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INVESTIGATION OF A MOUND ON BROXHEAD COMMON

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ABSTRACT

Excavation of two narrow trenches into a probable Bronze Age barrow with the intention of obtaining environmental samples. The barrow was found not to contain a buried soil level or be of turf stack construction and therefore contained no pollen-bearing stratigraphy. The barrow, however, seems to have been constructed on a natural mound, which was raised by fill probably from the surrounding ditch. This fill sealed a layer of ash and charcoal that was radiocarbon dated to the mid-Neolithic period and must represent an earlier use of the site.

INTRODUCTION

In May 2006 the Woolmer Forest Heritage Society, under the direction of the authors, opened two narrow trenches into a probable Bronze Age barrow situated at SU 80310 37450 on Broxhead Common, *c*1.5km north of Bordon. Broxhead Common, a heathland, covers an area of 40ha and is classified as a Special Protection Area. The excavation is one of a series of similar investigations, designed to obtain environmental samples from buried soil levels preserved under barrows on the Surrey/Hampshire greensand heathlands. The object is to better understand the vegetational history of the greensand at the time the barrows were being constructed. This broader study, which has already obtained samples from several barrows in south-west Surrey, is a co-operative project between Surrey Archaeological Society, Royal Holloway College and various Hampshire

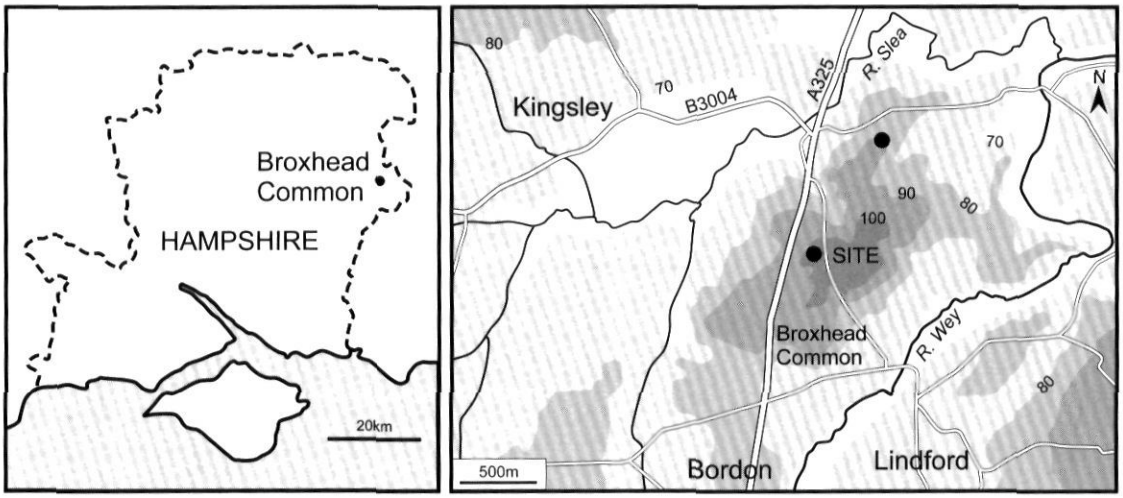


Fig. 1 Broxhead Common barrow: location plan (black dots indicate barrows)

bodies. Permission for the work was obtained from the landowners, MoD Defence Estates, and the Herpetological Conservation Trust, which manages the common.

The Broxhead barrow is not a Scheduled Monument, but the excavation was undertaken with the approval of English Heritage and the Hampshire County Archaeologist and the work was funded by grants from East Hampshire District Council, Whitehill Town Council and Awards for All.

TOPOGRAPHY AND GEOLOGY

The Broxhead Common lies between a branch of the River Wey to the south and its tributary, the River Slea, which runs to the north of the site (Fig. 1). The mound itself is situated on a ridge at or close to the highest point of the common. An Ordnance Survey triangulation point (105m OD) has been inserted at the apex of the mound.

The common today is largely covered by heather, gorse, birch and pine and is one of a series of now-disconnected heathlands on the Folkestone Beds series of the Lower Greensand on either side of this section of the Hampshire/ Surrey border.

