

# Archaeological Investigations at Must Farm, Whittlesey, Cambridgeshire

## The Phase 2 Extraction Area



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# **ARCHAEOLOGICAL INVESTIGATIONS AT MUST FARM, WHITTLESEY, CAMBRIDGESHIRE**

## **The Phase 2 Extraction Area**

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## *Summary*

*An archaeological excavation was undertaken by Cambridge Archaeological Unit (CAU) in advance of sand, gravel and Oxford Clay extraction at Hanson's Must Farm Quarry, to the south-west of Whittlesey, Cambridgeshire (centred on TL 233 969). The project was undertaken on behalf of SLR Consulting Ltd. for Hanson Building Products Ltd.*

*This report details the results of strip, map and record investigations in the Must Farm Phase II Extraction Area where multi-period prehistoric remains ranging in date from the Early Neolithic to the Beaker period were exposed. Soil stripping exposed a preserved prehistoric land surface with an intact buried soil horizon from which a significant assemblage of surface finds was collected. Archaeological features recorded comprised a probable Early Neolithic metallised surface with two associated pits at -2.5m OD, a linear swathe of Late Neolithic pits, a burnt mound and two preserved wooden stake alignments provisionally dated to the Early Bronze Age period at -1m OD.*

*As part of an on-going programme of archaeological fieldwork the results of Phase II Extraction Area excavations have the potential to add to our understanding of the prehistoric landscape of the Flag Fen basin.*

## **INTRODUCTION**

An archaeological excavation was undertaken by Cambridge Archaeological Unit (CAU) in advance of sand, gravel and Oxford Clay extraction at Hanson's Must Farm Quarry, to the south-west of Whittlesey, Cambridgeshire (centred on TL 233 969) between July and October 2009.

This report details the results of the most recent strip, map and record investigations undertaken in Hanson's Phase II Extraction Area. The work is part of an ongoing programme of archaeological investigations which follows desk-based assessment and archaeological evaluation of the proposed extraction site in 2005 (Cooper 2005, Evans *et al.* 2005) and strip, map and record investigations in the Phase I Extraction Area undertaken in 2007 (Tabor 2008).

The project was undertaken on behalf of SLR Consulting Ltd. for Hanson Building Products Ltd. Work was carried out in accordance with a project design specification (Gibson 2009) produced by the CAU and approved by Kasia Gdaniec of Cambridge Archaeology Planning and Countryside Advice.

### **Location, geology and topography**

The Phase II Extraction Area modern ground surface is situated at between 0.5m AOD and 1.5m AOD and occupies an area of former agricultural land between the A605 and the Peterborough to March railway line (see Figure 1). The site is flat, former fenland, which was drained in the later Medieval period.

The underlying geology of the Extraction Area is Jurassic Oxford Clay overlain by First River Terrace gravels. Overlying the gravels, particularly in lower lying areas, are a series of peat deposits and marine sediments reflecting the sequence of freshwater fen conditions and marine incursions that prevailed during the Holocene in this area.

### **Archaeological background**

Must Farm is located within an exceptional prehistoric landscape preserved beneath blanket deposits of peat and marine/freshwater sediments, and has been the subject of a long running fieldwork programme associated with mineral extraction at the site (see Figure 2). The archaeological background of the area has been detailed in a number of desk-based assessments and excavation reports (eg. Cooper 2005; Gibson and Knight 2006; Appleby 2008) and as such is not reproduced in detail here.

Archaeological evaluation of the current and proposed Must Farm extraction area was undertaken in 2005 (Evans *et al.* 2005) and identified multi-period prehistoric remains including a Neolithic oval barrow and an Early Bronze Age round barrow. Evidence of Late Neolithic and Early Bronze Age occupation comprising pits, post holes and metal surfaces was also recorded and a remarkably well preserved bank and ditch

boundary, thought to date to the Middle Bronze Age, is considered to be a continuation of a feature identified at the adjacent Bradley Fen quarry (see below). Subsequent archaeological investigations in the Phase I Extraction Area at Must Farm recorded a series of metalled surfaces and pathways, as well as a small burnt mound, potentially dating to the Late Neolithic/Early Bronze Age (Tabor 2008).

Recent excavations in the southern edge of the former Must Farm quarry pit have also revealed a Bronze Age timbers, contemporary to the early timber post alignment at Flag Fen as well as a timber platform or crannog site dating to the Late Bronze Age (Gibson et al. forthcoming). The timber platform in particular was exceptionally well preserved within the silts of a palaeochannel and yielded a significant artefactual assemblage including preserved timbers, complete pottery vessels, glass beads, textiles and terminal Late Bronze Age metalwork.

Previous excavations immediately to the north/north-east of Must Farm, an area which can be considered as part of the same prehistoric landscape, have also taken place at Bradley Fen Farm, Bradley Fen and King's Dyke (Gibson and Knight 2002, 2006). Archaeological remains included a Neolithic henge monument, Late Neolithic, Bronze Age and Iron Age occupation sites as well as the same Middle Bronze Age bank and ditch boundary found at Must Farm. Meanwhile, a recent archaeological evaluation at King's Delph (Tabor 2010) has identified a number of wooden stakes/posts, as well as a probably Early Bronze Age round barrow, indicating the presence of a well preserved prehistoric land surface to the south of Must Farm.

## **Environmental background**

Key to understanding the prehistoric landscape at Must Farm is the relationship between archaeological remains, topography and the palaeo-environment. During prehistory the encroaching fen edge, resulting from a major marine incursion, was an important determining factor in the location and character of settlement and associated activity. As such, topography and chronology are intrinsically linked; over time flooding and fen development in lower lying areas inhibited settlement activity, which was increasingly restricted to higher and drier land.

Once again, detailed overviews of the palaeo-environment and the sedimentary sequence are provided in previous desk-based assessments and excavation reports (eg. Appleby 2008) and are not reproduced in detail here. Of particular relevance to the Must Farm site, however, are the recent borehole investigations at King's Delph immediately to the south of Must Farm (Gearey 2009). Here, borehole data supplemented by analysis of beetle and pollen remains, and radiocarbon dates has provided a relatively detailed account of the prehistoric environment and the chronology of landscape development in the Must Farm / King's Delph area:

- *c.*5700 yrs BP: Peat accumulation in the lower parts of the landscape (the east and north-east of the Kings's Delph PDA) in response to rising water tables. Mixed woodland persisted on higher ground. (Ref. borehole sample C13 (Gearey 2009), recovered from a lower peat deposit in the north-east of the PDA at -5.17m OD, dated to Cal BC 3960 – 3790 at 2 sigma.)

- from c.4900 yrs BP: Silt and organic silt deposition in lower lying areas of the Kings Delph PDA, gradually spreading to higher areas over time, as a result of the continued rise in water levels. Evidence of saltmarsh and the development of sediments under saline conditions (Barroway Drove Beds) reflects marine incursions whilst wetland plants such as the common reed were growing with wet alder woodland on the fringe of the floodplain. (Ref. borehole sample C11 (Gearey 2009) which dated the base and top of the organic sediment to Cal BC 2880 – 2610 at 2 sigma and Cal BC 1690 – 1520 at 2 sigma respectively.)
- c.3500 yrs BP: Peat accumulation across the area as the marine inundation peaked and lower lying areas were swamped by rising water levels. (Ref. borehole sample C32 (Gearey 2009) which dated the base of the upper peat at -1.5m OD to Cal BC 1750 – 1600 at 2 sigma.)

## **Methodology**

Topsoil and overburden was removed, in order to expose the prehistoric land surface, using a 360° tracked excavator fitted with a toothless bucket and operating under archaeological supervision.

The site was located using an advanced Global Positioning System (GPS). In addition, throughout the excavations the buried soil topography and depositional sequence was recorded using GPS in order to produce a contour survey and map of the palaeo-environmental deposits. Surface finds were also plotted using GPS.

All potential archaeological features were planned at a scale of 1:50 or 1:20 and sample excavated by hand with archaeological finds retained. Environmental bulk soil samples were taken from selected features. Waterlogged and worked wood was recorded on site, following discussions with Michael Bamforth, with a sub-sample of timbers recovered for further post-excavation assessment. A written record of all archaeological features was created using the CAU recording system (a modification of the MoLAS system) and sections were drawn at an appropriate scale.

## **RESULTS**

For the purposes of post-excavation assessment the Must Farm Phase II Extraction Area has been divided into two excavation areas; Areas A and B (see Figure 1). Area A comprised the larger part of the extraction area and covers the so-called ‘higher ground’ to the north. Area B, to the south, comprised a section of the major palaeochannel, which is a continuation of the Late Bronze Age channel in which the Must Farm timber platform site was discovered in 2006. The results of the Area B excavation will be detailed in a separate report and was subject to a separate methodology.

## Area A

Excavations in Area A revealed a preserved prehistoric land surface situated at a height of between -2.5m OD and -0.5m OD (see Figure 3). The majority of Area A comprised a slightly undulating plateau or terrace with zones of slightly higher ground towards the western edge of excavation. In the far south of the excavation area, the land surface fell away sharply to create a clearly defined 'edge'. A layer of preserved buried soil was recorded over the vast majority of Area A but was absent below the *c.*-1.5m OD contour in the south of the excavation area. The buried soil was generally between 0.2m and 0.3m thick, although it was recorded to a maximum depth of *c.*0.5m in some areas where an apparent subsoil horizon was identified.

### *Surface finds and buried soil sampling*

#### *Surface finds*

A total of 403 artefacts (from 268 separate 'find spots') were recovered from the surface of the buried soil during the machine stripping of Area A (see Figure 4). The finds assemblages comprised 179 worked flints, 34 sherds of pottery, 149 fragments of animal bone and 41 fragments of burnt stone/flint. Although technically 'unstratified', the preservation of the prehistoric land surface at Must Farm is such that the finds can be considered to be relatively *in situ*. As a result both the distribution of the surface finds and their date is meaningful in terms of site chronology and landscape activity.

Surface finds of pottery (Knight, see below) largely comprised sherds of Grooved Ware although two sherds of Early Neolithic pottery as well as a single sherd of Beaker were also recovered. This small pottery assemblage recovered from the buried soil is complemented by a larger flint assemblage (Billington, see below), also predominantly Late Neolithic / Early Bronze Age in date with a lesser Mesolithic / earlier Neolithic component. Animal bone recovered from the buried soil surface included domestic species, namely cattle, sheep/goat and dog, as well as wild species such as roe deer, aurochs and swan (Rajkovaca, see below).

The distribution of the surface finds (see Figure 4) shows a marked concentration in the southern half of the excavation area which, perhaps unsurprisingly given the date of the majority of the finds, coincides with the location of a number of Grooved Ware / Late Neolithic pits (see below) and clearly marks an area of Late Neolithic activity. Furthermore, within this southern group of finds, find spots were also often clustered on spurs or 'islands' of slightly higher ground (-0.5m OD and above) apparently reflecting the fine balance between wet and dry ground during the Late Neolithic. In the northern half of Area A, in an area occupied by Beaker period stake alignments and a burnt mound (see below), surface finds were relatively sparse.

#### *Buried soil sampling*

Further sampling of the buried soil comprising the excavation of six test pits, four measuring 5x5m (Test Pits A, B, C and D) and two measuring 3x3m (Test Pits E and



F) undertaken in targeted areas of the site (see Figure 4) yielded a finds assemblage (see Table 1) comparable with that from the surface finds collection in terms of date and distribution. Once again, a largely Late Neolithic/Early Bronze Age finds assemblage was concentrated in the southern half of the excavation area in an area of Late Neolithic activity while the northern half of the site yielded few buried soil finds. As with the surface finds an apparent preference for slightly higher ground was recorded in the southern half of the excavation area with Test Pits A and C - situated on slightly higher ground – yielding significantly more finds than Test Pit B, which was located in a slight depression.

Test Pit	Flint (Qty)	Pottery (Qty)	Bone (Qty)	Burnt Flint (Qty)	Burnt Stone (Qty)
A	28	-	-	-	1
B	5	1	-	-	-
C	17	2	16	2	17
D	2	-	-	-	-
E	-	-	-	-	-
F	3	-	-	-	-

**Table 1: Buried soil test pits finds – assemblage breakdown**

### *The metalled surface*

In the far south-west corner of Area A, a metalled surface, **F.278** (see Figures 5 and 6), was recorded where the prehistoric land surface fell away sharply from *c.*-1m OD to -2.5m OD, forming a pronounced ‘edge’. The surface was recorded over an area measuring approximately 26m by 14m - although the surface almost certainly extended over a slightly larger area taking into account the clear truncation of the metalling by machine (during soil stripping) along its southern edge.

The metalled surface was situated directly on the natural sand and gravel, the prehistoric buried soil evidently having been eroded in this area of site – potentially scoured away by fluvial activity (Steve Boreham pers comm.). The surface comprised thin layers of compacted gravel and small rounded pebbles with occasional larger river cobbles. Preservation was varied; while relatively intact and compacted surfaces were recorded in some areas, little more than a trace of an eroded surface comprising scattered gravel and pebbles was evident elsewhere. The make-up of the metalling also apparently differed over the surface as a whole, for example, while some areas comprised compacted natural gravel seemingly collected on-site, other areas were more carefully constructed of placed river pebbles and small cobbles. This suggests that either the surface was potentially constructed in a piecemeal fashion, or alternatively that frequent repair was required.

