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Investigation of a Bronze Age mound on Frensham Common

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with a contribution by
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A rapid landscape survey of Frensham Common located the sites of six possible tumuli in addition to the four known barrows on the King's Ridge between the Great and Little Ponds. A slit trench cut into one of these newly located mounds, showed that the core, unusually, consisted of layers of white sand alternating with bands of humic forest floor litter. Pollen analysis of samples taken from these bands indicated that the mound appeared to have been constructed in the Bronze Age. The mound had subsequently become eroded and was later partially restored, probably in the 19th century.

Introduction

In 1870 Rev Charles Kerry, a well-known local antiquarian, noted in his diary that he had counted ten tumuli on Frensham Common (fig 1), a few miles south of Farnham (Kerry 1868–77). Only four tumuli are currently listed in the Surrey County Sites & Monuments Record and as a result, in 1996 a rapid landscape survey was carried out by the authors to try and locate the 'missing' six mounds. The survey was successful in locating five possible candidates – the sixth, visible on an early 20th century photograph, had been destroyed in the 1960s during the construction of a car park.

The most obvious of these six mounds is sited just below the crest of Warren Hill, which forms the high ground immediately to the north of the western half of Frensham Great Pond (figs 1 and 2). A narrow slit trench was cut into the mound in order to test whether it was indeed a tumulus or was merely a sand dune, as has, in the past, been suggested is the case for the majority of such mounds on the Surrey heathlands (Corcoran 1961). A second smaller trench was opened to the west in order to look for any ditch, which might once have surrounded the mound. Both trenches were sited to cause the minimum possible disturbance to any surviving archaeology.

In the event, the sections in the main trench showed two distinct levels. Near the centre of the mound, the upper two-thirds of the exposed section (fig 3) consisted of grey sand layers, which lay unconformably on a lower section of alternating bands of dark grey humic material and white sand, which in turn rested on the natural subsoil. Palynological results indicate that the humic layers consist of forest leaf litter, possibly laid to consolidate, or be consolidated by, the sand layers, and that this part of the mound appears to date to the Bronze Age. The upper grey irregularly layered sandy deposit would appear to represent a later raising of the mound, possibly connected with the military reviews that were held on the common in the late 19th and early 20th centuries.

Location, topography and geology

The mound chosen for investigation (SU 8433 4029) lies just below the crest and on the eastern slope of Warren Hill, on Frensham Common, four miles south of Farnham. Warren Hill rises fairly steeply from the north-western shore of Frensham Great Pond – a medieval fishpond – and, vegetation permitting, provides reasonable views to the south, west and east. To the north-west, the ground dips slightly and then continues more or less level for