THE MOUND

The sub-circular mound (Fig. 2) is clearly defined, being *c* 22m across east-west and *c*18m north-south, with a maximum height of 1.5m. While there is evidence of previous disturbance in the form of a deep linear radial depression on the south-west side – possibly a military trench – the remainder of the mound appears to be intact. There is slight evidence remaining for a ditch on the western and southern sides. Elsewhere it has been obliterated by a footpath. There are no formally recorded finds from the mound or its vicinity, though there are verbal reports of flintwork being recovered from the common.

THE EXCAVATION

Trench 1

This trench (4.5 × 1.3m) was located on the south-west side of the mound on the eastern edge of an existing radial area of disturbance, with the aim of minimizing disruption to any intact stratigraphy. In the event, the section (Fig. 3) showed that this part of the mound had been more extensively disturbed than at first appeared. A number of slit trenches were visible in the section and the intervening stratigraphy was so disrupted as to point to this side of the mound having been virtually reconstructed in the relatively recent past, as a number of rifle cartridge cases were recovered from various points. The south-east section was therefore recorded and the trench backfilled.

Trench 2

Having failed to expose intact stratigraphy in Trench 1, a second trench (Trench 2) was opened on the apparently undisturbed south-eastern slope of the mound. Three basic elements were identified in the section (Fig. 4) underlying the layers of leaf litter and topsoil (201, 202). The latest of these (203) consisted of the black mottled sandy fill of a cut or disturbance either the result of anthropogenic activity – perhaps sand extraction – or possibly being the remains of a tree throw hollow. This was only visible in section and appeared to have removed part of a deposit of medium-brown sand (209) which is interpreted as being upcast from the surrounding ditch. Nearest the apex of the mound, the section showed a series of thin deposits (204–208). Context 205 consisted of fire-reddened sand overlying 206 that contained one small sherd of prehistoric pottery together with ash and charcoal, which has been radiocarbon dated to the Neolithic period (see radiocarbon dating below). There was no evidence for the survival of the buried soil level that might have been expected to have developed on the original ground surface and it is possible that this was mostly deliberately removed before the medium brown sand