Few artefacts were recovered from the surface of the metalling itself, these comprised three worked flints, broadly dated to the Neolithic and 21 fragments of animal bone - largely cattle but also including red deer antler and possible aurochs bone - as well as occasional, unworked wood fragments which may potentially provide a C14 radiocarbon date for the surface. At present, the best indication of date for the metalled surface is provided by its relative height and two associated pits. Pits **F. 279** and **F.280** were located against the western edge of Area A, with pit F.280 extending beyond the limit of excavation. Consequently only pit F.279 was excavated, although, a single worked flint and a fragment of animal bone was recovered from the surface of

pit F.280. A single sherd of pottery, identified as Early Neolithic in date, as well as four fragments of animal bone were recovered from pit F.279. This small finds assemblage, together with the relative height of the metalled surface (up to 2.5m below sea level), suggest an Early Neolithic date.

### *Late Neolithic / Early Bronze Age pits*

A total of 10 pits were recorded in the southern half of the Phase II extraction area (see Figure 5). The pits formed a broadly linear swathe, orientated south-west to north-east, potentially reflecting a zone activity close to the contemporary fen edge. While some of the pits occurred in clusters - most notably **Fs. 256, 261 and 262** - the majority of the pits were relatively dispersed over a clearly defined zone of Late Neolithic / Early Bronze Age activity also reflected in the buried soil finds distribution.

Pit	Pottery (g)	Flint (g)	Bone (g)	Burnt Flint (g)	Burnt Stone (g)	Burnt Clay (g)
F.250	52	9	-	-	109	-
F.251	69	1	3	1	172	-
F.252	2	22	-	-	-	-
F.254	-	7	-	163	76	-
F.255	-	11	-	-	-	-
F.256	-	108	-	-	1053	-
F.261	59	140	61	-	969	-
F.262	-	-	-	-	-	73
F.264	-	3	1	-	104	-
F.265	-	-	-	-	5696	-

**Table 2: Late Neolithic / Early Bronze Age pits - assemblage breakdown**

Four of the pits (**Fs. 250, 251, 252** and **261**) yielded sherds of Late Neolithic Durrington Walls style Grooved Ware pottery. A further four pits (**Fs. 254, 255, 256** and **264**) produced worked flint, which whilst not strongly diagnostic is likely to be Late Neolithic in date. Only three of the Late Neolithic pits produced a small amount of animal bone, little of which was closely identifiable to species although pig and cattle-sized elements were recorded.

Two further pits remain undated: F. 262 was located in close proximity to Late Neolithic pits F.256 and F.261 forming a small pit cluster and is, therefore, highly likely to be contemporary. **F.265** located to the north of the main zone of Late Neolithic activity was notable for the amount of burnt stone recovered from its fill. This suggests that it is perhaps more likely to be associated, and therefore, contemporary with the (potentially Beaker period) burnt mound F.267, to the north.

In addition to the pits, further evidence of probably contemporary activity was, in some places, preserved on the buried soil surface. To the north-west of pit F.254 a fragment of a charred log (**F.260**) lay on the former ground surface, while a hearth or fire site (**F.263**) - in the form of a roughly circular scorched patch on the surface of the buried soil - was recorded immediately adjacent to Grooved Ware pits F.251 and F.252. A single sherd of pottery was recovered from F.263 which has been provisionally identified as Beaker. While this suggests the feature is not associated

with F. 251 and F.252, the Beaker assignation should also perhaps be re-assessed given the proximity of the pits. A lozenge-shaped pit (or short gully; **F.257**) located immediately to the south of the ‘hearth’ may be associated but could equally be a natural hollow or tree throw.

### ***Beaker period stake alignments and the burnt mound***

In the northern half of Area A, two stake alignments and a burnt mound were excavated (see Figure 5). The two stake alignments, **F.266** and **F.268** (see Figure 5) occupied the same south-east to north-west alignment being broadly parallel and located c.55m apart. It seems, therefore, highly likely that they were contemporary features.

A burnt mound (**F. 267**), probably broadly contemporary with stake alignment F.266 – which appears to deviate slightly to avoid it – was recorded immediately to the south-east of F.266.

### ***Stake alignment F.266***

Stake alignment F.266 (see Figures 7 and 8) extended for some 70m and comprised 188 individual stakes largely occurring in a single row, although in the northern third of the alignment a double row of stakes, often occurring in pairs was recorded. The feature was linear although deviations in the course of the alignment were recorded – most notably where the presence of a tree throw suggests it was necessary to avoid a tree.

Detailed investigation undertaken in an area c.5m in length, where the overlying reed peat was hand excavated – rather than machine excavated - revealed surviving horizontal elements comprising brushwood threaded through the upright stakes in the style of a ‘dead hedge’ boundary. The upright stakes ranged in diameter from c.10-70mm and from c.100-600mm in length. All those recorded had been trimmed to a length or sharpened to a point, presumably with an axe, and were probably the product of coppicing (see below, Bamforth). The stakes were all driven through the buried soil horizon and often into the underlying gravel. Across much of the area occupied by the stake alignment, a thin build-up of peat / peaty buried soil was recorded, beneath the horizontal elements of the fence line.

An individual stake (Timber 9) from F.266 submitted for C14 radiocarbon dating produced a date of Cal BC 2200 to 1970 at 2 Sigma calibration.

<b>Timber No.</b>	<b>Lab. Reference</b>	<b>Measured Radiocarbon Age</b>	<b>2 Sigma Calibration</b>
9	Beta – 263158	3710 +/- 40BP	Cal BC 2200 to 1970

**Table 3: Stake alignment F.266 - details of C14 dating**

### *Stake alignment F.268*

Stake alignment F.268 extended for a length of *c.*50m and comprised a total of 434 roundwood stakes. The recorded stakes were once again trimmed or sharpened to a point and probably derived from coppiced poles. Individual stakes ranged in diameter from *c.*20-70mm in diameter and from *c.*100-700mm in length. No horizontal, brushwood elements were recorded although the feature was noticeably less well preserved than F.266.

The form of stake alignment F.268 was markedly different to the single or double row of F.266 and is best described as a linear scatter or spread of stakes which was in places up to 1.2m wide. While this may suggest that a different construction technique to the 'dead hedge' style of F.266 was adopted for F.268, the remains may also represent multiple alignments which were replaced, or altered over time.

### *The burnt mound*

Situated along the line of stake alignment F.266, a burnt mound (**F.267**) measuring 9.2m by 6.2m was recorded (see Figure 9). The burnt mound survived to a maximum depth of 0.18m and largely comprised fragmented burnt stone with occasional burnt flint fragments and gravel in a charcoal rich sandy silt matrix. Once again, as with F.266, a thin layer of peat/peaty buried soil was recorded between the buried soil surface and parts of the burnt mound deposit, seemingly indicating initial peat formation while the burnt mound was still in use. Two pits, **F. 270** and **F.271** were partially overlain by the burnt mound and both contained primary fills with high concentrations of burnt stone indicating their contemporaneity with the burnt mound. Neither produced any readily dateable artefacts although pit F.270 contained a dense layer of roundwood fragments and timber detritus which will potentially provide a C14 radiocarbon date for the feature. The pits are clearly directly associated with the burnt mound and closer examination of the form and depth of the burnt stone deposit itself suggests that it represents two separate episodes of activity resulting in the discard of burnt stone and gravel around each pit. A gradual merging of the two burnt mound deposits –each located adjacent to a pit - has clearly taken place creating a larger, more amorphous, spread of material. No artefacts were recovered from the burnt mound itself.

The relationship of the burnt mound with the Beaker period stake alignment F.266 is somewhat ambiguous. Individual stakes were preserved within the burnt stone deposit and while this could suggest that the stakes cut through the burnt mound deposit it is just as likely that the burnt mound material was deposited around the stakes. It would appear most likely that the burnt mound neither significantly post-dates, or pre-dates the stake alignment and that the two features are broadly contemporary albeit evidently not in use at the same time.

### ***Discussion***

The excavations in the Must Farm Phase II Extraction Area have revealed archaeological remains and artefacts belonging to three broad periods of prehistory

from the Early Neolithic to the Late Neolithic / Early Bronze Age. In addition, the flint assemblage includes Mesolithic elements representing 'background' earlier activity. As has been discussed regarding Bradley Fen (Gibson and Knight 2006) and earlier investigations at Must Farm (Evans et al. 2005 and Tabor 2008) the relationship between chronology, archaeology and the encroaching peat / fen edge is crucial. As such the relative height of features is key to understanding the prehistoric landscape. The environmental evidence suggests damp grassland with an element of arable and the occasional tree or shrub in the Early Neolithic period. This flora appears to continue in to the Bronze Age with the exception that no evidence for arable agriculture was found within the samples analysed (de Vareilles, below).

### *Early Neolithic*

Although at present only tentatively dated by association with an Early Neolithic pit (F.279), the metalled surface would appear to be a major Early Neolithic feature. The location of the feature at *c.*-2.5m OD supports an Early Neolithic date given the clear relationship between chronology and height OD; no later features have thus far been found at such depths, with Late Neolithic and Beaker activity at Must Farm seemingly confined to areas above the -1m OD contour. The finds assemblage, although small also adds weight to such a date with cattle being the prevalent species in the animal bone assemblage and the flint assemblage being broadly Neolithic. The feature is also potentially comparable to a metalled surface excavated at Bradley Fen (Gibson and Knight 2006) on the surface of which a Neolithic (probably early) flint was recorded.

In terms of function, a limited finds assemblage and few associated features provide no direct evidence. Given its location, however, the surface must surely represent an attempt to consolidate an increasingly wet area in order to provide access to the 'fen edge' and the fens beyond.

Metalled surface F.278 is undoubtedly a significant feature and, in terms of the Flag Fen basin landscape, represents prehistoric activity at previously unheard of depths below OD. The feature extended beyond the western edge of Area A and areas of metalling could potentially extend to the west occupying a large stretch of the contemporary fen edge.

### *Late Neolithic (Grooved Ware associated)*

The buried soil finds distribution and the Grooved Ware pits and associated features in the south of Area A signify a well-defined area of prehistoric activity. Although only four of the pits yielded Grooved Ware pottery it would appear that, with the exception of burnt stone-filled pit F.265, all of the pits and associated features date to the Late Neolithic. The preliminary Beaker period date assigned to 'hearth' F.263 should certainly be reconsidered given the overwhelmingly Late Neolithic character of the features in this area.

The features and finds clearly cluster close to the south-eastern edge of the Area A plateau at a height of between -0.5m and -1m OD, just to the north of the 'edge' occupied by metalled surface F.278. When combined with the buried soil finds from

the immediately adjacent area of the Phase I Extraction Area (Tabor 2007) to the east, the finds and features represent a clear zone of Late Neolithic activity close to the contemporary fen edge.

#### *Beaker period*

Although few artefacts of Beaker date were recovered three of the major features recorded in the Must Farm Phase II Extraction Area – the burnt mound and stake alignments - are considered to belong to the Beaker period.

The burnt mound (F.267) is in many ways comparable to that excavated to the east in the Phase I Extraction area (Tabor 2008) and those excavated at Bradley Fen (Gibson and Knight 2006). Further work on the composition of burnt mound F.267, as well as radiocarbon dating should provide additional data for comparison. Although no dating evidence was recovered from the burnt mound, the relationship with Beaker period stake alignment F.266 suggests they are broadly contemporary. The Bradley Fen ‘Burnt Mound 2’ has been dated to 2100-2030 Cal BC (Gibson and Knight 2006) and is, therefore, also potentially contemporary with F.267.

The two stake alignments excavated in the Phase II Extraction Area are regionally, if not nationally significant features. The radiocarbon date obtained for an individual stake from F.266 (Cal BC 2200 to 1970 at 2 Sigma calibration) falls firmly within the Beaker period and suggests that both stake alignments date to the Late Neolithic / Early Bronze Age. The features are, therefore, amongst the earliest forms of land division recorded in the region and few parallels exist - although the Fengate field systems potentially have earlier origins, a Middle Bronze Age date is generally accepted for their use (Evans 2009). Alignments of stake holes, associated with Beaker pits, excavated at Northey (Britchfield 2010) have been interpreted as fence lines and offer the closest parallel to the Must Farm features. However, the features are neither as securely dated nor well preserved as F.266 and F.268 and were exposed within a relatively small excavation area.

At present, the stake alignments and ‘dead hedge’ fence lines that they represent appear to ‘float’ within the wider landscape; with the exception of the burnt mound no other related landscape features were recorded. Whether the stake alignments belong to a wider system of land division is a question which will hopefully be answered by archaeological investigations in advance of the continued westward quarry expansion. Understanding the nature of the land division and the environment/landscape in which it existed should also be key objectives of both post-excavation work and the continued excavations on site. The apparent initial build up of peat recorded below parts of burnt mound F.267 and stake alignment F.266, for example, suggests that this area was already becoming ‘wet’ when the features were in use and may be key to their interpretation.

#### *Environment and economy*

The results of the Phase II Extraction Area excavations have the potential to further our understanding of the Neolithic and Bronze Age landscape and the changing environment during prehistory, which is a particular focus of the on-going programme of works at Must Farm/Bradley Fen.

The limited faunal assemblage (see below, Rajkovača), a combination of domesticated – largely cattle – and wild species fits in relatively well with our current understanding of the Neolithic economy. The results of the environmental assessment (see below, de Vareilles), pose a number of interesting questions. How, for example, does the evidence of clearance relate to the preserved woodland buried soil recorded across the Must Farm/Bradley Fen landscape (Gibson and Knight 2005)? Analysis of environmental samples from the Phase II Extraction Area suggests that potentially, alder woodland/fen carr was co-existing with parcels of cleared land, possibly defined by features such as the stake alignments F.266 and F.268. It also appears likely, given the initial peat growth recorded beneath F.266 and F.267 that these may have been relatively short-lived features in a fast-changing landscape.