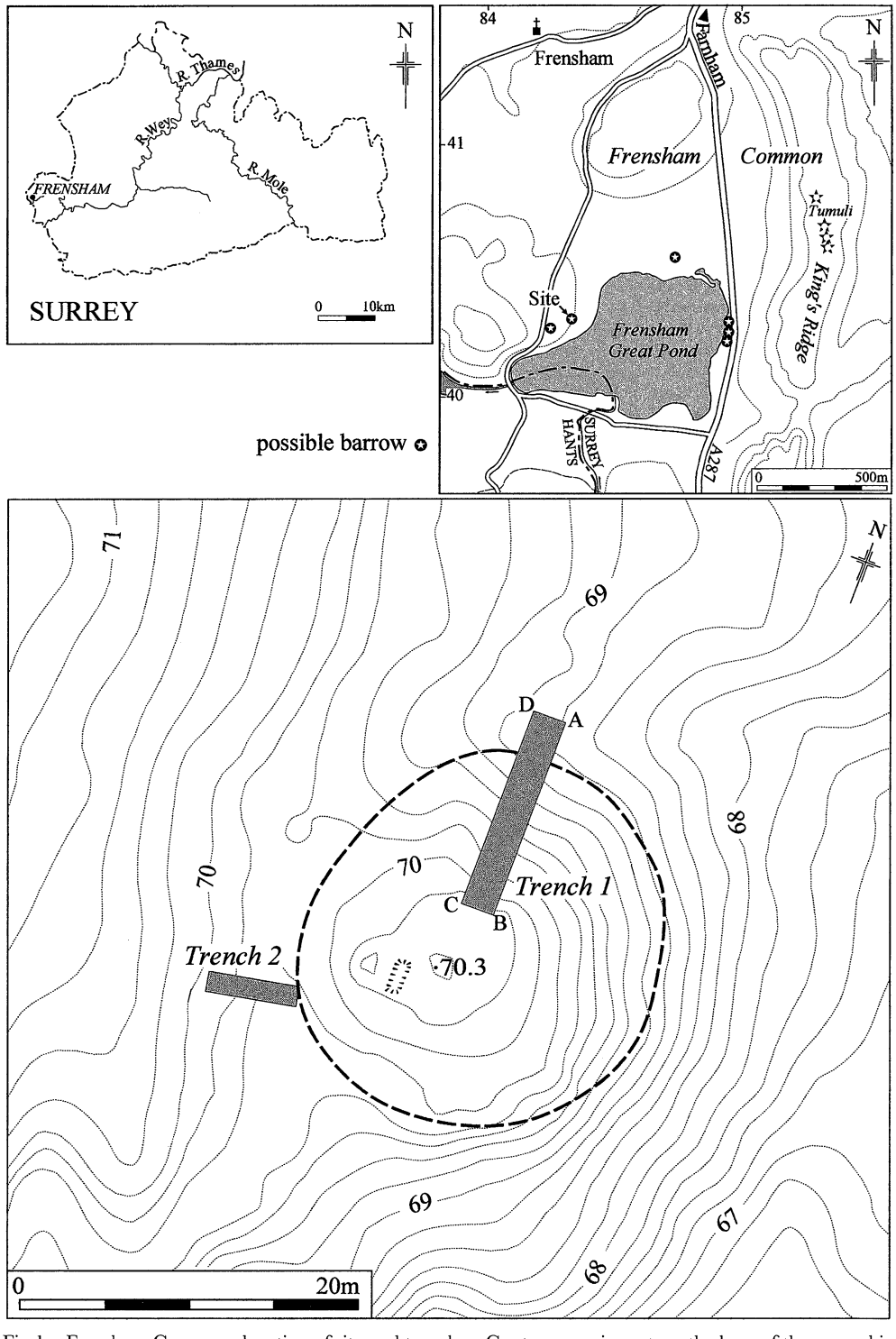

Fig 1 Frensham Common: location of site and trenches. Contours are in metres; the base of the mound is shown as a bold dashed line. (© Crown Copyright. MC 100014198)

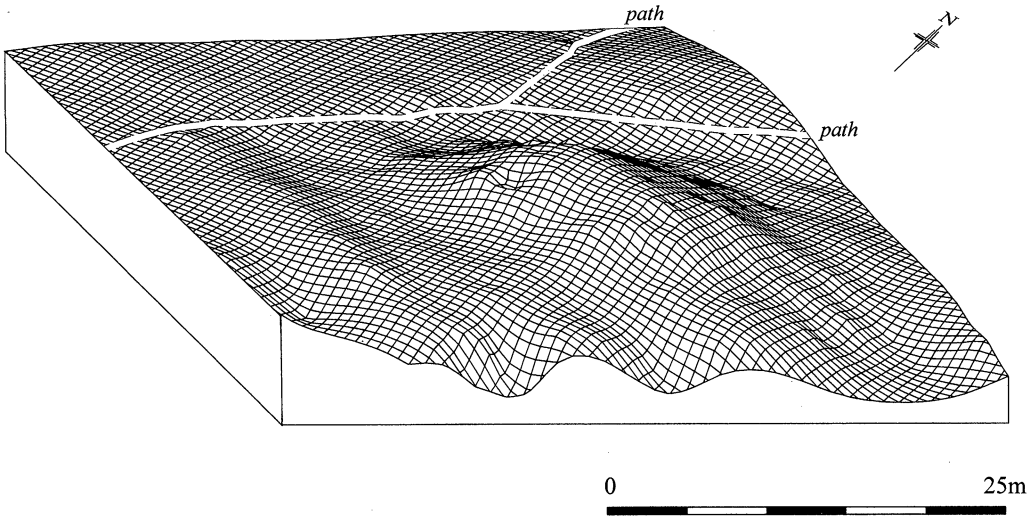

Fig 2 Frensham Common: topographical survey of the mound

some 250m until it rises again to form the higher ground of Frensham Manor. Frensham Common is a typical west Surrey heathland, with heather, birch and pine growing on the poor acidic sands of the Folkestone Beds, part of the cretaceous deposits of the Lower Greensand series.

Because of its position on the hill slope, the mound has become slightly oval in shape, presumably as a result of a greater degree of soil slip on the downhill side. It nonetheless remains *c* 1.1m high and would originally have been somewhere in the region of 26m in diameter. The surface of the mound is slightly irregular, the most recent obvious disturbance being an open 'foxhole' near the top (fig 1). The sand, of which the mound is now largely constructed, appears to have been dug immediately uphill of it, leaving the impression that the mound sits on a platform (fig 2).

Previous evidence

While four, recently restored, scheduled barrows still remain clearly visible on the King's Ridge, between Frensham Great and Little Ponds, it has been claimed that a number of others once existed on the common. An entry in the diary of the locally well-known 19th century antiquarian, the Rev Charles Kerry reads as follows:

> On Easter Monday April 18 1870 accompanied by Revd W A Duckworth & the Miss Sumners, I went to Frensham Pond. Mr Duckworth pulled us down the lake and when we arrived at the lower end, owing to the shallowness of the water we were unable to land near the Tumulus. I was resolved however, to examine it, so having taken off my stockings & boots, tied my coat tails round my waist, with my stick under my arm, my boots in my mouth and my trousers supported by my hands I came safely to land, to the great amusement of the ladies. My adventure I believe forms the subject of a humorous sketch by Mr D. To my sorrow I found the Barrow had been examined a trench having been made from the north to the centre where a considerable quantity of soil (or rather sand) had been removed. I did not make any enquiries but I think the research could not have been a successful one for the excavation does not appear to have been made in the place most likely to repay the labour of investigation. The centre remains untouched. There is another barrow close by and these two including two groups on the neighbouring hills, make ten tumuli visible from the cricket ground.

> On my return to the Inn [now the Frensham Pond Hotel] by the N side of the pond I found a few flint arrow points in the vicinity of what appeared to be a barrow.

The cricket ground at Frensham is shown on the 1872–4 OS 6-inch map as being on the south side of the Great Pond and, though it is now thoroughly overgrown, would once have commanded clear views northwards across the pond.

Following Kerry's description, the survey located two or possibly three mounds close to the north-east shore of the Great Pond. These are partially buried by the embankment that now carries the main road (A287) past the pond and are therefore no longer visible as freestanding features. Two other mounds were located just above the north-west corner of the pond in an area which is well known to have yielded large numbers of worked flints (Rankine 1949) – matching the description in Kerry's note.

