclusions too small to assign to a numbered fabric group

Shell and Quartz Sand Fabrics
SQ1: Moderate–common medium and coarse shell (mainly 2–4mm) in a fine sandy clay matrix
SQ2: Sparse–common fine and medium shell (<2mm) in a fine sandy clay matrix

Shell and Burnt Flint Fabrics
SF1: Sparse–common medium to coarse shell (mainly 2–4mm) and sparse medium to coarse flint (mainly 2–4mm)
SF2: Moderate–common fine shell (<1.5mm) and sparse medium to coarse flint (mainly 2–4mm)
SF3: Sparse–moderate fine shell (<1.5mm) and sparse medium flint (mainly 1–2mm)

Based on the total number of different rims and bases identified, the assemblage represents a minimum of 327 vessels, with an Estimated Vessel Equivalent (EVE) of 22.8 (222 different rims, 102 different bases and three complete vessel profiles). As regards vessel forms, the assemblage was composed of a range of jars, bowls and cups types typical of Late Bronze Age ceramic groups from across southern Britain (Barrett 1980). In total, 68 vessels were sufficiently intact to allow ascription to form (Table 4). This included 268 sherds (6274g), representing 6% of the assemblage by sherd count, or 15% by weight. Un-burnished coarseware jars (Fig. 12, Class I) dominated, notably weakly shouldered vessels (Form G), and ellipsoid or barrel-shaped jars with everted, upright, slightly in-turned or 'hooked' rims (Forms B & C). These were accompanied by a variety of jars with high rounded shoulders and short upright rims (Form F); jars with marked shoulders and hollowed necks (Form H), and a handful of vessels with bipartite and tub-shaped profiles (Forms D & E). The jars occurred in three sizes: small vessels with rims diameters of 12–17cm; medium vessels measuring 18–27cm, and large to very large vessels measuring 30–37cm (Fig. 13). Carbonised residues were only identified on small and medium-sized jars, suggests these vessels primarily served as cooking pots (residues were recorded on a total of 206 sherds; 4143g). The two burnished fineware jars (Class II, Forms A & G) in the assemblage were possibly serving vessels, and also fell into the small- and medium-size range category.

Although only 12 bowls were identified, the three most common types were simple open bowls with a broadly hemispherical profile (Form J); round-bodied bowls with upright or everted rims (Form K), and shouldered bowls with hollowed or concave necks (Form L). There were also two examples of tripartite bowls with short everted, taped rims (Form N). The bowl rim diameters all measured between 12–17cm: the un-burnished coarseware varieties (Class III, Forms K, J, L) ranging between 12–15cm; the burnished finewares (Class IV, Forms J–N) between 14–17cm. The seven identified cups in the assemblage ranged from simple open vessels with straight flared walls, through to cups with bulbous bodies and everted rims; all were from 7–10cm in diameter.

The scarcity of form-assigned fineware from Striplands reflects the general paucity of burnished sherds amongst the assemblage overall. In total, just 221 sherds retained traces

Fabric	No./wt. (g) sherds	% of fabric	No./wt. (g) burnished	% fabric burnished (by wt.)	MNV	MNV burnished
F	239/363	0.9	1/6	1.7	11	1
F1	2225/25751	62.7	9/69	0.3	157	2
F2	169/1704	4.1	-/-	-	18	-
F3	163/1140	2.8	49/480	42.1	27	12
F4	107/700	1.7	13/81	11.6	10	1
F5	123/635	1.5	82/413	65.0	15	9
F6	79/483	1.2	27/101	20.9	15	7
FCH1	8/301	0.7	-/-	-	1	-
FQIG1	148/2060	5.0	-/-	-	2	-
G1	29/160	0.4	-/-	-	4	-
GF1	53/785	1.9	-/-	-	10	-
GF2	63/598	1.5	2/21	3.5	1	-
Q1	57/191	0.5	9/23	12.0	7	2
Q2	51/383	0.9	17/141	36.8	4	1
Q3	15/152	0.4	2/14	9.2	5	-
QI1	77/869	2.1	1/5	0.6	6	1
QI2	16/122	0.3	-/-	-	1	-
S	47/67	0.2	-/-	-	-	-
S1	287/2714	6.6	1/20	0.7	9	-
S2	93/599	1.5	½	0.3	12	-
S3	11/105	0.3	4/25	23.8	1	1
SF1	14/166	0.4	-/-	-	1	-
SF2	14/168	0.4	-/-	-	1	-
SF3	16/256	0.6	-/-	-	2	-
SQ1	31/278	0.7	-/-	-	2	-
SQ2	18/329	0.8	3/193	58.6	5	2
Total	**4153/41079**	**100.1**	**221/1594**	**3.9**	**327**	**39**

Table 3. *Fabric frequency and the relationship to burnishing and vessel counts (MNV = minimum number of vessels, calculated as the total number of different rims and bases).*

Form	Brief description	No. Vessel	No. Burnished	Rim diam. (cm)
A	Jar, round shoulder, constricted neck	1	1	16
B	Jar, ellipsoid, upright or in-turned/hooked rim	11	-	17-20
C	Jar, ovoid or barrel-shaped, upright or everted rim	3	-	20-34
D	Jar, tub-shaped, weakly defined neck	2	-	?
E	Jar, bipartite	2	-	25
F	Jar, high rounded shoulder	7	-	12-32
G	Jar, weakly shouldered, upright or hollowed neck	18	1	12-30
H	Jar, marked shoulder, hollowed or concave neck	5	-	18-36
J	Bowl, open, broadly hemispherical	4	2	14-17
K	Bowl, round-bodied	3	2	12-16
L	Bowl, shouldered, hollowed or concave neck	3	2	14
N	Bowl, tripartite, angular shoulder, short everted rim	2	2	14
Q	Cup, flared walls	1	-	10
R	Cup, hemispherical	1	1	?
S	Cup, ellipsoid	2	-	7-10
T	Cup, round or bulbous body, everted or upright m	2	1	7
X	Cup, tripartite	1	-	10
Total	**-**	**68**	**12**	**-**

Table 4. *Quantification of vessel forms.*

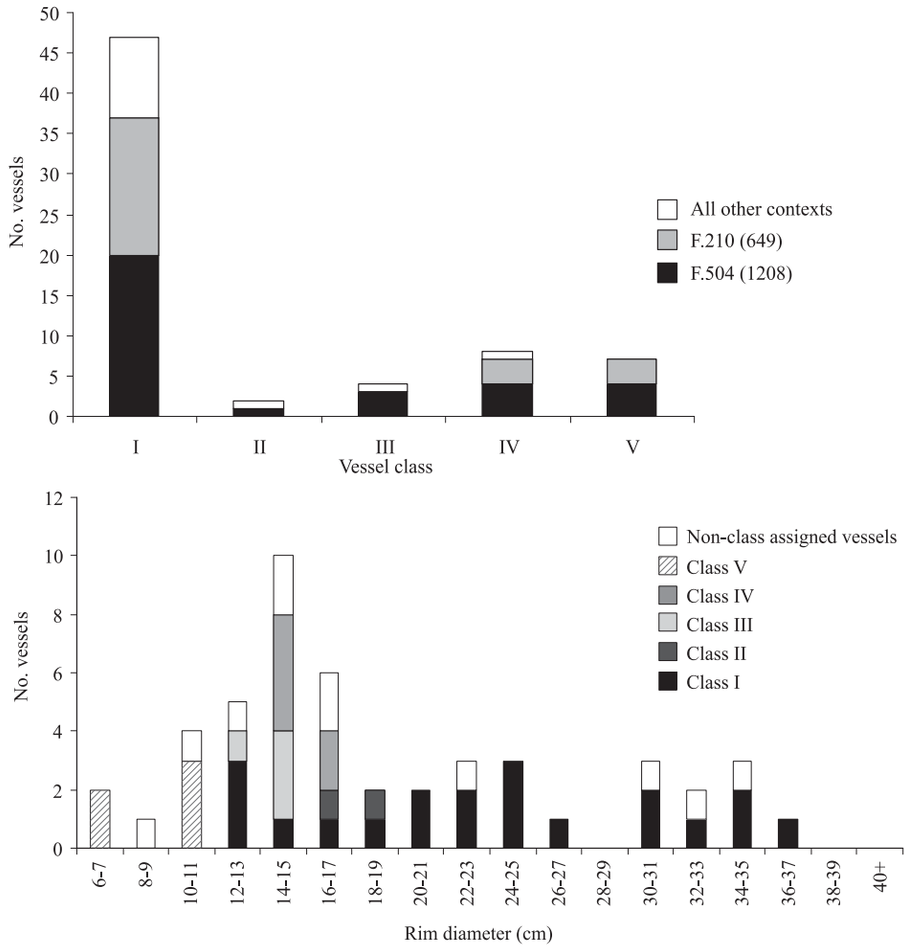
of the burnishing, representing 5.3% of the assemblage by sherd count or 3.9% by weight. Whilst these figures were initially thought to be unusual, patterns now emerging from Cambridgeshire and other parts of East Anglia suggest that coarseware dominated assemblages are the norm in this region (Brudenell 2008, 38). The burnished finewares are, therefore, likely to constitute a specialised tableware, used, broken and discarded much more infrequently than their coarseware counterparts. Given the time and skill needed to produce these thin-walled finewares, it is even tenable that some acquired a status beyond that of mere serving/eating receptacles, and were perhaps used and deposited in a more restricted range of social contexts. Certainly, the fineware bowl seems the most likely candidate as a 'status' ceramic in the Late Bronze Age, becoming increasingly standardised in form and decoration in the period after 800 BC, leading to the emergence of regionalised ceramic styles-zones (Cunliffe 1974).

Decoration was present on 75 sherds (822g), representing a maximum of 41 vessels. Leaving aside an elaborately ornamented cup, decorated with geometric tooling on the exterior, and two incised horizontal lines on the interior rim-edge (Fig. 15.20), applications to the un-burnished coarseware were primarily confined to a single row of fingertip or tool marks made along the rim-top, neck, or more rarely, the shoulder. Overall, 20 of the 196 different coarseware rims in the assemblage displayed some form of ornamentation, representing 10%. Such low frequencies are characteristic of PDR Plainware assemblages, and are matched by figures from other contemporary groups in Cambridgeshire (Brudenell 2008, 38). Three plain and decorated cordons were also recovered from the excavations, all applied to vessel shoulders (Fig. 14.12). The only pots to display multiple rows of decoration were two jars: one with a tooled rim-exterior and linear stab-marks on the neck (Fig. 14.4); the other with a tooled rim-top and fingertip impressed neck surrounded by crudely incised lines, seemingly executed with a stick (Fig. 15.19). Intriguingly, both also had pre-firing perforations along this zone; only some of which penetrated right the way through the vessel wall. It is debateable whether this constitutes decoration; the holes could, otherwise, serve as a means of hanging the vessels, or attaching fabric or leather lids. Similar pre-firing perforations were also identified on two other vessel necks (Figs. 14.25 & 15.21), and a combined total of 13 sherds (172g, not included in the decoration total above). Only three burnished fineware sherds were ornamented (14g). Two refitted and retained traces of two lightly incised horizontal lines (Fig. 14.21). The other sherd belonged to a rim of a cup or bowl, and was ornamented with shallow furrowing on the neck (Fig. 15.26) – a treatment similar to that present on the published vessel from Maidscroft, Suffolk (Needham 1995).

Deposition and Midden Contexts

Pottery was recovered from 125 contexts relating to 93 features (Table 5), including pits, postholes, wells and 21 later ditches and hollows (85 residual sherds; 388g). The small and medium-sized feature assemblages contained between 1–36 sherds each (median, two sherds), with MSWs ranging from 0.5–27g (5.3g median). Most of these assemblages contained small and relatively abraded sherds; the majority, perhaps, being unintentionally caught in dumps of soil during feature infilling. In this instance, the only assemblages worthy of more detailed comment are the six large-sized feature deposits from pits F.63 and F.161, and pit-wells F.11, F.13, F.210 and F.504.

The assemblages from pits F.63 (117 sherds; 2290g) and F.161 (43 sherds; 537g) owe their size to the inclusion of substantial fragments of two broken, but near-complete, jars. With the exception of five sherds, all the pottery from pit F.161 belonged to a decorated, medium-sized coarseware jar (Form C), which had been partially burnt post-breakage (Fig. 14.5). A collapsed, but near-complete, medium-sized jar had

