

A new Later Upper Palaeolithic open-air site with articulated horse bone in the Colne Valley, Berkshire, UK.

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Introduction

The end of the last Ice Age in (c.11500 BP) Britain created major disruption to the biosphere. Open habitats were succeeded by more wooded landscapes, and changes occurred to the fauna following the abrupt disappearance of typical glacial herd species, such as reindeer and horse (Conneller and Higham, 2015). Understanding the impact of these changes on humans and how quickly they were able to adapt may soon become clearer due to recent discoveries in the Colne Valley on the western edge of Greater London, just north of the River Thames. An exceptionally well-preserved open-air site was discovered in 2014 as part of a wider project of archaeological investigation and excavation carried out by Wessex Archaeology, on behalf of CEMEX UK. The site, at Kingsmead Quarry in Horton, is unusual because it has good organic preservation and, in addition to worked flint artefacts, it has yielded groups of articulated horse bone. The extreme rarity of such sites of this period in Britain makes this discovery especially significant and reemphasises the potential importance of the Colne Valley.

The Site

Kingsmead Quarry is situated on the wide floodplain of the River Colne, 1km south-east of the village of Horton in the Royal Borough of Windsor and Maidenhead, Berkshire. Today it is located in a meander of the River Thames 1.5km west and 3km north of the present course of the river, but less than 800m from a former major channel that may have been active at the time. Investigations within the quarry have revealed a network of earlier south-flowing river channels feeding into the former major channel. The site is bounded on its eastern edge by the Colne Brook, a tributary of the River Colne (Figure 1). The underlying geology consists of floodplain gravels overlain by brickearth, which varies in thickness across the site (British Geological Survey, Sheet 269: Windsor).

The site was discovered during the removal of topsoil in advance of excavation of principally later prehistoric and Romano-British settlement remains and palaeochannel deposits already known in the vicinity (Chaffey *et al.* forthcoming). Preparatory work revealed an extensive surface scatter of flint and bone occupying a slightly raised gravel bar between palaeochannels, and covering an area of 150m². The scatter was then systematically mapped and collected (Figure 2). It included unabraded flint artefacts (Figures 3 and 4) and complete and fragmentary animal bone which, in one instance, comprised a cluster of articulated horse ankle bones in their original anatomical position (Figure 5). Following this discovery and to further inform the planning process, eight 1x1m test pits were investigated according to

standard methods for excavating sites of this character (Lewis with Rackham 2011). Each test pit was dug in 5cm spits and finds greater than 1cm in maximum dimension were 3D GPS recorded. Targeted sampling for wet sieving was also undertaken to assess the preservation of environmental remains and examine the presence of microdebitage. The excavations confirmed that the flint and bone distribution continued to some depth above the gravel deposits, with densities of up to 1200 artefacts per square metre, including microdebitage. The freshness of the flint leaves little doubt that most of the assemblage is *in situ*, probably only slightly affected by gentle overbank flooding processes and some vertical movement of finds. As bone surface preservation is variable, it is likely that traces of butchery will not survive. However, provisional examination confirms the presence of fresh breakage of bone for marrow extraction. The presence of nearby hearths – which again would be very rare for this period in Britain – is suggested by quantities of burnt bone and calcined flint. There is also nothing in the flint assemblage to imply major intrusion of later artefacts. It is estimated that the scatter could hold a minimum of 19 000 fragments of flint and bone and possibly as many as 43 000, depending on its actual extent.

In terms of dating the assemblage, AMS radiocarbon assays have revealed that although many of the bones have poor collagen preservation, a single date on a horse tooth has yielded an age of (SUERC-57714) 9920±39 BP (11,410–11,230 cal BP at 95% confidence). The dating is consistent with another date on a partial aurochs skeleton (SUERC-62321 9946±53 BP (11,620-11,230 cal BP at 95% confidence) from adjacent channel deposits, and a third date of (UBA-34734) 9977±55 BP (11,720–11,240 cal BP at 95% confidence) (OxCal v4.2.4: Bronk Ramsey and Lee 2013) on waterlogged *Carex* sp. seeds from the base of the peat within the channel. All three dates fit with a final Later Upper Palaeolithic age for activity. From a broader perspective, the presence of this site emphasises the importance of the Colne Valley as a focus of Late Glacial settlement in Britain. Other significant open-air locations have already been excavated at Three Ways Wharf, Uxbridge (Lewis with Rackham 2011) and Church Lammas (Jones 2013), both just a few kilometres from Kingsmead Quarry.

At Three Ways Wharf, a nationally important undisturbed sequence of sediments containing four artefact scatters and associated faunal material were recorded. In one of the scatters, long blades were found with butchered horse remains that have been dated to 10,270±100 BP (OxA-1778: 12,420-11 620 cal BP at 95% confidence) and 10,060±45 BP (OxA-18702: 11,820-11,330 cal BP at 95% confidence using ultrafiltration) (Scatter A). Another dated scatter contained a very different flint assemblage with red deer (but no horse remains), and with an age of 9280±110 BP (OxA-5557: 10,750-10,220 cal BP at 95% confidence)(Scatter C). The significance of the Kingsmead Quarry site is that it falls chronologically within these two dates and provides rare evidence of the development from the Late Glacial (Later Upper Palaeolithic) to the early postglacial (Mesolithic) periods.