A possible candidate for the final of Kerry's ten tumuli, was noted on a photograph from the early 20th century, taken looking north across the eastern end of the Great Pond, and which showed a mound on the horizon (SU 8476 4063; Graham & Graham 1996, 8). The area was converted into a car park in the 1960s and it seems likely that the mound was destroyed at that time.

Apart from the possible ten tumuli and the flintwork, including Bronze Age material previously recorded from the common, a number of bronze axes have been found in the general area. In particular three axes and a quantity of slag have been found on Frensham Manor, just to the north-west of the common (Graham 1986) and an unconfirmed report suggests that further axes have been found on the Wishanger Estate, about 0.5km south west of the Great Pond.

The excavation

One of the mounds, that on the eastern slope of Warren Hill, was selected for investigation. Two trenches were excavated: the first ran from outside the mound to a point just short of the centre, in an attempt to avoid disturbing any possible burial, and the second was sited immediately outside the circumference of the mound in order to test for any continuation of a ditch (fig 1).

The long section of the main trench (fig 3) showed that the mound had slumped for a considerable distance downhill, burying the brown sandy heathland topsoil beneath the light grey sand of which the upper levels of the mound was constructed. The section also showed that, subsequent to the sand slip, a number of slit trenches had been cut through the upper levels. These presumably represent military 'foxholes', similar to the open example near the crest of the mound, and all probably date to the Second World War. There had also been a certain amount of disturbance by rabbits in the central part of the section, though these had, fortunately, not affected the core of the mound.

A possible ditch with a flat bottom ran across the trench (fig 3) and underlay the brown heathland topsoil at about the point that would have been the edge of the original mound. The ditch was very indistinct, showing no signs of silting levels and merely contained an homogenous fill of slightly greyer sand than the surrounding natural. This feature may have been associated with the monument, but at less than 1m wide and only 0.35m deep, it was rather smaller than might have been expected to surround a barrow. Again the smaller western trench (fig 1, trench 2) failed to show any obvious continuation of this ditch, though this may be because the hill slope appears subsequently to have been terraced at this point and any such ditch may well have been destroyed as a consequence. The purpose and nature of the ditch is therefore uncertain and it may well be that it is not directly associated with the mound at all. As Ashbee (1960, 44) has noted, barrows without ditches are known elsewhere in the country, and the mound on Frensham Common may fall into this category.

Towards the centre, nearer point B (figs 3–4), the section showed that the main body of the mound consisted of two basic zones. The upper of these lay unconformably on the