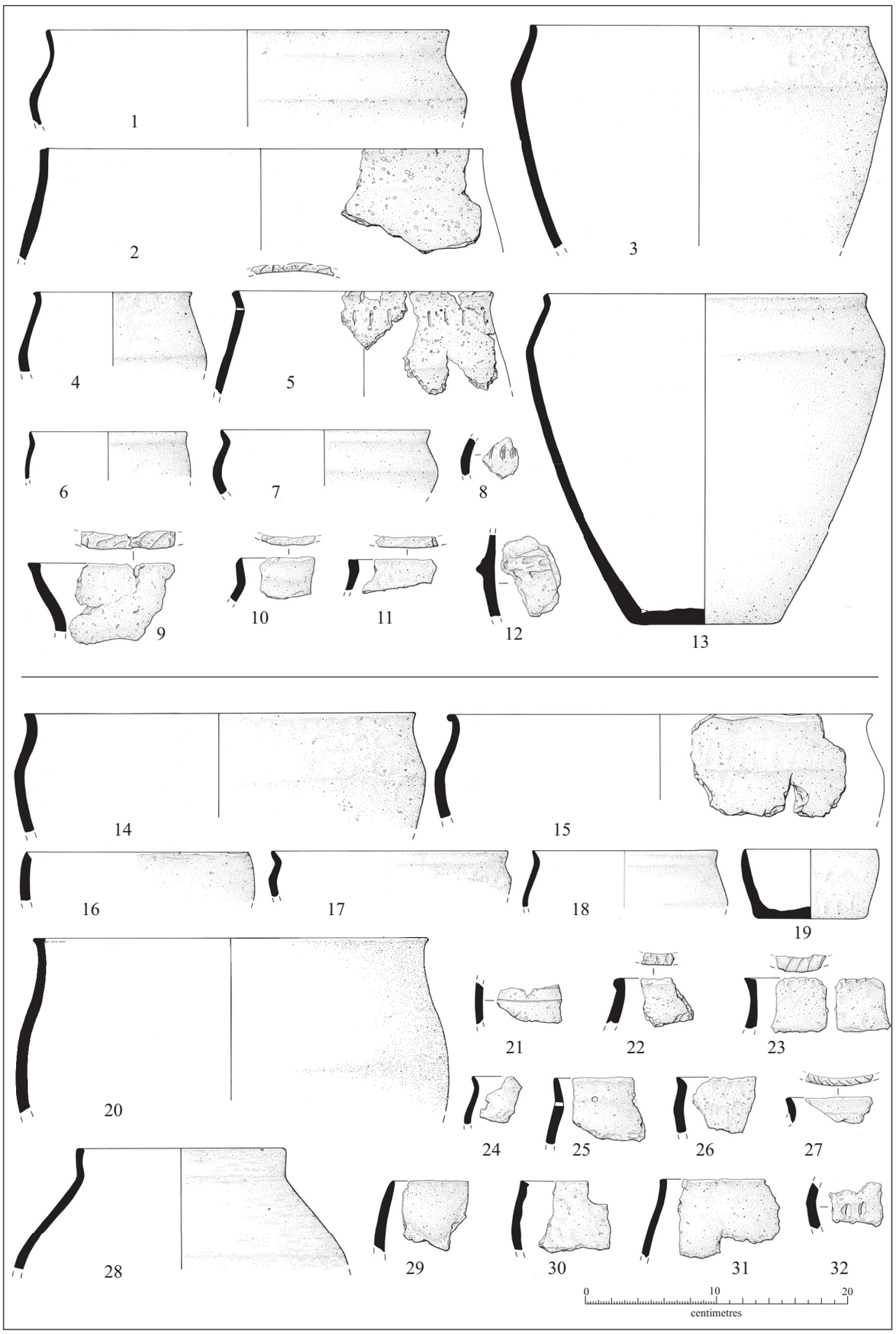


Top, Figure 12. *Vessel Classes (after Barrett 1980): I) coarseware jars; II) burnished fineware jars; III) coarseware bowls; IV) burnished fineware bowls; V) cups.*

Below, Figure 13. *Diameter of all measurable vessel rims (48 by vessel count).*

Right, Figure 14. *Late Bronze Age Pottery (I): Miscellaneous Features (1–13) and F.210 ([649]; 14–32).*

1) F.5 ([19]), Form F, Class I, Fabric F1, burnt;
2) F.11 ([32]) Form C, Class I, Fabric F1, burnt;
3) F.63 ([191]), Form F, Class I, Fabric F1;
4) F.211 ([650]), Form F, Class I, Fabric F1;
5) F.161 ([488]), Form C, Class I, Fabric F1, burnt, tooled rim-exterior, tool stabbed neck, and pre-firing neck perforations; 6) F.13 ([35]), Form K, Class III (surface lost ?), Fabric F3;
7) F.211 (surface) Form K, Class IV, Fabric F3;
8) F.299 ([689]), Fabric F1, tool impressed shoulder;
9) F.507 ([1215]), Fabric SQ1, finger-tipped rim-top;
10) F.210 ([890]), Fabric F1, weakly cabled rim-top;
11) F.211 (surface), Fabric F1, weakly cabled rim-top;
12) F.517 ([1253]), Fabric F1, cabled shoulder cordon;
13) F.63 ([191]), Form F, Class I, Fabric F1;
14) Form H, Class I, Fabric F1;
15) Form H, Class I, Fabric F1;
16) Form B, Class I, Fabric F2;
17) Form H, Class I, Fabric F1;
18) Form N, Class IV, Fabric Q2;
19) Form Q, Class V, Fabric S1;
20) Form G, Class I, Fabric FQIG1;
21) Fabric F3, burnished, two incised horizontal lines;
22) Fabric F1, finger-tipped rim-top;
23) Fabric F1, tool impressed rim-top;
24) Form L, Class IV, Fabric F5;
25) Fabric F1, pre-firing neck perforations;
26) Form G, Class I, Fabric F1;
27) Fabric S1, fingernail impressions on rim-top;
28) Form A, Class II, Fabric SQ2;
29) Form B, Class I, Fabric S1;
30) Form B, Class I, Fabric F1;
31) Form B, Class I, Fabric F1;
32) Fabric F1, finger-tipped shoulder.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also been placed in the upper fill of pit F.63 ([191]), alongside a loomweight and saddle quern fragment (Fig. 14.13). The coarseware jar had a round shoulder and short upright rim (Form F), and was accompanied by fragments of a second near-identical vessel (Fig. 14.3), mixed amongst smaller sherds from a least of five other pots. Compared to these 'structured' deposits, the large pottery groups from pit-wells F.11 and F.13 were more variable in character, and contained ceramic compositions that are arguably more typical of the Late Bronze Age (Brudenell & Cooper 2008). The pottery from F.13 was all recovered from the capping fills, and included fragments of at least seven different vessels; one the partial profile of a round-bodied bowl with everted rim (Form K; Fig. 14.6). This material was stratified at least 0.50m above the context yielding a radiocarbon determination of 1120–910 cal. BC (2850±40 BP; Beta-280343). The pottery from F.13 was also recovered from the upper profile of the well, and was in broadly the same condition at that of F.11. The assemblage included fragments of at least 13 different vessels, and had a rim sherd belonging to a burnt coarseware jar deposited in pit F.5 (Fig. 14.1).

Deposit size	Weight range	No. of features	% of features
Small	0-100g	79	85
Medium	101-250g	7	8
	251-500g	1	1
Large	501-1000g	2	2
	1000g+	4	4
Total	**-**	**93**	**100**

Table 5. *Pottery deposit size and frequency.*

Without question, the two most important assemblages derived from pit-wells F.210 (1050 sherds; 11888g) and F.504 (2042 sherds; 20999g). Before considering the substantial ceramic dumps in the top of these features, it is worth stressing just how little pottery was recovered from the rest of their fills: three sherds (197g) from F.210 ([1061] & [1063]); 13 sherds (113g) from F.504 ([1255], [1256] & [1265]). The largest of the midden-heap assemblages derived from [1208] in F.504, and had 2389 sherds (20886g) with a MSW of 8.7g (Fig. 16). Based on the total number of different rims and bases identified in this deposit, the assemblage is estimated to include a minimum of 175 vessels (EVE: 11.0). By comparison, the excavation of midden-heap deposit [649] in F.210 yielded 1047 sherds (11691g), with a slightly higher MSW of 11.2g (Figs. 14.12–32). This contained fragments of 87 different vessels (EVE: 4.7). A programme of refitting suggested vessel fragments could be widely dispersed across the deposits (107 refits in [649]; 249 in [1208]). In most instances joining and non-adjoining sherds from the same vessel were either identified within individual excavated 1m squares, or between adjacent squares. On occasion, however, larger distances were recorded, suggesting that ceramic material was mixed within the deposit, and that vessels were not simply broken, gathered up, and then dumped in a particular location in the hollow. In other words, vessel fragments probably had complex post-breakage histories, with varying periods of delay between breakage and final discard.

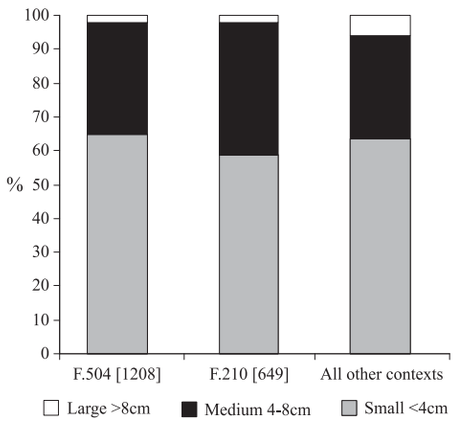

Figure 16. *Sherd-size percentages from midden and non-midden contexts.*

On the whole, the character, condition, and composition of the two midden assemblages were remarkably similar, particular in regards vessel-class representation (Fig. 12), decoration and frequency of burnishing. Sherd-size analysis also demonstrated that the degree of fragmentation was

Left, Figure 15. *Late Bronze Age Pottery (II): F.504 ([1208]*
1) Fabric SQ1, finger-tipped shoulder;
2) Fabric SQ1, finger-tipped shoulder;
3) Fabric SQ1, finger-tipped shoulder;
4) Fabric S1, tool impressed rim-top;
5) Form G, Class I, Fabric F1;
6) Form H, Class I, Fabric F1, weakly cabled rim-top;
7) Fabric SQ2, finger-tipped neck;
8) Form J, Class IV, Fabric F5;
9) Form G, Class I, Fabric F1, finger-tipped shoulder;
10) Form E, Class I, Fabric F4;
11) Form J, Class III, Fabric Q2;
12) Fabric F1, finger-tipped rim-top;
13) Form G, Class I, Fabric F1;
14) Form S, Class V, Fabric F4;
15) Form E, Class I, Fabric F1;
16) Form N, Class IV, Fabric F5;
17) Form J, Class III, Fabric F1;
18) Form G, Class II, Fabric F4;
19) Fabric F1, tool impressed rim-top, finger-tipped neck with crudely incised lines and pre-firing neck perforations;
20) Form X, Class V, Fabric F6, two incised horizontal line on rim-interior, and incised geometric decoration on exterior body;
21) Fabric F1, (form uncertain), pre-firing neck perforations;
22) Form B, Class I, Fabric F1;
23) Form S, Class V, Fabric F1;
24) Form H. Class I, Fabric F6;
25) Form T, Class V, Fabric F5;
26) Fabric F6, burnished, furrowed neck;
27) Form H, Class I, Fabric F1;
28) Form G, Class I, Fabric F3;
29) Form G, Class I, Fabric 1;
30) Form F, Class I, Fabric F1;
31) Form L, Class IV, Fabric F3;
32) Form L, Class III, Fabric GF1;
33) Form F, Class I, Fabric GF1.

comparable (Fig. 16), even through [649] did have a slightly higher frequency of medium sized-sherds (which probably accounts for the greater MSW). More importantly, the overall composition of these two groups mirrors that from the non-midden contexts, suggesting that the character of the midden assemblage is only exceptional because of its size, not its content. Put another way, we might claim that the character of pit and posthole pottery groups are broadly representative of the composition of surface deposits not normally encountered on plough-truncated settlement sites. Thus, no matter what the gross 'loss' of ceramic material from surface deposits is, we can be reasonably confident that pottery surviving in cut features is a representative sample; albeit a minor one.

The date of the midden-heap pottery is confirmed by two radiocarbon determinations: one from a charred seed from [649] (910–790 cal. BC/2680±40 BP; Beta-280345:); the other from food residue adhering to a coarseware sherd from [1208] (1190–1140 and 1140–920 cal. BC/2870±40 BP; Beta-286572). This accords well with our current understanding of the typological development of PDR Plainwares in Cambridgeshire. Given the range of vessel forms identified at Striplands Farm, coupled with the presence of one or two angular bowls, and the limited occurrence of incised fineware decoration, a date in the 9th century BC would seem most appropriate for this group; the earlier, Beta-286572 assay being, for whatever reason, a shade too early.

When the Late Bronze Age pottery from Stonea was published in the mid 1990s (Needham 1996), few other significant PDR Plainware groups had been recovered from Cambridgeshire. With a spate of large-scale excavations conducted in the intervening years, the county now boasts an impressive catalogue of well-recorded and fully quantified Late Bronze Age assemblages, each contributing to a much more refined understanding of the *regional* character of this ceramic tradition. Whilst some questions of chronology remain to be resolved at a broader scale, the substantial and well-dated group from Striplands now provides a much-needed benchmark with which to compare other contemporary assemblages. The two key groups are those deriving from the midden deposits of F.210 and F.504, whose radiocarbon dates place the pottery towards the end of the Late Bronze Age.

Issues of chronology aside, it is also appropriate to address what the quantities of pottery at Striplands might indicate. Whilst the overall size of the assemblage is undoubtedly a direct result of localised 'midden-heap' survivals in pit-wells F.210 and F.504, we are still faced with an interpretative challenge when it comes to deciding what the presence of 327 different vessels means in regards to the scale and duration of occupation. To put this figure into some perspective, 'pristine' and potentially singe-phase settlement sites such as Toll House, Broom, Beds. (Cooper & Edmonds 2007, 106–14), and the Lofts Farm, Essex (Brown 1988) yielded fragments of just 52 and 63 different vessels respectively. Though these figures seem remarkably low when set against the Striplands totals, it is, perhaps, more telling that the site's non-midden vessel count was 69; a figure directly comparable to the aforementioned settlements, as well at totals gleaned from three of Cambridgeshire's other major Late Bronze Age assemblages (Addenbrooke's Hutchison Site, 58 vessels; the Fordham Bypass Site, 20 vessels; Stonea, 117 vessels [Brudenell 2008, 37 and in prep.]). Thus, whilst it is tempting to postulate that Striplands attracted a scale of occupation beyond the presence of one or two households, the non-midden totals are wholly typical of figures from the region's other plough-truncated open settlements.

Before, however, discounting the broader relevance of these deposits and their unusually high vessel count totals, we need to appreciate that the two midden assemblages were not simply composed of the material otherwise 'missing' from other contexts on the site. Indeed, despite an intensive programme of rim refitting, only one cross-feature link was identified with a midden context. Moreover, it was not even possible to establish any direct material connection between the two midden deposits themselves, suggesting the accumulations were either generated from different contemporary households, or were otherwise formed at slightly different times (certainly there is no indication that they both derived from a 'greater' common source). Whilst several scenarios can be undoubtedly be modelled with the available data, our difficulties in identifying material connections with deposits *outside* of these dumps, perhaps suggests that the practices responsible for the midden accumulation operated in ways that were subtly different to those generating other ceramic deposits around the settlement.

The Wood Assemblage
Maisie Taylor

The pit-wells produced an important and diverse preserved wood assemblage, which included 17 distinct 'artefacts' as such.