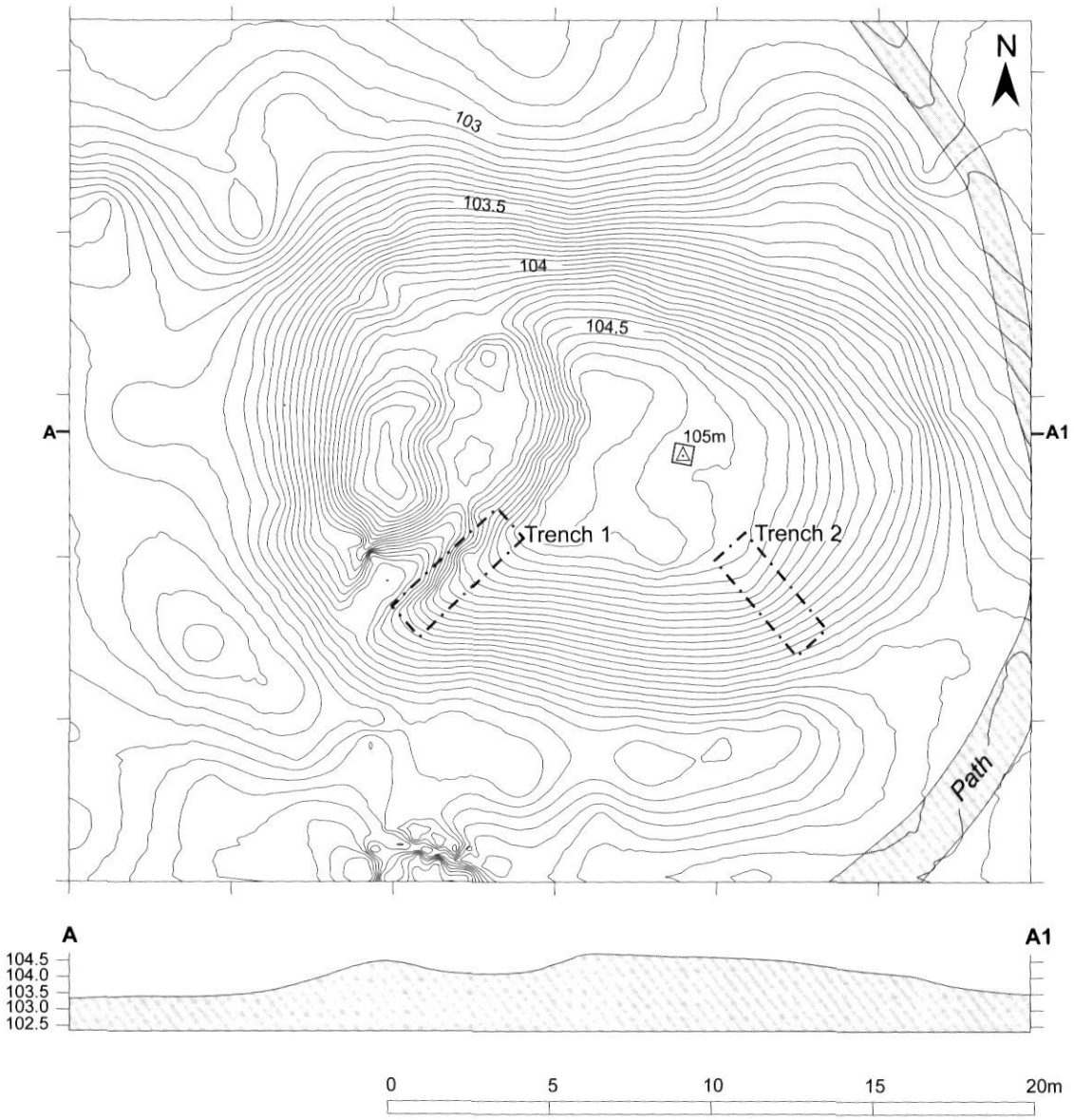
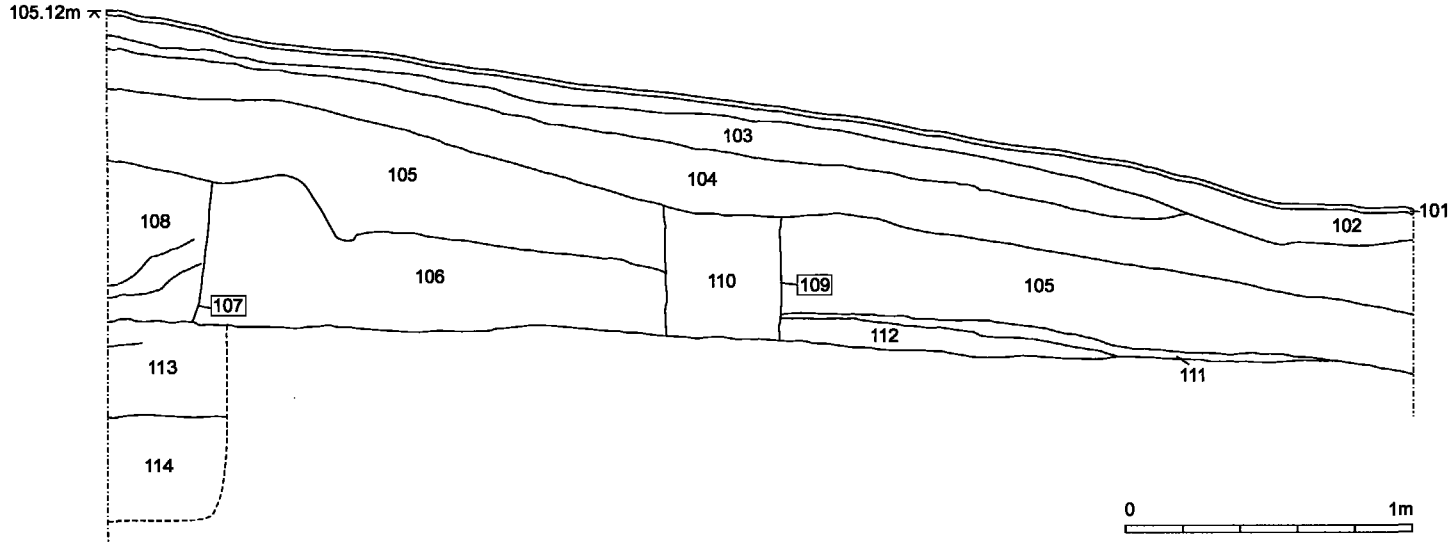
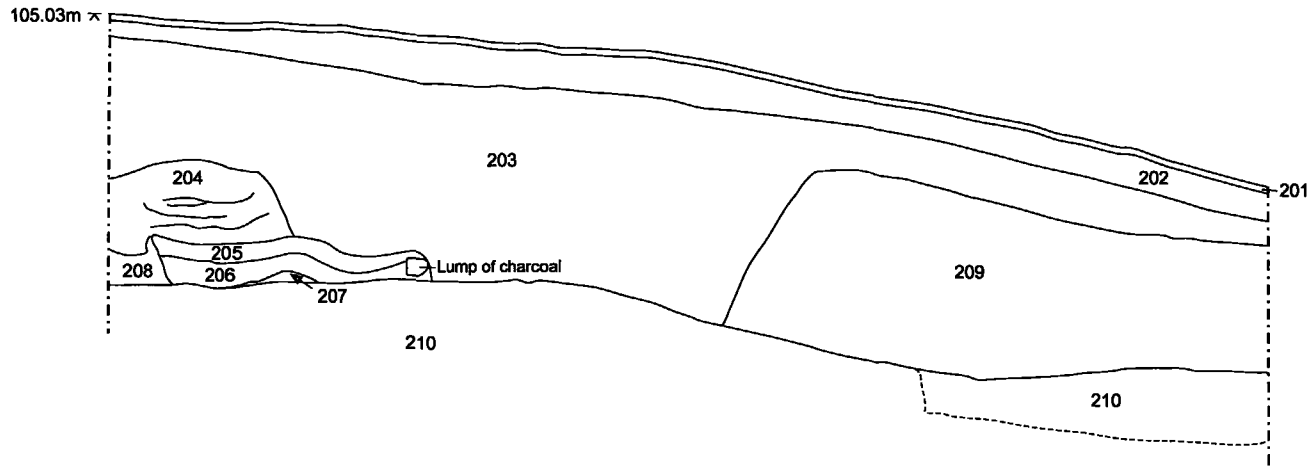