Conclusions

The fieldwork at Kingsmead Quarry has confirmed the survival of a rare example of a site occupied by some of the latest Ice Age hunter-gatherers in Britain. Its significance is further enhanced by the pristine nature of the archaeological finds and the very high potential for preserved environmental evidence, including plant and animal remains. Such sites dating to the very end of the last Ice Age are exceptionally rare in Britain (Barton, 2010). The existence of at least two other sites in the same valley offers enormous possibilities for finding further locations and buried landscapes of this age, that now lie relatively close to the surface. The site is currently protected, but any long-term preservation remains in doubt, especially concerning the fragility of the surviving bone. Post-excavation analysis is now

underway to produce a more detailed study of the assemblage and to assess and inform the next stages of the project. The results will illuminate a key transitional phase of the Later Upper Palaeolithic against the backdrop of a fast disappearing Late Glacial world.

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Articulated horse bone (ON 1814, 1815 and 1817)

Figure 1



Figure 2



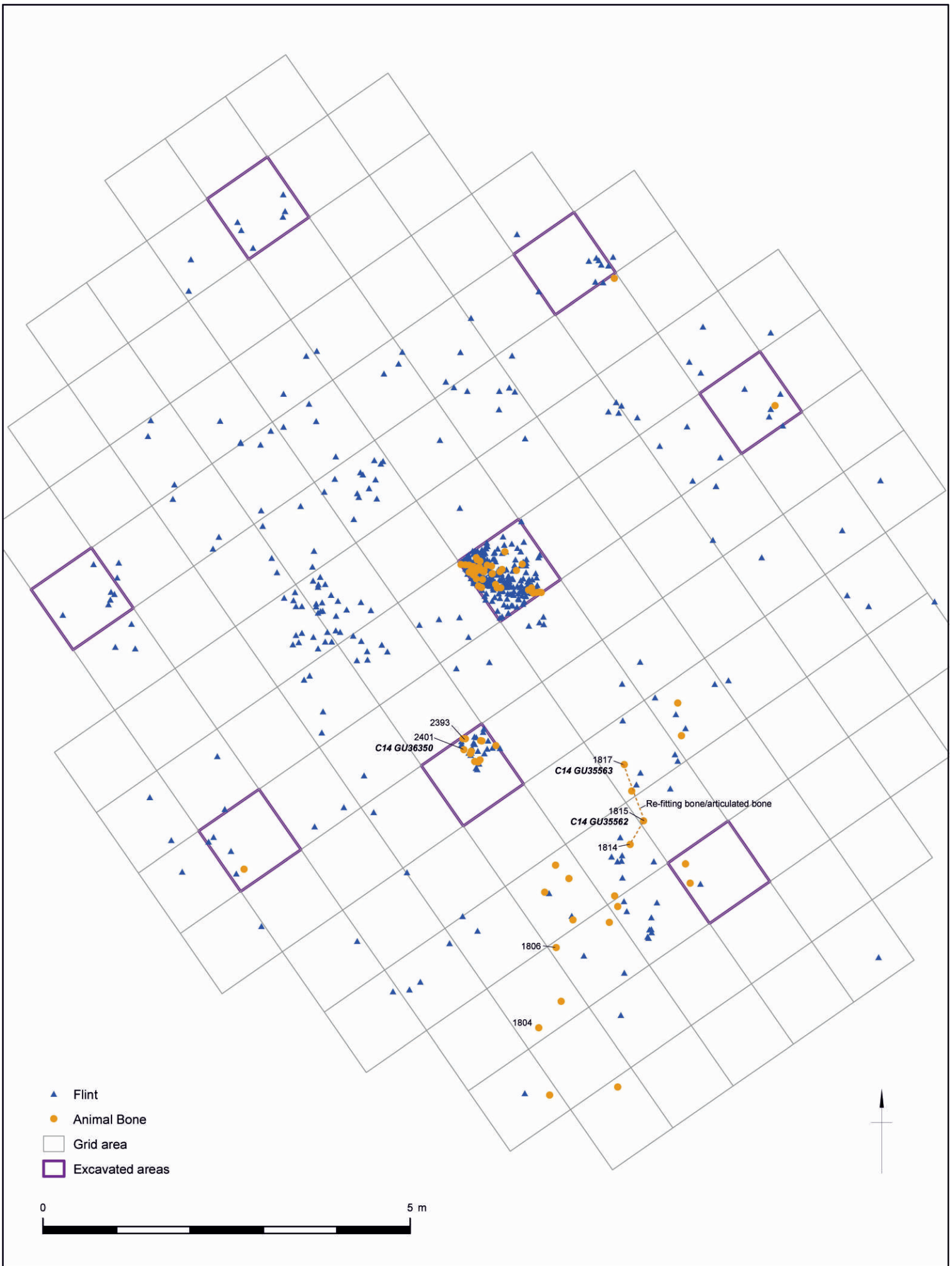
Pre-excavation view of LUP occupation site. The bags mark the position of surface material

Figure 3



Selection of flint recovered: end scraper 2079, blades including refits 2077 and 2291, and snapped trapezoidal microlith 2160

Figure 4



Distribution of all recorded flint and animal bone, and the location of the C14 samples and the articulating horse bone

Figure 5