F.13: Aside from the possible bark box describe below (and additional bark fragments), this had 16 pieces of wood, 14 of which are roundwood, varying in diameter from to 23–50mm, plus one larger piece (140mm diam.; WD34). All of them have one or more characteristics of coppice: long straight stems, the curve at the bottom of the stem towards the heel or at the heel itself. All are trimmed and there are toolmarks on one piece (30:6; see below).[5] There were two stakes in the same feature that were set vertically, securing a horizontal. Both are trimmed roundwood of a similar type to the rest, but at the thicker end of the range; one has a toolmark (35:6).

> **WD40** (Figs. 6 & 17): Bark, one piece with a curved edge and a second piece with a straight edge. The two edges have very small holes and slight corrugations. It is possible that this is evidence for sewing and that the pieces were originally part of a bark box. Unfortunately, the bark is so frail that it is impossible to be sure. The curved piece is 220 x 150mm.

F.71–3: Feature 71 had a wide range of material, with 22 recorded pieces, plus various twigs and possible roots. There are two partial socketed axe hafts, and two pieces of debris. One of the latter is probably the tip of a radially split stake, whilst the other is detritus from working an ash pole (22mm

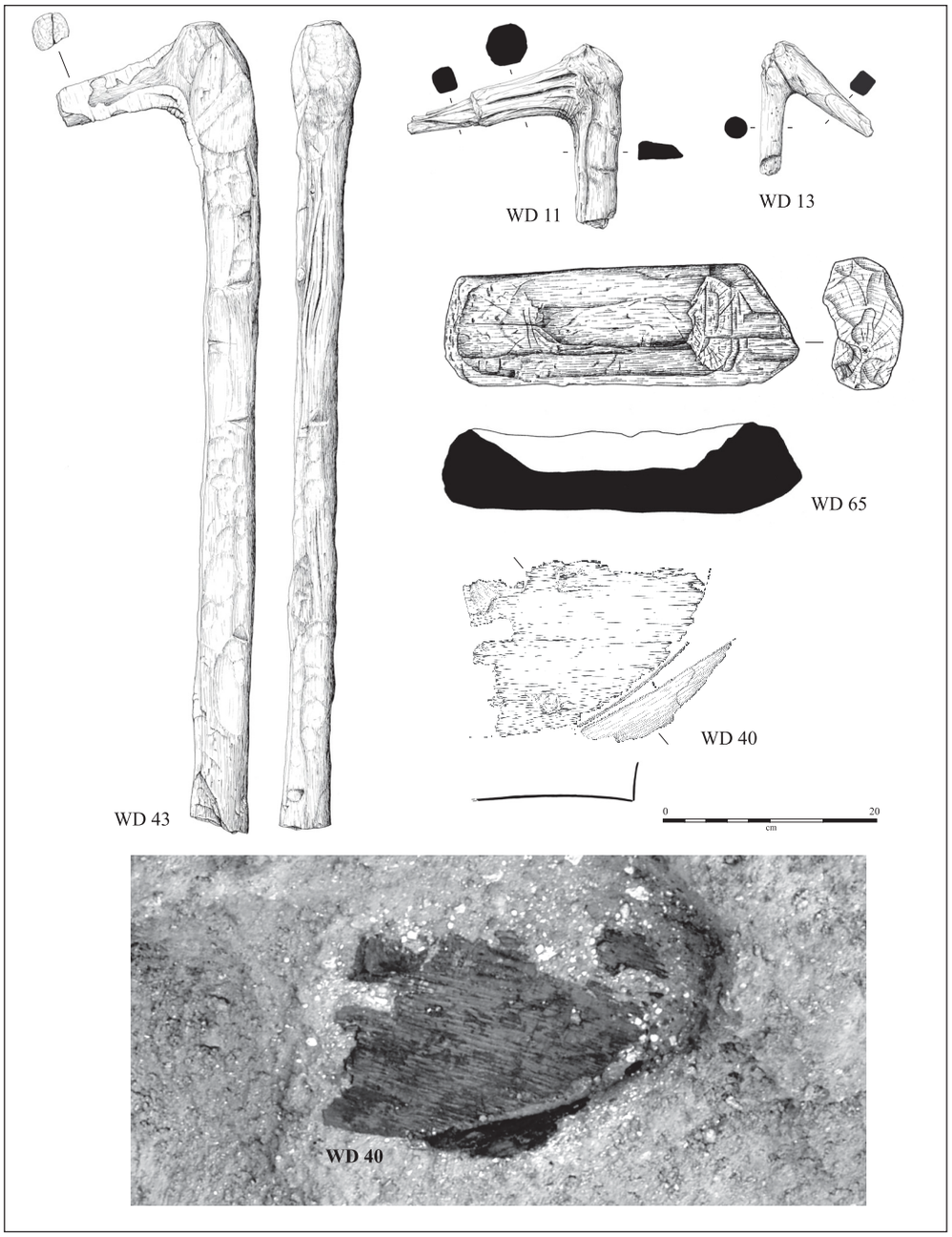

Figure 17. *Worked Wood and Bark Artefacts/Implements.*

diam.). The remaining pieces, which vary in diameter from 20–45mm, are roundwood; almost all are trimmed and nearly all appear to come from coppices, except one piece that looks more like it may have derived from a hedge. There are two toolmarks, both on trimmed roundwood: 30:4 and 34:3.

The F.72 recut yielded some small roundwood and debris, with two worked pieces: a miniature log ladder and a natural oak fork that has been trimmed on the prongs leaving a toolmark (38:4). Finally, F.73 produced a fragmentary withy and one piece of roundwood, which is trimmed at one end from all directions; a toolmark on this end measures 27:2.

WD11; F.71 (Fig. 17): Part of a one-piece axe haft, shaped from a half-split log that was originally 85–90mm diameter. The foreshaft is a natural side branch. The surface of the foreshaft is slightly fluted from the shaping and is rebated to receive the axe. The surviving length of the haft is 127mm and that of the foreshaft, 200mm.

WD13; F.71 (Fig. 17): Possibly part of an unfinished socketed axe haft, formed from the junction of two branches. The diameter of the haft is 20mm and the foreshaft is 24mm. It is neatly shaped and rounded on the 'elbow', but the roundwood of the haft and foreshaft is unmodified. It is unfinished, with the end of the foreshaft trimmed squarish from four directions. Very small, slightly flimsy, and shaped from unmodified roundwood, there is some

doubt about whether or not it really is an axe haft. The overall surviving length is 120mm, and the length of the foreshaft is 115mm.

WD31; F.72 (Figs. 18 & 19): Small roundwood log ladder with one step that has surviving toolmarks: 34:3; one end is trimmed from two directions. The surviving length is 800mm and the log is 100mm diameter.

WD2; F.73: Fragmentary piece of a twisted single stem. Heavily twisting a plant stem, especially of willow, will result in a flexible 'withy' – a primitive form of readily available rope.

F.210: This largely produced roundwood, including the three log ladders and a forked 'lift'. Of the remainder, one piece is split roundwood that has been modified square with a mortice at one end. The original diameter was 150+mm. with a mortice. The remainder is roundwood and almost all is coppiced (one piece is pollarded) and trimmed. There is a fork (with a toolmark, 36:3), and a large quantity of coppiced and trimmed roundwood (25–100mm diam.) with a variety of toolmarks: 36:3, 35:7, 28:3 and 45:4.

WD53 (Fig. 19): Log ladder, roundwood, with one step. Toolmarks on the step measure 32:6; the top, which is forked, is very worn and the bottom end is trimmed from one direction. It is 630mm long, and its irregular diameter measures 150/110mm.

WD54 (Figs. 18 & 19): Log ladder, roundwood, with three steps. The bottom end of the log is trimmed from two directions in the classic 'felled tree' shape. The middle step has toolmarks measuring 35:4, but the tree itself was felled with an axe measuring 32:4. The ladder is 1560mm long and 160mm diameter.

WD56 (Fig. 19): Forked 'lift' and/or possible log ladder, made from forked roundwood. The fork had been shaped by removing wood from one side to make the base of the fork square, almost like an open-faced mortice. While this may have functioned as a raised 'step' (i.e. ladder), it could equally have housed a horizontal element and possibly even acted as a pivot. The bottom end of the timber is trimmed from three directions; in its entirety, the piece is 1355mm long and 85mm diameter.

WD63 (Fig. 19): Log ladder, made from roundwood with side branches trimmed off. One step survives and the bottom end had been trimmed from three directions with an axe measuring 40:4. The surviving length is 760mm and the diameter 135mm.

F.370: In addition to an unfinished socketed axe haft and a log ladder, this yielded debris from working roundwood and three pieces of trimmed roundwood. The debris includes a fragment of a half-split pole (50mm diam.) with a toolmark (37:4), plus a radially split and trimmed 'off-cut' of very slow grown ash. Although slow-grown, the tree was not ancient and probably had a diameter of only around 200mm when it was felled. The remaining material consists of three pieces of trimmed roundwood, one of which is ash and another had a toolmark (40:4).

WD43 (Fig. 17): Part of unfinished socketed axe haft made of oak. The haft is formed from a half-split log which was originally 80–90mm diameter; the foreshaft is an unmodified side-branch, approximately 40mm diameter. As a whole the piece is well finished, with no toolmarks. The haft length is 420mm and the foreshaft, 120mm.

WD50 (Figs. 18 & 19): Log ladder, made from roundwood with one step (possibly broken on second step.) The bottom end of the log is trimmed from three directions with toolmarks measuring 32:4. The log shows the slight curve of a coppice stem and the trimming is done in such a way as to compensate for the curve. The length is 1140mm and, the diameter, 170mm.

F 504/526: Feature 504 itself had only one artefact, the rough-out for a small trough. There is slightly more debris here than in most of the other features, with a radially split piece of timber debris derived from a stem 140mm diameter, another piece, this time of ash derived from an even smaller tree, plus a couple of 'hacked lumps'. This leaves the roundwood (five pieces, plus some badly crushed fragments), which is all derived from coppice (25–*c.* 60mm diam.); most are trimmed and one piece is another natural fork with trimmed prongs.

In addition to a log ladder and a small woodchip, F.525 had some fragments of reasonably thick bark (15mm) and three pieces of roundwood (55–70mm diam.). One of the latter, is coppiced oak and, of the others, one is coppiced and trimmed and the other is probably coppiced.

The main F.526 recut included four log ladders, some chunky fragments of bark, roundwood and a tangential woodchip; whereas F.530 produced some very thin bark and several pieces of fairly large, trimmed roundwood, two with rough mortices (WD77 & WD78; Figs. 10 & 18). Other than a smaller piece in bad condition, the roundwood from the latter ranges in size from 95–190mm.

WD65; F.504 (Fig. 17): This rough-out of small trough is shaped from the central part of a small roundwood log that originally had a diameter of a little over 44mm. It is covered with toolmarks, many of them partial: 23:2.5, 15:2, 27:3, 31:6 and it is also partially charred on the inside. Because so many of the toolmarks are partial, it is not possible to be sure that they were all made by different axes. Dimensions: 300 x 90 x 50mm.

WD66; F.525 (Figs. 18 & 19): A miniature log ladder, made from roundwood with two steps and a flat base. The back of the log has also been slightly flattened, presumably to aid stability. It appears to have broken on a third step. Well finished, there are few toolmarks, only one on a step: 35:3. Dimensions: L.1030mm; D.45mm.

WD67; F.526 (Figs. 18 & 19)*:* A roundwood log ladder with a fork at the top and three steps, with many toolmarks. The bottom end is trimmed from two directions against a strong natural curve. The fork at the top may have stabilised the ladder when in use. Dimensions: L.1620mm; D.115/120mm.

WD68; F.526: A fragment of a log ladder, made from roundwood, broken on the first step. Although it is badly crushed and broken, it is clear that the original log was derived from coppice as it is markedly curved. Dimensions: L.270mm; D.65/76mm.

WD74; F.526 (Figs. 18 & 19): A log ladder, made from a small felled tree, with one step. There are toolmarks on the felled end: 48:8. The end of the trunk is cut from two directions in the classic shape of a felled tree, but there are a large number of knots near the base that suggests the trunk may have been derived from a multi-stemmed tree, most likely an overgrown coppice. The single step is 670mm from the base, which is higher than any of the site's other ladder. Dimensions: L.1110mm; D 120/160mm.