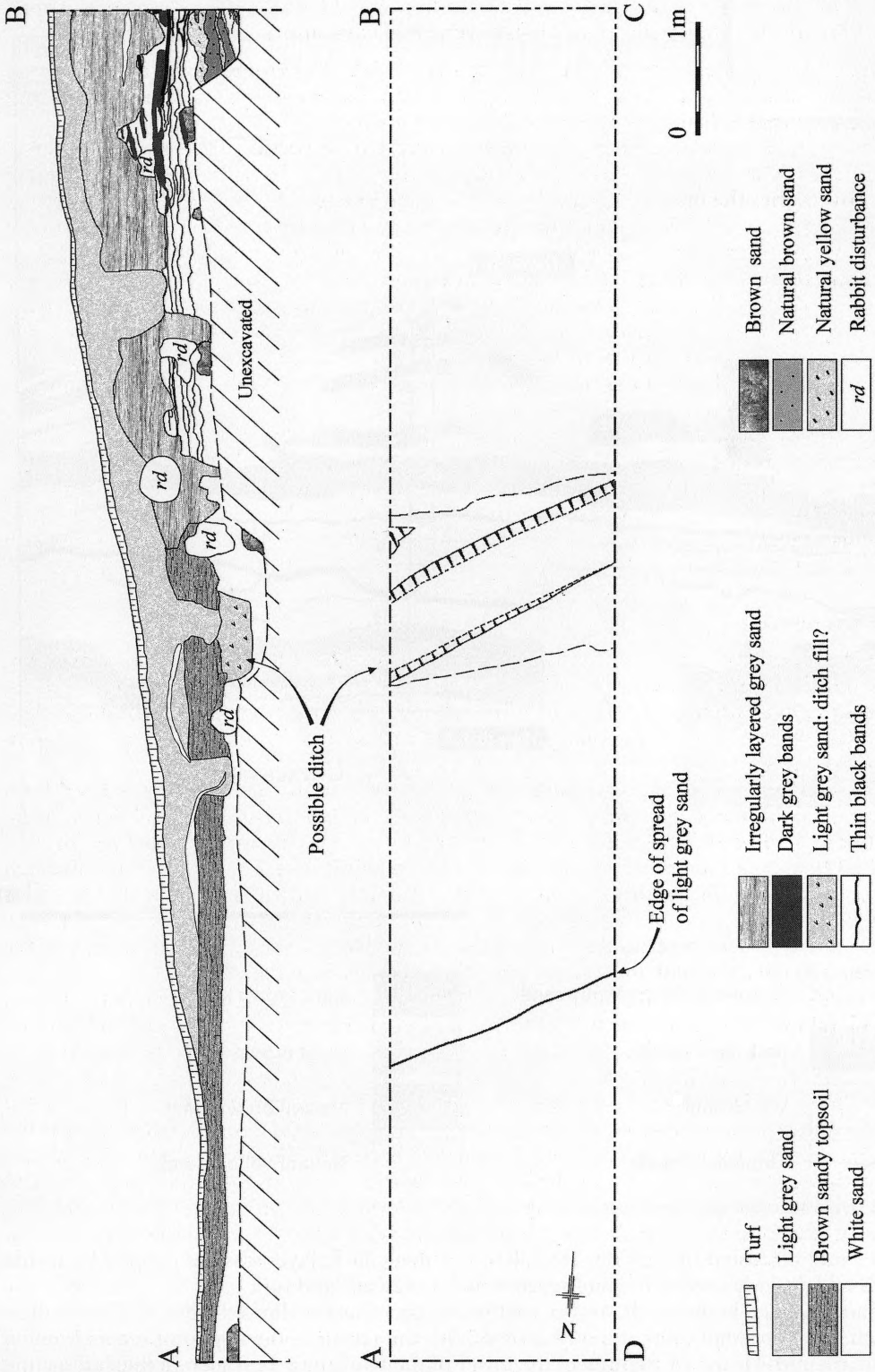

Fig 3 Frensham Common: section A–B and plan of trench 1

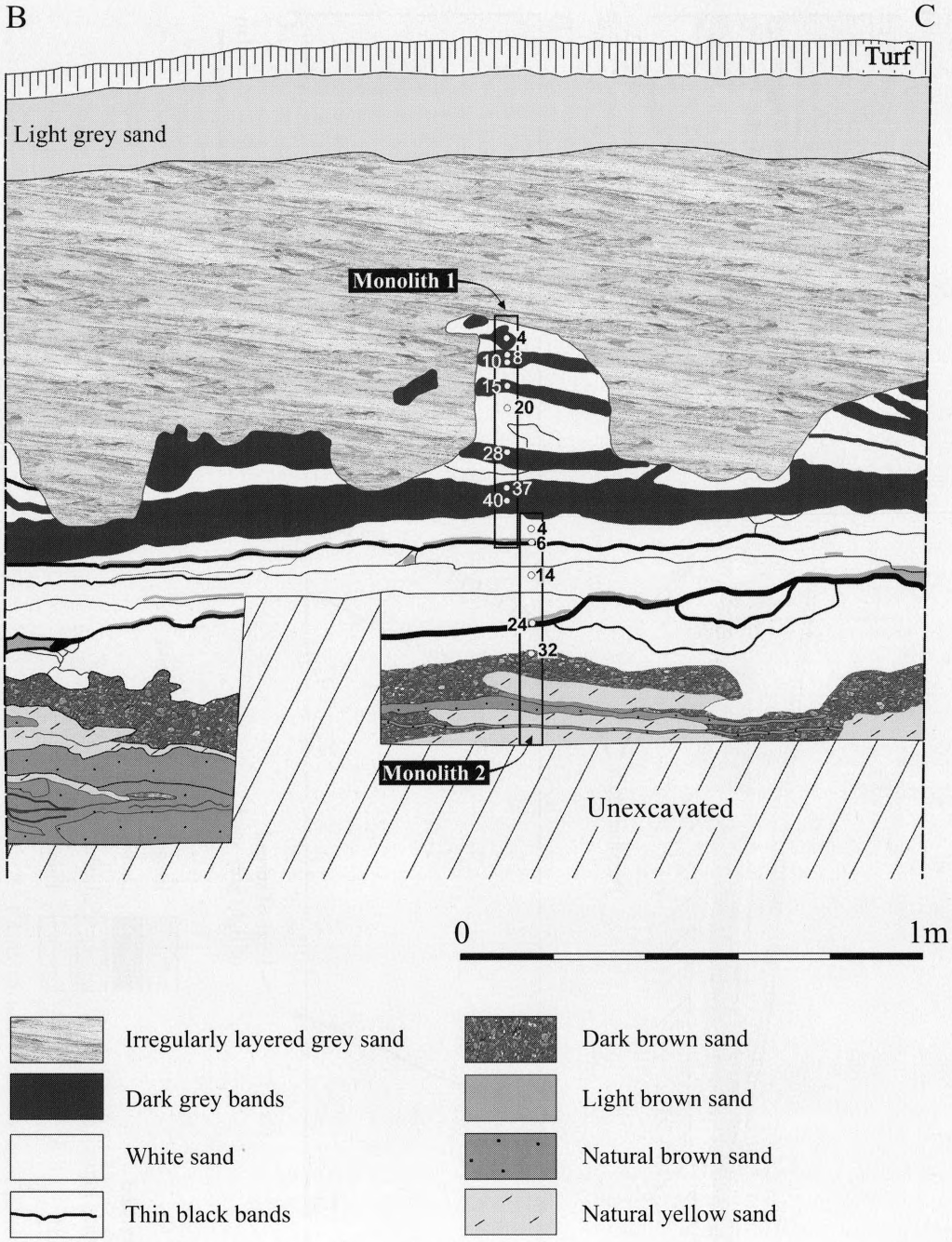

Fig 4 Frensham Common: section B–C

lower and consisted of a *c* 0.8m thick band of irregularly layered sand capped by a thin band of light grey sand with an uppermost layer of heathland turf.

The interface between the upper and lower zones again showed signs of disturbance, which may represent more military activity, this time prior to the apparent reconstruction of the mound. However, enough of the lower of the two zones, best seen in the end section

(fig 4), survived to show that it was completely different in nature and consisted of alternating bands of white and dark grey humic sand up to 0.15m thick. In turn these overlay a number of thinner bands of darker sand again alternating with, in this case, thicker layers of the leached white sand. The underlying natural consisted of intercalated layers of yellow and dark brown sands.