## CONCLUSION

The excavations within the Must Farm Phase II Extraction Area recorded a number of archaeological features, which are in themselves regionally significant. Furthermore, the excavation results have the potential to further our understanding of an important archaeological landscape when placed within the wider context of previous and future archaeological work:

- The metallised surface is as yet not fully understood and the finds assemblage and form of the feature, as well as the potentially associated Early Neolithic pits should be considered alongside the results of further excavations to the west, in the Phase III extraction area.
- The burnt mound is one of a growing number of this type of feature in the Must Farm/Bradley Fen landscape, further work regarding its composition and date will allow comparison.
- The stake alignments are potentially nationally significant features and detailed analysis of their construction including species identification and assessment of woodworking technologies (as detailed by Bamforth, below) is required.
- More generally, the excavation results also have the potential, alongside the results of past and any potential future archaeological works, to further our understanding of the changing environment during prehistory and how this relates to the nature and date of archaeological remains.

Finally, the on-going process of landscape modelling of the buried land surface and major peat and sedimentary deposits is providing a detailed image of the prehistoric landscape. Mapping the subtleties of the fen edge landscape provides context for the archaeological remains and greatly enhances the results of archaeological excavation.

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## SPECIALIST STUDIES

### The Flint – Lawrence Billington

#### *Introduction*

A total of 319 worked flints and 36 unworked burnt flints (279.4g) were recovered from the excavation. Exposure of large areas of buried soil allowed the collection of 179 *in situ* worked flints from the surface of the site, which were recorded three dimensionally. This was supplemented by the test excavation of blocks of buried soil from which a further 66 struck flints were collected. The excavation of cut features yielded a further 74 flints. The assemblage from the site is dominated by evidence for later Neolithic activity. Smaller numbers of earlier blade based material were consistently recovered, representing Mesolithic/earlier Neolithic activity.

Context	Worked flint	Unworked burnt flint (g)
surface finds	179	6 (64.7)
test squares	55	2 (53.1)
buried soil [682]	11	0
features	74	28 (161.6)

**Table 4: The flint assemblage by context**

#### *Raw Materials and condition*

All of the material was flint, generally fine grained and of high knapping quality. The sources of the flint were obviously varied. The assemblage is dominated by dark grey/black flint, some of which retains a thick (up to 9mm) fresh cortex characteristic of primary chalk flint, with significant amounts of mottled grey and translucent grey/orange flint, derived from secondary, probably gravel, deposits. The use of quarried/mined primary chalk flint appears to be predominantly a later Neolithic phenomenon both locally in the Flag Fen Basin and at a regional level (e.g. Beadsmoore 2009, Edmonds et al 1999). The inclusion of waste flakes and exhausted cores of chalk flint in the assemblage suggest that primary flint was being transported as nodules or partly prepared cores rather than exclusively as finished tools. It is, however, possible, if not likely, that some tools and blanks were brought as finished items from the chalkland.

The assemblage is generally in very good condition, fresh and without post depositional damage. Cortication is rare, occurring on only 22 pieces, 6.9% of the assemblage. Cortication appears to have chronological implications, with 10 of the corticated pieces, 45.5% showing technological traits suggestive of a Mesolithic or earlier Neolithic date, and no diagnostically later pieces showing cortication. Although cortication was rare, a matt black patina had affected many pieces. This has been noted before in assemblages from the Flag Fen Basin (Wilson 2009, Billington 2010) and has been suggested to result from staining from organic deposits, probably peat. A similar phenomenon has been noted on some Danish flints; generally found in

brackish or flowing water, Vang Petersen (1993: 31) has suggested it is due to sulphur from rotten organic matter within the water acting on the flint.

### *The surface finds and buried soil assemblage*

#### *Mesolithic/earlier Neolithic*

Mesolithic and earlier Neolithic activity was represented by occasional fine blade based pieces. Some 27 worked flints from the surface finds and test squares - or 12% of the buried soil assemblage - are tentatively thought to belong to these earlier industries, This can only be an approximation; some of the less diagnostic material may belong to this earlier phase, whilst some of this blade based material may equally relate to later Neolithic flint working. Flake removals are generally thin and fine, including true blades and narrow flakes. Particularly distinctive is the use of fine platform abrasion or trimming enabling platforms to be struck very close to edge of the core. Bending initiations and diffuse bulbs of percussion, suggesting the use of soft hammers, are very common. Three carefully worked cores were recovered which probably also relate to this earlier phase of activity. All three were extensively worked out and exhausted with an average weight of just 19.5g. No retouched tools of this date were recovered, although it is possible that some of the scrapers may relate to activity in this broad period. Four of the unretouched blades and narrow flakes did, however, show evidence for utilisation in the form of macroscopically visible edge scarring and many others may have microscopic traces of utilisation.

	surface finds	test square a	test square b	test square c	test square d	test square f	total
Chip	11						11
Chunk	4	1		1			6
Flake	93	17	2	8	1	2	123
narrow/blade-like flake	14	2	1	4			21
Blade	14	2					16
Bladelet	1	3					4
rejuvenation flake	1						1
polished flint axe flake	2						2
irregular core	2						2
single platform flake core	1						1
Two platform flake core	1			1	1		3
multiple platform flake core	1						1
single platform blade/narrow flake core		1					1
multiple platform blade/narrow flake core	1						1
opposed platform core	1						1
keeled core	4	1	1	1			7
core on a flake			1				1
core fragment	1			1			2
tested nodule	1						1
End scraper	5	1					6
Sub circular scraper	4						4
horse shoe scraper	1						1
misc scraper	3						3

combination knife/serrate/burin	1						<b>1</b>
Fabricator	1			1			<b>2</b>
retouched flake	9					1	<b>10</b>
serrated flake	1						<b>1</b>
small core tool	1						<b>1</b>
<b>total worked</b>	<b>179</b>	<b>28</b>	<b>5</b>	<b>17</b>	<b>2</b>	<b>3</b>	<b>234</b>
burnt unworked	6			2			<b>8</b>
burnt unworked weight (g)	64.7			53.1			<b>117.8</b>
retouched (%)							<b>12.4</b>
unretouched utilised (%)							<b>20.5</b>
burnt (%)							<b>8.5</b>

**Table 5: Flint assemblage from buried soil deposits.**

### *Later Neolithic*

The majority of the lithic assemblage from the buried soil deposits consisted of flake based material that would conventionally be assigned a later Neolithic/Early Bronze Age date. Flake removals dominate the assemblage. 61% of all removals lack cortex completely and only 5% have cortex on more than 75% of their dorsal surfaces. This suggests that working flint in the area was primarily restricted to the later stages of core reduction. The removals are dominated by relatively broad and thick flakes, although seven blades were recovered making up 5% of the unretouched removals. These blades can be distinguished from the earlier material by their thicker, more robust form, larger, occasionally faceted platforms and the use of hard hammer percussion. Flake production appears to have been relatively systematic, cortical platforms make up only 8% of the intact platforms and rough platform trimming was present on 29% of removals. Faceting was present on 8% of platforms, often on relatively broad thin flakes with multi-directional dorsal scars that suggest they result from working bifacial tools or, more likely, discoidal cores. 18 flake cores were recovered; all but one had more than one striking platform, although most appeared to be worked fairly systematically from one platform at a time. Keeled cores were particularly well represented (seven examples), although none were of true discoidal or of levallois type.

29 retouched tools were present in the assemblage, making up 13.4% of the assemblage (excluding the 27 'early' pieces discussed above). 43 of the unretouched flakes also show clear signs of utilisation. Scrapers are the most common form, short end forms dominating with sub-circular forms also common. The remainder of retouched forms are generally informally edge-retouched flakes. One serrated flake was recovered. A fine combination tool on a large blade-like blank was recovered with fairly coarse serration/denticulation on one edge and fine invasive retouch on the other which has been partly truncated by an intentional(?) burination. Two fragments of polished flint axes were recovered. Both appear to be intentional flakes as opposed to accidental breaks during use. Particularly unusual and notable was the recovery of two extremely fine fabricators. These pieces are not of the rod form commonly encountered but are instead both made on large blade-like tertiary blanks with continuous abrupt retouch around their perimeter with distinctive crushing, the defining trait of these tools, at one end. Fabricators of this form were first recognised as a distinct type by Isobel Smith during her analysis of the worked flint from Windmill Hill, Wiltshire, and for which she suggested a Late Neolithic date (Smith

1965: 108). Comparable examples have been recovered closer to home from excavations at Plantation Farm, Shippea Hill (Clark 1933: 59, fig 4) and from surface collection at Mildenhall, Norfolk (Smith 1931: 32, fig 162).

Although the buried soil assemblage undoubtedly reflects a very long period of activity it does have a series of recurring traits that strongly suggest a predominantly later Neolithic date for the material. These traits include the high proportion of keeled cores, which are common in later Neolithic assemblages regionally (Healy 1985: 192-4), evidence for the use of platform faceting and discoidal cores (see Saville 1981: 6) and the profligate use of raw material, some at least deriving from a primary chalk source. The tool assemblage is also consistent with a later Neolithic date; serrated pieces are present but in smaller numbers than would be expected in an earlier assemblage and relatively large formal scraper forms dominate. There is a notable absence of diagnostic retouched forms associated with Beaker/Early Bronze Age activity, such as the plano-convex knives and small, often invasively retouched, scraper forms recovered from Beaker and Collared Urn associated assemblages elsewhere in the Flag Fen Basin (e.g. Beadsmoore 2009, Conneller 2002). The assemblage compares favourably with material recovered from Grooved Ware associated pit contexts both locally (Beadsmoore 2009, Pryor 1978) and in the wider region (see Garrow 2006: chapter 6). Outside of these closed contexts later Neolithic lithics are generally mixed with, and often indistinguishable from, later (Beaker/Early Bronze Age) material (although see Middleton 1990). The high numbers of retouched and utilised pieces in the assemblage together with the high incidence of non-cortical flakes suggests more of an emphasis on flint tool use rather than core reduction. The proportion of retouched tools compares favourably with contemporary pit deposits (Garrow 2006: table 6.6) making suggestions that the high proportion of tools within pit deposits is due to selective/structured deposition increasingly less tenable. It is perhaps more fruitful to consider these patterns in terms of raw material scheduling and the mobility of communities (see Beadsmoore 2009: 166).

### ***Metalled Surface F. 278***

Three worked flints were recovered from the surface of the metalling (included in table 5), comprising a scraper and two flakes, one of which showed signs of heavy utilisation. Both the scraper and the utilised flake were made on fine black flint with a 'primary' cortex. Although the number of pieces is very small the pieces are consistent with the Neolithic material represented by the bulk of the buried soil assemblage. The scraper and utilised flake hint at activities taking place on the surface itself, with an apparent absence of flintworking. In contrast, excavation of a similar metalled surface at Bradley Fen produced a substantial lithic assemblage of 166 pieces, resulting from both flint working and tool use, including an earlier Neolithic leaf shaped arrowhead (Edmonds 2006).

### ***Features***

74 worked flints were recovered from 11 pit features investigated during the excavations. None of the features produced large assemblages, only F. 252 contained more than 15 flints, most of which are chips and small spalls or fragments. Five features (F. 250, F. 254, F. 257, F.271 and F. 280) contained single pieces of hard

hammer struck debitage. The material from the pits was generally very similar to that from the buried soil deposits across the site and whilst little of the material is strongly diagnostic most is likely to be of later Neolithic date. F. 256 contained 9 flakes, including a high proportion of narrow/blade-like forms alongside two scrapers, one with a finely faceted platform, and a flake core. F. 261 likewise contained flakes, several utilised, alongside a scraper. The assemblage from the features, although a small sample, included a higher percentage of waste material than from the buried soil deposits. Although this may reflect some sampling bias, in that the hand excavation of features made the retrieval of small fragments and chips more likely, it may reflect a difference in practice with flint working being more closely associated with the ‘settlement’ type activities generally thought to be represented by pit deposits. This potentially contrasts with the buried soil assemblage which could reflect task specific tool use away from sites of habitation as well as traces of settlement, however ephemeral that may have been.

	250	251	252	254	255	256	257	261	264	271	280	total
Chip		2	4		1		1					8
Chunk			1					1				2
Flake	1	8	19	1	5	4		10	3	1		52
narrow/blade-like flake						4		1				5
Blade						1						1
Bladelet									1		1	2
two platform flake core						1						1
sub circular scraper								1				1
horse shoe scraper						1						1
misc scraper						1						1
<b>total worked</b>	<b>1</b>	<b>10</b>	<b>24</b>	<b>1</b>	<b>6</b>	<b>12</b>	<b>1</b>	<b>13</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>74</b>
burnt unworked		1		27								28
burnt unworked weight (g)		0.3		161.3								161.6
retouched (%)												4.7
unretouched utilised (%)												7
burnt (%)												1.2

**Table 6: Flint assemblage from the cut features**

### *Discussion*

A low density ‘background’ of Mesolithic/earlier Neolithic activity is attested by flintwork from the buried soil deposits. The small assemblage from channel edge buried soil deposit [682] hints at possible higher densities of this earlier material, although only a small amount of the deposit was sampled. The vast majority of the assemblage reflects later Neolithic activity, both as a scatter of flintwork in the buried soil across the site and within the fills of cut pit features. The lithic assemblage is significant for a number of reasons and highlights the potential of assemblages from investigations into the lower parts of the Flag Fen Basin:

- The position of the site relatively low down the contour is reflected in the character of the assemblage which contains no certain evidence for flintwork of Beaker or later date. This contrasts with other buried soil assemblages from previous phases of work, including the 2007 excavations, which produced

‘Beaker type’ flints including thumbnail scrapers and a plano-convex knife (Beadsmoore 2008), and from the Bradley Fen Farm and Silt Lagoon assemblages, which contained a distinctive Beaker/Early Bronze Age component (Edmonds 2006).