WD75; F.526 (Figs. 18 & 19): An apparently complete, possible miniature roundwood log ladder with two

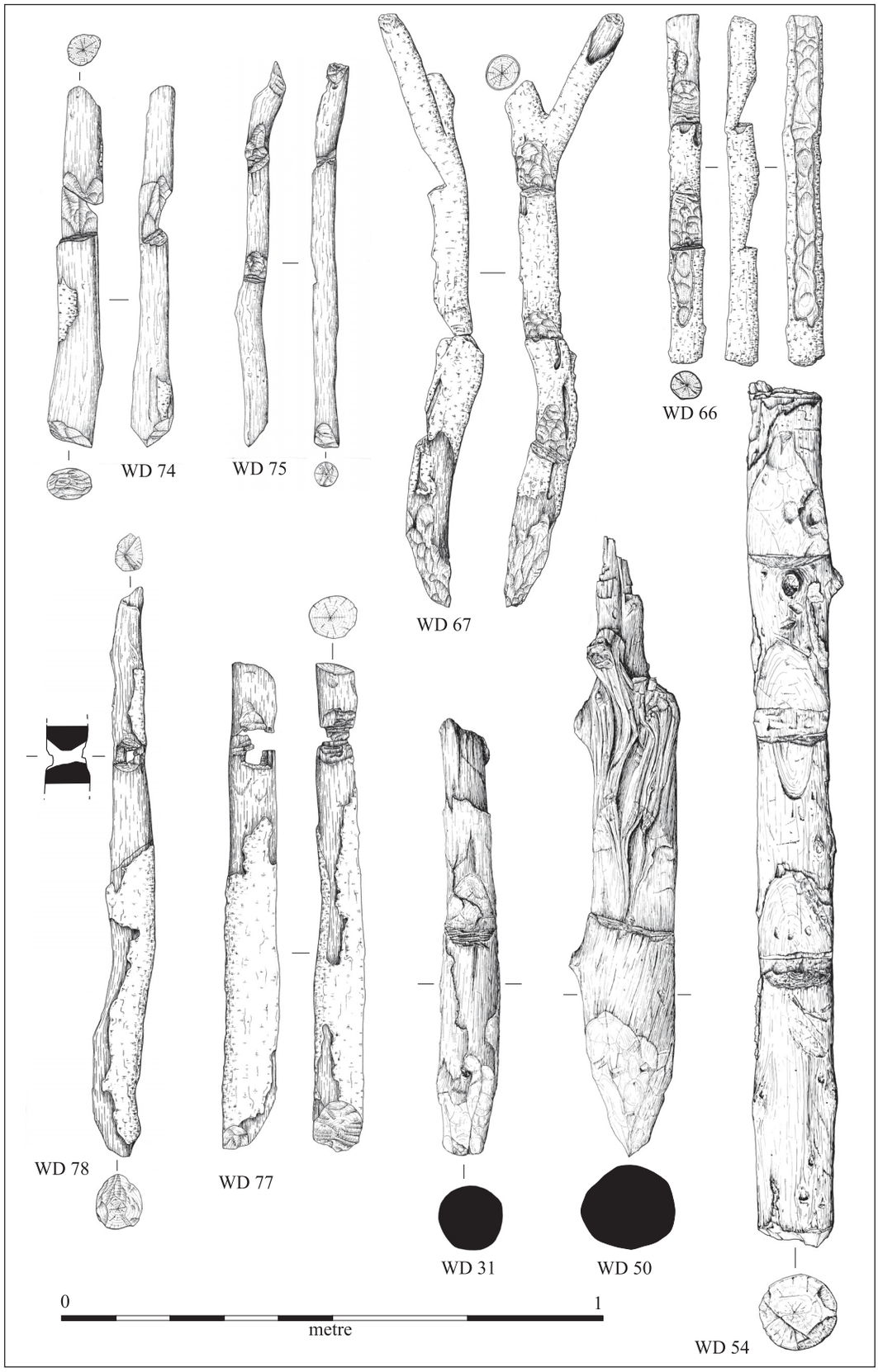

Figure 18. *Worked Wood: Detailed log ladder and mortised timber drawings.*

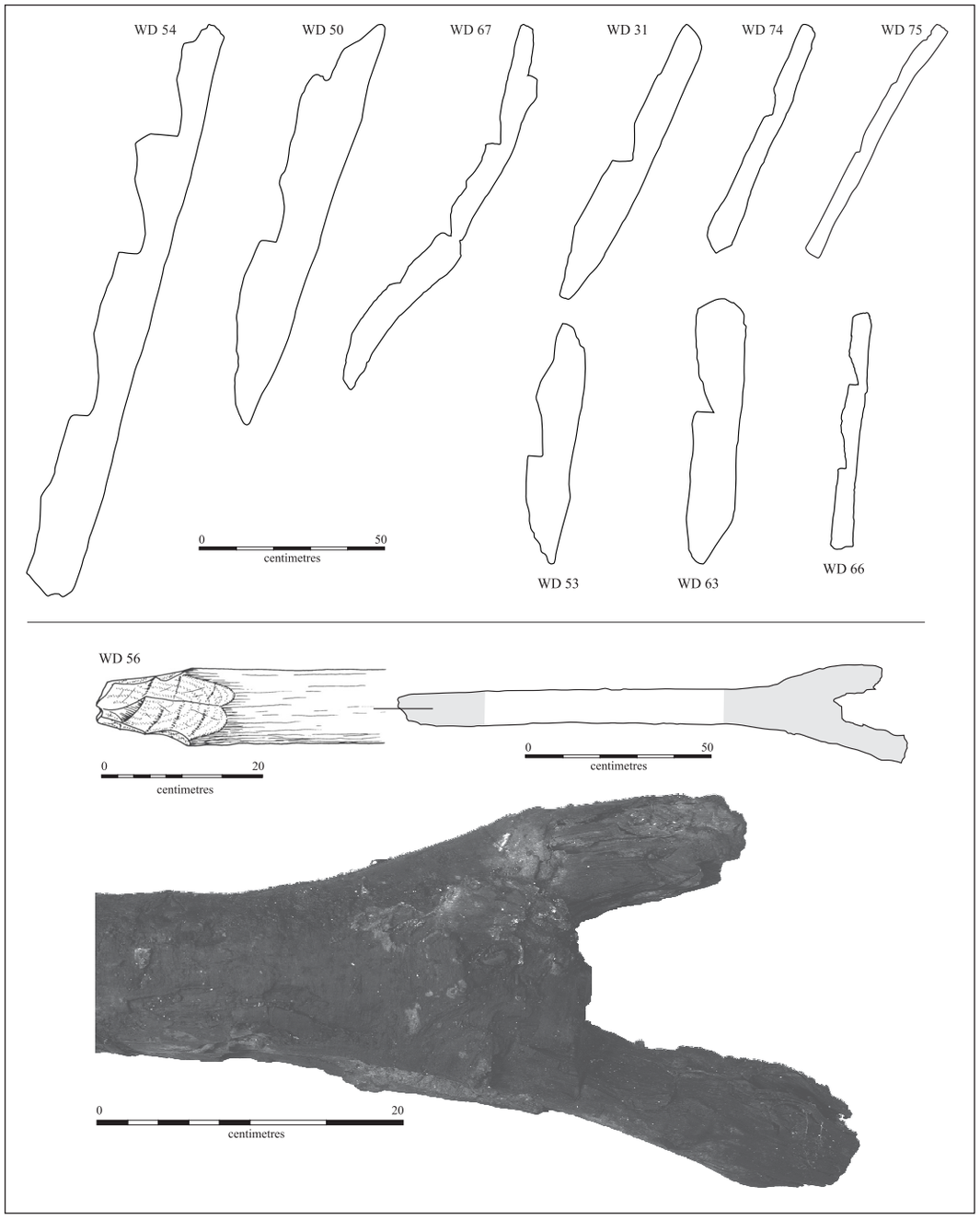

Figure 19. *Worked Wood: top, log ladder profiles angled with their steps set to horizontal; below, the F.210 forked 'lift' (WD56).*

'mini-steps', and both ends trimmed from one direction. There is a slight curve to the trunk, suggesting that it may have been derived from a multi-stemmed tree or overgrown coppice. Dimensions: L.1210mm; D.69/71mm.

Woodland Management/Coppicing

Wood derived from coppicing trees and shrubs often exhibits distinctive characteristics. These include long, straight stems, a slight curve where the stem joins the stool and the actual heel where the stem was detached. Almost all the material from this site possesses one or more of these characteristics. Only one piece was recorded specifically as not being coppiced, WD17 (F.71), a piece of roundwood with side branches. The range of the assemblage's diameters also suggests systematic coppicing. Modern 'traditional' hurdles are made using coppice rods with diameters between 15 and 50mm (Forestry Commission 1956), which is the same range as most of the material here, although there are some larger pieces. Most of the artefacts, including the trough, axe hafts and the majority of the log ladders, are derived from material greater than 76mm diameter. Even the 'timber' from the site (of which there is very little) was taken from trees with

a maximum diameter of only 240mm. The only evidence for larger trees is from F.526: five pieces of corky bark, 15mm thick, which must have been derived from mature specimens.

The coppiced species include oak and ash, as well as the 'usual' species of hazel, alder and willow. As well as the discarded stems (most of which are the right size for wattle), coppice wood was also used for the artefacts – axe hafts and log ladders. Some of the coppice material is relatively short and curved, and obviously represents trimmings, but there are also some quite long pieces that may have been selected as raw material and then discarded. The coppice may be trimmed in various ways depending on size of the stem.

Woodworking and Toolmarks

All the woodworking is very simple technology, but is in keeping with the light-weight material, derived from pollarding, coppicing, roughing out artefacts and ad hoc manufacture of log ladders. There is some simple split wood, mostly half- and quarter-split roundwood with diameters in the region of 150–200mm, but splitting of the kind associated with large timber is absent here. There is some light hewing on a piece of ash wood from F.504 and, again, on a small log ladder from F.525 (WD66); however, here are no woodchips in the assemblage which might have been derived from this kind of activity.

The only evidence for joinery is three rough mortices, two on pieces from F.530 and another from F.210 [1062]; both are half-split ash trunks less than 200mm diameter.

There is a high concentration, and an unusual range, of artefacts from the site, but all are manufactured from coppice products. The one-piece axe hafts here are all unfinished or broken and made from a single piece of a small tree. One from F.71, which is less convincing than the others, is formed from the junction of two branches, so that both the haft and the foreshaft are roundwood. This means that the haft would be very springy to use as well as being very small. The haft from Flag Fen, which is also made with roundwood for the haft and the foreshaft, is much heavier duty (Taylor 2001, 220–22 and fig. 7.57); its handle diameter is 30–36mm as opposed to 20mm here.

The other two axe hafts are more convincing, larger and made in a more functional way. The second haft from F.71, WD11, is complete, but unfinished, and the one from F.370, WD43 is finished and was probably broken in use. They are both made from a half-split log with a side branch. The haft from F.370 is made from a log of oak with a diameter of 80mm, whilst the fragment from F.71 is from a slightly larger log (85–90mm diam.). The surviving length of the haft is 127mm and it appears to have broken in use by splitting along the grain just below the head. The fragment of an axe haft from Flag Fen (Taylor 2010, 88, fig. 4.27), which is virtually identical to the one from F.370, has broken along the grain in the same way as that from F.71. There are not many complete hafts with which to compare, but the palstave haft from Langtoft is constructed in an identical manner (Webley 2004, fig. 3). The haft from F.370 was probably abandoned because a split began to develop in the foreshaft, which is unmodified roundwood.

The similarity of a socketed axe haft to a palstave haft may indicate that it is an early form, but a series of experiments with replica axe hafts in 2004/5 suggested that different hafts may have fulfilled different functions. Different hafts would have made the axes much more versatile. Some modern tools have a universal haft or handle with different heads that snap on and off; the Bronze Age equivalent was a universal head (the socketed axe) with a variety of hafts for different functions.

The bark from F.13 (WD40; Fig. 17) consists of one piece with a curved edge and a second with a straight edge. The two edges have very small holes and slight corrugations. It is possible that this is evidence for sewing and that the pieces were originally part of a bark box. Unfortunately, the bark is so frail that it is impossible to be sure. Boxes made of bark or thin bent wood have been found from the Neolithic onwards and earlier on the Continent. These earliest boxes seem to have been sewn, usually with bast fibres or sometimes very thin split wood. There is an unpublished example from Yarnton, Oxfordshire, a Bronze Age one from Runnymede and Neolithic ones from Lower Horton, especially Vessel 2 (Earwood 1993, 42). The Lower Horton vessels were finer, with thinner bark, and were made of birch (*Betula* sp.) with lime bast (*Tilia* sp.) stitching.

The rough-out of small trough from F.504 (WD65; Fig. 17), was shaped out of the central part of a small roundwood log, which originally had a diameter of a little over 44mm. It was made by chopping across the grain at the ends and, then, prising or gouging out the wood between. It is also partially charred on the inside, which may have been part of a manufacturing process, such as has already been recognised elsewhere (Taylor 1998, 154–55). The trough appears to be of a type that has occurred at Yarnton (unpublished), although this one is considerably smaller.

The log ladders are all basically made in similar ways, with extremely simple woodworking skills. Their roundwood trunks had notches cut as steps, the angle of the steps varying depending on the angle at which the ladder is to be used (Fig. 19). These steps are a good source of toolmarks as the risers are not subject to much wear. Log ladders have become a relatively common find, especially in wells on gravel sites and were obviously the normal way to gain access in these sometimes deep pits. There is, however, no standard design and they come in many shapes and forms. They are obviously made *ad hoc* from available materials; miniature log ladders are not entirely unknown (Nicholson *et al.* forthcoming).

Withies are most frequently found as stitches of sewn boats, and seem to have been made from a variety of species, probably depending on what was available locally (see, e.g. Wright 1990, 64, fig. 4.7). Although rarely found in domestic contexts, withies were almost certainly ubiquitous.

Of the toolmarks recorded, almost all were on roundwood of one form or another. 14 were recorded on simple chopped ends: 27:2, 28:3 (x 2), 30:4, 30:6, 32:2, 34:3, 35:6, 35:7, 37:4, 38:4, 40:4, 45:4 and 48:2. There was also one (55:3) from a felled tree, another from a pollarded tree (35:7) and a third from the trimmed prongs of a natural fork (36:3). A total of nine toolmarks were recorded from the log ladders. All were on the steps, except two (40:4 & 32:4) which wereon the ends; in both cases, the ends were also the felled ends from the original felling of the tree to make the ladders. The six toolmarks measured on the ladders steps are: 32:4, 32:6, 34:3, 35:3, 35:6 and 48:8. The remaining four toolmarks (15:2, 23:2.5, 27:3 & 31:6) are all on the rough-out for a small trough (F.504, [1265]). The range of documented axe widths – 15–55mm – is well within the range for socketed axes recorded at Flag Fen (Taylor 2001, table 7.28).

Thirty toolmarks were measured (Table 6), but some are the same or closely similar (within 1mm). When this is taken

Axe No.	Toolmark	Axe No.	Toolmark	Axe No.	Toolmark	Axe No.	Toolmark
1	15:2	2	23:2.5	3	27:2; 27:3	4	28:3
5	30:4	6	30:6; 31:6	7	32:2	8	32:4
9	32:6	10	34:3	11	35:3; 35:4	12	35:6; 35:7
13	36:3	14	37:4	15	38:4	16	40:4
17	45:4	18	48:2	19	48:8	20	55:3

Table 6. *Axe toolmark measurements in mm (width:depth).*

into account, the more likely number of axes actually in use is 20 or less (there are also several closely similar measurements for Axes 8–13).

Examined by feature, there does not appear to be any pattern in the distribution of toolmarks and, almost without exception, several axes are represented in the assemblage from any one pit-well. Considering the toolmarks by function is, however, somewhat more informative:

Roundwood
Trimmed ends: Axes 3, 4 (x 2), 5, 6, 7, 10, 12 (x 2), 13, 14, 15, 16, 17 & 18
Felled ends: Axe 8, 16 & 20
Pollarded Tree: Axe 12
Log Ladders: Axes 8, 9, 10, 11 (x 2), 12 & 19
Trough: Axes 1, 2, 3 & 6.