No artefacts of any sort were recovered during the course of the excavation and there was no indication of earlier activity on the site in the form of postholes, plough marks or other features. The only evidence as to the date and nature of the respective layers within the mound comes from analysis of the pollen from the lower levels.

Palynological assessment, by Patricia Wiltshire

Two overlapping monoliths of sediment, each of 0.5m length, were obtained from immediately below the irregularly layered grey sand and extended down to the basal yellow deposit (fig 4). The sediments in the upper monolith (1) proved to be better consolidated and less friable than those in the lower one (2) and much of the white sand was lost from the sample tin. However, eight samples were processed from the upper monolith and five from the lower (table 1). The dark and light bands of sand were sampled as well as the very densely black layers.

Standard methods were used for concentrating palynomorphs from the soils and sediments (Dimbleby 1985). These were the same as for previous work carried out at Thursley Common (Wiltshire 1999). Samples were lightly stained with 0.5% safranine and mounted in glycerol jelly. Preparations were examined with a Zeiss phase-contrast microscope at x400 and x1000 magnification where necessary. Approximately 100–200 grains were counted in each sample. Results were expressed as a percentage of total land pollen and spores (TLPS), excluding *Hedera*. *Hedera* (ivy) was left out of the pollen sum because of one very high value. This taxon was expressed as a percentage of all TLPS. It must be stressed that these results must be considered with caution in view of the small numbers of palynomorphs counted, but it was felt worthwhile producing pollen diagrams from the data. Nomenclature follows that of Bennett *et al* (1994), Moore *et al* (1991), and Stace (1991).

Principal components analysis (PCA) was carried out using selected, most frequent taxa. Those included were *Corylus*-type (most likely hazel), *Quercus* (oak), *Alnus* (alder), *Tilia* (lime), *Betula* (birch), *Salix* (willow), *Calluna* (common heather), Poaceae (grasses), *Polypodium* (polypody fern) and *Pteridium* (bracken). All taxa selected for the analysis had a frequency of at least 40%. PCA was carried out by using MVSP V.300b (Kovak 1998).

RESULTS

The results are shown in table 1 (percentage data for all taxa), figure 5 (pollen diagram with selected taxa), and figures 6 and 7 (plots of principal component loadings (PCA) for selected taxa and all samples). In the PCA, most of the information was contained within axis 1 (84.05%), while axis 2 accounted for 7.76%, with a cumulative information content of 91.8%.

It can be seen that three samples (20cm in the upper monolith, and 4 and 14cm in the lower monolith) were sterile of palynomorphs, while abundance was variable throughout the various layers. Microscopic charcoal was sparse to absent, while palynomorph preservation was generally good.

DISCUSSION OF THE RESULTS

It must be stressed that with the relatively low numbers of pollen grains counted for this assessment, care must be taken in interpretation, but the data do demonstrate the main features of the local landscape when the mound was constructed.

TABLE 1 Percentage data for all taxa

Palynomorph	Monoliths												
Taxon	Upper								Lower				
Depth (cm) . . .	4	8	10	15	20	28	37	40	4	6	14	24	32
Abundance	5	2	2	5		3	1	1		5		5	5
Microcopic charcoal	2	+	+			2	+			1			
Trees, shrubs and climbers													
Corylus-type	36	44	16	36	N	34	45	49	N	45	N	26	33
Quercus	8	19	30	12	o	8.6	3.5	15	o	6.1	o	2	1.9
Alnus	10	9	12	9.1	n	12	16	4.6	n	18	n	13	13
Tilia	9.3	3.2	1	5	e	12	+	10	e	7	e	30	3.8
Betula	1.3	4.8	3	3		3.6	3.5	+		1		3.9	8.8
Fraxinus	4			5		+		+					
Ulmus	2.7			4.5								1	
Carpinus			9.2									+	
Salix	3.3					7.9		1					+
Pinus		+		1.5		+		2.8				+	
Ilex	+												+
Climbers													
Hedera	1.3	2.3		50		+						1	1.9
Dwarf shrubs													
Calluna	16	13	14	11		17	23	2.8		19		7.9	16
Erica indet.	+												
Dry land herbs													
Caryophyllaceae										+			
Galium-type										+			
Lactuceae		+											
Melampyrum	+												
Plantago lanceolata		+											
Poaceae		4	10	3		1.4	3.5						
Polygonum indet.	+												
Ranunculus							+	5.6					
Rumex acetosella			1										
Rumex indet.	+		1				+						
Stachys-type	+												
Aquatics and plants of wet soil													
Cyperaceae	2.7			4.5									
Filipendula								7.4					
Ferns													
Polypodium	2.7	+	1	1.5		+	+			1.8			1.9
Pteridium			1	4.5		2.2	2.6			+			

The layering of the variously coloured deposits within the core, and at the base of the mound, suggest that the feature was primarily constructed of old ground surfaces (probably soils and leaf litter). Unfortunately, the sampling resolution in this study was not fine enough to detect turf or turf orientation, but there is sufficient variation in the pollen spectra to indicate heterogeneity within the local woodland.

Figure 5 shows that all areas from which material was collected were dominated by mixed deciduous woodland, with percentages for woody taxa ranging between 62% and 83% of total land pollen and spores (TLPS), and herbaceous plants (including grasses and ferns) ranging between 1.4% and 12%. *Calluna* (heather) which, like most herbaceous taxa, requires relatively high light intensity for flowering, ranged between 2.8% and 19%.