- The high percentage of retouched and utilised tools reflects numerous activities taking place in the landscape, the undisturbed nature of the deposits ensures that these tools are recovered *in situ* where they were discarded/deposited.

The implication of these two points is that lithic assemblages from this, and future, investigations evade the worst of the problems that invariably plague the study of lithic scatters, notably the palimpsest of many different periods of flint production and use and disturbance by agriculture (see papers in Schofield 1990). The high potential of such assemblages for our understanding of prehistoric landscape inhabitation has been appreciated elsewhere, notably at Yarnton and Dorney in the Thames Valley, where *in situ* scatters sealed beneath alluvial deposits have been investigated (Hey 1998, Lambdin-Whymark 2008). Anticipating the recovery of similar assemblages from future investigations the high potential for research including conventional technological analysis, GIS and use wear analysis should be highlighted.

### Prehistoric Pottery – Mark Knight

The assemblage was made up of 58 sherds weighing 388g (MSW 6.7g). The pottery can be separated into two groups based upon whether the sherds came from *features* or the *buried soil*. By weight 52.3% of the assemblage was from features and these had a mean sherd weight almost twice the weight as the pieces from the buried soil. The difference was not universal, however, as the buried soil yielded some comparatively large fragments (MSW above 20g) whilst two of the features produced pottery weighing less than 5g. The condition of the material was generally good, regardless of context, and in some cases very good with pieces retaining sharp surface definition as well as carbonised residues adhered to internal surfaces.

	Number	Weight	MSW
<i>Features</i>	20	203g	10.1g
<i>Buried Soil</i>	34	185g	5.4g
<i>Total:</i>	58	388g	6.7g

**Table 7: Distribution/context of pottery**

Feature sherds included 3 rim and 4 base angle fragments and 12 pieces were decorated. A single decorated handle fragment was also present (SF 102). The fabric series incorporated hard grog filled pieces as well as shell-rich and flint tempered sherds.

	Number	Weight	MSW
<i>Early Neolithic</i>	4	26g (6.7%)	6.5
<i>Grooved Ware</i>	43	341g (87.8)	7.9g
<i>Beaker</i>	7	21g (5.4%)	3g

**Table 8: Assemblage Breakdown**

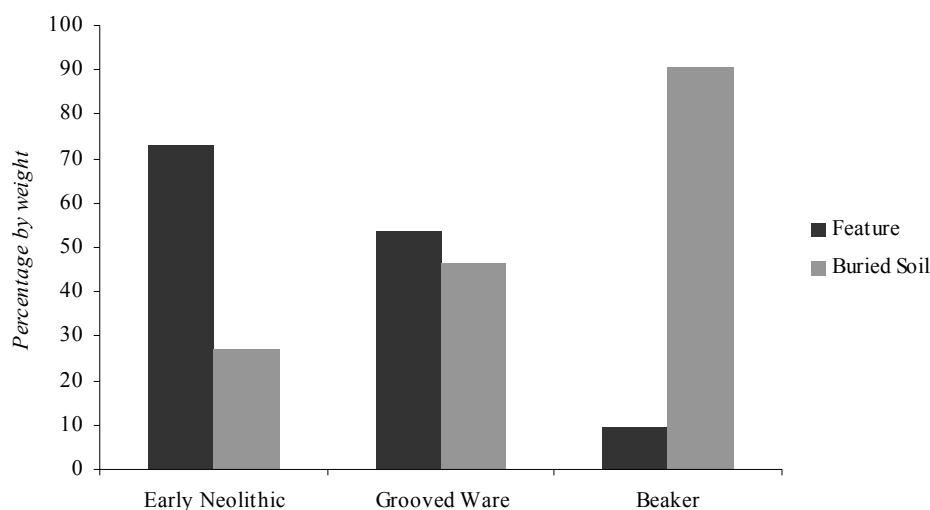
A single plain expanded rim sherd from F.279 made of a fabric with abundant crushed shell had all the attributes of Etton-style Early Neolithic Mildenhall pottery.

Diagnostic sherds such as the large body fragments from F.250, F.251 and SF66 had raised vertical cordons and included fingertip and diagonal incised-line decorated intervening panels. These belong to the Durrington sub-style of the Grooved Ware tradition and shared the same 'grog' fabric as an incised sherd from SF 178 and some base angle pieces from F.261. Interestingly, the majority of the Grooved Ware fragments had carbonised residues adhered to their internal surfaces.

Surface finds SF102, SF108 and F.263 collectively represented a small assemblage of Beaker pottery that included part of an applied handle decorated with incised and impressed decoration, an internally bevelled rim, and two small thin-walled body sherds.

The remainder of the assemblage was made up of small plain fragments, the majority of which appeared to share the same fabric as the diagnostic Grooved Ware pieces.

Grooved Ware of the Durrington sub-style made up 87.8% of the total weight of the assemblage. At the same time the Grooved Ware component was shared almost equally between features and the buried soil whereas the small Early Neolithic and Beaker assemblages demonstrated a contextual bias towards either feature (Early Neolithic) or the buried soil (Beaker).



**Chart 1:** Percentage of pottery types between feature and buried soil contexts

## **Faunal remains -*Vida Rajkovača***

### ***Introduction***

The excavations at Must Farm resulted in the recovery of 173 assessable bone fragments weighing 6223g. The majority of the assemblage was collected from the buried soil surface. A further 24 fragments originated from cut features and only five bone specimens came from the test excavations of blocks of buried soil.

**Table 9.** Quantity and provenance of faunal remains from MUS09

<b>Context</b>	<b>NISP</b>	<b>NISP%</b>
Buried soil-Surface collection	144	83
Buried soil-Test excavations (all from test square C)	5	3
Cut features	24	14
<b>Total</b>	<b>173</b>	<b>100</b>

### ***Methodology***

The zooarchaeological investigation followed the system implemented by Bournemouth University with all identifiable elements recorded (NISP: Number of Identifiable Specimens) and diagnostic zoning (amended from Dobney & Reilly 1988) used to calculate MNE (Minimum Number of Elements) from which MNI (Minimum Number of Individuals) was derived. Identification of the assemblage was undertaken with the aid of Schmid (1972), Hillson (1999), Cohen and Serjeantson (1996) and reference material from the Cambridge Archaeological Unit, Cambridge. Unidentifiable fragments were assigned to general size categories where possible. This information is presented in order to provide a complete fragment count. Taphonomic criteria including indications of butchery, pathology, gnawing activity and surface modifications as a result of weathering were also recorded when evident.

### ***Results***

For the purpose of this assessment, faunal material collected from the buried soil will be considered as a whole and the material recovered from cut features will be discussed separately. The state of the preservation ranged from moderate to poor, with the majority of the bone demonstrating signs of weathering and other erosive damage. In addition, traces of gnawing were observed on four specimens all of which were identified as canine gnawing marks.

#### ***Buried soil***

Two main characteristics of the assemblage were noted; firstly, a prevalence of cattle and secondly, a relatively varied list of wild species. Cattle were mainly represented by loose teeth; however, meat-bearing elements were also identified. Two other domestic species were present, sheep/goat and dog. The presence of aurochs was positively identified based on a number of elements: radius, scapula, tibia and metatarsus. It is possible that a number of cattle-sized fragments also belong to this wild species. Red deer is represented by three antler fragments, radius and a loose tooth. The recovery of two near complete humerii identified as swan and mallard very much reflects site's wetland location. Butchery was observed on cattle femur and red deer antler tine, both of which were chop marks. Traces of gnawing were noted on four specimens. It was not possible to obtain any measuring data from this assemblage.



Fifty-three fish bones were recovered from the surface, two of which were identified as pike mandibles and most likely belonging to the same animal. Facial elements, vertebra and scales are common. The remains have been separated for further specialist analysis but provisional identification of dentary fragments indicates the presence of pike (*Esox lucius*).

**Table 10.** Number of identified specimens to species and minimum number of individuals from MUS09/ Buried soil. The abbreviation n.f.i. denotes that specimen could not be further identified.

<b>Taxon</b>	<b>NISP</b>	<b>NISP%</b>	<b>MNI</b>
Cow	31	60	3
Ovicaprid	4	8	1
Dog	1	2	1
Aurochs	5	10	1
Red deer	5	10	1
Roe deer	1	2	1
Swan	1	2	1
Mallard	1	2	1
Pike	2	4	
Cattle-sized	23	.	.
Sheep-sized	4	.	.
Rodent-sized	1	.	.
Bird n.f.i.		1	.
Fish n.f.i.		51	.
Mammal n.f.i.		18	.
<b>Total</b>	<b>149</b>	<b>100</b>	<b>.</b>

### *The metalled surface (F.278)*

Collection of finds from the metalled surface resulted in the recovery of 21 bone specimens of which eight were assigned to species. Cattle is the prevalent species represented with loose teeth, humeri and metacarpus. In addition, an exceptionally large fragmented cow ulna was recovered from the metalled surface. This specimen was not possible to measure, but it potentially represents further evidence for the presence of aurochs on site. Other finds include a fragment of a red deer antler, as well as cattle-sized and sheep-sized elements. Finally, nine unidentifiable bone fragments were assigned to mammal category.

### *Cut features*

A small quantity of faunal material was collected from four pits in Area A. The preservation of the material and the limited range of species are similar to that from the buried soil. Grooved Ware pits (F.251, F.261, F.279 and possibly F.280) contained small quantity of the material the majority of which was unidentifiable. Remains of fish were also recovered from the palaeochannel deposits with one mandible positively identified as pike.

**Table 11.** Number of identified specimens to species and minimum number of individuals from MUS09/ Cut features. The abbreviation n.f.i. denotes that specimen could not be further identified.

Taxon	Feature							Total
	251	261	264	275	276	279	280	
Cow		1						2
Pig			1			1		2
Swan					1			1
Pike					1			1
Cattle-sized	1	2			1	1	1	6
Sheep-sized					1	2		3
Mammal n.f.i.		7						7
Fish n.f.i.				1	1			2
<b>Total</b>	<b>1</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>24</b>

### *Conclusion*

It has been proposed that if the three age system had been created by a British zooarchaeologist, we would be studying a Cattle Age (Early Neolithic), a Pig Age (Late Neolithic) and a Sheep Age (Bronze and Iron Ages; Albarella 2007: 389). The small assemblage is dominated by the remains of cattle accounting for c.60% of the identified species. This prevalence of cattle, coupled with the relatively varied range of wild species (aurochs, red deer, roe deer, swan, mallard and pike), could be suggestive of a fairly early date for the assemblage, namely Early Neolithic. The site's relatively low position down the contour also supports this inference.

The prevalence of cattle and cattle-sized elements reflects the pastoral economy of the area. Three wild species in particular are indicative of the surrounding woodland (e.g. aurochs, red deer and roe deer) and its environmental potential for the exploitation of wild resources. Similarly, typical wetland species such as swan, mallard and fish, pike in particular, appear to have been a vital local resource. Pike are freshwater fish found in slow-flowing rivers and the presence of this species is an important indicator of the local environmental conditions at the time. It is important to determine here, especially for bird and fish remains, which species and body elements are anthropogenic in origin and which were carried by water or represent part of the background fauna.

**Wood – Michael Bamforth**

### *Introduction*

This report has been compiled by Michael Bamforth of L - P : Archaeology on behalf of Cambridge Archaeological Unit (CAU). This document aims to appraise the waterlogged wood assemblage in terms of the volume and type of material encountered and its potential for further analysis. A total of 701 discreet items were recorded by M. Bamforth and CAU staff.

### *Provenance*

The material was encountered during archaeological excavations and watching brief at Must Farm, Whittlesey, Cambridgeshire by Cambridge Archaeological Unit during summer 2009.

On site recording of F.266 and F.268 was carried out by field staff of the Cambridge Archaeological Unit after training from M. Bamforth during a site visit on 3<sup>rd</sup> August 2009. The remainder of the material was recorded by M. Bamforth at the offices of CAU.

#### *F.266*

This north-west south-east aligned feature consisted of roundwood stakes, extending for some 70m. The feature lies at c. -1mOD. A single radiocarbon date from a roundwood stake assigns this feature to the Late Neolithic / Early Bronze Age. The northern third of the feature was formed of a double row of stakes. In places, a layer of brushwood had survived between the double row of stakes. This arrangement of parallel rows of stakes retaining horizontal brushwood is often referred to as a 'dead hedge'.

The feature consisted of 188 roundwood stakes and 33 recorded horizontal elements. A total of 54 stakes were extracted for detailed recording and the recovery of species identification sub-samples. Of the extracted material, 15 items were retained to allow further analysis, should it be required. The diameters of the stakes not extracted for detailed recording were recorded in-situ.

#### *F.268*

This north-west south-east aligned linear spread of roundwood stakes extended for some 50m and had a maximum width of 1.2m. The feature lies at c. -0.5mOD. The position of this feature on the fen edge in terms of altitude and the shared alignment with feature F.266 suggests they are contemporary. This assumption would assign this feature to the Late Neolithic / Early Bronze Age.