Fig. 2 Broxhead Common: contour survey and profile of barrow at SU 80310 37450. Contour heights in metres OD



101 Surface leaf litter/turf
102 Topsoil
103 Buff sand
104 Sand with black mottling
105 Light grey sand
106 Sand with black mottling
107 Cut
108 Yellow/brown sand with black banding
109 Cut
110 Mid-grey sand
111 Sand with black mottling
112 Ochre coloured sand
113 Pink coloured sand with single black band
114 Soft loose yellow sand

Fig. 3 Broxhead Common: Trench 1, east section



201 Surface leaf litter
202 Topsoil
203 Sand with black mottling
204 Ochre coloured sand with black banding
205 Fire reddened sand
206 Charcoal/ash/sand
207 Yellow sand
208 Black sand
209 Medium brown sand
210 Natural sand with black mottling

Fig. 4 Broxhead Common: Trench 2, north-east section

layer (209) was deposited. Underlying all the above layers was the sand (210) of the Folkestone Beds which at this point appeared to have formed a natural hillock.

Geoarchaeology and radiocarbon dating,
by N P Branch and C P Green

Introduction
The main excavation trench (Trench 2) through the possible barrow mound revealed a complex soil sequence, which is described below. In addition, charcoal was recovered from the edge of context (206), which was associated with fire-reddened sand, and small fragments of charcoal and wood ash. The charcoal was identified and radiocarbon dated, and the results are presented below.

Results of the field-based geoarchaeological study
The geoarchaeological study focussed on the examination of the north-east section of Trench 2, which consisted of ten contexts (layers). Context (201) comprised a layer of leaf litter overlying a layer (context (202)) of variable thickness, of dark, decomposed and acidic humus ('mor' humus; 'O' horizon). These contexts overlay a probable eluviation zone ('A' horizon) of yellowish-white sand (context (203)), again of highly variable thickness, resulting from the down-washing of fine mineral sediment (clay and silt) and organic matter. The organic matter appears to have accumulated (illuviation zone) at the base of the 'A' horizon and around the edges of contexts (204), (205), (206) and (209). Confirmation of the illuviation zone is the presence of a thin, often broken, iron pan. Context (210) is the natural Lower Greensand, probably with a highly weathered upper surface ('C' horizon). There is every reason to conclude that the contexts described here represent horizons of a weakly developed podzol soil profile, which today is typical of the Lower Greensand.