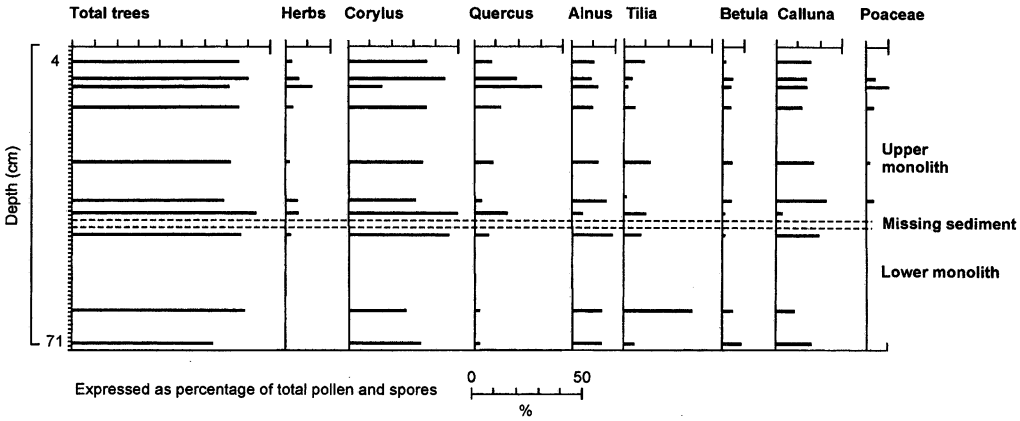

Fig 5 Frensham Common: pollen diagram with selected taxa

A wide range of woody taxa was recorded, including *Hedera* (ivy), and *Ilex* (holly). *Corylus*-type (hazel), *Quercus* (oak), *Alnus* (alder) and *Tilia* (lime) were the most frequent and abundant trees and shrubs, but *Betula* (birch) seems to have been fairly widespread, and *Fraxinus* (ash), *Ulmus* (elm), *Carpinus* (hornbeam), *Salix* (willow), and *Pinus* (pine) were all growing in the catchment. *Calluna* (heather) seems to have been the most abundant light-requiring plant with Poaceae (grasses), *Polypodium* (polypody fern) and *Pteridium* (bracken) being the most abundant herbaceous plants. Other herbs were found sporadically and at low level.

The pollen spectra suggest that the woodland canopy had openings, which were colonized by heather and ferns, with grasses and other herbs growing wherever there was sufficient light. The existence of canopy openings is supported by the presence of ivy in 60% of the samples. At 15cm in the upper monolith, it achieved a percentage of 50% TLPS and this probably indicates that whole flowers had fallen onto the ground surface. It also suggests that the material was collected from an open, wooded area, since ivy will only flower if supported some height from the ground and if light intensity is relatively high.

In the laboratory, it was difficult to ascertain whether or not the basal samples represented the old ground surface upon which the overlying material was laid, or whether they were from emplaced material. However, there do seem to be differences between the basal samples and those higher up in the mound. The upper samples appear to have come from areas where the canopy was slightly more open so that herbs and ferns are better represented in the pollen spectra.

In the sample at 24cm in the lower monolith, lime pollen reached very high levels. The lime tree is usually under-represented in pollen diagrams by virtue of its insect-pollination and, possibly, because much pollen becomes trapped by its sticky leaf exudates. It is feasible that the thin, densely black layer from which this sample was taken represents leaf litter taken from areas where lime was the dominant tree. Lime pollen is relatively resistant to decomposition, and this might account for its high value in this sample. However, throughout the summer, the sticky lime leaves become coated with pollen and the black layer might represent pollen-laden litter, which had decomposed *in situ*. Its values throughout the mound range from 3.2 to 30% and it was probably growing locally, and much more prolifically than its representation would suggest. Herbs were not represented in the basal samples and this may be because of the dense shade produced by lime woodland. However, heather was present, probably growing in adjacent openings.

The upper monolith shows variation in relative abundances of the major taxa, particularly oak, birch, lime and heather. This could be explained by turves or soils being obtained from a variety of sites in the vicinity, but the differences may not be of great

significance. It is possible that the materials were obtained from a relatively restricted area with the observed variation representing small-scale differences in plant distribution. For example, modern pollen studies in mixed deciduous woodland in southern England have shown that percentages of hazel pollen in surface soils can vary between 70% and 4% within 10m of hazel shrubs (Wiltshire 1999) while pine representation falls from 80% to 4% within 50m of the parent plant in open conditions (*ibid*). Both these taxa are prolific producers of well-dispersed pollen and yet most of their pollen load falls near the parent plant. In closed conditions, this effect is enhanced by the barrier to dispersal offered by other plants.

Figure 6 shows the PCA loadings for dominant woody taxa, grasses and ferns. Axis 1 contains most of the information (84.05%), but without data on the hydrology and chemistry prevailing in the original soils, the results are difficult to interpret. However, they do imply that lime, hazel and oak were not growing in a homogenous mix. This is to be expected when the ecophysiological requirements of these trees are taken into consideration.

Figure 7 shows the PCA loadings for samples. The plot is useful for demonstrating that most of the samples were similar and probably obtained from a restricted area of woodland. However, samples at 10cm (upper monolith) and 24cm (lower monolith) were considerably different from the others. The material at 15cm seems to have been obtained from a relatively open area with oak, herbs and ferns being more abundant than in the samples from the lower monolith. It would seem that the material from the upper sample was collected from an area which was oak dominated, with hazel and alder being the other most important trees. The canopy at the location was relatively open and it supported heather, grasses and other weeds.