The feature consisted of 434 roundwood stakes. A total of 75 stakes were extracted for detailed recording and the recovery of species identification sub-samples. Of the extracted material, 14 items were retained to allow further analysis, should it be required. The diameters of the stakes not extracted for detailed recording were recorded in-situ.

#### *F.270*

Fifteen items of waterlogged wood were recovered from this pit that lay beneath a burnt stone mound.

#### *Context (737)*

Three items were recovered from this metallised surface.

### *Small Finds:*

SF.245 Timber debris, condition 3.

SF.246 Bark, condition 3.

### ***Methodology***

This document has been produced in accordance with English Heritage guidelines for the treatment of waterlogged wood (Brunning 2010) and recommendations made by the Society of Museum Archaeologists (1993) for the retention of waterlogged wood.

All discreetly numbered items and those displaying evidence of modification or woodland management were recorded individually using the L - P : Archaeology *pro forma* 'wood recording sheet' which is based on the sheet developed by the Fenland Archaeological Trust for the post excavation recording of waterlogged wood. All records were then entered into a database.

Every effort was made to refit broken or fragmented items. However, due to the nature of the material, the possibility remains that some discreet yet broken items may have been processed as their constituent parts as opposed to as a whole.

The metric data were taken with hand tools including rulers and tapes, the toolmarks were measured using a profile gauge.

The system of categorisation and interrogation developed by Taylor (1998 & 2001) has been adopted within this report.

Joints and fixings are described in accordance with the Museum of London archaeological site manual (Spence 1994).

Items identifiable to species by morphological traits visible with a hand lens (oak) were noted. Other items were sub-sampled to allow later identification to genus via microscopic identification as necessary.

### ***Range and Variation***

#### *F.266*

The vertical stakes of this feature are, with a single exception, formed of roundwood. The diameters range from c. 10-70mm and in surviving length from c. 100-600mm. All the material extracted for detailed recording had been trimmed either to length or to a point with an edged tool – presumably an axe. Eight partial toolmarks were recorded.

The morphology of these straight, even, side branch free lengths of roundwood suggests they may be derived from coppicing (Rackham 1977).

The horizontal elements show a greater variation. Although some of the elements may represent coppiced material, the majority seem to be small diameter brushwood. The horizontal elements tend to be of smaller diameter than the vertical elements, but of greater length. One partial toolmark was recorded from this material.

*F.268*

This feature is formed entirely of roundwood stakes with diameters varying from c.20-70mm. The surviving lengths vary from c. 100-700mm. All the material extracted for detailed recording had been trimmed either to length or to a point with an edged tool – presumably an axe. Four partial toolmarks were recorded.

The morphology of these straight, even, side branch free lengths of roundwood suggests they may be derived from coppicing (Rackham 1977).

*F.270*

The 15 items recovered from this feature consisted of a single piece of trimmed roundwood and 14 pieces of debris, including one woodchip.

*Context (737)*

Two pieces of roundwood with morphological features suggestive of coppicing and a single woodchip were recovered from this context.

*Small Finds*

The bulk of the material assigned small finds numbers are debris.

***Condition of material***

The condition scale developed by the Humber Wetlands Project (Van de Noort, Ellis, Taylor & Weir 1995; Table 15.1), will be used throughout this report (Table 1). The condition scale is based primarily on the clarity of surface data. Material is allocated a score dependent on the types of analysis that can be carried out, given the state of preservation. The condition score reflects the possibility of a given type of analysis but does not take in to account the suitability of the item for a given process.

Condition Score	Museum Conservation	Technology Analysis	Woodland Management	Dendro-Chronology	Species Identification
5 excellent	+	+	+	+	+
4 good	-	+	+	+	+
3 moderate	-	+/-	+	+	+
2 poor	-	+/-	+/-	+/-	+
1 very poor	-	-	-	-	+/-
0 non-viable	-	-	-	-	-

**Table 12: Condition scale used in this report**

If preservation varies within a discreet item, the section that is best preserved is considered when assigning the item a condition score. Items that were set vertically in the ground often display relatively better preservation lower down and a relatively poorer preservation higher up.

In the case of the vertically set material, in all cases, the upper portion of the material was badly degraded and decayed. It is assumed that the material originally would have survived to a greater, unknown height. The tops (c. -1 to -0.5m) of the vertically set material describes the local 'preservation horizon' for waterlogged wood – the point above which material has not survived.

#### *F.266*

The majority of the vertical material from this feature that was recorded in detail scored **3** for condition, with a moderate quantity of material scoring **2** and occasional material scoring **4**. There is a high prevalence of material that is recorded as cracked or dried. This describes a moderate to poorly preserved assemblage.

The horizontal material from this feature showed similar range of condition scores to the vertical material. There was a greater prevalence of material described as compressed, this is due to the horizontal setting of the material.

#### *F.268*

The majority of the material from this feature that was recorded in detail scored **3** for condition, with a moderate quantity of material scoring **2** and occasional material scoring **4**. There is a high prevalence of material that is recorded as cracked or dried. This describes a moderate to poorly preserved assemblage.

#### *F.270*

The material recovered from this feature is in moderate to poor condition. The majority of the material scored **3** or **2** for condition, with a single item scoring **1**.

#### *Context (737)*

The material recovered from this context is in good to excellent condition, scoring **4** or **5** for condition.

#### *Small Finds*

The material is in moderate condition, scoring **3**.

#### *New Research Questions*

F.266 and F.268

Both these features are potentially unique from this region and this period, and potentially unique on a regional and national level. As such, any information that can

be gleaned from this feature will be of local, regional and potentially national importance. A detailed understanding of how this feature relates to other land divisions within the region is essential.

### *Statement of Potential*

#### *F.266 and F.268 Vertical Stakes*

Analysis of the lengths of stakes in the alignment should allow an understanding of whether the ends of the feature represent the ancient extents of the feature or are an artefact of preservation conditions.

Analysis of the woodworking technology, size, condition and species of the material will lead to a fuller understanding of whether this feature represents a single event or is a multiphase feature.

Examination of the tool facets and toolmarks may allow the type of tool (stone or bronze axe) to be identified.

Species identification to taxa and a study of growth patterns will inform the question of woodland exploitation and may identify woodland management techniques, such as coppicing.

#### *F.266 Horizontal Material*

Species identification to taxa and a study of growth patterns will inform the question of woodland exploitation and may identify woodland management techniques, such as coppicing.

#### *F.270*

The material from this feature is in relatively poor condition. However, a brief analysis of the woodworking technology and species selection may elucidate the origin of the material, which may represent in-situ woodworking associated with the burnt stone mound.

#### *Context (737)*

The material from this feature is in relatively good condition. A brief analysis of the woodworking technology and species selection may elucidate the origin of the material, which may represent in-situ woodworking.

#### *Small Finds*

SF. 309 is a heavily worked artefact. A search of the literature is likely to elucidate this items function.

## ***Recommendations***

### *Production of Archive*

A full catalogue of the recorded material should be produced.

It is not suggested that any of the material be conserved.

### *Suggested Analysis*

It will be essential to assign a date or phase to the various elements of the waterlogged wood assemblage. Although none of the material is suitable for dendrochronology, there are a sufficient number of sub samples to allow a programme of radiocarbon dating, should this be required.

The woodworking technology should be quantified and discussed across the assemblage.

The tool facets of the retained material from F.266 and F.268 should be examined.

A 10% sub-sample of the vertical stakes from features F.266 and F.268 should be identified to taxa and be subjected to ring counts. This process will collect data regards any woodland management practices that may have been utilised to produce the material in these features.

Dependent on the results of this 10% sub-sample, further analysis may be required.

The remainder of the non-oak material should be identified to taxa.

Features F.266 and F.268 should be discussed in relation to any similar features that may be present in the published literature.

### *Dissemination of data*

An archive report detailing the findings of the further analysis suggested above should be produced.

As the potential fence lines F.266 and F.268 are of local, regional and potentially national importance, eventual publication of these structures is advised.

### *Suggested timetable of works*

Once removed from an anoxic burial environment, waterlogged wooden remains will begin to breakdown and decay. It is therefore essential that provision for additional recording work and illustration take place as soon as possible.

Therefore, it is advised that the suggested programme of illustration, identification to taxa and ring counts is carried out within two years of excavation.



## Assessment of Bulk Soil Samples - *Anne de Vareilles*

### *Methodology*

The five bulk soil samples were chosen for assessment and these give coverage of both period and location with the Extraction Area. Since excellent waterlogged conditions are known to exist in the Must Farm area, the samples were checked for waterlogged preservation before floating. It was noted that most of the samples, though damp, were of a sandy matrix with a diverse range of intrusive rootlets indicative of recent aeration and bioturbation. Most of the samples appeared to contain a high proportion of carbonised plant remains, further complicating the treatment of waterlogged deposits. Sample 214 F.270 appeared to have been less disturbed by natural processes so a 500ml sub-sample was taken and wet-sieved using a stack of sieves grading from 4mm to 300 $\mu$ m. The remaining 8L and the other samples were floated using an Ankara-type flotation machine. The flots were collected in 300 $\mu$ m aperture meshes and the remaining heavy residues washed over a 1mm mesh. It was hoped that floating larger volumes would enable a better recovery of the past natural environment which has been poorly preserved through interrupted waterlogging. Large volumes would also allow for a more accurate representation of carbonised remains. The flot from sample 247 F.279 was kept wet whilst the others, which contained higher concentrations of carbonised plant remains, were dried in order to facilitate sorting.

Features F.270, F.271 and F.267 generated very large dried charcoal-rich flots. Since sorting the flots in their entirety was not felt to be necessary for this assessment they were separated into  $\geq 2$ mm and  $< 2$ mm size categories. The  $\geq 2$ mm flot for F.270 and F.271 were 100% sorted with the aim of recovering a more representative proportion of charred cereal grains, as well as large seeds and fruit stones that are often poorly represented in comparison to smaller seeds. The  $< 2$ mm fractions were split into portions that could be analysed in one to two hours. The  $\geq 2$ mm flot from the burnt mound F.267 was so large it was also split (see Table 13).

Sorting of the flots and identification of macro remains were carried out under a low power binocular microscope (6x-40x magnification). F. Cox sorted the  $> 4$ mm fractions of the heavy residues and all finds have been added to Table 13. Smaller fractions have been stored for future reference. Identifications were made using the reference collection of the G. Pitt-Rivers Laboratory, university of Cambridge. Nomenclature follows Zohary and Hopf (2000) for cereals and Stace (1997) for all other flora. All environmental remains are listed in Tables 13.

### *Preservation*

Waterlogged plant remains were found in all samples but never in significant numbers. The best waterlogged conditions were found in F.279 [743] despite its small range and total quantity of seeds. Most of the seeds, and indeed those that occurred more frequently, have harder outer coats more resistant to fluctuating preservation conditions. As is also noted above, signs of periodic aeration suggest the deposits have never been permanently waterlogged. Charred plant remains add a cultural

element to the environmental evidence and raise the possibility that some of the waterlogged specimens, such as hazel nuts, may have entered the record through human action rather than natural processes.

## **Results**

### *Early Neolithic Pit F.279 [743]*

The flot was analysed wet as it appeared to be rich in waterlogged plant remains. It also turned out to be the richest in charred plant remains other than charcoal. The cereal component consisted of one wheat or rye grain (*Triticum/Secale* sp.) and two pieces of glume wheat chaff, one of which could be identified to spelt wheat (*Triticum spelta*). Other charred seeds included a cleaver (*Galium aparine*), wild grasses and an unidentified bud. The waterlogged specimens point to damp grassland or pasture with perhaps an element of arable, and the occasional tree or shrub, such as elder (*Sambucus nigra*) and hazel nut (*Corylus avellana*), though it remains possible that the latter were discarded food waste.

### *Late Neolithic Pit F.251 [560]*

The pit was quite rich in charcoal but few other plant remains, charred or waterlogged, other than some carbonised fragments of hazel nut shells. The sample also contained a little worked flint, burnt animal bone and burnt stone indicative of other nearby activities.

### *Early Bronze Age Pits F.270 [618] and F.271 [609]*

The pits were rich in charcoal of all sizes, especially F.271. Their waterlogged assemblages are very similar with plants of damp grassland (such as buttercups – *Ranunculus* spp. and sedges – *Carex* spp.), and various species of trees/shrubs: hazel nut, sloe (*Prunus spinosa*) and dogwood (*Cornus sanguinea*). Despite processing F.270 for both its waterlogged and charred remains the only carbonised seed (of sedge) was found in the wet flot. The larger dried flot did not significantly increase the number and variety of waterlogged specimens. The numerous burnt flints and stones are additional (to the charcoal) evidence of the pits' association with the burnt mound.

### *Early Bronze Age Burnt Mound F.267 [605]*

As an initial assessment only 15litres of the collected burnt mound matrix were floated. Nevertheless, an extremely large flot of 3.25L was produced, almost entirely composed of charcoal. The heavy residue was a mass of burnt flint, despite there being no micro flints in the flot. Burnt stones and other artefacts were not found. The range of waterlogged seeds is comparable to those from pits F.270 and F.271 and shows the same, contemporary environment.

## ***Discussion and Conclusion***

The only evidence for arable agriculture came from the potentially early Neolithic pit F.279 where charred cereal remains indicate that spelt, which is more usually a Bronze Age crop (Greig 1991), and possibly rye were consumed nearby. The pit presented better waterlogged conditions than the other features, enabling a more complete assemblage to be preserved. Its 'wetness' is probably a result of its lower contour position rather than the reflection of a wetter, pre-Bronze Age landscape. The seeds that have survived suggest the feature was surrounded by damp grassland within an open alder (*Alnus glutinosa*) woodland. The sampled deposit appears to have captured the re-generation of scrub, some years after the clearance of trees, at a time when shrubs, nettles and brambles were growing opportunistically.