The axes are ordered by blade-width, which means the higher the number of the axe, the wider the blade. Axe 1, therefore is 15mm wide and Axe 20 is 55mm wide. Not surprisingly, given its small size, the trough has been roughed out using relatively small axes. It is surprising, however, that four different tools appear to have been used. It is possible that the smaller marks are incomplete and represent part of a blade that is larger. Trimming roundwood, which generally means coppicing, has seen almost the full range of axe sizes, whereas there is a tendency to use larger tools to cut the steps of the log ladders. There is no strong pattern, however, and some axes appear in more than one activity; for example, Axe 12 appears in the roundwood trimming, pollarding a tree and for cutting steps on a log ladder.

Log ladders were not only associated with waterholes, as they would have made good general-purpose ladders for many situations. Maintenance of roundhouse roofs at Flag Fen, for example, has been done using log ladders for many years, and they are widely used in other cultures (Pryor 2001, pl. 16). They were obviously ubiquitous and made on an *ad hoc* basis, thus explaining the great variety of 'designs'.

The number and variety of artefacts is most unusual, but this suggests that they were being made on the site because the right raw material was available. It is also possible that the ones found here were rejects, which would also explain why some of them are unusual: some of the log ladders are very small, very shallow steps, steps very high, etc. (Fig. 19). Equally, the axe hafts are either broken or unfinished, and the trough is unfinished. None of these artefacts are particularly sophisticated and their manufacture depends more on the quality of the raw material than complex woodworking skills.

Other Finds
Grahame Appleby

Studied by Andrew McLaren, in total 1657 flints were recovered. Of these, 547 were unburnt (and worked; 17 both worked and burnt), with the remainder being burnt alone. While including both a later Mesolithic/earlier Neolithic and later Neolithic/Early Bronze Age component (e.g. a leaf-shaped arrowhead from F.71 and a core rejuvenation flake from F.353), the vast majority of the pieces are of Bronze Age attribution. Due to a paucity of diagnostic types, the problem the assemblage poses is how late within that period was its date. While, for example, that the majority of the cores were multi-platform (with many having been worked in a 'haphazard' fashion) could, in theory, suggest a Late Bronze Age attribution (see e.g. Ford *et al.* 1984; Herne 1992), this is undermined by the material's distribution. The bulk of the worked flint (84%; 458 pieces) derived from the F.504/526 well complex, and from the same area that the earlier, Beaker and Deverel Rimbury pottery occurred; rather than being any kind of pristine 'Late' assemblage, this suggests much of it was probably earlier-Middle Bronze Age.

The excavations also resulted in the recovery of 479 fragments of fired clay (6828g) from 16 pits and wells, with a further six fragments (30g) from other features. A near-complete rectangular loomweight was retrieved from pit F.63, in addition to a second perforated fragment (also probably a loomweight); a third possible loomweight fragment was forthcoming from pit-well F.13. F.504/526 yielded 398 pieces (3860g), with seven pieces identified as deriving from loomweights. The precise shape of the latter is unclear, but similarity in fabric and width suggests they were comparable with that recovered from F.63. All but one of the loomweight fragments was recovered from F.504/526's midden spread, mainly from towards the centre of the feature; the remaining 80 fragments had flat surfaces, possibly indicating use as daub. Forty pieces of fired clay were also recovered from the midden spread sealing F.210, including a spindle-whorl, a crucible fragment (with copper alloy droplets adhering) and a possible metalworking mould piece. A second spindle-whorl was also recovered from pit F.66, although this may be of later date.

Also noteworthy is that a saddle-quern and a possible rubbing stone formed part of pit-well F.504/526's assemblage. Equally, five freshwater mussel shells (*Unio* spp.) were recovered together from F.71 during the evaluation-phase (Fig. 20). These had all been

pierced with a single perforation at their posterior ends towards the ventral margin and are almost certainly from a necklace. The holes are 2.5–3mm in diameter and have either been drilled or pecked, as indicated by the spalling of the shell around the holes. Inhabiting running, freshwater habitats, such shellfish could have been exploited for their nutritional value, but the recovery of this discrete clutch (no other mussel shells were found) some distance away from a known suitable source suggests that they were brought into the area from elsewhere.

Environmental and Economic Data

Given the crucial importance of the settlement's 'inland' location as concerns issues of subsistence adaptation and setting, both its environmental and economic studies warrant detailed presentation.

Faunal Remains

Vida Rajkovača

Following assessment of the site's full faunal assemblages (see Swaysland in Patten & Evans 2005 and Mackay & Knight 2007) the decision was made to target only those feature having more than 100 animal bones for further study: F.71–73/F.156, F.210 and F.504. Together, these yielded a total of 1106 assessable specimens, of which 578 (*c*. 52%) were identified to species level.[6]

F.71–73/F.156: Of the 140 bone specimens recorded, 89 (*c*. 64%) could be assigned to species level. Cattle were the prevalent species, followed by pig and horse (Table 7). Ovicaprids were under-represented with three bone specimens only. Wild species were represented with two native deer species: red deer and roe deer as well as wild boar. A human skull fragment was also found in [217].

Taxon	NISP	NISP%	MNI
Cow	52	58	3
Pig	14	16	2
Horse	13	15	1
Ovicaprid	3	3	1
Red deer	4	5	1
Roe deer	1	1	1
Wild boar	2	2	1
Cattle-sized	46	-	-
Sheep-sized	5	-	-
Total	**140**	**100**	**-**

Table 7. *F.71: Number of Identified Specimens (NISP; % based on only total number of identified species: 89) and Minimum Number of Individuals (MNI).*

Three instances of butchery were noted, two being suggestive of skinning. Four fine knife marks were recorded on a red deer calcaneum and two fine cut marks were observed on the dorsal surface of a cow astragalus; the third example was a chop mark on a cow scapula. Only three bone specimens (*c*. 2%) showed signs of gnawing, suggesting quick deposition of the material.

Comparable to Legge's type 7A (1992, 63, fig. 25), a worked bone point fashioned from an ovicaprid metatarsal

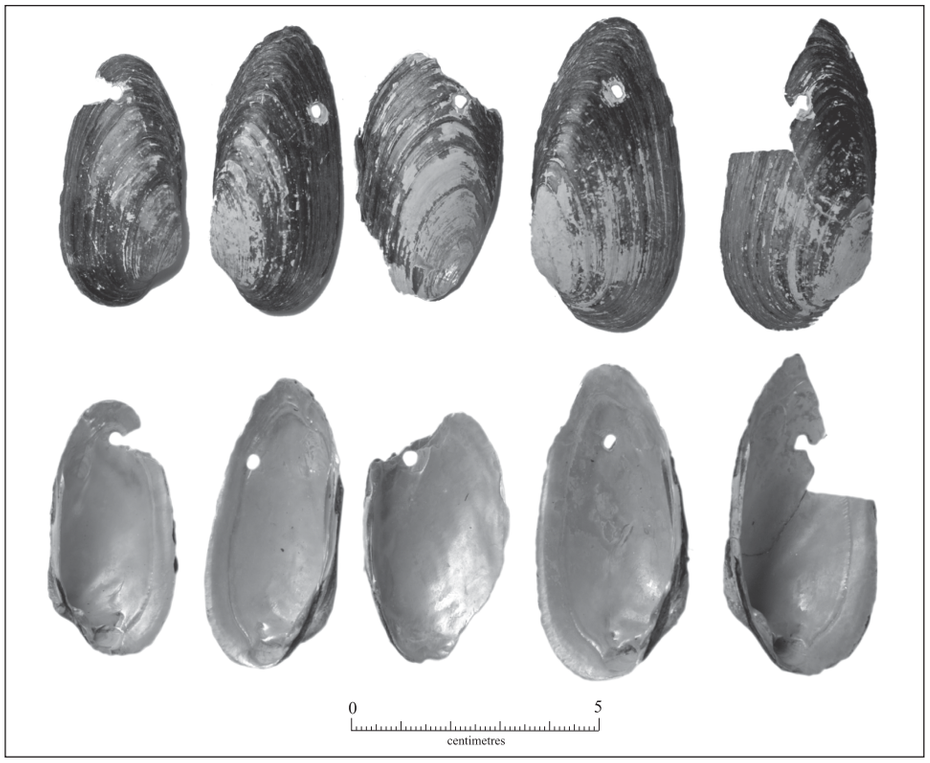

Figure 20. *Perforated Mussel Shells (F.71).*

was recovered from [218]. This is *c.* 82mm long, although the tip of the point is broken.

Cattle accounted for more than all the other species collectively and are the predominant species when the MNI is taken into account. The unidentified mammal count, where fragments were assigned to a size-category, was also used to show which class of domesticates prevailed in this assemblage. The frequency of cattle-sized fragments supports the notion that cattle were of primary importance on this site. As is further discussed below, the under-representation of ovicaprids is somewhat surprising.

F.210: The majority of the faunal material originated from the upper midden fill ([649]) and this has been considered independently from the lower material. Out of 445 bone specimens recovered from this feature, 407 (91%) fragments came from the midden deposit. Of the latter, 199 (*c.* 45%) were possible to identify to species. The relative importance of three main 'food-species' showed a clear predominance of cattle and similar proportions of pig and ovicaprids (Table 8). Both sheep and goat were positively identified. Other species include dog and horse, as well as the same three wild species already recorded in F.71.

Butchery was observed on 11 specimens and includes skinning and disarticulation. A sheep-sized hyoid bone had several knife marks probably implying slaughter and a red deer metatarsal appeared to have been prepared for bone working.

In addition to the butchery, another two definite examples of bone working were recovered. The distal end of a cow ulna has been fashioned into a gouge (106mm long), with the knife marks in the shape of longitudinal striations still visible on the working end of the tool. The feature also yielded a worked bone point fashioned from a sheep/goat tibia (85.0mm long) with the distal end cut at an oblique angle to form a point; comparable to Legge's type 5 (1992, 61, fig. 23).

Gnawing was noted on 28 specimens (*c.* 7%) suggesting that the bone material was left within the reach of scavengers; dog bone was also identified.

	Midden			Lower Deposits		
Taxon	**NISP**	**NISP%**	**MNI**	**NISP**	**NISP%**	**MNI**
Cow	90	45	7	6	25	1
Ovicaprid	43	21.5	4	9	38	1
Sheep	2	1	1	1	4	1
Goat	1	0.5	1	-	-	-
Pig	51	26	4	2	8	1
Dog	3	1.5	1	-	-	-
Horse	1	0.5	1	1	4	1
Red deer	3	1.5	1	3	13	1
Roe deer	3	1.5	1	1	4	1
Wild boar	2	1	1	1	4	1
Cattle-sized	113	-	-	7	-	-
Sheep-sized	95	-	-	7	-	-
Total	**407**	**100**	**-**	**38**	**100**	**-**
Total NISP						**445**

Table 8. *F.210: NISP- and MNI-values (NISP % based on only total number of identified species: 199).*

A small quantity of animal bone was also recovered from the feature's lower fills: 38 specimens. In contrast to the species-ratio of the midden deposit ([649]), ovicaprids predominated, followed by cattle, pig and horse; two bones were butchered and three demonstrated gnawing.

F.504/526: The feature's faunal material has been divided into two sub-sets, with that from the upper fill [1208] quantified independently of the lower waterlogged deposits. The sub-sets differed in terms of quantity, state of preservation and taphonomic condition; a total of 521 assessable specimens were recorded, 326 (*c.* 63%) of which originated from the midden ([1208]). Cattle were the dominant species from these upper deposits, accounting for more than all other species combined (Table 9). Only two ageable specimens were recorded: a sheep mandible aged 2–6 months and a pig mandible at 27–36 months.

	Midden			Lower Deposits		
Taxon	**NISP**	**NISP%**	**MNI**	**NISP**	**NISP%**	**MNI**
Cow	81	52	3	45	40	3
Ovicaprid	39	25	2	33	30	1
Sheep	3	2	1	5	4	1
Goat	1	1	1	1	1	1
Pig	16	10	2	12	11	1
Horse	4	3	1	6	5	1
Red deer	9	6	1	4	4	1
Roe deer	1	1	1	-	-	-
Wild boar	-	-	-	6*	5	1
Cattle-sized	73	-	-	55	-	-
Sheep-sized	64	-	-	29	-	-
Mammal n.f.i.	34	-	-	-	-	-
Total	**325**	**100**	**-**	**196**	**100**	**-**
Total NISP						**521**

Table 9. *F.504/526: NISP- and MNI-values (n.f.i. indicates no further identification; NISP % based on only total number of identified species: 154).*

Butchery actions had been performed on seven bones, suggesting skinning and meat removal or filleting. In addition, three instances of bone working were noted. A sheep/goat tibia has been split axially and fashioned into an awl-type tool. A sheep-sized limb bone fragment has also been found with two incised longitudinal grooves where the bone would have been split and later modified; this probably represents the working waste or an unfinished tool. The final piece of worked bone is a cattle-sized limb bone fragment with a perforation in the middle. Its distal end seems rounded and polished; however, it is difficult to determine the type and the function of this object.

A total of 196 (*c.* 38%) bone specimens came from the feature's lower deposits. The material has a slightly better state of preservation and shows almost no signs of gnawing, indicative of the quick deposition. In keeping with the results from the other two pit-wells, cattle feature as the dominant species. Ovicaprids are slightly better represented than in the overlying midden contexts; however, the range of species present seems to reflect the same type of economy and hunting strategies. The sub-set is again dominated by the three main 'food-species', with wild species also present. Two ageable specimens were recorded, a cow mandible aged to 8–12 months and a cow scapula, 0–6 months; an unfused cow scapula attests to local cattle breeding.

One deposit, [1265], in addition to waterlogged wood, flint and pottery, included an articulated portion of two

front wild boar legs (scapulae, ulnae, radii, metacarpals, carpals and phalanges). A complete radius measured 205mm (Greatest Length; GL) and a domestic pig radius recovered from the same context measured 140mm (GL). Measurements of the proximal and distal articulation are also within the range for wild boar given by Payne and Bull (1988, 41). The absence of butchery marks almost certainly indicates that bones were articulated/fleshed when they were deposited.