These 'recent' soil formation processes post-date the event or events however that led to the deposition of charcoal and the burning associated with contexts (205) and (206). These sandy contexts probably represent a former land-surface, where the sand accumulated by aeolian and/or fluvial processes. The absence of unequivocal evidence for 'O' or 'A' soil horizons is not surprising, since these have probably been removed by more recent processes. That sand continued to accumulate after contexts (205) and (206) were deposited is indicated by contexts (204) and (203). The presence of black, possibly organic, banding in context (204) may indicate incipient soil formation. However their stratigraphic relationship with context (209) is very unclear. Although context (209) is similar in composition to context (203), there is a clear difference in colour, which may reflect localised soil formation processes, or drainage and slope characteristics that has led to the differential removal of iron, aluminium, fine mineral matter and organic materials. Alternatively, context (209) may represent an anthropogenic event (D. Graham *pers. comm.*), such as dumping of sand. If correct, this interpretation is interesting because the event would pre-date the deposition of context (203), and may be contemporaneous with contexts (205) and (206).

Results of the radiocarbon dating
The charcoal recovered from context (206) has been identified as beech (*Fagus sylvatica*). The results of the radiocarbon dating (Table 1) indicate that the charcoal is middle Neolithic in age. This is surprising for two reasons: (1) Today, beech woodland prefers less acidic soils, and is not found, to the authors' knowledge, on Lower Greensand, and (2) Pollen-stratigraphic and charcoal records from a range of geological and archaeological archives (e.g. mires, lakes, pits, ditches) indicate that beech woodland was not common in the British Isles until the Bronze and Iron Ages. Therefore, its presence during the Neolithic at Broxhead Common is interesting and an important result.

Conclusions
The results of the geoarchaeological study and radiocarbon dating indicate that the event or

Table 1 Results of the radiocarbon dating at Broxhead Common, Hampshire (The results have been calibrated with Oxcal v.3.5 (Bronk Ramsey, 1995 and 2001), using data from Stuiver *et al.* (1998))

Code	*Location*	*Material*	*Conventional Radiocarbon Age*	*Calibrated Date*	*13C/12C Ratio (‰)*
Beta-218163	Context (206)	*Fagus* charcoal	4790 ± 50 BP	Cal BC 3660 – 3510 (Cal BP 5610 – 5460) and Cal BC 3430 – 3390 (Cal BP 5380 – 5340)	–27.2

events that led to the deposition of charcoal and burning in contexts (206) and (205) occurred during the middle Neolithic. These sandy contexts were overlain by further thick layers of sand, in which a podzol soil profile has formed. It is entirely likely that all of these layers were deposited by natural aeolian processes. The origin of context (209) is less easy to interpret, because this layer appears to pre-date context (203), and is somewhat enigmatic. For this reason, context (209) may be anthropogenic in origin.

DISCUSSION

In the event, no evidence was found for the survival of a buried soil level nor for a turf stack core to the mound. Consequently, it was not possible to obtain the environmental evidence that had been the original object of the excavation. Nevertheless, the sequence of events that appear to have led to the formation of the mound, are still of interest.

In its natural state, this point along the ridge appears have formed a slight mound. Assuming that the radiocarbon dating is correct, at some stage during the middle Neolithic a fire had been lit on this mound and the resulting ash and charcoal become preserved under a series of sand deposits – deliberately placed or otherwise. As mentioned in the geoarchaeology report, the fact that beech was used in this fire is of particular interest.

The mound as we see it today is almost undoubtedly a Bronze Age barrow, given the vestigial remains of a ditch around its circumference. Presumably, layer 209 represents upcast from this ditch and was intended to raise the profile of the natural hillock. The only cautionary note is that no finds of Bronze Age material were made to confirm this hypothesis. At some later and unknown date the surface of the mound was disturbed either deliberately or by natural causes. This partially removed a section of the cleaner sand of context 209 but fortunately left enough of the Neolithic levels to provide datable material. To the south-west, the mound has been extensively disturbed and reconstructed, presumably by sand digging or military activity, while to the east the track has obliterated the line of the ditch.

ACKNOWLEDGEMENTS

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