The late Neolithic pit F.251 had no signs of agriculture (settled habitation), but did contain micro artefacts indicative of consumption (burnt animal bone) and flint working.

Well preserved abundant charcoal, burnt stones, burnt flint and comparable assemblages of waterlogged seeds indicate that the two E.B.A. pits F.270 and F.271 were open during the accumulation of the burnt mound. No food waste, vegetable or animal, other than perhaps hazel nuts, were recovered from the samples, which suggests that eating was not associated with the burnt mound. Although wet conditions may have existed periodically within the pits the ground surface would not have usually felt wet. Though buttercups indicate that the soil never completely dried out, there is no evidence for prolonged periods of waterlogging.

Hazel, sloe, dogwood and elder seeds/fruits/nuts could have entered the pits through a variety of pathways, i.e. they were not necessarily growing near to the features. The seeds/fruits/nuts may be by-products from the preparation of the dead-hedge or provide further support for a managed coppiced woodland nearby (see M.Bamforth this report). Evidence for a live hedge surrounding the burnt mound would have survived; one must therefore assume that the shrubs represented coppiced woodland or regenerating scrub.

## ***Recommendations***

Future excavations of early prehistoric features should sample for waterlogged environmental evidence at low contour levels where preservation should be adequate. Further work on the dead-hedge and species identifications of the roundwood would provide essential contextual information for other environmental evidence. Charcoal from the burnt mound could be analysed by a charcoal specialist for species identification and a deeper understanding of the reasons and workings of burnt mounds. Pollen cores could locate and distinguish between open grassland/pasture and managed woodland. Further sorting for plant remains from these particular samples is not necessary.

**Table 13: Dry Assemblages from the Bulk Soil Samples**

<b>Sample number</b>	<b>202</b>	<b>213</b>	<b>214</b>	<b>211</b>
Context	560	609	618	605
Feature	251	271	270	267
Feature type	Pit	Pit	Pit	B. mound
<b>Phase / Date</b>	late Neo	E.B.A.	E.B.A.	E.B.A.
Sample volume - litres	6	14	8	15
Est. total charcoal volume - millilitres	20	1000	200	3250
≥2mm flot fraction examined -%	100	100	100	50, 25*
<2mm flot fraction examined -%	100	25	12.5	6.3
Charcoal >4mm	++	+++	+++	+++
2-4mm	+++	+++	+++	+++
<2mm	+++	+++	+++	+++
Fragments of waterlogged wood			+++	
<i>Ranunculus acris/ repens/ bulbosus</i> L.		Meadow / Creeping / Bulbous Buttercup	-	-
<i>R. sceleratus</i> L.		Celery-leaved Buttercup	-	++
cf. <i>Quercus</i> sp.		possible Oak cup fragment		-
<i>Corylus avellana</i> L.	13C	Hazel-nut shell fragment	++	+
<i>Rumex conglomeratus/obtusifolius/sanguineus</i> - Dock		Dock	+	
<i>Rumex</i> sp.		Dock	-	-
<i>Persicaria maculosa</i> Gray		Redshank	+, 1C	++
<i>Viola</i> sp.		Violets	+	
<i>Rubus</i> sp.		Bramble	-	++
<i>Prunus spinosa</i> L.		Sloe stone fragments	+	
<i>Stachys</i> cf. <i>sylvatica</i> L.		Hedge Woundworts	-	
<i>Ajuga</i> cf. <i>reptans</i> L.		possible Bugle	-	+
<i>Sonchus asper/ oleraceus</i>		Prickly/Smooth S.- thistles	-	
small trigonous <i>Carex</i> sp.		trilete Sedge seed	-	-
large lenticular <i>Carex</i> sp.		flat Sedge seed	-	+
Indet. seed head			1C	
Indeterminate bud/ flower 5mm across			1C	-
Burnt animal bone fragments	+			
Burnt stone	-	+++	++	
Flint	+			
Burnt flint, <2mm flot		++		
Burnt flint, ≥4mm from heavy residue	-			+++

Key: '-' 1 or 2; '+' <10; '++' 10-50; '+++>50 items.

C = charred, all other specimens (apart from the charcoal) are waterlogged

\* 50% of ≥4mm and 25% 2-4mm were sorted.

The hazel nut fragments from F.270 include a whole nut partly knawed by a rodent

## BIBLIOGRAPHY

- Appleby, G. 2008. Land at King's Delph, Whittlesey, Cambridgeshire. An Archaeological Desktop Assessment. Cambridge Archaeological Unit Report No. 850
- Albarella, U. 2007. The end of the Sheep Age: people and animals in the Late Iron Age. In C. Haselgrove and T. Moore (eds.) *The Later Iron Age in Britain and beyond*. Oxford. Oxbow: 389-402
- Beadsmoore, E. 2008. Lithics. In Tabor, J. *Archaeological Investigations at Must Farm, Whittlesey, Cambridgeshire: Interim Report: Phase 1 of Monitoring Program* Cambridge Archaeological Unit Report No. 807, 13-14
- Beadsmoore, E. 2009. Flint overview (Edgerley Drain Road). In C. Evans with Beadsmoore, E., Brudenell, M. and Lucas, G. *Fengate Revisited: Further Fen-edge Excavations, bronze Age Fieldsystems and the Wyman Abbott/Leeds Archives* Cambridge Archaeological Unit: Cambridge, 164-7
- Billington, L. 2010. Flint. In Tabor, J. Land at King's Delph, Whittlesey, Cambridgeshire: An Archaeological Evaluation Cambridge Archaeological Unit Report No. 915
- Britchfield, D. 2010. 'Excavations Towards the Northey Landfall' in Prior, F. and Bamforth, M. (eds.) *Flag Fen, Peterborough. Excavation and Research 1995-2007*. Oxford: Oxbow Books
- Brunning, R. 2010. Guidelines on the recording, sampling conservation and curation of waterlogged wood. English Heritage, London.
- Clark, J.G.D. 1933. Report on an Early Bronze Age site in the south-eastern fens, *Antiquaries' Journal* 13: 209-36
- Cohen, A., and Serjeantson, D., 1996. *A manual for the identification of bird bones from archaeological sites, revised edition*. London: Archetype Publications Ltd.
- Conneller, C. 2002. Worked Flint. In Gibson, D. and Knight, M. *Prehistoric & Roman Archaeology at Stonald Field King's Dyke West, Whittlesey* Cambridge Archaeological Report No. 498, 54-62
- Cooper, A. 2005. *Must Farm, Whittlesey: Archaeological Desk Based Assessment*. CAU Report No. 613
- Dobney, K., and Reilly, K., 1988. A method for recording archaeological animal bones: the use of diagnostic zones, *Circaea* 5 (2): 79-96.
- Edmonds, M. 2006. Lithic assemblage. In Gibson D. and Knight, M. *Bradley Fen Excavations, Whittlesey, Cambridgeshire* Cambridge Archaeological Unit Report No. 733 81-3

- Edmonds, M., Evans, C. and Gibson, D. (1999) Assembly and Collection – Lithic Complexes in the Cambridgeshire Fenlands. *Proceedings of the Prehistoric Society* 65, 47-82
- Evans, C., Knight, M, & Brudenell, M. 2005. *Must Farm Evaluation*. Cambridge Archaeological Unit Report No.667
- Evans, C. with E.Beadsmoore, M. Brudenell and G. Lucas 2009. *Fengate Revisited: Further Fen-Edge Excavations, Bronze Age Fieldsystems and Settlement and the Wyman Abbot/Leeds Archives*. CAU Landscape Archive Series: Historiography and Fieldwork (No.1). Cambridge: Cambridge Archaeological Unit
- Garrow, D. 2006. *Pits, settlement and deposition during the Neolithic and Early Bronze Age in East Anglia*. BAR British Series 414: Oxford.
- Gearey, B.R. et al. 2009. *Deposit Modelling and Palaeoenvironmental Assessment at Kings Delph, Whittlesey, Cambridgeshire: Final Report*. Birmingham Archaeo-Environmental Report
- Gibson, D. and Knight, M. 2002. *Prehistoric & Roman Archaeology at Stonald Field. King's Dyke West, Whittlesey*. CAU Report No. 498
- Gibson, D. and Knight, M. 2006. *Bradley Fen Excavations 2001-2004, Whittlesey, Cambridgeshire. An Archaeological Assessment Report*. CAU Report No. 733
- Gibson, D. 2009 *A Specification for the Strip Map and Record Archaeological Excavation of Must Farm and King's Dyke, Cambridgeshire and Peterborough*. Cambridge Archaeological Unit
- Gibson, D., Knight, M. and Allen, M. 2009. *Must Farm Pit Timber Alignments*. Cambridge Archaeological Unit Report. Forthcoming
- Greig, J.R. 1991. The British Isles. In Van Zest, W., Wasylikowa, K. and K-E. Behre (eds.), *Progress in Old World Palaeoethnobotany*. Brookfield and Rotterdam: A.A. Balkema, 299-334
- Healy, F. 1985 'The struck flint', in Shennan, S.J., Healy, F., and Smith, I.F., The excavation of a ring-ditch at Tye Field, Lawford, Essex, *Archaeol. J.* 142, 177–207
- Hey, G. 1998. The Yarnton-Cassington project: evaluating a floodplain landscape . *Lithics* 19: 47–60
- Hillson, S., 1999. *Mammal Bones and Teeth: An introductory Guide to Methods of Identification*. University College of London: Institute for Archaeology
- Lamdin-Whymark, H, 2008 *The residue of ritualised action: Neolithic deposition practices in the Middle Thames Valley* BAR British Series 466: Oxford

- Middleton, R. 1990 The Walker Collection: a quantitative analysis of lithic material from the March/Manea area of the Cambridgeshire Fens *Proceedings of the Cambridge Antiquarian Society* Volume LXXIX, 1990 45-63
- Pryor, F. 1978. *Excavation at Fengate, Peterborough, England: The Second Report* Royal Ontario Museum
- Rackham, O. 1977. Neolithic woodland management in the somerset levels: Garvin's, Walton Heath & Rowland's Tracks. *Somerset Levels Papers* (3) pp. 65-71.
- Society of Museum Archaeologists 1993 (1<sup>st</sup> edition). *Selection, Retention and Dispersal of Archaeological Collections: guidelines for use in England, Wales and Northern Ireland*. First Edition
- Saville, A. 1981. *Grimes Graves, Norfolk: Excavations 1971-72. Vol.2. The Flint Assemblage* London: HMSO
- Schofield, A.J. ed., *Interpreting Artefact Scatters: Contributions to Ploughzone Archaeology*. Oxbow Books: Oxford
- Schmid, E. 1972. *Atlas of animal bones*. Amsterdam: Elsevier
- Smith, I.F. 1965. *Windmill Hill and Avebury, excavations by Alexander Keiller, 1925-1939*. Clarendon Press: Oxford
- Smith, R. A. 1931. *The Sturge Collection*. British Museum: London
- Spence, C. (ed.) 1994 (3<sup>rd</sup> edition). *Archaeological Site Manual*. Museum of London, London.
- Stace, C. 1997. *New Flora of the British Isles*. Second edition. Cambridge: Cambridge University Press.
- Tabor, J. 2008 *Archaeological Investigations at Must Farm, Whittlesey, Cambridgeshire. Phase I Extraction Area: Interim Report*. Cambridge Archaeological Unit
- Tabor, J. 2010 *Land at King's Delph, Whittlesey, Cambridgeshire. An Archaeological Evaluation*. CAU Report No. 915
- Taylor, M. 1998. Wood and Bark from the enclosure ditch. In: F Pryor, 1998. *Etton: excavations at a Neolithic causewayed enclosure near Maxey, Cambridgeshire, 1982-87*. *EH Archaeology Rep 18*, London, pp 115-59.
- Taylor, M. 2001. 'The Wood'. In: Pryor F, 2001. *The Flag Fen Basin: Archaeology and Environment of a Fenland Landscape*. English Heritage Archaeological Reports, London, UK, pp 167-228.
- Vang Petersen, P. 1993. *Flint fra Danmarks Oldtid* Høst and Søns Forlag: Copenhagen

Van de Noort, R., S. Ellis, M. Taylor & D. Weir. 1995 (1<sup>st</sup> edition). 'Preservation of Archaeological sites' in R. Van de Noort & S. Ellis *Wetland Heritage of Holderness - an archaeological survey*. 1st Edition. Humber Wetlands Project.

Wilson, T. 2009. 'The Flint' in Daniel, P. *Archaeological Excavations at Pode Hole Quarry*. BAR British Series 484, 82-89

Zohary, D. and Hopf, M. (2000). *Domestication of Plants in the Old World*. Third edition. Oxford: Oxford University Press.