In contrast to Pryor's sheep-dominated interpretations of the Fenland's Bronze Age field systems (1996), a recent review of the region's faunal data has demonstrated what was actually a predominantly cattle-based economy (58.5–86%; Evans *et al.* 2009, table 6.3). Variously having 54/56% cattle (vs. 27/29% ovicaprids), Striplands' Late Bronze Age assemblage would largely accord with this. Yet, based on data from sites in southern Britain – particularly Runnymede and Potterne – it has been argued that the Late Bronze Age saw a marked intensification of agriculture and an increase in sheep husbandry (Serjeantson 1996 and 2007; Locker 2000). As is apparent in the comparative site-data presented in Table 10, this would not seem true of the region where, instead, it was only during the Early Iron Age that there was an increase in sheep (which remains at higher levels, and locally even increases to 50–75% during the Middle/later Iron Age; see Higbee in Evans *et al.* 2007).

The assemblage's relatively high proportion of wild species also deserves comment. The combined percentage of 'the wild' on the other sites compared here ranges between *c.* 1 and 4%, and at Striplands these also account for *c.* 4%. Almost all of the listed sites include red and roe deer. The wild boar in Striplands' faunal record is particularly significant given that its confident determination is usually rare on Late Bronze Age sites (see Hambleton 2009, 27; Serjeantson 1996, 219–20 and Locker 2000, 105), and its occurrence in this case either suggests adjacent woodland suitable for pannage and/or swathes of wild grassland. Although heavily reliant on cattle, the Striplands Farm community also clearly engaged in hunting: the activity most likely being both socio-cultural and economic in character.

Bulk Environmental Samples
Anne de Vareilles

Altogether 43 samples from 21 features were processed and examined from the various fieldwork stages. Leaving aside the Romano-British and later phase contexts, the results from the bulk soil samples from 17 Late Bronze Age features are discussed.

Environmental and cultural data has survived through both charred and waterlogged plant remains. Though overall quantities of carbonised plant remains were low, delicate elements such as cereal chaff and grass roots indicate that their absence was not a direct result of adverse preservation. Waterlogged seeds were recovered from the large pit-wells F.370, F.71, F.504/526, and F.210. The latter two also contained charred cereal grains and chaff in their midden-capping fills. Snail shells were found in most of the samples, the most common and abundant species being the intrusive blind burrowing snail *Ceciloides acicula*. Since their assemblages are insignificant and no 'indicator' species were found, they shall not be discussed further. Carbonised remains will be considered first and emphasis will be placed upon the large pit-wells.

Cremation F.2: A maximum of 14 hulled wheat and/or barley grains were found, and a single spelt wheat glume base (*Triticum spelta* L.) suggests that the grain may have been offered as whole ears or spikelets. Seven grass stem nodes and six grass (possibly wild) basal nodes with rootlets may support the latter suggestion. Conversely, if the pyre was built on or under turf, roots and the few wild plant seeds might have charred *in situ*. Two hazelnut shell fragments (*Corylus avellana* L.) and 1g of possible burnt animal bone

	NISP%				
Site	**Cow**	**Ovicaprids**	**Pig**	**Total**	**Ref.**
Runnymede (LBA only)	28	42	30	6572	Serjeantson in Needham & Spence 1996
Potterne	27	41	32	9366	Locker in Lawson 2000
Nine Bridge, Northborough	72	20	8	628	Higbee in Knight 1998
Pode Hole, Thorney (LBA only)	66	31	3	117	Rackham in Daniel 2009
Striplands Farm					
Midden Material	52	27	21	732	
Lower Pit-well Deposits	56	29	15	374	
Langtoft, S. Lincs.					
LBA	47	15	38	512	Higbee in Webley, forthcoming
EIA	46	41	13	174	
Lingwood Farm, Cottenham (EIA)	37	43	20	323	Evans 1999

Table 10. *Frequency of cattle, sheep and pigs on Late Bronze and Early Iron Age sites. Having established the number of identified specimens (NISP) of each species, the percentage of the total NISP found at the site for each species was calculated. The most common domesticates (cow, ovicaprid and pig), defined by the most frequently occurring species, was then separated from the list of identified species and analysed as a separate sub-group. The percentage of the total NISP for each of these species within this sub-group was then calculated in order to demonstrate which were the most prevalent.*

could be further evidence of food offerings (McKinley 1997, 132). The assemblage is noteworthy as food offerings are not commonly encountered in Bronze Age cremations; two shell fragments from F.2 – the only context in which they occurred – were also unexpected finds (i.e. possible necklace-/ornament-related).

Pits F.137 ([420] & [421]) and F.5 ([17]): F.137 was 100% sampled (11 litres). Charcoal was abundant and appears to have been deliberately discarded into the pit from a fire/hearth. Cereal remains amounted to 23 whole grains, 12 grain fragments and a hulled wheat glume base (*Triticum* sp.). The seven wild plant seeds are of typical arable weeds and may have been added along with the grains. Associated with the plant remains were 127g of burnt and unburnt animal bone, suggesting that this assemblage represents waste from food preparation and consumption. The same can be said for the finds from pit F.5, which included less charcoal and a maximum of 13 grains.

Structures I–III and the F.210 Midden ([649]): Posthole F.162 from the four-poster Structure I and all five sampled postholes from Structure II had no plant remains whatsoever and, otherwise, just a little fine charcoal was present. Whilst Structure I, interpreted as a granary, is further evidence for the agricultural nature of the late prehistoric landscape, there is no reason why burnt crops should accumulate in the postholes. Roundhouse postholes rarely contain charred plant remains other than residual charcoal, though an exception can sometimes be made for their doorway setting, which appear to have been conveniently positioned for the accumulation of passing debris. Four of the seventeen postholes of Structure III were sampled. Low concentrations of charcoal were present throughout, but only three had other plant remains. The samples (1 litre) contained no more than three grains each and eight glume bases, some of which could be identified to spelt wheat. The only wild plant seed was from a goosefoot (*Chenopodium* sp.). Structure III was constructed upon F.210 and associated with the midden deposit [649]. The higher proportion of chaff to grain is consistent with waste; indeed, it is difficult to characterise these assemblages beyond the accumulation of midden material. Similar counts of cereal remains were found in the six small samples from F.210 [649] (1–1.5 litres), with chaff dominating over grain. Relatively high densities of charcoal, two hazelnut shell fragments, a goosefoot and a dock seed (*Rumex* sp.) make up the remainder of the preserved flora. Although cereal processing waste was clearly discarded into the midden deposits, the remains are too few (probably due to sample-size) to suggest what by-products from particular processing stages were considered good fuel or intentionally discarded. Finds recovered from the >4mm heavy residues are consistent with those excavated and include pottery, burnt and unburnt animal bone, burnt flint, burnt stone and baked clay.

Pit-well F.504/526 ([1278], [1271], [1265] & [1208]) and Pit F.517 ([1259]): Although all five samples contained charcoal, only the capping layer [1208] of F.504 and the inter-cutting pit F.517 ([1259]) yielded other charred plant remains (only 500ml of soil were processed from [1278], [1271], [1265] and F.517 as they were waterlogged; 12 litres were floated from F.504 [1208]). The cereal remains found were all chaff: [1208] had five barley rachis internodes (*Hordeum vulgare* sl.), a spelt glume base and 12 spelt or emmer glume bases (*T. spelta/dicoccum*); whilst F.517 had a barley rachis segment, three spelt glume bases and three spelt or emmer glume bases. The only other carbonised plant remain recovered was a hazelnut shell from F.517.

Waterlogged Plant Remains

Pit / Well F.504 ([1278], [1271] & [1265]): The bottom, middle and uppers fill of this feature produced dense concentrations of seeds, representing around 38 species, and many leaf fragments from trees and/or shrubs. Although the leaves were not identified, the pollen record suggests they could be oak (*Quercus* sp.), birch (*Betula* sp.), alder (*Alnus* sp.), willow (*Salix* sp.), as well as from trees/shrubs noted in the seed record: hazel, blackthorn (*Prunus sanguinea* L.), dogwood (*Cornus sanguinea* L.), elder (*Sambucus nigra* L.) and hawthorn (*Crataegus monogyna* Jacq.). Insect remains, including freshwater water flea egg cases, were abundant in all but the top fill. The three assemblages produced comparable results. Apart from the trees/shrubs, two other broad ecological categories were noted: arable weeds and herbs of disturbed open land, such as fat hen and other goosefoots (*Chenopodium album* L.), common chickweed (*Stellaria media* [L.] Vill.), knotgrasses (*Polygonum* spp.), nettles (*Urtica dioica* L.), brambles (*Rubus* sp.), thistles (*Carduus/Cirsium* sp.), sow-thistles (*Sonchus* sp.) and nipplewort (*Lapsana communis* L.); plants of damp, marshy ground such as crowfoot (*Ranunculus* Subgen. *Batrachium*), marsh stitchwort (*Stellaria palustris* Retz.), water-pepper (*Persicaria hydropiper* (L.) Spach), gypsywort (*Lycopus europeus* L.), duckweeds (*Lemna* spp.) and sedges (*Carex* spp.).

Though the stratigraphic detail is not as refined as in the pollen cores, the data concur in demonstrating open arable land with localised areas of damper ground (albeit some of the aquatic/semi-aquatic probably grew within F.504). The absence of shrub pollen is not altogether unsurprising since they are insect-, not wind-pollinated. The question of how they fit into the landscape must remain enigmatic until further archaeological evidence concerning the planting and management of hedges is achieved. The shrubs are typical species of open or re-generating woodland and could be expected in an area where woodland was both used and locally superseded by arable (see Boreham below). The presence of leaves, thorns and a relatively high representation of seeds/fruits could suggest that the specimens were either growing close to F.504/526 itself or that their wood was employed to erect a fence or dead-hedge around the pit-well. It is worth noting, however, that the fruits of blackthorn, hawthorn, elder and dogwood are all consumed by birds, and which may have distributed their seeds widely across the landscape.

Pit/Wells F.71 ([463]), F.370 ([1067]) and F.210 ([1062]): Far fewer seeds were recovered from these three pits/wells, representing about 30 species in total. The pollen record for F.71 and F.210 is also poor (F.370 was not sampled), suggesting that these results are a product of poor preservation. The macrofossils do not contradict or differ markedly from those seen in F.504: hazel, elder, sloe and brambles would have offered a range of nuts and berries, and shrubs such as dogwood and hawthorn would have made useful firewood. Willow(s) grew around, and possibly even over, the features.

The vegetation around these late prehistoric pit-wells therefore attests to a patchwork of ecological settings, whose boundaries were probably not distinct but gradually merged from one land-use to another.

Pollen
Steve Boreham

Leaving aside a Saxo-Norman feature (F.362), eight monoliths from three Late Bronze Age cut-feature sediment sequences were considered: two each from F.210 and F.71, with four from F.526 during the second excavation-phase.

At the time that the lower/basal sediments of F.210 ([1062]) were being deposited it appears that woodland had been largely cleared from the site and that arable land-use had become established nearby (Figs. 7 & 21). Remnants of oak-hazel woodland were clearly present and, indeed, the *Liliaceae* pollen present in this sequence may represent bluebells growing on the floor of that woodland. Cereals and arable weeds were obviously also growing within the area (cereals up to 3.03%), as were sedges and bur-reed, presumably colonising marshy ground or ditch margins. Towards the top of lower monolith (26cm above base), hazel scrub appears to expand, and as time progresses there is a hint that the landscape was becoming wetter as alder and willow appeared. Cereal pollen was present at 1.38%.

The basal part of upper monolith (41cm) documents a significant change as hazel scrub expanded and cereals disappeared. Arable weeds and evidence of land disturbance are still present, but it is clear that the land-use markedly altered. One possibility is that woodland ceased to be managed, reverting to densely shaded hazel scrub, arable fields were abandoned and that pastoral grazing became the main activity. It is possible that this coincides with the Late Bronze Age/Early Iron Age boundary. The upper part of that monolith records a return to arable activity (53cm; cereal pollen present at 1.75%), the clearance of hazel scrub and some evidence that the landscape again became slightly wetter as alder and bur-reed expanded. Some caution is needed in interpreting these results since the statistically desirable main pollen sum of 300 grains was not reached in any of the samples.

Little can be deduced from the basal sediments from F.71, since the pollen was so sparse and badly preserved. The basal sediments appear to record grassland and disturbed ground; however, the sample from 49cm seems to mark immense local landscape disturbance. Arable agriculture does not appear to be present, and many of the herbs suggest a tall herb meadow environment. Hazel scrub grew nearby, and apart from the presence of alder, there is nothing to suggest particularly wet or damp conditions. The lack of water here may be the reason that the lower sediments in this pit are so badly oxidised.

The pollen assemblages from the F.526 sequences are rather similar with grass-dominated spectra, and arboreal taxa such as hazel, oak, alder and willow (Figs. 9 & 21). It is clear that they do not represent the typical 'post-clearance' later Bonze Age landscape. The persistent presence of hazel (up to 22%) indicates shrubby woodland nearby (perhaps managed coppice), and the low frequencies of oak even hint that fragments of mixed oak woodland still survived in the vicinity. The occurrence of alder and willow infer local areas of wet woodland (carr) nearby, although the pollen of obligate aquatic plants, such as bur-reed, was not particularly common. The abundance of grass and plants of tall-herb communities suggests meadow or pasture. Although the disturbance indicator – ribwort plantain – was present in almost every sample, cereal pollen was rather infrequent (<1.1%), suggesting that any arable activity was small-scale and some distance from the site.

The evidence from F.210 and F.71 indicate that woodland clearance and arable activity seem to have been well advanced in the area by the Late Bronze Age, and that there appears to be evidence for a brief period of abandonment, possibly at the start of the Early Iron Age. Clearly, soil disturbance was a ubiquitous feature of the landscape, whether associated with arable activity or not at this time.

The different character of F.504 pollen assemblages could, in fact, suggest a somewhat earlier, Bronze Age environment, where partial clearance of the wooded landscape had begun, but arable activity was patchy and low-key. When compared to the evidence of other two features the key issue is whether the greater presence of arboreal taxa relates to a somewhat earlier date or just a more immediate proximity to woodland.