It is unfortunate that there is such a lack of dated pollen sequences for Surrey, but when the pollen spectra are compared with others from southern and eastern England an early date is suggested for the construction of this mound. The density of the woodland and wide range of tree and shrub species, low levels of *Ulmus* (elm) and relative abundance of lime, indicate a post-Neolithic but pre-Late Bronze Age date for the mound at Frensham. This means that it is more or less contemporaneous with the mound recently investigated at Thursley Common (Wiltshire 1999). Moreover, the vegetation at both sites was broadly similar although there were also marked differences.

From the data obtained from a single mound on Thursley Common, the site appears to have been more open than that at Frensham, although both sites were dominated by hazel. Alder and birch were also better represented in the Thursley mound, while oak was much more abundant at Frensham. This could be a reflection of the specific location of the two mounds. The one at Thursley was certainly set in an area of wetter soils and there was evidence that some of the turves had actually been collected from the margins of a body of water. Conditions at Frensham seem to have been drier but, of course, other parts of the catchment might have been wetter and were simply not represented in this particular mound.

Interesting similarities between the two sites were the lack of cereal pollen and the paucity of microscopic charcoal, some samples containing none at all. This might suggest that the focus of domestic and farming activity was situated well away from the mounds at both sites. The absence of bracken at Thursley and the low levels at Frensham is also interesting and suggests that the fern was a relatively minor component of the vegetation of the Greensand soils in this area of Surrey. This contrasts with the present day where bracken grows prolifically on the Surrey heaths.

The range of taxa at Frensham indicates that the soils in the catchment were heterogeneous, with richer, more fertile one supporting limes and the poorer, more acidic ones probably supporting oak, birch and bracken. Damper soils are indicated by alder trees, heather and sporadic records of Cyperaceae (sedges) and *Filipendula* (meadowsweet).

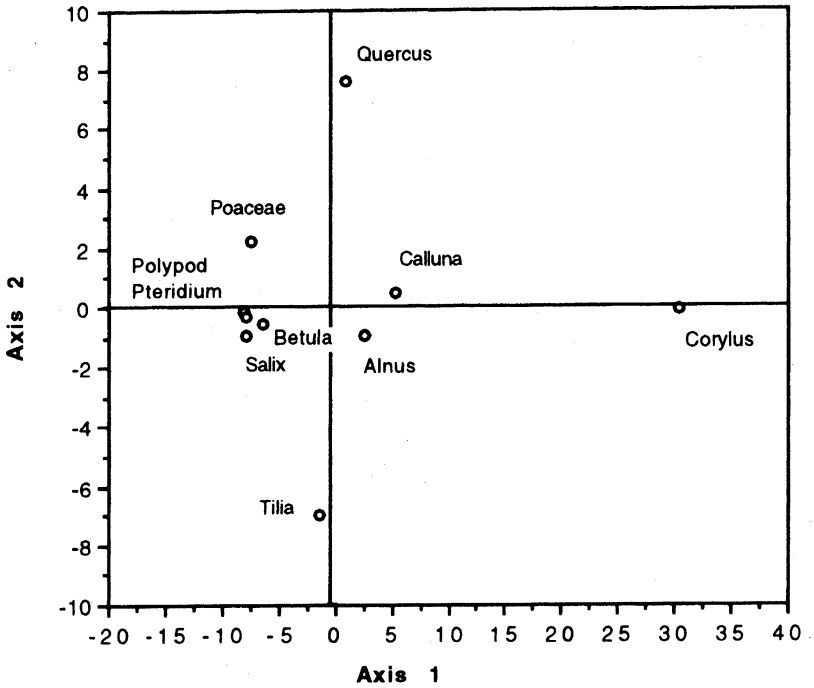

Fig 6 Frensham Common: principal component loadings for selected taxa. Axes 1 and 2 account for 91.8% of the information.

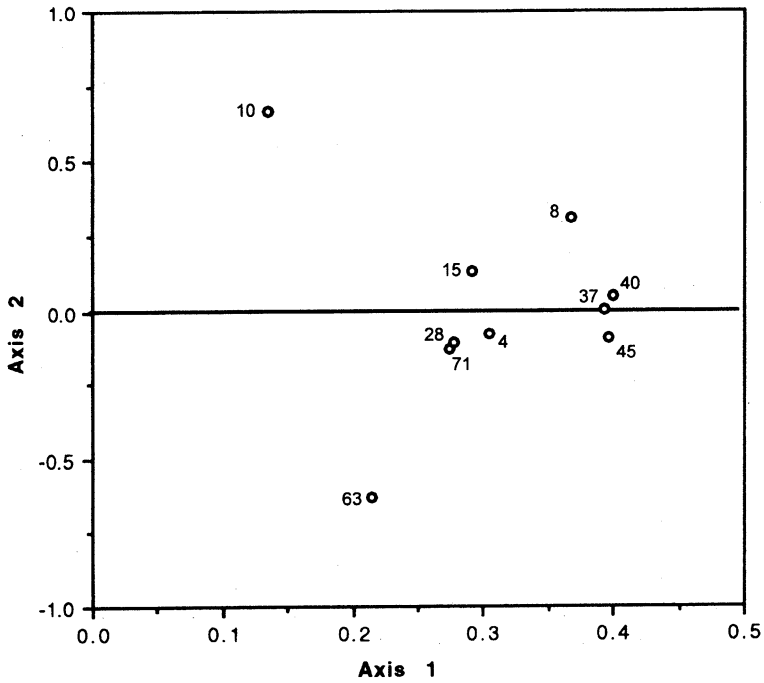

Fig 7 Frensham Common: principal component loadings for samples

However, the overall impression is of much drier and more closed conditions than at Thursley.