## APPENDIX A

### Feature Descriptions

Feature No.	Feature Type	Context No.	Context Type	Length (m)	Width (m)	Depth (m)	Finds	Spot Date
250	Pit	566	Fill				Pottery, flint, burnt stone	Grooved Ware
		567	Cut	0.82	0.52	0.07		
251	Pit	560	Fill				Pottery, flint, bone, burnt stone, burnt flint	Grooved Ware
		561	Cut	0.59	0.58	0.25		
252	Pit	562	Fill				Pottery, flint	Grooved Ware
		563	Fill					
		564	Fill					
		565	Cut	0.81	0.72	0.31		
253	Pit	568	Fill					
		569	Cut	0.77	0.76	0.3		
254	Pit	572	Fill				Flint, burnt flint, burnt stone	
		573	Fill					
		574	Fill					
		575	Fill					
		576	Cut	1.1	0.82	0.32		
255	Pit	570	Fill				Flint	
		571	Cut	0.57	0.45	0.13		
256	Pit	577	Fill				Flint, burnt stone	
		578	Cut	0.5	0.5	0.2		
257	Elongated pit/gully (?)	579	Fill				Flint, burnt stone, burnt clay	
		580	Cut					
		581	Fill					
		582	Cut	2	0.49	0.12		
258	Natural hollow	583	Fill					
		584	Cut	0.5	0.5	0.05		
259	Natural hollow	585	Fill					
		586	Cut		0.46	0.03		
260	Charred Timber	587	Other	1.3	0.5			
261	Pit	588	Fill				Pottery, flint, bone, burnt stone	Grooved Ware
		589	Fill					
		590	Cut	0.72	0.7	0.29		
262	Pit	591	Fill				Burnt clay	
		592	Cut	0.36	0.36	0.26		
263	Hearth	593	Layer				Pottery, burnt stone	
		594	Layer					
		595	Cut		0.63	0.07		
264	Pit	596	Fill				Flint, bone, burnt stone	
		597	Cut	1.47	1.06	0.12		
265	Pit	598	Fill				Burnt stone	
		599	Cut	0.85	0.84	0.3		
266	Stake Alignment			70.6				
267	Burnt mound	604	Layer					
		605	Layer					
		606	Layer					

		607	Layer	9.22	6.22			
<b>268</b>	Stake Alignment			53.44				
<b>270</b>	Pit	615	Fill				Burnt stone, worked wood	
		616	Fill					
		617	Fill					
		618	Fill					
		619	Fill					
		620	Cut	1.05	0.9	0.4		
<b>271</b>	Pit	608	Fill				Flint, burnt stone, worked wood	
		609	Fill					
		610	Fill					
		611	Fill					
		612	Cut	1.12	1.12	0.38		
<b>278</b>	Metalled surface	735	Layer					
		736	Layer					
		737	Layer	26.43	14.04			
<b>279</b>	Pit	739	Fill				Pottery, bone, wood	EN
		743	Fill					
		744	Cut		0.7m	0.25m		
		746	Fill					
<b>280</b>	Pit	747	Fill				Flint, bone, worked wood	
		748	Cut		0.78	0.22		
<b>281</b>	Tree throw	749	Fill					
		750	Fill					
		751	Fill					
		752	Cut	1.17	1.2	0.28		
<b>282</b>	Tree throw	754	Fill					
		755	Fill					
		756	Fill					
		757	Fill					
		758	Cut		3	0.5		

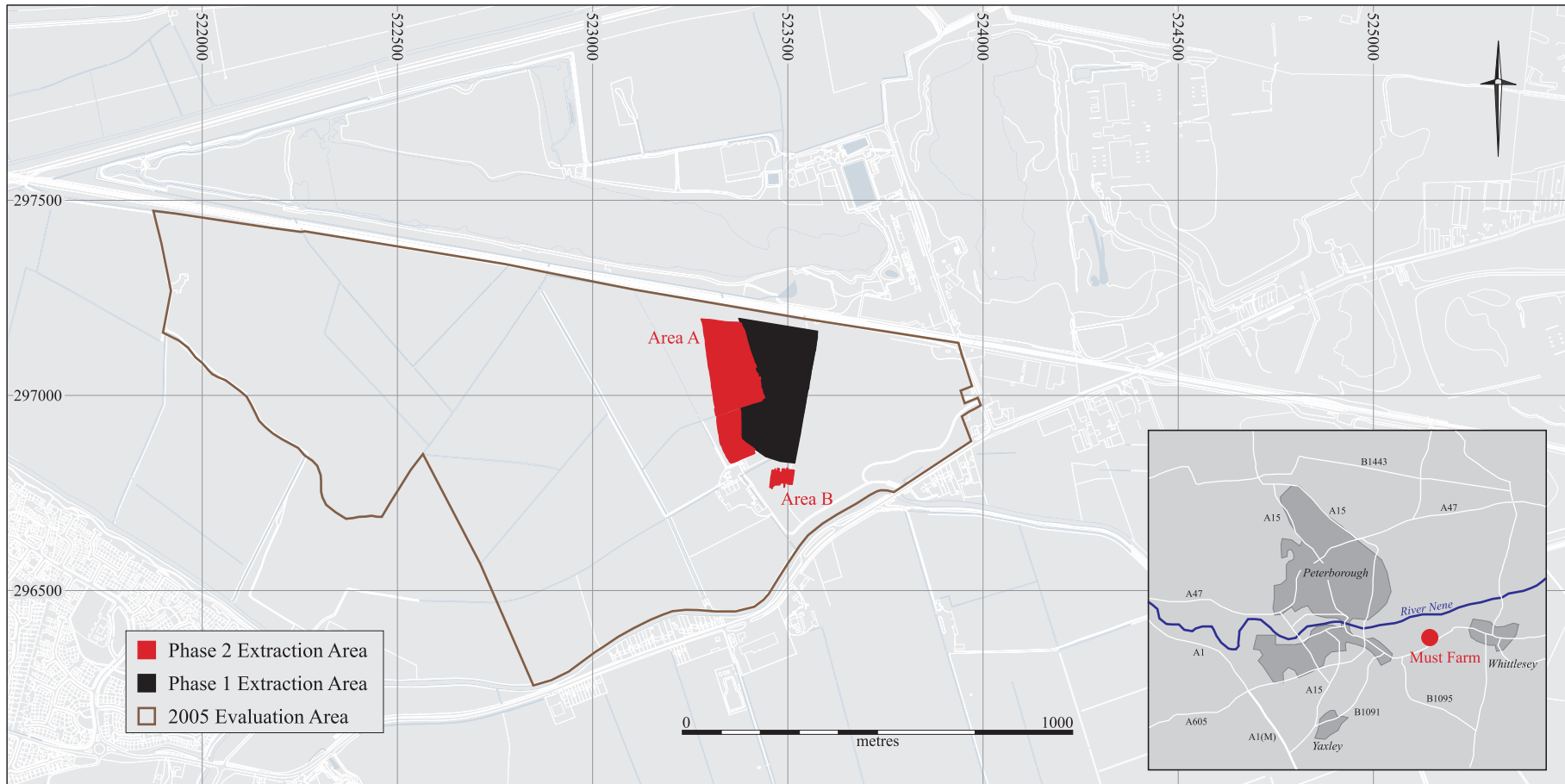


Figure 1. Location plan

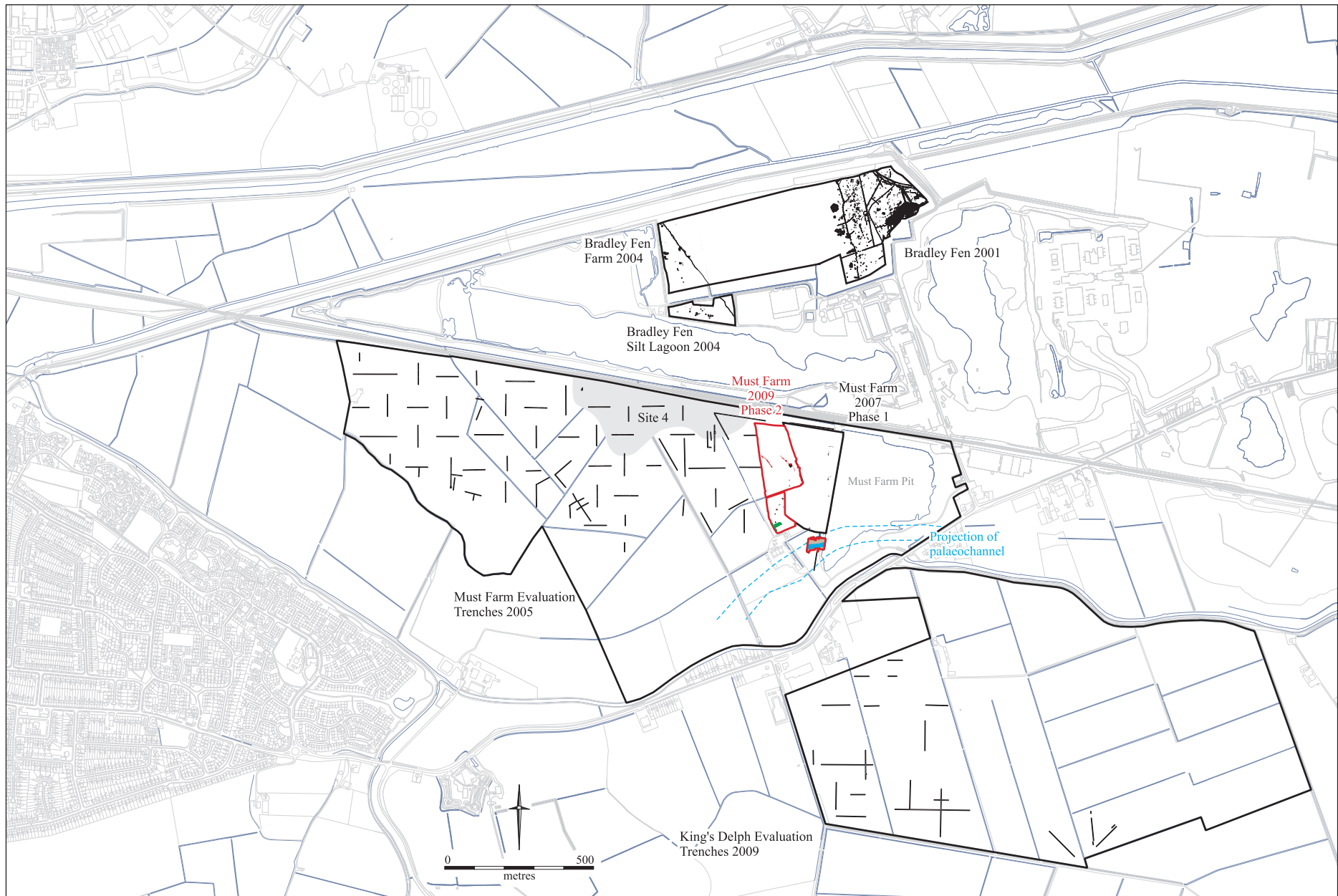


Figure 2. Must Farm and surrounding archaeological sites

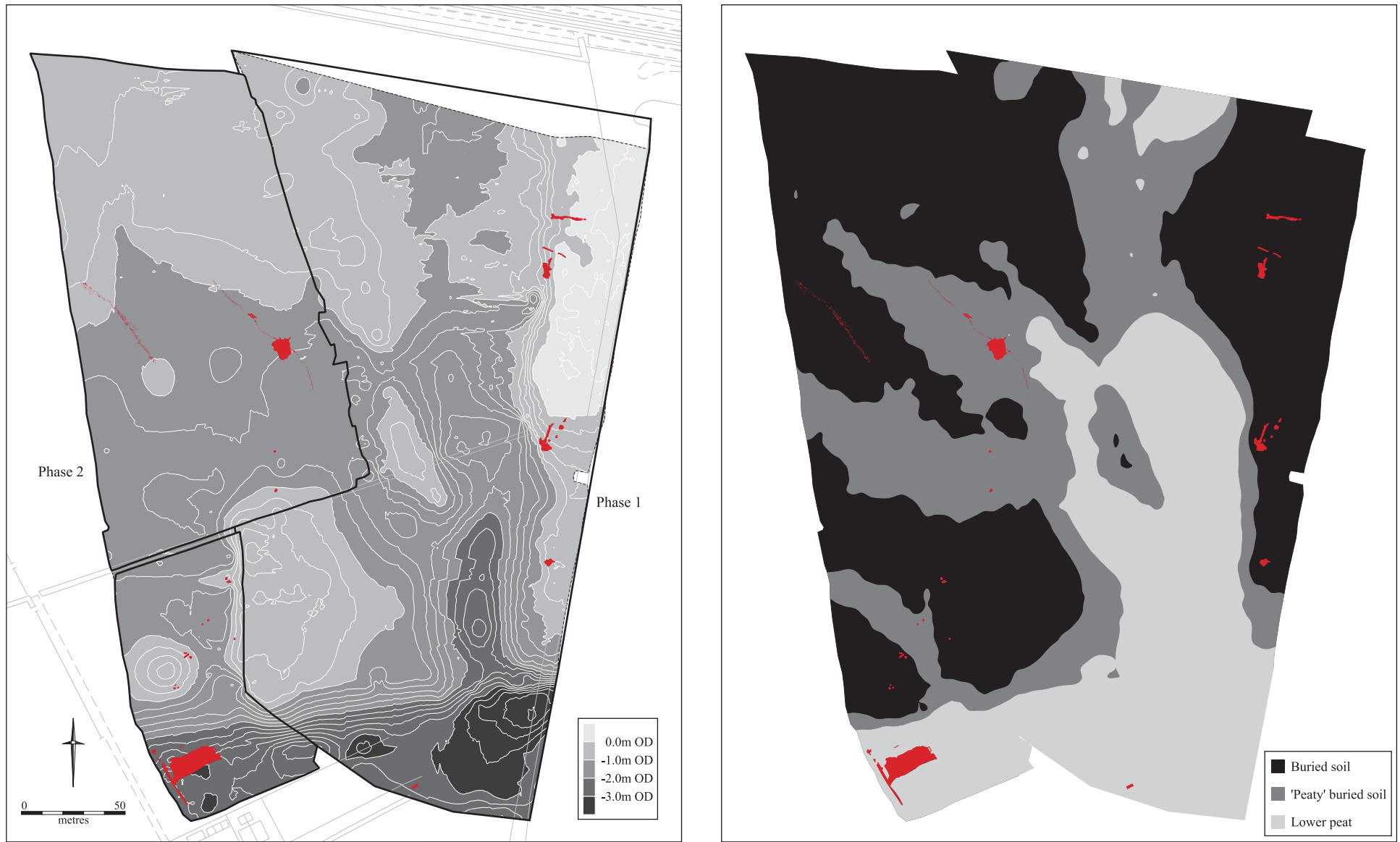


Figure 3. Contours and extent of buried soil and lower peat deposits across Extraction Phases 1 and 2 (archaeological features in red)