Discussion

While not without interpretative attractions, it would clearly be erroneous to directly equate the scale of the Striplands Site's Bronze Age pottery assemblage with settlement status and somehow consider it a place of 'special' gathering or the like. Directly arising as a result of the survival of midden deposits within the upper profiles of its two main wells, what this rather attests to is the degree of settlement-data loss that usually is incurred with the plough-eradication of surface strata on sites of the period. There is, indeed, often a distinct split between its main settlement-types. On the one hand, there are the great midden sites, such as Runnymede and Potterne (e.g. Needham & Spence 1997; Lawson 2000), wherein vast quantities of material were accumulated/deposited. On the other hand, lacking, for example, the house-eavesgullies characteristic of Middle/later Iron Age settlements, most of the period's typical sites yield only relatively low quantities of finds. The assemblages from either of Striplands' two main wells alone would, in fact, be significantly greater than those found at many such later Bronze Age settlements and, as such, potentially offers a connection between the two. This being said, the paucity of material of this date within the site's subsequent post-Bronze Age linear features (i.e. residual status) would indicate that it was not a matter of settlement-wide midden spreads, but rather that these were localised.

In contrast, the results of the excavation of a later Bronze Age settlement cluster at Toll House, Broom, Beds., are particularly relevant in this regard (Cooper & Edmonds 2007, 106–14). Exposed over *c.* 0.25ha,

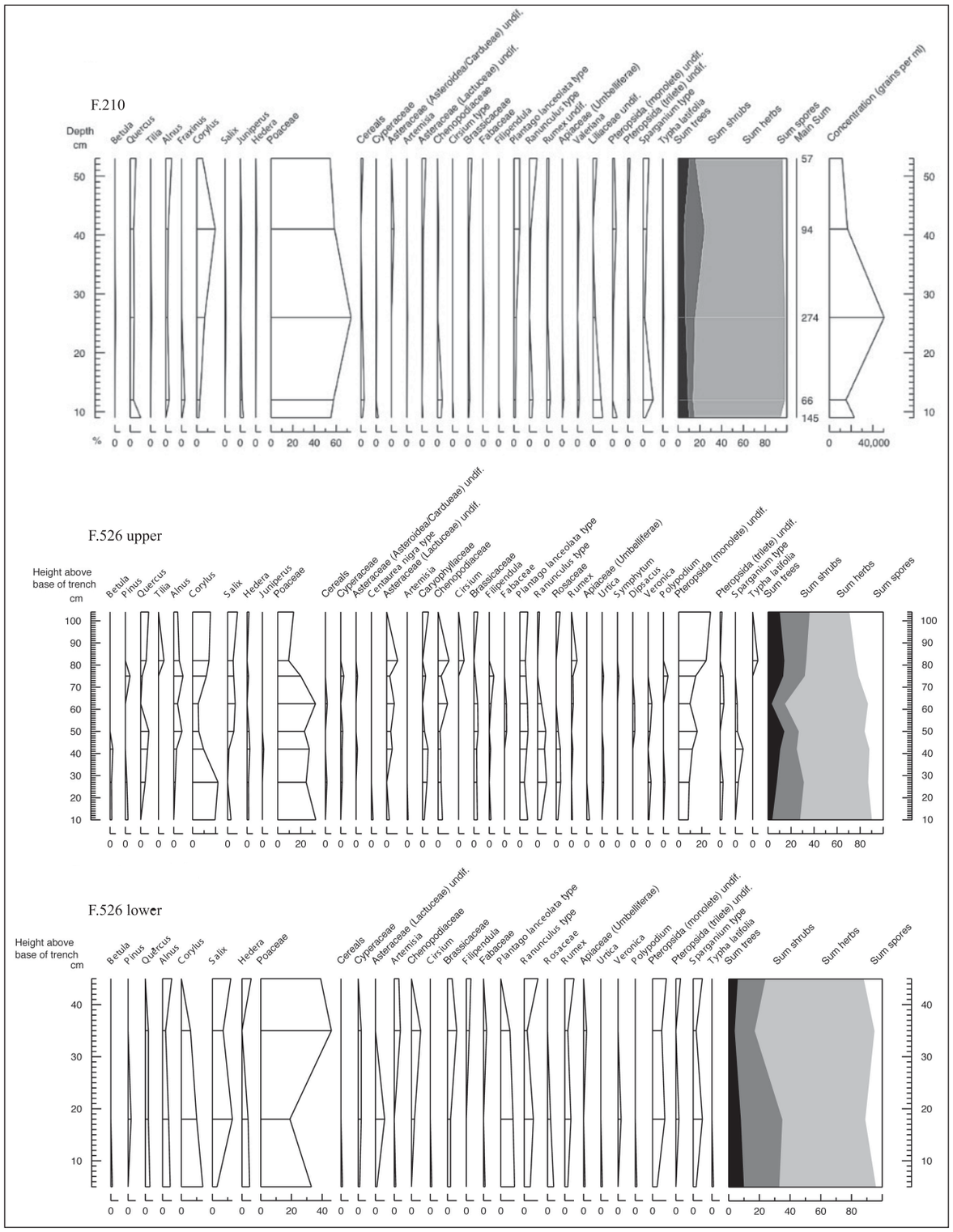

Figure 21. *Pollen Diagrams (F.210 & F.526).*

with its single post-built roundhouse, four-posters, fence-lines and scattering of small pits, the site has a 'pristine' quality (i.e. single occupation-phase) and seemingly presents a typical household of the period. All told, 957 sherds of pottery were recovered from it, representing a minimum of 52 vessels. Aside from the fact that the character of some of its pit infillings clearly pointed to the redeposition of midden material

(Brudenell & Cooper 2008), that the centre of the site was crossed by an intensively sample-dug Romano-British ditch permits consideration – through the distribution of residual later Bronze Age finds – of its otherwise missing surface deposits. Based on the plotted densities (Cooper & Edmonds 2007, fig. 4.24), its midden must have lain on the southern side of the cluster's roundhouse and, extended across some 13.00m, its pottery values ranged from 27–56 sherds per metre segment-length (animal bone, 19–24 fragments). With an average of 40 sherds per metre (and 21 animal bones), these densities would be broadly comparable to those of Striplands' midden horizons.[7] By this, and the estimation that the Toll House's midden may have extended over some 125sqm, it would, in total, have held upwards of some 5000 sherds of pottery and 2625 animal bones (see above for Brudenell's calculation of the two sites' vessel counts).[8]

Not only does this serve to gauge Striplands' two well-middens – each broadly equivalent to, or even less than, a single household's refuse and not attest to any kind of *en masse* group-deposition/-behaviour – but also acts as a cautionary tale. The material respectively recovered from the two settlements without these midden deposits would then represent only 13% of their total populations in the case of Striplands Farm (pottery, by number; bone, 49%) and *c.* 15% at the Toll House (pottery, by number, excluding residual finds). This is an enormous discrepancy and implies that interpretative modesty must be exercised towards such Late Bronze Age sites if lacking surface strata. The gulf between what little material ultimately ended up in their cut features, as opposed to what otherwise went into midden heaps – in short, *the missing* – is simply too great for 'totalising' modes of social/depositional explanation (e.g. Brück 2007).

Beyond this, the Striplands' findings provide a platform to reconsider the role of organic material within the material culture of later prehistory. The inventory of the organic finds from its pit-wells would confirm the observations of a 1989 paper overviewing the recovery of such finds up to that time *vis-à-vis* a critique of Clark's notion that non-waterlogged assemblages only amounts to a pale 'shadow-world' of the otherwise missing organic finds (e.g. Clark & Godwin 1940, 57; c.f. Evans 1989). Yes, organic containers were recovered – the F.504/526's trough and F.13's possible bark box/tray – but in nothing like the frequency of those features' ceramic vessels. Equally, none of the organic finds recovered have been ornately carved and it is clearly erroneous to envisage later British prehistory as some manner of all-over-decorated 'Polynesia'. The main organic finds are, moreover, 'things' that could not be rendered – largely due to their tensile qualities/needs – in non-organic materials (log ladders and axe hafts) and, now, this is to the point that the recovery of such items are themselves fast becoming commonplace on sites of the period.

Of the site's other findings, the recovery of the copper alloy droplet-adhering crucible piece, as well as the possible mould fragment, add to growing regional corpus of the period's settlements having evidence of bronze metalworking. This includes Fengate (Pryor 1980; 1996) and, nearer at hand, Barleycroft Farm on the lower Ouse (Evans & Knight 2000). Attesting to the impact of production-related recycling, while the recovery of these items at the Striplands Site – in addition to the evidence of its wooden haft-handles and many toolmarks (from some 20 axes; see Table 6) – certainly tells of the presence of bronze implements, no contemporary metalwork was itself found.[9]

While the perforated mussel shell necklace from pit-well F.71 (*et al.*) is amongst the site's more fragile, if not modest, artefacts, it is actually one of its most informative. It is comparable to findings from other excavations of the period within the region, which now includes a six-cockle shell (plus one whelk) setting from Tower's End, Thorney (Mudd & Pears 2008, 71, pl. 12) and a group of three, similarly modified cockles from Langtoft, Lincs. (Hutton 2008c; see Evans *et al.* 2009, fig. 2.24).[10] Aside from adding to the evidence of the degree to which individuals were then variously 'ornamented' – particularly, the growing corpus of jet toggles and animal-tooth pendants (see Evans *et al.* forthcoming; see also e.g. Woodward 2002) – what is singularly pertinent is the use of mussel shell. It both attests to major river valley contacts by the 'inland' Striplands' community and, also, markedly contrasts with the use of cockle shell in the South Lincs. and Thorney environs. As a marine species, the latter would resonate with salt production in those areas and their contemporary estuarine conditions (see e.g. Gurney 1980; Lane & Morris 2001; Daniel 2009, 156), and even suggest that variation in such necklace 'markers' was environmentally sensitive.

As regards the human remains, the occurrence of both 'loose' body parts (e.g. skull fragments in F.13 & F.71) and cremations within settlements of the period is now well-documented (e.g. Brück 1995). In this instance, the F.2 cremation is noteworthy, not just for the possible inclusion of plant food-offerings in its rite, but also its shell fragments. With the latter not occurring in any of the site's other contexts (see de Vareilles, above), they could suggest that still another necklace shell-setting accompanied the interred individual.

As indicated on Fig. 22, the site's human remains occurred across the southern half of the Bronze Age settlement zone and, arguably, beyond its building posthole- and midden-defined 'core'. Also shown on that illustration are the pit-wells' shared 'axe-signature' linkages. As designated by Taylor above, though there can be no absolute certainty of their uniquely individual attribution, this potentially provides distinct insights into site's settlement dynamics and feature contemporaneity. This first involved listing which toolmark-axes occurred within which pit-well. Not surprising, the two very large midden-capped ones have the greatest number (F.504/526: 10 and F.210: 9), followed by F.370 and F.71–3 with three and four respectively and, finally, F.13, having only two. The link-lines on Fig. 22 indicate which axe-signatures are common to individual pit-wells. Again, not surprisingly, with three such linkages each, it is the largest midden-sealed wells – F.504/526 and F.210

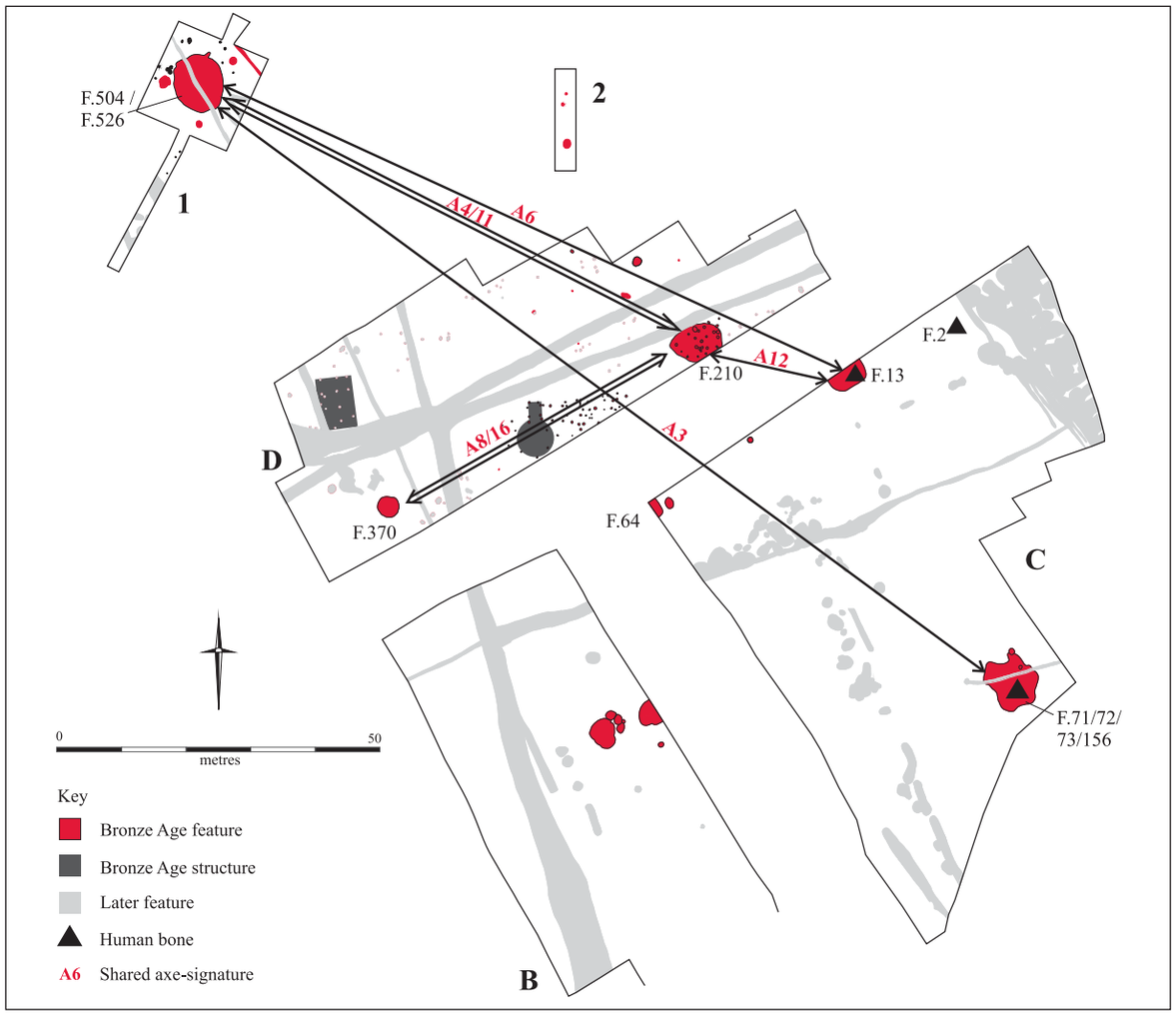

Figure 22. *The Bronze Age settlement: human bone distributions and shared 'axe-signatures'.*

– that have the most connections. Possibly attesting to their more settlement-marginal situation, F.71–3 and F.370 are both connected to only one other well. Yet, the latter's 'pairing' with F.210, along with F.504/526 and F.210's, are the site's strongest indications of contemporaneity as only these shared more than more axe-signature (two each: Axes 8 & 16 and 11 & 4 respectively). Finally in this capacity, and probably further attesting to the earlier establishment of F.504/526 in the north, no such linkages occurred with its primary-phase (F.530) toolmark-axes, but only with its recut-phases.