CONCLUSION

The pollen spectra suggest that the mound might have been constructed in the Middle Bronze Age. The layers of various coloured deposits probably indicate that the core of the mound was constructed of old ground surfaces or soils collected from the local woodlands. Analysis of the very dense, black, thin layer (at 24cm in the lower monolith) shows that rather than representing burnt organic material as was first supposed, it seems to have been composed of decayed leaf litter. In this particular instance, it appears to have been collected from underneath lime trees. The other thin black layers might represent litter from other dominant trees. Presumably, the soils and leaf litter were incorporated in the mound to consolidate the sand.

The woodland itself was quite dense in some areas, but there were gaps in the canopy to allow heathers, some herbs and ivy to flower and for ferns to sporulate. The site appears to have been dominated by hazel/oak woodland and soils must have already been leached and podzolized enough to support heather and bracken. Nevertheless, lime and alder were probably growing on more base-rich soils in the vicinity.

There were greater differences between the samples at Thursley and this may be because construction materials were obtained from a wide area. There seems to have been a much more patchy distribution of stands of trees at Thursley than at Frensham where, except for one or two samples, a relatively homogenous area of woodland seems to have been used. There is no indication that the mound was set in a substantial clearing and it might have been constructed in a relatively small glade. The focus of domestic life and agriculture was probably situated some (unknown) distance away, the local soils probably being too poor for growing crops.

This study, coupled with that from Thursley, demonstrates that the Surrey heaths provide enormous potential for environmental reconstruction of the prehistoric landscape.

General discussion

While the existence or otherwise of a surrounding ditch is uncertain, there seems little doubt that the mound on Warren Hill is man made. The core of the mound, while of most unusual construction, nonetheless appears, on the palynological evidence, to date to some point within the post-Neolithic but pre-Late Bronze Age period. Possibly the explanation for the darker layers of leaf litter incorporated in the mound is that, given its position in a small woodland glade, there were no grass turves available within a reasonable distance. A normal heathland barrow has a turf core, but in the case of the Warren Hill mound the builders appear to have had to utilize readily available material such as leaf litter. Whether this was to consolidate the layers of sand or the sand used to consolidate the leaf litter is an open question, but it seems probable that the mound would have had a final capping of white sand, which would be more clearly visible in a woodland setting. Possibly the banding represents repeated refurbishments of the mound, which may also have had some ritual significance. However, despite widespread enquiries and a search through the literature, no parallels for this form of mound construction have come to light.

While no artefacts were found and no trace of any burial encountered – perhaps because the trenches were sited to avoid the centre of the mound – the presence of ivy pollen within most layers and the very high concentration of this pollen at a depth of 15cm in the upper monolith may be significant. The latter concentration implies the deposition of ivy flowers and this is most unlikely to be anything other than the result of a deliberate act. Two possible conclusions can be drawn. The first being that the deposit was laid down in the autumn, since ivy flowers in October and November; the implication being that at least

that section, and perhaps by inference the whole mound, was constructed during this agriculturally quiet period of the year. The second that the presence of ivy has a religious significance, the plant being an evergreen even today associated with religious festivals such as Christmas. It is probably more than a coincidence that the same unusually high concentration of ivy pollen has been noted in a number of other heathland barrows, such as West Heath (Baigent 1976, 145; Scaife 1985, 59) and Minsted, Sussex (Dimbleby 1975, 61–2). Indeed the idea that ivy has a religious significance was put forward as early as 1906 (Godwin 1975, 220). It has alternatively been suggested that the presence of ivy may be the result of the use of the plant as animal fodder (Dimbleby 1974, 291–6). This however seems unlikely, certainly in the case of Frensham and other barrows, and in any event the autumn is not a season in which livestock normally needs supplementary feeding.

Certainly the palynological results fit very well with the surrounding soil types. The immediate area around the mound, now Frensham Common, consists of poor acidic soils, while slightly further away the ground that is now Frensham Manor is of better quality and was, until recently, used for agriculture. This may well be the reason for the diversity of pollen found within the mound, with the oak/hazel woodland covering the area of Frensham Common and lime and alder growing on the better soils of Frensham Manor. The lack of cereal pollen and the sparsity of micro-charcoal in the mound is therefore not surprising, as it is likely that any contemporary settlements were some way off, on the better soils to the north and west as is indicated by finds of Bronze Age material in these areas. It is, however, worth noting that a prehistoric field system has been recorded to the north-east of Frensham Little Pond (Graham 1979) on sands that appear very similar to those at Warren Hill.

The Bronze Age mound appears to have been severely disturbed at some stage in the relatively recent past. Many of the square sectioned cuts into the Bronze Age levels may well the result of activity by the army at the end of the 19th century when Frensham Common was the site of a number of large-scale military training exercises. Subsequently the mound was restored, perhaps with sand being extracted immediately uphill of it, resulting in the terraced effect in the hill slope. A further set of military 'foxholes' appear to have been cut into the new upper surface, probably during the Second World War, when the common was again used by the army for training purposes.

Since then the mound has lain undisturbed, except by rabbits, until the current survey and excavation took place in 1996. This has established that at least one of the candidates for Kerry's 'ten tumuli' appears to be a genuine Bronze Age feature and also that the Bronze Age landscape was very different from that which greets the visitor to Frensham Common today.

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