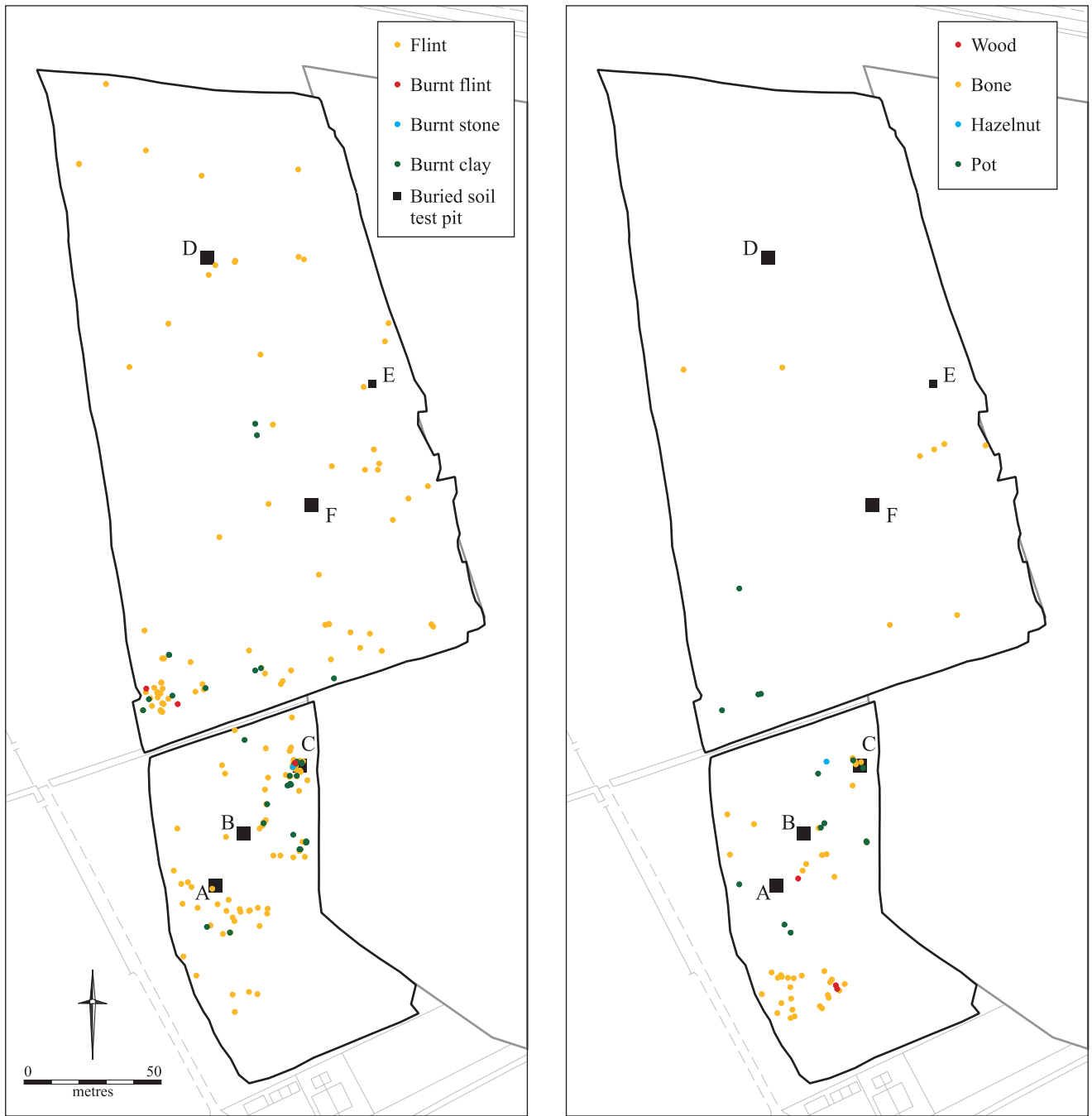


Figure 4. Surface finds distributions and locations of buried soil test pits

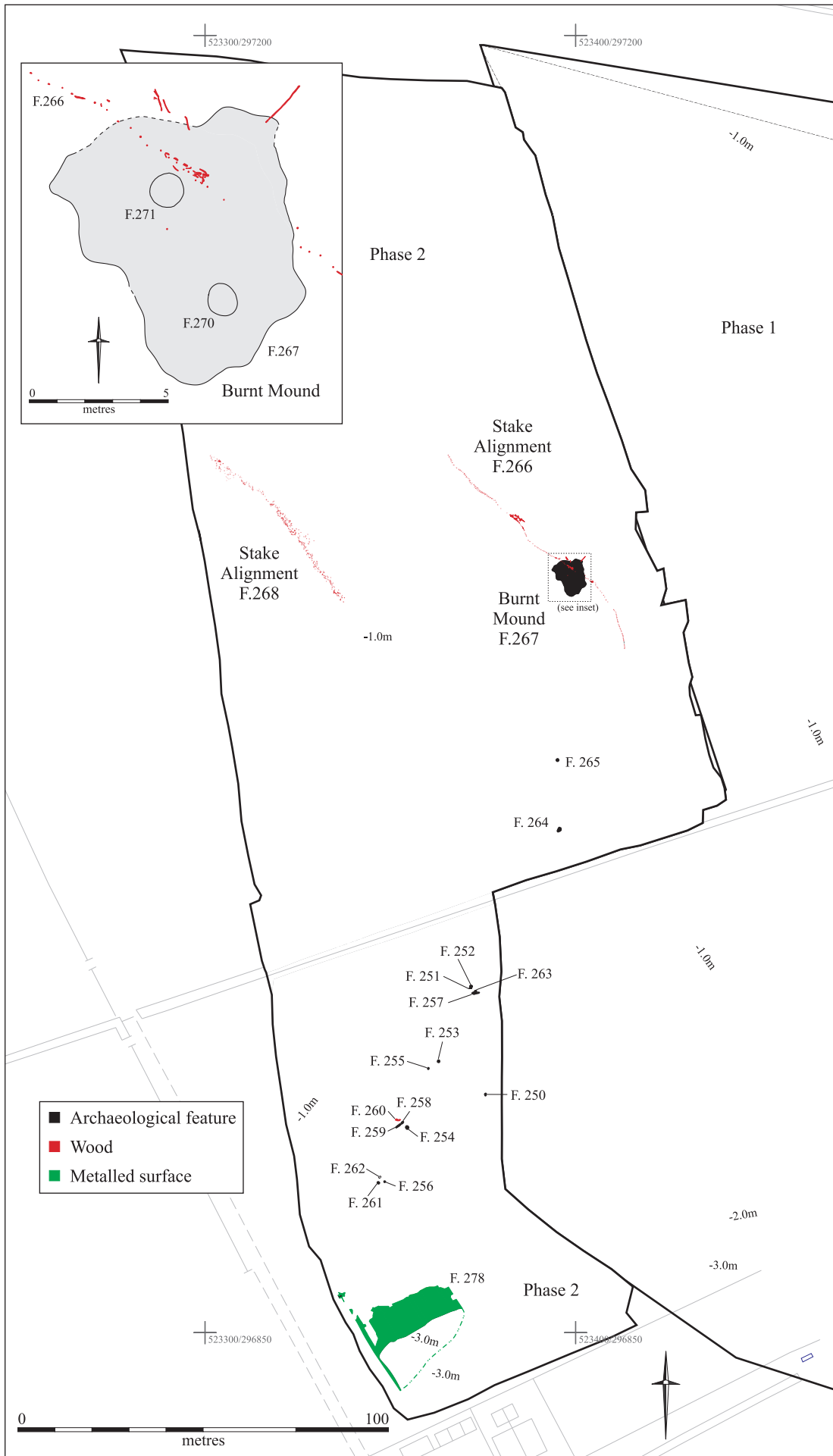


Figure 5. Archaeological features in Area A



Figure 6. Metallised surface F. 278 (looking north-west)





Figure 7. Stake Alignment F.266; a) looking south-east, showing burnt mound F.267 in background, and b) detail, looking north-west © CAU 2010



Figure 8. Detail of Stake Alignment F.266



Figure 9. Burnt Mound F.267 (looking south-west)

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## Project details

Project name	ARCHAEOLOGICAL INVESTIGATIONS AT MUST FARM, WHITTLESEY, CAMBRIDGESHIRE
Short description of the project	An archaeological excavation was undertaken by Cambridge Archaeological Unit (CAU) in advance of sand, gravel and Oxford Clay extraction at Hanson's Must Farm Quarry, to the south-west of Whittlesey, Cambridgeshire (centred on TL 233 969). This report details the results of strip, map and record investigations in the Must Farm Phase II Extraction Area where multi-period prehistoric remains ranging in date from the Early Neolithic to the Beaker period were exposed. Soil stripping exposed a preserved prehistoric land surface with an intact buried soil horizon from which a significant assemblage of surface finds was collected. Archaeological features recorded comprised a probable Early Neolithic metalled surface with two associated pits at -2.5m OD, a linear swathe of Late Neolithic pits, a burnt mound and two preserved wooden stake alignments provisionally dated to the Early Bronze Age period at -1m OD. As part of an on-going programme of archaeological fieldwork the results of Phase II Extraction Area excavations have the potential to add to our understanding of the prehistoric landscape of the Flag Fen basin.
Project dates	Start: 01-07-2009 End: 31-10-2009
Previous/future work	Yes / Not known
Any associated project reference codes	02960 - HER event no.
Any associated project reference codes	3151a - HER event no.
Any associated project reference codes	3154a - HER event no.
Any associated project reference codes	MCB16814 - HER event no.
Any associated project reference codes	MCB16817 - HER event no.
Any associated project reference codes	MCB16818 - HER event no.
Any associated project reference codes	CB14614 - HER event no.
Any associated project reference codes	MCB16819 - HER event no.
Any associated project reference codes	10645 - HER event no.
Any associated project reference codes	10646 - HER event no.
Type of project	Field evaluation
Site status	None
Current Land use	Other 7 - Mineral extraction
Monument type	BURIED SOIL Late Prehistoric
Monument type	BURNT MOUND Early Bronze Age
Monument type	POST ALIGNMENT Early Bronze Age
Monument type	METALLED SURFACE Early Neolithic
Monument type	PIT Early Neolithic
Monument type	PIT Late Neolithic
Significant Finds	FLINT Mesolithic
Significant Finds	FLINT Late Neolithic
Significant Finds	FLINT Early Bronze Age
Significant Finds	POTTERY Late Neolithic
Significant Finds	POTTERY Early Bronze Age
Significant Finds	BONE Late Neolithic
Significant Finds	BONE Early Bronze Age
Significant Finds	BURNT STONE Late Neolithic

Significant Finds BURNT STONE Early Bronze Age  
 Significant Finds BURNT CLAY Late Neolithic  
 Significant Finds BURNT CLAY Early Bronze Age  
 Significant Finds WOOD Early Bronze Age  
 Significant Finds POTTERY Early Neolithic  
 Significant Finds FLINT Early Neolithic  
 Significant Finds BONE Early Neolithic

#### Project location

Country England  
 Site location CAMBRIDGESHIRE FENLAND WHITTLESEY ARCHAEOLOGICAL INVESTIGATIONS AT MUST FARM, WHITTLESEY, CAMBRIDGESHIRE  
 Postcode PE7 2  
 Study area 33906.00 Square metres  
 Site coordinates TL 23 96 52.5475600423 -0.185848489091 52 32 51 N 000 11 09 W Point  
 Height OD / Depth Min: -2.50m Max: -0.50m

#### Project creators

Name of Organisation Cambridge Archaeological Unit  
 Project brief originator Consultant  
 Project design originator David Gibson  
 Project director/manager Christopher Evans  
 Project supervisor Jonathan Tabor  
 Type of sponsor/funding body Dean and Chapter  
 Name of sponsor/funding body Hanson PLC

#### Project archives

Physical Archive recipient Cambridge Archaeological Unit  
 Physical Archive ID MUS09  
 Physical Contents 'Animal Bones','Ceramics','Environmental','Wood','Worked stone/lithics','other'  
 Digital Archive recipient Cambridge Archaeological Unit  
 Digital Archive ID MUS09  
 Digital Contents 'Animal Bones','Ceramics','Environmental','Stratigraphic','Survey','Wood','Worked stone/lithics','other'  
 Digital Media available 'GIS','Spreadsheets','Survey','Text'  
 Paper Archive recipient Cambridge Archaeological Unit  
 Paper Archive ID MUS09  
 Paper Contents 'Animal Bones','Ceramics','Environmental','Stratigraphic','Survey','Wood','Worked stone/lithics','other'  
 Paper Media available 'Context sheet','Drawing','Map','Miscellaneous Material','Photograph','Plan','Report','Section','Survey','Unpublished Text'

#### Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)  
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