Pioneering Communities? – Colonising Claylands

The Striplands Site is informative concerning the character of *later* Bronze Age settlement and land-use specifically because it seemingly lacked any major Middle Bronze Age precursor. Although, as is so often the case with negative evidence certainty is not possible, and while a paddock setting was recovered in Area E (and a single ditch 'fragment' within Area 1; Fig. 3), no evidence of site-/environs-wide fieldsystem was forthcoming; nor has such been found on other neighbouring investigations. From this, it could be inferred that large-scale fieldsystem-division was not essentially an attribute of Late Bronze Age land-use, but was rather an earlier, Middle Bronze Age phenomenon. While there are instances of distinctly 'Late'-attributed fieldsystems, such as at South Hornchurch, Essex (Guttmann & Last 2000; see also Yates 2007, 26–8, fig. 3.6 & pl. 4), generally it is a matter of Late Bronze Age settlement occurring within the axes of fieldsystems established some centuries earlier. This would be the case, for example, at Fengate and, as is explored at length within a recent volume concerned with its environs (Evans *et al.* 2009; see also Daniel 2009, 53–4, fig. 3.49), the issue becomes to what degree Late Bronze Age settlement was there incidentally sited – perhaps as a lingering remnant – or how the then-fossilised (by hedges?) fieldsystem landscape was actively utilised? While the site's wood and waterlogged plant remains assemblages hint of hedging (see Taylor and de Vareilles above), the evidence

is far from being unequivocal.

In this vein, it is crucial to recognise how this inland landscape would have differed from the river valley and fen-edge environs where such settlements are usually encountered; primarily, it would have been 'monument-less'. Although a few ring-ditch/barrow candidates are suggested by cropmarks on the lighter soils flanking Oakington Brook some 3km to the southeast (Evans *et al.* 2008, fig. 3.20), this would have effectively been *new lands* with few obvious vestiges of any previous inhabitants/'visitors'.

If evidence of such an 'inland' Bronze Age settlement had been found 20 years ago or more before there would have been a natural inclination to, *de facto*, ascribe it a pastoralist function (see Evans 1987 for overview). Indeed, prior to the Iron Age the main incursions into the region's 'heavy lands' may well have been for woodland resource procurement and, perhaps, involved a distinct stock-herding component. In case of this site's Late Bronze Age, however, it is clear that its inhabitants practiced *mixed farming* and that it was a matter of *permanent settlement*. This is not just demonstrated by its quernstones and cereal remains – the latter, of course, could have always been imported to the area – but by the pollen register of its well features.

Occurring, where present, at a level of *c.* 1–3%, while the level of cereal pollen may not seem particularly high, it is comparable to and even exceeds that on many Middle/Late Bronze Age sites (see Evans *et al.* 2009, 63–4; e.g. Branch & Silva in Mudd & Pears 2008, 60). Indeed, it is in this capacity that the evidence of the site's Saxo-Norman well becomes informative (F.362). Sited at what would have been the junction of 'in-' and out-field plots, it evokes the kind of thoroughly domesticated land-use setting that can easily be envisaged. Yet, within it, cereal pollen only occurred up to a levels of 9–16% and, against this, the Bronze Age wells' values – taking the impact of a further *c.* 20 centuries of decay into account – seems broadly comparable.

The crucial issue behind this, of course, is whether the site's Bronze Age usage actually commenced with its fully fledged/permanent 'Late-period' settlement – which based on its ceramics could not date earlier than the 11/10th centuries BC – or if it was initiated through earlier forays into the local landscape. In other words, when was the site's *pioneering phase*? Leaving aside for the moment its single Beaker sherd, here a number of factors are relevant: the marked concentration of flint within F.504/526's upper midden fills and that four sherds of Deverel Rimbury pottery occurred only within pit F.505 beside that feature. Equally, as detailed by Boreham above, that the northern pit-well's pollen demonstrated both the persistence of shrubby wood and possibly even mixed oak woodland, would either indicate the later survival of woodland in that direction or else that feature's somewhat earlier date. By its character, F.504/526's flintwork is unlikely to pre-date the Middle Bronze Age (i.e. lack of distinct Early Bronze Age types) and, therefore, it is reasonable to directly associate it with the Deverel Rimbury pottery occurring nearby and distinguish this usage as the Late Bronze Age settlement's likely precursor. Admittedly little can be said concerning its character, and it may have amounted to no more than seasonal resource procurement and/or even involved temporary pastoral utilisation (the area perhaps first seeing limited clearance during the later Neolithic/Early Bronze Age as hinted by the Beaker 'presence'). It should, moreover, be emphasised that this 'life in woods-type' scenario (see Evans *et al.* 1999) would not just pertain to the site's pioneering phase. The Late Bronze Age settlement's much evident roundwood and timbers certainly attests to managed woodland within the vicinity and 'the wild' within its faunal assemblage – especially the boar – even suggesting local forest survival.

A note of caution needs, however, to be introduced to these 'pioneering-phase' arguments. It is here imagined that any pre-11/10th century BC occupation could only have been sporadic and of low intensity. Yet, as has been discussed elsewhere (Evans *et al.* 2009) – though corresponding with *'the* fieldsystem horizon' – contemporary Middle Bronze Age/Deverel Rimbury Ware settlements are still relative rare in much of the region and, even when identified, often have only low levels of accompanying pottery. In fact, by the occurrence of such urns in the period's cremation burials, it has been suggested that from what was possibly a low/near-aceramic level of pottery-usage, the nature of their burial rites may itself impact upon the recognition of these settlements. Given this, it is possible that from the 14–12th centuries BC (i.e. prior to the site's 'Late-phase' usage and based on the F.530's 1380–1330/1330–1120 cal. BC radiocarbon date; Beta-280349) the area may have seen more intensive settlement than has actually registered.

That issue aside, the early occupation of the region's 'heavy lands' has received considerable attention in recent years (e.g. Clay 2002; Mills 2007), with the Middle Iron Age generally marking its main settlement-colonisation horizon (as opposed to earlier task-related 'visitations' as indicated by widely dispersed worked flints and, occasionally, pottery; see e.g. Evans 2002). This was, indeed, the case with the Longstanton/Northstowe fieldwork. Extending in total over some 650ha, there 15 Middle/later Iron Age and nine Romano-British sites were discovered (see Evans *et al.* 2008, 174–81). While a few seemingly isolated later Bronze/Early Iron Age pits were recovered (and two distinct later Mesolithic flint scatters on the lighter soils flanking Oakington Brook; *ibid*., 176), the Striplands settlement was the only substantive pre-Iron Age site found (see also Abrams & Ingham 2008 and Wright *et al.* 2009 further on local clayland site-recovery). That said, large-scale landscape projects are now, for the first time, coming upon both later Bronze and Early Iron Age sites upon the region's claylands. This would include findings made in the course of the University-lands' North West Cambridge evaluation (Evans & Newman 2010), through Cambourne's excavation programme (Wright *et al.* 2009, 65–6) and even, at Papworth Everard, a Middle Bronze Age cre-

mation cemetery (Gilmour *et al.* 2010; see also Cooke *et al.* 2008, fig. 4.41 for Bronze Age settlement densities on Stansted's claylands).

The location of the Striplands settlement – at the interface between an inland gravel ridge and clays – reflects detailed 'local knowledge'. Potentially gleaned through observation of surface-drainage and the tree-throw upcast, this would have accrued through previous forays to these inlands from 'host' river valley settlements (with the site's shell necklace speaking of maintenance of these interconnections). Ultimately, given the site's 'interior' situation, how water was regularly achieved (i.e. the 'invention' of the pit-well) may have been as much a factor restricting settlement as the heaviness of the local soils. To wit, the Longstanton/Oakington environs offers significant insights concerning the geological vs. the topographic possibilities of early land-use and settlement, as it is *not just a clayland-scape*. Its Ampthill Clays are crossed by a 700–1200m-wide gravel ridge that, albeit interrupted, runs from Cambridge northwest to the fens at Willingham. Whilst seeing somewhat higher background worked flint densities than the surrounding clays, despite lighter soils it evidently lacks the intense Neolithic/Bronze Age archaeology – variously, the fieldsystems, flint scatter/pit cluster settlements and monument complexes – of, for example, the adjacent reaches of the Ouse River Valley (see e.g. Evans & Knight 2000; Malim 2000). Presuming that the existence of the ridge was then known through previous procurement visits, this then tells of the *recommendation of land*. Clearly, prior to the Middle Iron Age it was not just a matter of seeking better-drained lands (i.e. gravel terrace-geology), but that major river valleys, in addition to offering ready water supply, were effectively *landscape communication corridors*. Against this, how the region's inland tracts were first 'pioneered' and subsequently colonised are themes certainly warranting much further research.

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End-notes

1. Prior to trenching, large-scale transect fieldwalking collections occurred throughout the broader West Longstanton area. Due to pasture cover, for our immediate purposes this only extended into the northern third of the site (Areas D & E); however, with only four burnt flints and a single worked flint recovered there (and no prehistoric pottery), the site was not distinguishable within in the plough-zone. Nor were any features associated with it found during the course of evaluation trial trenching either along its northern margin (Cessford & Mackay 2004) or within the east-lying fields (Cutler 2000; Ellis & Ratkai 2001).
2. This north-of-cables swathe was not to be built upon; the reason for excavating the pit-well there – the one such feature revealed through the geophysics – only arose from the threat of construction-related de-watering.
3. Such large pit-wells continued as a feature of earlier Iron Age settlements, but declined in use during the Middle/later phases of that period – this being attributable to the fact that the large ditch enclosures of that time seem to have also served as 'catchwaters' (see Evans 1997). Of such Early Iron Age wells, the nearest example would be that at Lingwood Farm, Cottenham (Evans 1999). Excavated during the Fenland Management Programme, this evidently stake-supported wattle-revetted feature yielded more than 175 pottery sherds and 320 animal bones. Almost 500 pieces of wood were also recovered and, while largely consisting of roundwood and working debris, also included a large plank, the 'hollow' from what was probably either a bowl, scoop or ladle, and, remarkably, part of a tripartite disc wheel.
4. Cattle hoof prints were identified around earlier Bronze Age watering holes/ponds at Bradley Fen, Whittlesey and, in one instance, a preserved wattle fence had been erected around the mouth of a well-shaft, presumably to keep animals away from a human supply (Gibson & Knight 2006); see also Masefield *et al.* 2003 and Lewis *et al.* 2006, 133–49 further later Bronze Age pit-wells generally.
5. The numerical designation of toolmarks indicates the

maximum 'width:depth' of the axe blade/cut expressed in millimetres.

6. Due to page-length restriction, it is not possible to include here details of the specialist contributions methodological procedures and classificatory basis; these are, however, available in the site's archives.
7. While the negative evidence from such sampling of later-phase linears at Striplands Farm for residual find densities (as opposed to the Toll House results) must, in part, relate to the absence of settlement-wide midden-type strata, the site's much heavier soils was probably also influential, as they would inhibit weathering-induced finds movement.
8. Though its figures are likely to have been enhanced by the subsequent reuse of its surfaces as a yard, these artefact-population estimates are broadly comparable with the finds recovered in associated with the main eavesgully-surrounded Building 4 roundhouse (*c.* 9.0m wall-diam.) in the Haddenham V Middle Iron Age enclosure and whose accompanying floor strata survived intact: 6324 pottery sherds and 7058 animal bones (Evans & Hodder 2006, 142–6). When considered together with the Toll House's estimates, this suggests that 6000–7000 sherds might represent a reasonable single, later prehistoric household pottery-population figure.
9. See Evans 2002 concerning the distributional context of Bronze Age metalwork on the region's claylands and, also, for example, Yates & Bradley 2010 and Malim 2010, generally. The site's woodworking remains also provides significant insights into the specialised character of period's craft production. Complementing the small size of the WD13's probable wooden haft, in particular is the range of the axes-sizes employed, with four being less than 30mm wide and, all told, four different axes were used in the manufacture of the WD65 trough.
10. Four perforated oyster shells (*Ostrea edulis*) were recovered from different Late Roman contexts at Stonea. While two were thought to perhaps relate to roof-repair patching, the others were considered to have probably been used for costume decoration or personal ornament (Cartwright in Jackson & Potter 1996, 538–40, fig. 201). Also, a perforated 'sea-shell' (limpet) accompanied an Early Bronze Age child's burial at Pode Hole, Thorney (Richmond *et al.* 2010).

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Plate 1. *Striplands Farm, Longstanton. Re-Colonisation: top, Francis Pryor and Maisie Taylor inspecting the F.71–3/156 deposits in 2005 (with Evans and Patten, left and right); below, the same feature some four years later (August 2009), the stripped surface having been colonised by plants and with the Bronze Age pit-well seeing a second life as a pond.*